UNIVERSITA' DEGLI STUDI DI PADOVA

DIPARTIMENTO DI SCIENZE ECONOMICHE ED AZIENDALI "M. FANNO"

CORSO DI LAUREA MAGISTRALE IN BUSINESS ADMINISTRATION

TESI DI LAUREA

Corporate crisis and restructuring: evidence from the Italian stock market

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ANNO ACCADEMICO 2018 – 2019

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Introduction

Economic systems have always grown with fluctuations and with the alternation of periods of growth and periods of stagnation or recession. Periods of expansion interspersed with periods of crisis are in the nature of capitalism. By shifting the point of view from the total economy to the single economic operator, the crisis is a relevant phenomenon that has a crucial impact on the life cycle of the company and puts its continuity at risk. Crisis management is a very delicate issue that requires decisions to be taken at great speed, under great pressure and entails the composition of the interests of numerous stakeholders who have legitimate claims against the company in distress. Macroeconomic changes (crisis of demand, access to credit, global economic conditions) and the speed of technological changes accelerate the reorganization processes and change the competitive dynamics, with the consequence that some companies run the risk of facing restructuring. Financial distress is a phenomenon that frequently affects companies. In 2010, 49.8% of US companies listed on S&P 500 had experienced more than 3 years of declining performances in the previous 5 years. One third of the US companies listed in 1976 was facing a period of 4 years of decline (Schendel and Patton, 1976). About a quarter (26.3%) of companies listed on the Italian stock exchange in the last 10 years have faced periods of deterioration in performance that have generated doubts about the company's ability to maintain business continuity.

The phenomenon of the corporate crisis is widespread and places the top management team before important challenges. Managers have to try to stabilize the business and implement the strategies necessary to achieve turnaround in a context characterized by scarcity of resources, conflict with stakeholders, greater supervision by shareholders and judicial authorities and greater needs for disclosures and negotiations that prevent the top management team from dealing with the ordinary administration. Therefore, it is essential to early intercept the signal of crisis and to realize that external or endogenous events may be at the origin of the deterioration of performance. Early recognition of the crisis and the preparation of a plan to stabilise the business when the crisis has yet to result in serious financial tension, decisively increases the chances of recovery. The choice of the suitable strategy to complete the restructuring and come back to profitability depends on the specific circumstances but an effective turnaround cannot exclude a thorough analysis of the causes that have generated the decline of the performance.

A significant number of studies have focused on the process of corporate decline and the business's attempts to recover. In this context, this study aims to provide a contribution on the theme of the corporate crisis through the analysis of the process of deterioration in performance and of the attempts to recover the profitability of a sample of Italian companies listed in the MTA segment of the Italian Stock Exchange. In particular, the analysis contained in this dissertation consists of two parts. The first part analyses the causes of the crisis and the paths of decline that are followed by companies that have experienced economic and financial difficulties that have led them to a situation of financial distress. In the second part, after describing the reasons that explain the financial distress situation, the determinants of the success or failure of the recovery strategy are studied.

As regards the structure of this dissertation, after the introductory paragraph, the first chapter aims to provide a review of the main contributions to the literature on corporate decline and on turnaround process. The second chapter is dedicated to operational tools for crisis prevention, diagnosis and management. In particular, the chapter focuses on the methods that can be used to early intercept the decline and prevent the crisis from undermining the probabilities of survival of companies and on the legal instruments available in Italy to companies in financial distress. The purpose of chapter three is to describe the rationale and methodology of the empirical analysis contained in this work. After a brief description of the system of supervision of listed company in Italy and the additional disclosures required for companies in financial distress, the chapter focuses on the companies included in the lists of issuers monitored by CONSOB and describes the methodology used to compose the sample and carry out the empirical analysis. Finally, chapter four contains the results of the empirical analysis conducted on the sample of companies analysed. As explained above, the analysis focuses first on the downward spiral of company performance and then on the strategies implemented to come back to profitability and achieve turnaround.

Chapter 1

1 Corporate decline and turnaround

The first chapter of this dissertation reviews the main academic contributions concerning the process of deterioration of corporate performance and the recovery procedures implemented in order to achieve the turnaround. First, the perimeter of scientific research concerning the phenomenon of corporate crisis and decline is identified. The various views of the authors regarding the definitions of key terms are presented. The second paragraph focuses on the classification of the causes of financial distress and on the signals with which crisis may manifest. Next, models describing the path of corporate decline are taken into account. In particular, contributions to the literature are divided into two groups according to the different features analysed by scholars. These models are divided between those that study pace and severity of the crisis and those that investigate the differences between the different stages of decline. The second part of the chapter is devoted to the analysis of paths followed and strategies implemented by recovery firms. Paragraph 1.4 deals with the turnaround process. Particular attention is paid to the two main phases of the turnaround process as defined by Pearce and Robbins (1993): retrenchment phase and recovery phase. Then, the core academic works that investigate strategies that management can adopt to achieve recovery are reviewed. Turnaround actions are divided into managerial restructuring, asset restructuring, financial restructuring and operational restructuring. Finally, the context factors (industry condition, macroeconomic dynamics and legislation) that influence the outcome of the turnaround are grouped and summarised.

1.1 Key Terms

Various terms are used in the literature to describe the process of deterioration of a company's performance. In academic papers, scholars use interchangeably “corporate financial distress”, “crisis”, “decline”, “failure”, “distress”, “insolvency” and “bankrupt” to the describe the appearance of a state of trouble during the company’s life cycle. There is no unanimous consensus on the definitions of these terms that, depending on the authors, can assume slightly different meanings. In order to better understand the complexity of the corporate crisis phenomenon, it is necessary to understand the shades of meaning of the main terms used to describe it.

Guatri (1995) defines the crisis as a fundamental element of the production system and describes it as the company's inability to achieve economic equilibrium. The latter is considered the necessary condition (but not sufficient) to have a financial equilibrium. When the company is not able to remunerate the costs of the productive factors employed with the proceeds of sale, it is considered in crisis. The author traces a difference between the concept of "crisis" and that of "decline". The crisis is considered as a degeneration of decline and it is not always easy to recognize. It may happen that a drop in total sales associated with a low amount of investments and a reduction in net working capital allows entrepreneurs to "postpone over time the explosion of financial difficulties" (Guatri, 1995, p. 110).

In the light of previous studies, Weitzel and Jonsonn (1989) summarize the various contributions with a definition of decline that considers five different aspects. The first element refers to a quantitative indicator (reduction in assets, turnover or workforce). Then, the authors believe that the decline can be related to the phase of the company life cycle. Internally, the crisis can also arise from process inefficiency. From an external point of view, the company may be unable to adapt to a changing environment. Finally, the decline may be generated by the inability of the company to satisfy the demand of the external environment. They argue that the company goes into a state of decline when it “fails to anticipate, recognize, avoid, neutralize, or adapt to external or internal pressures that threaten the organization's long-term survival” (Weitzel and Jonsonn, 1989, p. 94). The innovative aspect in their definition is the clarification that the aim of the companies is also to anticipate - and not only respond to - the external and internal changes that can put into question the going concern.

Opler and Titman (1994) argue that financial distress has serious consequences on relations with the stakeholders. They also affirm that the fear of default is a constraint on the configuration of the capital structure and limits access to credit as a possible distress situation would generate dangerous effects on the stakeholders. According to their definition, financial distress is also dangerous from a strategic point of view, since the evidence of the crisis could push competitors to competitive reactions aimed at gaining market share.

Many authors associate the concept of failure or financial distress with that of insolvency. Beaver (1966) describes failure as the inability of a company to meet its obligations. The external manifestation of this condition can occur through different signals, including "bankruptcy, bond default, an overdrawn bank account, or non-payment of a preferred stock dividend" (Beaver, 1996, p. 71). Andrade and Kaplan (1998) distinguish distress in two categories: the financial and economic distress. In their work they study the dynamics of 31 highly leveraged transactions that have entered into a situation of financial distress. For the

purposes of their study they use two indicators to identify the situation of distress: the non-compliance with a debt obligation (which eventually results in a filing for bankruptcy) and the attempt to restructure the debt to avoid the occurrence of a case of insolvency. Baldwin and Mason (1983) associate the deterioration of the business with the insolvency that can be solved with filing for bankruptcy resulting in an attempt to recover amounts to repay creditors. The manifestations of insolvency can be "violations of debt covenants coupled with the omission or reduction of dividends" (Baldwin and Mason, 1983, p. 505).

On the contrary, other scholars draw a strong distinction between financial distress and insolvency. Purnanandam (2008) argues that insolvency and financial distress may not occur at the same time, but that the latter may be present even when the company has not yet defaulted on its debt obligations. The author defines the distress status as "a low cash-flow state in which the firm incurs losses without being insolvent" (Purnanandam, 2008, p. 707). The state of insolvency and any filing for bankruptcy certifies the state of financial distress. He argues that the company becomes effectively insolvent if, at the maturity of the liability, the terminal value of the company's assets is lower than the face value of the debt. He also identifies three consequences and costs related to the state of financial distress. First, the company is exposed to the loss of its key stakeholders (suppliers, employees, managers). Secondly, the violation of loan contracts and the clauses contained therein (e.g. covenants) or the deferment of the payment of mortgage instalments entails the worsening of the loan conditions (immediate repayment of the entire amount) or additional costs in the form of penalties. Thirdly, the state of financial tension and impaired access to credit may prevent the company from undertaking investment and growth projects or may limit its ordinary operating activity.

Other authors criticize the definition of financial distress based on a single event preferring a "process-oriented" definition (Outecheva, 2007). Gordon (1971) argues that financial distress is a phase that precedes failure and reorganization. Therefore, his interpretation of the term is dynamic and does not conceive the financial distress as an event that marks the transition from a state of health to a state of crisis. Similar to Guatri (2005), he identifies the deterioration of "corporation's earning power" (Gordon, 1971, p. 348) as a signal that with a good probability in the future could cause the company to default on its debts. According to Gordon's work (1971), financial distress is also perceived when a company's securities are sold at a yield that is systematically higher than that of its competitors. Similar to Gordon (1971), also Whitaker (1999) disagrees with the association of the definition of financial distress with the concept of default. In particular, he argues that companies bear most of the costs of distress before bankruptcy, during the years of decline.

D'Aveni (1989) differentiates between decline and downsizing. Downsizing takes the form of a change in the product portfolio, divestments and a change in the organizational size. For what concerns decline, he combines quantitative and qualitative aspects in its definition. He argues that decline is a process that leads to the reduction of the company's critical internal resources. Financial and human resources are the two categories he identifies. As for the former, the indicators of a possible decline are a decrease in "liquidity, profitability and borrowing capacity due to increasing leverage" (D'Aveni, 1989, p. 578). The absence of these resources deprives the company of cash reserves and funds necessary for the stabilization of the business in times of crisis. As for human resources, D'Aveni (1989) identifies as symptoms of a possible situation of distress, the loss of important managers. They give prestige to the company and their departure is a sign of a decline not only financial but also reputational.

Bibeault (1982) separates decline and failure and divides the latter into economic, legal and managerial. The economic failure is defined as a situation where the profitability of the business is systematically and continuously lower than comparable businesses. Legal failure is related to insolvency and liquidation triggered by non-voluntary reasons. Finally, managerial failure is linked to poor performance that pushes shareholders to change management. However, this condition is not an event that necessarily causes economic or legal failure. Decline is defined as "several years of deteriorating profits" (Bibeault, 1982, p. 10).

From a legal standpoint, for companies operating in Italy, the definitions of insolvency and crisis provided by the law are also relevant. Article 1 of the Bankruptcy Law in force in Italy (Royal Decree No 267 of 16th March 1942) states that for filing for bankruptcy the necessary condition is the ascertainment of the state of insolvency. The law does not provide a definition of insolvency. However, Article 5 of the Italian Bankruptcy Law states that the state of insolvency is recognized “with defaults or other external facts, which prove that the debtor is no longer able to regularly meet his obligations”. In the Italian Bankruptcy Law of 1942, the legislator does not include a definition of corporate crisis. Recently, however, a complete reform of insolvency procedures was approved. The new Code of the Corporate Crisis and Insolvency (CCII) (Legislative Decree no 14 of 12th January 2019) is entering into force in 2020. The reform introduces a definition of crisis. In article 2, paragraph 1, letter a), the crisis is defined as "the state of economic-financial difficulty which makes the debtor's insolvency probable, and that with respect to companies it is manifested as the inadequacy of future cash flows to regularly face planned obligations." The concept of insolvency and the prerequisites for filing for bankruptcy are also relevant for economic research. Many academic papers that

analyse decline and turnaround choose the bankruptcy filing as the event signalling the peak of decline.

Finally, many authors use quantitative indicators to measure financial distress. Platt and Platt (2002) criticize the construction of models on the financial distress that rely on data regarding filings for bankruptcy. From their point of view, a company can be in a condition of financial distress without being bankrupt yet. They analyse a group of companies working in the automotive sector and their study aims to identify early warnings that are able to ensure the premature emergence of the crisis. The indicators they set for the identification of companies in financial distress are negative net operating income for several consecutive years, suspension of dividend distribution, financial restructuring or dismissals of non-strategic assets.

Whitaker (1999) studies the effects on managers' incentives of the emergence of an early stage of financial distress. The first year in which the operating cash flows generated by the business are lower than the current portion of long-term bonds is the event that the author uses to form the sample. He argues that this condition is not necessarily accompanied by a non-payment of debts, since managers have some options to generate sufficient liquidity (such as reducing the net working capital, bring to full use the credit lines granted by the banks, make divestments). Whitaker (1999) argues that when the management tries to carry out these actions, the company is already in a condition of financial distress whose manifestation, however, is only postponed.

Asquith et al. (1994) studies the outbreak of financial distress on a sample of 102 companies that issued bonds under investment grade between 1970 and 1980. These companies subsequently entered a crisis situation. They identify the financial distress relying on financial ratios. In particular, they use the interest coverage ratio. If for two consecutive years after the issuance of the bond, the company has an EBITDA less than 80% of interest expenditure, it is classified as financially distressed.

Winn (1997) criticizes the definitions of decline that depend on the reduction of profits or market share. His study is based on the trade-off between growth and productivity (and, therefore, efficiency) in increasing profitability. Winn (1997) studies companies for which the productivity asset has reduced significantly. To classify companies as financially distressed he considers 3-5 years of severe (16.67%) decline in Return on assets (ROA).

1.2 Causes of financial distress

During its lifespan, a company may show symptoms indicating a critical situation. Declining operating margins, liquidity stress, excessive indebtedness are typical signals of financial distress. Depending on the speed with which the symptoms are recognized and the necessary actions are implemented, the crisis situation can assume different levels of criticality. However, any company that run into periods of declining performance has to carry out an in-depth analysis of the causes that have let a difficult situation to emerge.

The primary task for managers is to understand the direct causes, related to financial data, that manifest a state of crisis and can generate heavy economic losses, liquidity tensions or inability to meet their obligations. Damodaran (2009) analyses the common characteristics of declining companies, which are summarised in the Table 1.1.

Characteristics of decline	**Description**
Stagnant or declining revenues	A declining or stagnant sales trend is the main cause of the corporate decline. Such a dynamic becomes even more important if the conditions of the economy or industry to which it belongs are positive.
Shrinking or negative margins	The corporate decline is often also linked to a deterioration in the EBITDA margin. If this decrease is combined with a reduction in turnover, the cause may be the inability to absorb fixed costs. Other possible causes could be a reduction in sales prices to try to boost sales or the inability to find raw materials at competitive prices.
Asset divestitures	Companies in financial distress also often sell subsidiaries or assets. The cause of the sale may be the inability to create value or the need to obtain the liquidity needed to meet their obligations.
Big payouts – dividends and share repurchase	Entities operating in declining industries with limited investment opportunities, excess cash and low indebtedness could distribute this liquidity to shareholders. Distribution can take the form of dividends and repurchase shares.
Financial leverage – the downside	The main cause of the emergence of the financial distress is the presence of an excessive level of indebtedness generated by an excessive amount of investments or acquisitions. In the presence of negative performance, companies may find it impossible to repay debt and interest and it may be difficult to refinance existing debt.

Table 1.1: Characteristics of declining companies. Source: Personal elaboration from Damodaran (2009).

The analysis of the external manifestations, i.e. the financial data, is not sufficient to have a clear understanding of the root causes of crisis. Managers need to investigate quickly the reasons underlying bad financial ratios. Early diagnosis of the crisis is important not only to prepare as soon as possible the instruments for turnaround, but also to clearly identify the reasons for the decline in performance. Very often, in fact, if the analysis of the crisis is postponed or the state of difficulty is not recognized, it could be troublesome to recognize the original causes from those that subsequently occurred. In fact, some dysfunctions could be generated by the inattention of managers who neglect the signals that the market or the company sends.

The literature tends to divide the causes of crises into two categories (Karels 1987): internal and external factors. Internal causes often have their roots in poor management, organizational difficulties (inadequate controls, lack of communication) and tension between shareholders. External causes, on the other hand, are attributed to the arrival of new competitors, the change in the competitive structure, governmental regulations and changes in customers' preferences.

The division into internal and external causes of corporate decline is adopted by Balgobin and Pandit (2001). In their work they review the existing literature and identify 6 types of crisis (3 internal and 3 external).

Decrease in demand - (External cause). It can be generated by a negative trend that affects the industry to which the company belongs or it can be generated by a cyclical movement of the economy. Finally, changing consumer preferences can cause a decline.

Increase in competition - (External cause). Increased competition and the entry of new players into the market can lead to a downward pressure on prices and a change of market's competitive dynamics.

Increase in input costs - (External cause). It may be generated by a decrease in the bargaining power of the company vis-à-vis its competitors or by a general increase in costs.

Poor management - (Internal cause). According to various studies, it is the main reason of financial distress. Poor management can manifest itself in wrong and unprofitable investment decisions or in the inability to predict the evolution of the competitive environment.

Inadequate Financial Control/Policy - (Internal cause). High indebtedness can degenerate into liquidity tensions when the company obtains negative performances. Moreover, the lack of control and incentive systems can cause organisational disorganisation and tensions.

High Cost Structure - (Internal cause). Operational inefficiency is one of the main causes of decline and manifests itself in high costs, high overheads and inefficient processes.

Whetten (1987) adopts a different separation of distress causes, dividing decline in environmental and operational. As far as environmental decline is concerned, the author explains that it takes the form of the company's inability to adapt to the population that makes up its reference environment. The information about the environment is not sufficient to explain the nature of the crisis. The environmental dimension has to be combined with the organisational dimension. Whetten (1987) gives two explanations for organisational decline. First, the decline can be generated by the fact that, in his opinion, "success breeds failure" (Whetten, 1987, p. 346). This path of decline refers to those organizations that in the past have obtained excellent performances. The satisfaction for the performance generated lowers the level of attention on the dangers and opportunities that the market offers. This attitude manifests itself in reductions in quality of service or product offered, in decrease of the productivity of operations and in lack of communication. The second path of decline is associated with companies characterized by a high level of hierarchy and bureaucratization. These are very large companies that, over time, have acquired an organizational structure that makes them unable to react to external incentives and to adapt to the changing environment.

ATTRIBUTE	DESCRIPTION
Centralization	Decisions are passed upward, participation decreases, control is emphasized
No long-term planning	Crisis and short-term needs drive out strategic planning
No innovation	No experimentation, risk-aversion and scepticism about noncore activities
Scapegoating	Leaders are blamed for the pain and uncertainty
Resistance to change	Conservatism and turf protection lead to rejection of new alternatives
Turnover	The most competent leaders tend to leave first, causing leadership anemia
Low morale	Few needs are met, and infighting is predominant
No slack	Uncommitted resources are used to cover operating expenses
Fragmented pluralism	Special-interest groups organize and become more vocal
Loss of credibility	Leaders lose the confidence of the subordinates
Non-prioritized cuts	Attempts to ameliorate conflict lead to attempts to equalize cutbacks
Conflict	Competition and infighting for control predominate when resources are scarce

Table 1.2: Attributes of declining firms. Source: Cameron et al. 1987, p. 224.

On the contrary, Cameron et al. (1987) clearly separate the concepts of environmental decline and organizational decline. The first is defined as "changes in the size or shape of an environmental niche" (Cameron et al. 1987, p. 224). While the organizational decline is "the reduction of resources within the organization itself" (Cameron et al. 1987, p. 224) and may or may not involve a change in the environment. In order to analyze the consequences of the decline, the authors analyze 12 elements that are present when a company is in decline. These are listed in Table 1.2.

1.3 Path of corporate crisis

Especially in the late 1980s, the literature on financial distress and business turnaround was enriched by contributions that aimed at studying the topic of financial distress from a dynamic point of view. The purpose of these authors is to provide a framework capable of explaining the various stages and the various paths in which the decline can affect the life of a single company. Among the various contributions, we can distinguish the academic contributions from two points of view. A first group of studies analyses how decline can affect different companies in different ways in terms of pace or severity. On the contrary, a second group of studies focuses on the characteristics of the different phases of the corporate crisis. The first group can be attributed to the studies of Argenti (1976) and D'Aveni (1989), while the models of Hambrick and D'Aveni (1988) and Weitzel and Jonsson (1989) belong to the other category. These works will be briefly described below.

Argenti (1976) is the first scholar to state that companies can experience different paths of decline. These different trajectories are characterized by different rates at which the process takes place. To overcome the moment of crisis, each different trajectory needs a different strategy to be used (Argenti 1976). The first type of path characterizes small businesses, recently established. For these companies, the decline may come fairly early in the life cycle and performance may never have achieved satisfactory levels. For this type of company, liquidation is the only possible solution. In all likelihood, the reasons for the decline are due to errors in the assessment of the expected revenues and profitability of the project. In the second type of trajectory, companies "shoot upwards to fantastic heights before crashing down again" (Argenti, 1976, p. 171). Argenti argues that this type of decline is often generated by the centralization of power on a single person. Therefore, the development of control systems and the delegation of certain tasks to other figures is the strategy to implement. The third type of path characterizes mature and large companies. From the sample of companies analysed by

Argenti (1976) it can be observed that these companies experience decline quickly after a period of stagnation that follows a period of excellent performance. Turnaround can only be achieved with retrenchment or with the disposal of assets considered non-strategic. However, the author's analysis has many limitations. The most relevant are related to small size of the sample and to non-exhaustiveness of the categories of trajectories.

D'Aveni (1989) starts from the work of Argenti (1976) with the aim of overcoming the limitations of the previous studies. In particular, he is interested in understanding if different patterns of decline can be identified and if these have an impact on the choices made by the top management team on the opportunities to postpone or avoid bankruptcy. As Figure 1.1 shows, D'Aveni (1989) states that the trajectories of decline can be three: sudden decline, gradual decline and lingering.

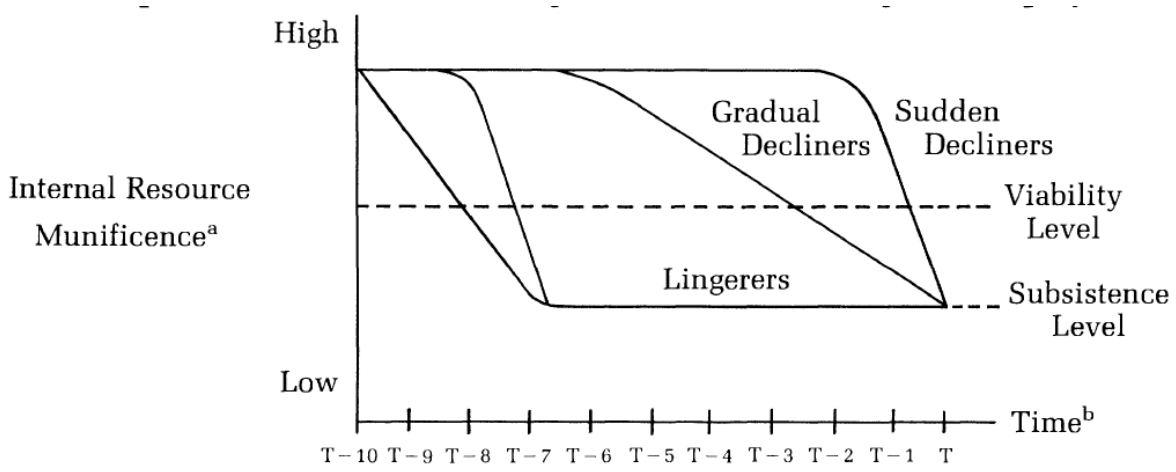

Figure 1.1: Proposed Patterns of Declining Resources Preceding Bankruptcy. Source: D'Aveni, p. 579.

Sudden decline. It is characterized by a rapid collapse of corporate resources (financial and human) which results in a rapid bankruptcy. D'Aveni suggests that this is the case of companies that have invested heavily (e.g. mergers or acquisitions) overestimating the potential of the company or increasing leverage too much. Another type of company that could face this type of decline are companies that have completely changed their strategic focus generating unsustainable costs and debt.

Gradual decline. This trajectory characterizes companies that, due to their level of bureaucracy and rigidity, are unable to adapt to changes in the surrounding environment. For this type of companies, filing for the bankruptcy happens after a decrease that materialises at a slower rate than the sudden decliners. In this case, the structure and organisational complexity makes the company unable to react and adapt to external incentives.

Lingering. D'Aveni (1989) assimilates lingerers to companies in the third category of trajectories of Argenti (1976). These are companies that, following a decline, operate in unprofitable conditions. They remain operative because of their ability to postpone bankruptcy by operating dismissals or with a wise control of working capital.

The results of the analysis of D'Aveni (1989) confirm the existence of different patterns of decline. In fact, the data show that 4 or 5 years before default, the lingerers are affected by strategic paralysis. These companies can only survive thanks to the efforts of managers in postponing the default. They are engaged in fewer activities of mergers and acquisitions and enter less in new markets. These companies survive in part thanks to downsizing activities. They reduce costs and dispose of some subsidiaries. However, these actions are ineffective because the lingerers are unable to reverse their status and align with the performance of the surviving companies. The differences between lingerers and gradual decliners emerge from the data referring to four and five years before failure. The companies belonging to the two categories show significantly different financial indicators. The organisational structure is also different. The gradual decliners are more engaged in research and development and marketing activities while the lingerers have more lawyers. One of the major results of the D'Aveni analysis (1989) is the fact that lingerers perform less disposals than gradual decliners. According to the author, this happens because the gradual decliners follow a strategic project while the lingerers have the sole objective of generating resources to keep the going concern. Finally, D'Aveni (1989) investigates the reasons that allow lingerers to postpone bankruptcy. The analysis shows that this is due to a growing industry, a positive macroeconomic scenario and an increased demand. Very often a recession is related to shorter crisis cycles and fast filing for bankruptcy. D'Aveni (1989) argues that a sudden decline is dangerous for the continuity of the business since the companies in the phase immediately following the decline show a "threat-rigidity response" that prevents them from carrying out quickly all the actions that would be required.

Francis and Desai (2005) analyse the external and internal conditions that can influence the recovery process. They study how the prosperity of environmental resources positively correlates with the outcome of the turnaround. The authors argue that three very important aspects of the decline are the intensity of the crisis (severity), the speed of the appearance of the financial distress (suddenness) and the sum of the two previous elements (urgency). Their results show that the intensity with which the crisis hits the company puts the likelihood of survival at risk much more than does speed.

For what concerns the second group of models, Hambrick and D'Aveni (1988) were the first to propose an integrated theory on decline and on financial distress state. They analyse a group of 57 large companies that went bankrupt between 1972 and 1982 and associate them with a company that is similar in profitability and business sector. Authors monitor the performance of companies over 10 years and take into consideration indicators capable of signalling the crisis. They refer to the following areas: the firm's products and market initiatives, environment carrying capacity, slack and profitability. The result of their analysis shows that the worsening of performance due to failure is a long process that can be anticipated up to 10 years before bankruptcy. They suggest bankruptcy as a "downward spiral" and formulate a model that describes the dynamics of failure in large companies. It consists of 4 phases which are summarized in the following table (Table 1.3):

Phase	**Period**	**Characteristics**
Origins of disadvantage	before year t -10	Deficient potential slack and performance
Early impairment	between t -10 and t -6	Further deterioration of potential slack and performance
Marginal existence	between t -6 and t -3	Strategic extremism and vacillation Neutral/buoyant environment Satisfactory working capital Marginal potential slack performance
Death struggle	between t -2 and t	Strategic extremism and vacillation Sudden environmental decline Sharp deterioration of slack and performance Failure

Table 1.3: The downward spiral of financial distress. Source: personal elaboration from Hambrick and D'Aveni 1988, p. 14.

One of the relevant aspects of the Hambrick and D'Aveni model (1988) is the theorization that the state of crisis has its origins more than 10 years before bankruptcy. In the period before "year -10" is "the seeds of weaknesses are sown" (Hambrick and D'Aveni 1988, p. 13). However, up to 6 years before bankruptcy, the signals are difficult to grasp. They are very often qualitative indicators and have only a marginal impact on performance.

The most relevant phases of the crisis process are the last two ("marginal existence" and "death struggle") (Figure 1.2.). During these two phases the critical resources begin to lack, the state of crisis becomes evident.

The marginal existence phase is characterised by a positive environment and a sufficient level of slack ("a cushion of actual or potential resources", Hambrick and D'Aveni 1989, p. 4). These elements offer a false encouragement to management, which at this stage is more likely to take extreme decisions. In a period of relevant uncertainty, management can be extremely cautious and conservative or it may engage in excessive risk-taking. The choice between inertia and extreme activism depends on the circumstances but they are strategies aimed at finding a way out of the spiral of decline. These actions prove very often to be counterproductive or useless, leaving the company in a marginal state. As time goes by, the resources available diminish more and more. A sudden environmental decline is often the decisive event that leads the company to bankruptcy.

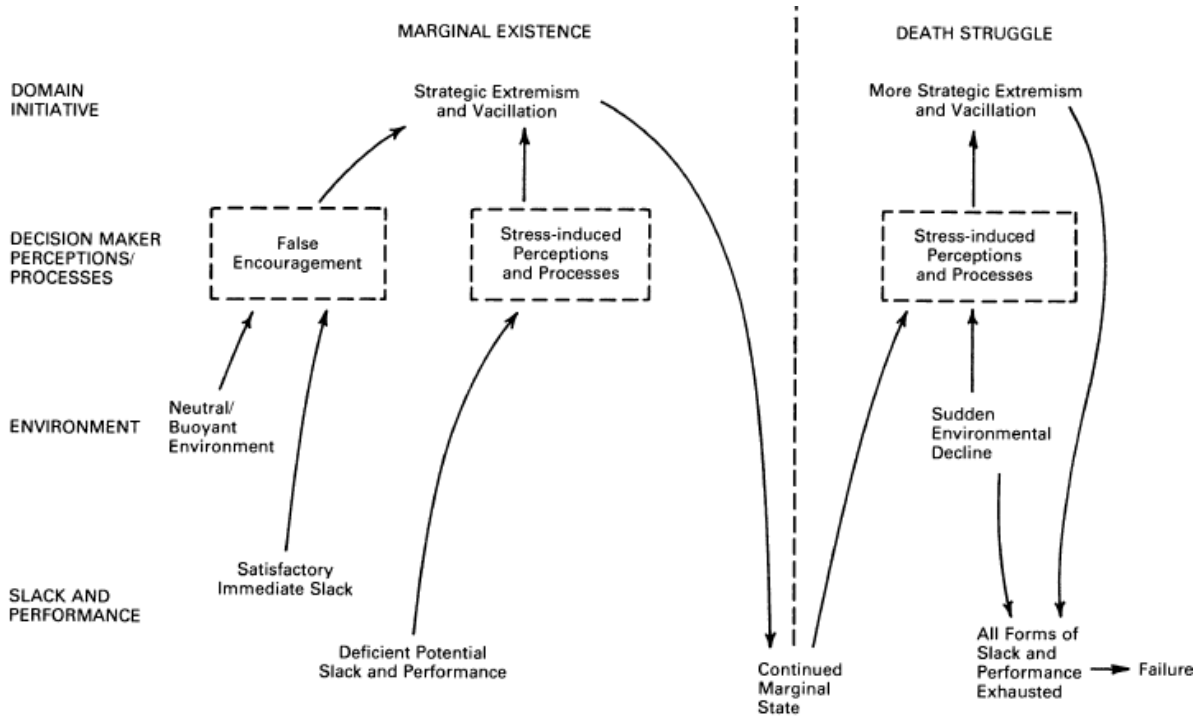

Figure 1.2: Last two stages of financial distress. Source: Hambrick and D'Aveni 1989, p. 19.

Weitzel and Jonsson (1989) develop a five-step model of decline. In their opinion, the decline is linked to the company's inability to anticipate future problems or criticalities and to respond to opportunities that arise. The model they present is characterised by different levels of crisis intensity. Each stage of the decline process has a different duration and at each stage the company can leave if it implements the correct strategy. The model is summarised in Table 1.4.

Stages	Organizational Action	Recovery action
1. Blinded	Failure to anticipate or detect pressure toward entropy; decline begins	Good information
2. Inaction	Failure to decide on corrective action; decline become noticeable	Prompt action
3. Faulty action	Faulty decisions; faulty implementation of decisions	Correct action
4. Crisis	Given faulty action stage and unforgiving environment, last chance for reversal. Given forgiving environment, slow erosion.	Effective reorganization
5. Dissolution	Given crisis stage and unforgiving environment, rapid demise. Given forgiving environment, slow demise.	No choices

Table 1.4: Stages of financial distress and required recovery actions. Source: personal elaboration from Weitzel and Jonsson (1989), pp.97 and 102.

Blinded stage. It is characterised by the difficulty in recognising the causes of underperformance. The causes of decline are very often not visible from the data available to the management. At the same time, the company can rely on a significant amount of internal resources that serve as a "cushion" for any needs. The signals of the blinded stage are often qualitative. Usually, they are available only to middle management and to the employees since they have a more direct contact with the operations and with the trend of demand.

Inaction stage. The second phase is characterized by organizational inertia. It is a critical phase in large companies with a high level of bureaucracy. In this phase, the management believes that the moment of crisis may only be temporary. Therefore, it postpones the analysis and the implementation of corrective measures. At this stage, tension between the various members of the organization also increases. Top management fears that their choices will be called into question and the degree of centralization increases.

Faulty action stage. According to the authors, the third phase offers the best opportunity for a strategic refocus of the company. In this phase, the financial indicators become very negative and give an unequivocal signal of crisis. At this stage top management often makes quick decisions and the risk of ambiguous or unrealistic expectations is very high. Collaboration between top management, middle management and employees is essential as only a good communication between them can enable the right strategy to be formulated. Among the strategies most used in this phase, the authors mention “the introduction of new leadership,

diversification through product development and acquisition, and divestment of failing lines and divisions" (Weitzel and Jonsson, 1989, p. 104).

Crisis stage. The crisis phase requires revolutionary solutions and not short-term actions. Companies that reach this stage very often replace the top management team to bring new ideas and new incentives. In this phase, however, there are many obstacles to be overcome in order to achieve recovery. The resources needed to maintain the going concern are very limited and the most valuable employees may have left the company.

Dissolution stage. When a company reaches this stage it has no alternative but bankruptcy. The decline is irreversible, the necessary resources (human and financial) for the going concern are no longer present and the only alternative available is liquidation.

1.4 Turnaround process models

Turnaround definitions in the literature rely on the concept of recovery. Schendel et al. (1976) define turnarounds as a decline and recovery from distress. Lohrke et al. (2004) focus the turnaround process on overcoming the threats that can raise doubt about going concern, returning to normal business activity and coming back to profitability. Barker and Duhaime (1997) also focus on the process. For them, a turnaround is effective when "a firm undergoes a survival-threatening performance decline, end the threat to firm survival and achieve sustained profitability" (Barker and Duhaime, 1997, p. 18). Robbins and Pearce (1992) add quantitative measures to certify the turnaround. In their study, companies achieve turnaround when, after two consecutive years of below-average industry growth, they achieve two consecutive years of growth in return on investment capital (ROIC) and return on sales (ROS). Barker and Moné (1994) provide a definition of turnaround focused on management's effort to solve issues that affect organizational performance.

The first contribution that analyses the turnaround process is that of Bibeault (1982). His work is based on interviews with 8 important U.S. managers who have experienced a process of recovery of performance after a decline. Bibeault (1982) states that the turnaround process can be broken down into two phases. The first phase, with the emergence of the state of distress, is aimed at stabilizing the business, restoring lost efficiency and finding the resources needed to continue to compete. Once the first phase has been completed, the second phase will instead be aimed at recovering performance through strategic refocuses, operational changes and changes in the product mix. The two phases are not addressed by companies in the same way. The causes that can generate the crisis are very different, as seen in paragraph 1.2. Therefore, every single

entity will have to configure a set of actions with which to fill the turnaround with content that depends on circumstances. Moreover, the intensity and duration of these two stages depends on the strength with which the crisis has hit the company and, therefore, on its degree of distress.

The work of Bibeault (1982) was taken up and enriched by Pearce and Robbins (1993) who provided "the two-stage model of turnaround". This model has the merit of giving order to the previous works and of providing a framework for the analysis of the turnaround. Over the years, since the study of Pearce and Robbins (1993), the debate has been very productive with many contributions that have helped to clarify the process and the functioning of turnaround.

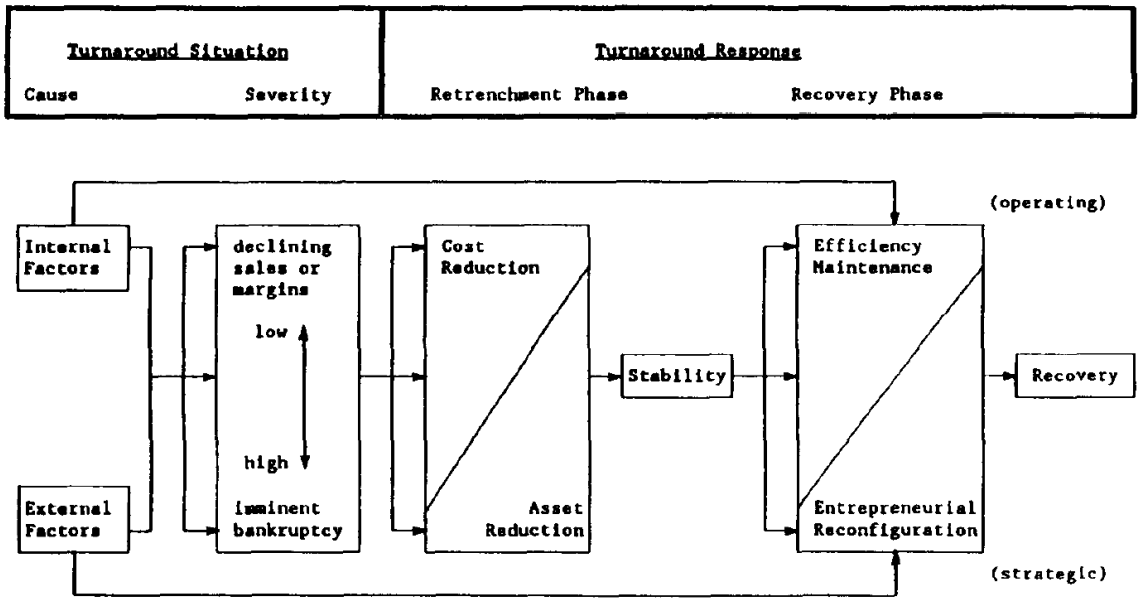

Figure 1.3: Pearce and Robbins' Model. Source: Pearce and Robbins (1993).

Their model starts from the observation of a situation of distress that requires interventions to guarantee the going concern. Performance indicators, financial data or management perceptions can serve as signals for awareness of the crisis situation. The situation faced by managers does not have the same degree of criticality for all companies. The causes (internal or external) and the intensity with which adverse events have affected the company determine the severity of the situation. A relevant study on the severity with which the crisis can change the company's performance is that of Hofer (1980). He argues that in any situation of distress it is essential to understand the strategic and operational health of the company. The former refers to the health of the enterprise in the business in which it operates and in the relationship with competitors. The latter, on the other hand, includes the cost structure, operational efficiency and productivity. Hofer (1980) argues that the analysis of the strategic and competitive situation is fundamental in order to designate the most appropriate strategy with which to deal with the crisis situation.

Not all strategies are the same and bring the expected results. Without an appropriate analysis, entities in severe crisis could underestimate the intensity of the decline and implement ineffective strategies. On the contrary, driven by time constraints, other companies could implement unnecessary turnaround actions. This would involve wasting important resources that could be fundamental for the company in the subsequent times for the relaunch of the business.

As far as the turnaround process is concerned, they resume and deepen the division into two phases proposed by Bibeault (1982). In particular, Pearce and Robbins (1993) divided the distress situation into Retrenchment and Recovery.

Retrenchment Phase.

Pearce and Robbins (1993) define the retrenchment phase as "the initial set of reactions by the firm, in recognition of its turnaround situation." (Pearce and Robbins, 1993, p. 634). In a similar way to Bibeault (1982), this process aims to ensure the survival of the company, suspending the negative effects of the crisis and finding the resources needed to implement a recovery strategy. Retrenchment takes the form of actions aimed at reducing costs, limiting the product line, reducing the number of employees or disposing of assets considered non-strategic. Again, the study of the state and severity of the crisis is essential to be aware of the necessary actions to be implemented. Less severe crisis states may require only one type of operational retrenchment, which translates into cost reduction. In the most serious cases, however, companies could make divestments. Often, when an entity is in this situation, managers choose to focus their attention on the operating business, divesting the business units that have a focus further away than the main market segment.

Denis and Rodgers (2007) study the effect of more intense retrenchment on the company's chances of survival. Their analysis is based on a sample of US companies that have filed for bankruptcy. The evidence they get from their study is that the chances of maintaining business continuity increase with the intensity of the retrenchment phase. In particular, the companies that have achieved the reduction of assets are those that manage to return more quickly to pre-crisis levels of profitability. Their study also shows that the outcome of the retrenchment is influenced by the conditions of the industry in which the company operates. Entities that are part of fast-growing industries are more likely to achieve a satisfactory retrenchment process. However, Dennis and Rodgers (2007) show that belonging to a healthy and growing industry does not influence management decisions regarding the content of the turnaround process.

The different effectiveness of the intensity of retrenchment actions is criticised by Sudarsanam and Lai (2001). In their study they analyse the turnaround strategies of a sample of 166 UK companies. Among the companies in the sample, some managed to overcome the distress situation and return to profitability, while others did not recover and were liquidated. Sudarsanam and Lai (2001) get evidence that non-recovery companies have implemented more intensive retrenchment strategies than other companies but the effectiveness of these actions has been lower. However, the authors highlight that this result does not highlight the ineffectiveness of the retrenchment actions. They argue that the greater intensity of the restructuring actions carried out by non-recovery companies is related to the timing in which these actions are implemented. In particular, non-recovery companies are those that wait too long before recognizing the crisis and preparing the right strategy to counter it.

Barker and Mone (1994) criticize the approach of Pearce and Robbins (1993). They argue that retrenchment is not a key stage in the turnaround process for all companies. Their analysis does not show significant differences in performance in the years after the decline for companies that have implemented retrenchment actions and those that have not. On the contrary, they argue that retrenchment is only mandatory if the entity suffers a sharp decline in performance. A very intense downward spiral causes a lack of fundamental resources to maintain the going concern. This is the case when, according to Barker and Mone (1994), retrenchment is applied.

Barker and Duhaime (1997) confirm the results of previous studies. As stated by Hofer (1980) they confirm that companies undergoing severe declines or companies operating in non-growing sectors need more intense turnaround strategies. However, a financial distressed company operating in a declining industry will not have to devote its efforts to strategic restructuring. The data shows that the most successful companies implement an operational retrenchment that relies on cost reductions and efficiency gains.

Recovery Phase.

The intensity of the recovery phase depends decisively on the causes that triggered the crisis and on the intensity of the retrenchment actions. Cost-cutting and non-strategic asset divestiture actions are key to obtaining the liquidity needed for the recovery phase. The latter is based on "investments, organizational refocus and growth" (Schweizer and Nienhaus 2017). As Hofer (1980) stated, it is extremely necessary at this stage to understand why the problem arises. If, for example, after stabilizing the business with the retrenchment operations, the causes of the decline are internal, the change of managers or the recovery of efficiency could be the solutions. Sudarsanam and Lai (2001) study the effect of internal and external actions on the outcome of

the turnaround. The data shows that the companies that have managed to recover have focused more on external actions (acquisitions or investments) while the non-recovery firms have chosen a path of restructuring more focused internally.

Francis and Desai (2005) analyse the external and internal conditions that can influence the recovery process. They develop their own model of decline and recovery, shown by Figure 1.4. Francis and Desai (2005) monitor companies in four different life stages and use Return on Investments (ROI) as a performance indicator. In particular, "time 1" identifies the year with the highest performance. To be classified as distressed, companies must have recorded at least 3 years of higher performance than "time 1" and at least 1 year of negative net income. The retrenchment is analysed by studying the dynamics of costs in the following three years compared to "time 2". To evaluate the recovery, the trend in the 3 years following the "time 2" is taken into consideration. If the performance is positive in the following three years, the turnaround is deemed to have been achieved. On the contrary, with 6 years of negative performance the recovery is judged unsuccessful.

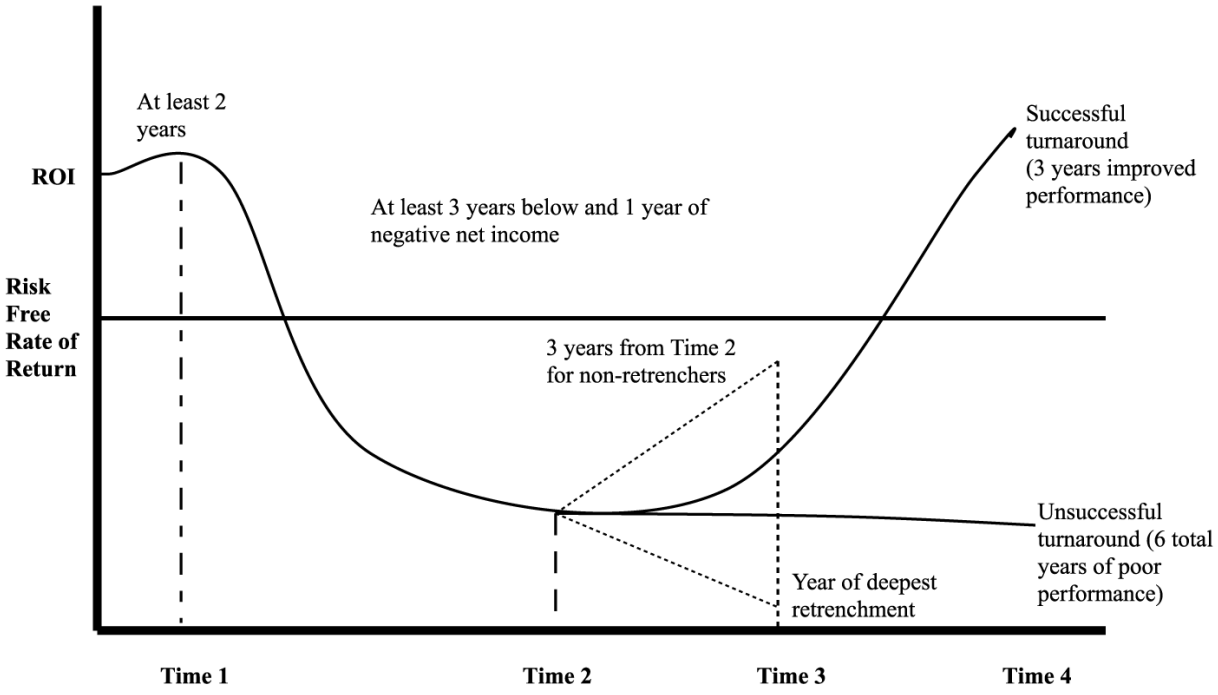

Figure 1.4: Francis and Desai's Model. Source: Francis and Desai 2005, p. 1210.

1.5 Strategies for recovery

The first studies concerning the content of the turnaround process adopted a division of the possible actions to exit from the financial distress into two components: operational and strategic (Hofer, 1980). According to this definition, the strategic turnaround involves the

reconfiguration of the market segments in which the company operates and the choice to launch new strategic business units or to operate in different market segments. On the contrary, the operating turnarounds do not change the strategic direction of the company but concern more short-term objectives to be achieved. According to Hofer (1980) these can be divided into 4 categories:

- Increasing revenues
- Decreasing costs
- Decreasing assets
- Combination effort.

However, new research topics have recently required an update of these categories in order to include all the various nuances that the restructuring process can take. Lai and Sudarsanam (1997) analyse the turnaround strategies of a sample of UK companies and divide the turnaround content into 4 categories as shown in Table 1.5.

Strategy	Definition
Operational restructuring	Cost rationalisation, layoffs, closures and integration of business units.
Asset restructuring	Divestment of subsidiaries, management buy-outs, spin-offs, sale-and-leaseback, and other asset sales. Full and partial acquisitions of businesses. Internal capital expenditure on fixed assets such as plant and machinery.
Managerial restructuring	Removal of Chairman or Chief Executive Officer Officer/Managing Director (retirement under the age of 65 is included).
Financial restructuring	Omission or reduction of dividends from previous year. Issue of equity for cash. Debt refinancing involving extending, converting or forgiving of debt and interest.

Table 1.5: Turnaround Strategies. Source: Lai e Sudarsanam (1997), p. 209.

In the following sections, adopting the four categories of Lai and Sudarsanam (1997), the main contributions to the literature on these topics are presented.

1.5.1 Managerial restructuring

Since the first studies on the turnaround process, the replacement of the CEO and the top management team has been considered a key element to achieve corporate recovery. As explained above, companies very often suffer the corporate crisis due to bad management. Even

when the causes of the downward spiral are not these, the replacement of top management is judged positively.

Hofer (1980) sees the appointment of a new management team as a necessary condition for turnaround. Hofer generalizes this conclusion by stating that it is "a precondition for almost all successful turnarounds" (Hofer, 1980, p. 25). The author argues that although there is nothing to prevent the management team in charge from being able to effectively manage the turnaround, it is usually unsuitable for dealing with an emergency situation. The current management is responsible for the strategic choices that led the company to decline and it is accustomed to the ordinal management of the business and may lack the propensity to change what is necessary in a critical phase of the life of the company.

However, the evidence from subsequent studies is not unanimous on the correlation between corporate performance and top management team replacement. Wiersema and Bantel (1993) study the influence of the environment on the rate of change in management. They define the management team as "responsible for forging a link between the firm and its environment" (Wiersema and Bantel 1993, p. 499). Among their results, the link between top management team turnover and performance is not significant.

Denis and Denis (1995a) investigate the effect of changing the members of the board of directors and replacing the Chief Executive Officer on the probability of the company's default. The time frame analysed in their study is the one that precedes the filing for bankruptcy by 5 years. The results of their analysis show that companies close to bankruptcy more frequently replace the members of the board of directors and the CEO. However, in the opinion of Denis and Denis (1995a), these replacements have no impact on the progress of the restructuring process.

Boecker (1992) analyses a sample of companies with the aim of demonstrating the correlation between bad economic and financial performance and CEO dismissal. Their results confirm that companies with performances below the industry average tend to replace their CEOs more frequently. The added value of Boecker's study (1992) relies on the introduction of the power dimension. The author points out that the CEO of a company that is in financial distress can remain at the helm thanks to his power and his ability to blame his subordinates who play the role of scapegoats. Boecker (1992) argues that the composition of the Board of Directors and the structure of ownership have a significant impact on the probability of replacing the Chief Executive Director. In particular, the top management team has a greater chance of maintaining its position when:

- "The chief executive's ownership position was greater;
- Firms ownership by other individuals was more dispersed;
- There was a greater proportion of inside board members;
- A greater proportion of the board members appointed by the chief executive were insiders."

Barker et al. (2001) start from studies that show that top management team changes are not frequent in declining companies and from studies that find that, when changes occur, they do not have an impact on the outcome of the restructuring process. Barker et al. (2001) analyse a sample of companies trying to identify the forces that guide the choices on confirming or replacing the top management team. Their work generates 3 main results. First, the scholars discover that there is an "inertia effect". In particular, the longer the period of time a company has pursued a particular strategy, the less likely it is that management will be replaced during the restructuring phase. Secondly, the replacement of the management team is positively correlated with the presence of independent members of the board of directors. Finally, Barker et al. (2001) certify that the proximity to filing for bankruptcy is not a sufficient incentive for companies to replace management. The second part of the authors' analysis focuses on the effects that a change in management has on business strategy. They discover that the companies that proceed to replace the top management team are also those that most significantly change the strategy of the individual business units, the organizational structure and the system of internal controls.

Filatotchev and Toms (2003) study the correlation between the outcome of the turnaround process and the ownership structure and composition of the Board of Directors. Their analysis is based on a sample (equally divided between bankrupt and non-bankrupt companies) from the United Kingdom operating in the textile industry. Filatotchev and Toms (1993) state that in order to get out of the financial distress situation, companies need incentives and strategic guidance. The analysis of the data certifies that the presence of independent members within the Board of Directors and institutional investors among the shareholders increases the chances of a positive outcome of the corporate turnaround. However, the authors underline that the conditions of the industry to which they belong have a significant influence on this relationship. In particular, for companies operating in non-growing sectors, the presence of independent directors and institutional investors is less relevant, given that the focus of the restructuring activity will be less dedicated to strategy and more on rebalancing the financial situation.

Finally, Daily (1996) also studies the effect of the composition of the governance bodies on the probability of default of the company. In particular, his focus is on the status of members of the

audit committee and the presence of institutional investors among shareholders. The results of the study show that the presence of non-independent directors as members of the audit committee and the presence of institutional investors does not affect the company's chances of bankruptcy but affects the type of insolvency proceedings that the company chooses at the time of default.

1.5.2 Asset restructuring

Schweizer and Nienhaus (2017) define asset restructuring as opposed to operational restructuring and highlight the features that differentiate the two concepts. In particular, asset restructuring "contrasts operational restructuring by focusing on a strategically motivated alteration of a company's portfolio" (Schweizer and Nienhaus 2017, p. 18). The authors later add that the main objective of asset restructuring is to refocus the strategic trajectory of the business. Very often the seriousness of the state of distress and the intensity of the crisis mean that the liquidity generated by operational restructuring is not sufficient to stabilize the state of the company. To the latter a redefinition of the corporate portfolio must be added. The dismissal of company non-strategic assets or businesses is able to provide the necessary resources for the turnaround. A reduction in the number of companies in the portfolio has the additional benefit of reducing the commitment to top management, which can concentrate its efforts and attention on managing the complex turnaround process.

Andrade and Kaplan (1998) study the dynamics of 31 highly leveraged transactions that have entered into a situation of financial distress. They interview the companies in the sample and investigate the divestment activity. Their attention is focused on those divestments that they call "Desperation Asset Sales". These are sales of assets that can be very valuable that the company is forced to dismiss in order to find the resources necessary for survival. The data shows that most of the 31 companies analysed have carried out "Desperation Asset Sales". In most circumstances, these unplanned divestitures are carried out at lower prices than market prices. In addition, the state of financial distress has forced a significant reduction in investment. About half of the companies surveyed said that they had to reduce their investments during the distress years. This reduction is described as costly as it has prevented companies from taking important business opportunities and has contributed to keep the company even further away from its competitors.

Similar results were obtained by Campello et al. (2009). The authors interviewed more than a thousand Chief Financial Officers in 39 different countries. The results they present are divided

into two categories: companies that were financially constrained at the onset of the financial crisis in 2008 and companies that were unconstrained. The data show that the vast majority of constrained companies (90%) had to give up undertaking projects and had to cancel planned investments with a positive net present value. Moreover, like Andrade and Kaplan (1998), they gather evidence that financially constrained companies are more willing to see valuable assets in order to find resources to survive during the crisis.

Denis and Kruse (2007) study the restructuring strategies implemented by companies following a decline in performance. In particular, they study asset restructuring, which they divide into two categories: sale of assets or divisions and closing or reorganizing plant or division. They find that since the beginning of the decline, 61% of companies undertake an asset sale. In their sample, companies use this type of strategy most often (only 34% implement cost-cutting strategies). In addition, the data shows that in the year of the decline in performance the asset sale is doubling and in subsequent years remains statistically higher than before the decline.

Winn (1997) analyses the drivers of value creation, focusing in particular on growth and productivity. His sample includes 1,239 U.S. companies listed on the New York Stock Exchange, operating over the period from 1967 to 1986. Winn (1997) identifies the state of crisis using as a criterion a 16.67% decrease in the Return on Assets (ROA). Among the companies in the original sample, 122 companies were classified as financially distressed, of which 28 managed to return to previous levels of ROA (and thus complete the turnaround). The sample analysis certifies that most of the companies in crisis had undertaken an intense acquisition activity before the decline in profitability. The most interesting contribution of this study, however, is the evidence that asset retrenchment is not positively related to recovery. All 28 companies in the Winn (1997) sample that completed the turnaround did not reduce their assets but, on the contrary, increased them by more than 90% during the five years following the turnaround process.

Smith and Graves (2005) analyse a group of UK companies active in the manufacturing sector. They develop a model for predicting the state of insolvency from the financial ratios. Their work expands and adapts to the UK context the work of Altman (1968). Like Winn (1997), they claim that downsizing activities are negatively related to business turnaround. The data analysed show that the ability to expand business size and make new investments has a positive effect on the chances of a successful turnaround. Smith and Graves (2005) also examine the degree of severity of financial distress. The severity of the decline has a major impact on recovery possibilities but does not seem to correlate with the magnitude of downsizing. Smith and Graves (2005) conclude by saying that asset retrenchment activities are not always

unsuccessful but do not help recovery when they involve critical assets or when the sale is not properly managed.

Morrow et al. (2004) seek to put order into the relationship between asset restructuring and business performance. In particular, they study the effect of operational restructuring and asset restructuring by separating the effects between growing and declining industries. Their sample is made up of 253 companies that have operated in the US market between 1980 and 1995. The analysis shows a positive effect both of actions aimed at reducing costs and of disposals of non-strategic assets on market-based indicators. Therefore, this shows that the market appreciates the initiatives that companies take in order to achieve the turnaround. As far as performance is concerned, Morrow et al. (2004) show differences in the effects of these different restructuring activities depending on whether the industry to which they belong is in decline or is developing. As for the asset retrenchment, they discover that in growing industries it is a factor that explains the increase in performance, while in declining industries it is negatively correlated with the success of turnaround. As for cost retrenchment, the effect seems to be zero in growing companies, while efficiency gains seem to generate positive effects in declining industries.

1.5.3 Financial restructuring

Very often, financial restructuring is at the heart of restructuring actions. The emergence of the state of financial distress is frequently linked to liquidity problems, over-leveraging, inability to meet their financial commitments. In addition, financial restructuring poses major challenges for companies. At this stage, the company may be required to undertake major renegotiations with its creditors (banks, suppliers, tax authorities). In this area, it is essential to know the legal framework within which the company moves. The crisis situation may require admission to one of the insolvency or debt restructuring procedures provided for by the Bankruptcy Law. For the orderly management of the financial restructuring process, companies, especially larger ones, have consultants with specific skills to manage the issue quickly and effectively. In the literature, the concept of financial restructuring includes both debt restructuring and liquidity improvements. Financial restructuring also involves decisions on the distribution of dividends and the purchase of own shares.

The importance of turnaround business is affirmed by Bowman et al. (1999). His study aims to investigate the effectiveness of corporate restructuring. To achieve this, he breaks down restructuring into three components: portfolio restructuring, financial restructuring and organizational restructuring. Financial restructuring is defined as "significant changes in the

capital structure of a firm, including leveraged buyouts, leveraged recapitalizations, and debt for equity swap" (Bowman et al., 1999, p. 35). The effects of these restructuring actions are studied both through accounting performance indicators and through market indicators. The most significant impact on performance improvement is that of financial restructuring. Analysis of the data shows that financial restructuring is the one that on average generates the largest increase of 37.5%. Much lower results were achieved by portfolio restructuring (+5.6%) and organizational restructuring (-0.2%).

Zingales (1998) studied the impact of leverage on the performance of US trucking firms before and after Carter Deregulation. He studied the probability of survival of these companies in the 8 years that followed this exogenous event. The analysis of the data certifies that a high level of leverage increases the chances of bankruptcy and reduces the chances of overcoming the financial distress phase. The major result of Zingales' work (1998) is the evidence that companies that were most indebted before deregulation have worsened their competitive position and increased their gap with less indebted companies. The high level of leverage has reduced the possibility of undertaking investments and development projects. Moreover, the main reason for the companies' exit from the reference segment market seems to be the lack of investments in the years prior to the liquidation.

Kalra et al. (1996) study the effect of the announcement of debt for equity swaps on the market price of security. The study uses as a sample the US debt-for-equity swap announcements between 1981 and 1989. The final sample contained 105 different companies from 33 different industries. The study analyses the effect of this action, which changes the composition of the capital structure before and after the approval of the Deficit Reduction Act, which in 1984 reduced the tax benefits of the equity-for-debt swap. Karla et al. (1996) do not report significant effects before and after the approval of the Act. As stated in previous studies, the equity-for-debt swap has a negative impact on the price of securities just after the announcement. The beta of the securities that are the subject of the swap indicates a significant increase in the period just after the announcement. However, the systematic risk decreases statistically significantly in the periods following the swap.

DeAngelo et al. (2002) studied the collapse of a large U.S. company that went from a $1 billion turnover in 1989 to bankruptcy in 1998. In particular, they study the actions that companies can take to postpone the moment of recognition of the crisis. They find that the presence of liquid assets allows the management to ensure the going concern even in years of negative earnings and negative cash flows. The liquidation of liquid assets, like the components of working capital, allows managers to find the resources to cover operating losses. Another important

result of the study by DeAngelo et al. (2002) concerns the relevance of accounting-based debt covenants. They argue that mortgage repayments and interest payments can be met through the liquidation of working capital components. On the contrary, the accounting debt covenants do not leave alternative measures to be taken in order to comply with the requirements. In order to comply with the debt covenants, the company must improve its operating performance.

DeAngelo and DeAngelo (1990) analyse a sample of 80 companies listed on the New York Stock Exchange. These are companies that experienced a period of financial distress between 1980 and 1985. The focus of their analysis is on the dividend distribution policy. Their findings show that companies that do not have to comply with debt covenants included in loan agreements do not reduce or omit to pay dividends. On the contrary, companies bound by debt covenants are forced to reduce them. Another major result of the work of DeAngelo and DeAngelo (1990) relates to the dividend signalling effect. They discover that some dividend cuts may be motivated by the company's desire to increase its bargaining power with trade unions.

Ghosh and Woolridge (1991) analyse the reaction of the markets following the announcement of a cut or reduction in dividends. Often decisions to reduce or omit dividend payments are caused by worsening operating performance and income losses. When a company decides not to pay dividends to its shareholders, it sends an implicit signal. Managers do not expect a return to profitability in the short-term. Aware of the negative signal transmitted to the market, managers will try to postpone as much as possible the omission of the distribution. The study of market dynamics shows that markets react in a strongly negative way following the first announcement of a reduction in dividends. A second or third announcement, on the other hand, does not have a significant effect.

1.5.4 Operational Restructuring

Operational restructuring encompasses a wide variety of strategies with the primary objective of reducing costs, recovering efficiency and making processes more efficient. Schewizer and Nienhaus (2017) argues that "operational restructuring focuses on operating efficiency that does not target corporate strategy" (Schweizer and Nienhaus 2017, p. 11). Operational restructuring does not therefore focus on refocusing the business from the point of view of the competitive scenario, but includes all those less severe actions aimed at making operational management profitable. Operational restructuring actions may include operational process changes, product mix reconfiguration, capital expenditures and employee downsizing.

Cefis and Marsili (2005) stress that growth-oriented process innovations particularly have a strong effect on survival chances. Their study aims to study the impact of innovative performance on the possibilities of overcoming or avoiding turnaround. Moreover, the role of innovation on company performance is analysed from the point of view of process innovation and product innovation. They find that the most relevant factor to determine the survival of a company is the dynamic growth of the industry to which they belong. From their point of view, growth explains the probability of survival more than size. As far as technological advancement is concerned, Cefis and Marsili (2005) found evidence that companies that implement innovative processes have a 11% higher chance of overcoming the crisis than companies that do not invest in innovation and R&D. The factor that plays the most important role is process innovation. The latter seems to increase the chances of survival by 25%.

Sinha and Noble (2008) also study the disruptive effect of technology on the life cycle of companies and on the chances of survival. Their work focuses on the timing of the adoption of innovative tools and new technologies. Their analysis shows that companies that adopt new technologies early see an increase in their chances of survival. Sinha and Noble (2008) also point out that the effect of postponing the adoption of new technologies is not equivalent to early adoption. The probability of failure for companies that delay adoption is much higher than the increase in the chances of survival for early adopters.

Opler and Titman (1994) study the costs of financial distress. Their sample consists of a group of 46,799 American companies that operated between 1972 and 1991. In this set of companies, scholars discriminate against the effects of high leverage. Their contribution provides evidence that during industry downturns the most indebted companies suffer most. They lose a substantial market share compared to their competitors. The 10% most highly indebted companies suffer a 26% higher loss of sales than other companies. The share price also follows the same dynamic during the industry downturns. The most significant contribution of their study shows that companies that are more involved in research and development and those that produce more specialized products suffer more intensely the industry downturns.

Agarwal and Gort (2002) studied the shocks that determine the probability of survival of the company. Their analysis focuses on the study of the life cycles of companies and products. In particular, with regard to the product life cycle, they find a relevant and significant relationship with the likelihood of survival. The corporate failure therefore depends significantly on the product life cycle. The factors that change and mark the rhythm of the life cycle are linked to market competition and continuous technological advancement. The market segments that have a particularly short life cycle are those of the technology-intensive industries.

John et al. (1992) study a sample of 46 large companies that have experienced consecutive years of negative earnings. The set is not composed of companies in financial distress and has not applied for admission to bankruptcy over the years under analysis. They study the restructuring actions that these companies have implemented in the years following the emergence of the crisis. Most of the companies undertake cost cutting actions aimed at returning to efficiency. John et al. (1992) do not report a significant incidence of management replacement in the years under review. On the contrary, turnaround management is similar to that of non-disclosed companies. The greatest contribution to cost reduction comes from cutbacks in employees. The average reduction of workers immediately after the realization of negative income is 5%. Scholars also find that companies in difficulty reduce their investment in R&D, diverting those resources to an increase in investment.

Amabile and Conti (1999) study the effects of employee reduction in motivation and incentives for workers. They study the impact of creativity on changing the work environment as a result of operational restructuring and reduction in the number of employees. The link they find between downsizing and declining creativity is positive and statistically significant. In addition, their findings show that the work environment has the opportunity to improve after suffering the negative effects of downsizing. The decline in creativity is a critical problem especially in companies that rely heavily on product innovation such as the technology industry. In this case, a significant employees downsizing could have significant impacts on the future of the company.

In the next two pages (table 1.6 and 1.7) the strategies and the reviewed academic contributions are collected and summarized.

Type	Authors	Main findings
Managerial restructuring	Hofer (1980)	The change of management is a necessary condition for the turnaround. The current management lacks the propensity to change.
	Wiersema and Bantel (1993)	The relation between top management team turnover and performance is not significant.
	Denis and Denis (1995a)	Companies close to bankruptcy replace more frequently the members of the board of directors and the CEO-
	Boecker (1992)	The CEO of a company that is in financial distress can remain at the helm thanks to his power and his ability to blame his subordinates who play the role of scapegoats.
	Barker et al. (2001)	The longer the period a company has pursued a strategy, the less likely it is that management will be replaced during the restructuring phase.
	Filatotchev and Toms (2003)	The presence of independent members within the Board of Directors and institutional investors among the shareholders increases the chances of a positive outcome of the corporate turnaround.
	Daily (1996)	The presence of non-independent directors as members of the audit committee and the presence of institutional investors affects the type of insolvency proceedings that the company chooses.
Asset restructuring	Andrade and Kaplan (1998)	Companies in distress sell valuable assets and reduce investments in order to find the resources to survive. These actions prevent companies from taking opportunities and increase the distance with competitors.
	Campello et al. (2009)	Companies that are financially constrained give up undertaking projects and had to give up projects with a positive net present value.
	Denis and Kruse (2007)	After the onset of the corporate crisis, the majority of companies undertakes an asset sale.
	Winn (1997)	Asset retrenchment is not positively related to recovery. Companies that achieve turnaround increase assets over the following 5 years.
	Smith and Graves (2005)	Business expansion and new investments have a positive effect on the chances of recovery. Asset retrenchment do not help recovery when they involve critical assets.
	Morrow et al. (2004)	For growing industries, asset retrenchment is a factor that explains the increase in performance, while for declining industries it is negatively correlated with the successful turnaround.

Table 1.6: Managerial and Asset restructuring: summary of the strategies reviewed – Source: personal elaboration

Type	Authors	Main findings
Financial restructuring	Bowman et al. (1999)	Financial restructuring is the type of strategy that has the major effect in improving corporate performances.
	Zingales (1998)	A high level of indebtedness reduces possibilities of undertaking investments. The main reason for exit is the lack of investments in the years prior to insolvency.
	Kalra et al. (1996)	The equity-for-debt swap has a negative impact on the price of securities just after the restructuring announcement.
	DeAngelo et al. (2002)	Liquid assets allows the management to ensure the going concern even in years of negative cash flows. Accounting-based debt covenants don't leave space to management ability, performance has to improve.
	DeAngelo and DeAngelo (1990)	Companies that do not have to comply with debt covenants do not reduce or omit to pay dividends. On the contrary, companies bound by debt covenants are forced to reduce them.
	Ghosh and Woolridge (1991)	Markets react strongly negatively following the first announcement of a reduction in dividends since operators think that company will not return to profitability in the short term.
Operational restructuring	Cefis and Marsili (2005)	Companies that implement innovative processes have more chances of overcoming the crisis than companies that do not invest in innovation.
	Sinha and Noble (2008)	Companies that adopt new technologies early see an increase in their chances of survival.
	Opler and Titman (1994)	Companies that are more involved in research and development and those that produce more specialized products suffer more intensely from the downturns industry.
	Agarwal and Gort (2002)	The corporate failure therefore depends significantly on the product life cycle. The factors that influence the rhythm of cycle are linked to market competition and continuous technological advancement.
	John et al. (1992)	The greatest contribution to cost reduction comes from cutbacks in employees. The average reduction of workers immediately after the realization of negative income is 5%.
	Amabile and Conti (1999)	Creativity of employees plays an important role in assuring business turnaround especially for industries that rely heavily on product innovation.

Table 1.7: Financial and Operational restructuring: Summary of the strategies reviewed – Source: personal elaboration

1.6 Context factors influencing turnaround

In order to achieve a satisfactory turnaround and to bring the company back to pre-crisis performance levels, early diagnosis of the symptoms of the crisis and implementation of the correct remedial actions may not be sufficient. The positive outcome of the turnaround process is also significantly influenced by of the external and internal factors of the environment in which the company operates. The search for these factors, that can play an important role in the outcome of the corporate restructuring phase, is not always easy. The complexity relies on the verification the causal relation between internal and external adverse factors and the situation of financial distress. In particular, with regard to internal factors, it is not easy to understand whether these are part of the causes that triggered the crisis or whether they emerged only later. The factors that can influence the implementation of a successful turnaround are many and there are many contributions to the literature that have analysed them. Among the most relevant factors that have been studied are size of the company, industry condition, macroeconomic dynamics and legislation.

Francis and Desai (2005) study the recovery process and the factors that condition the success of the turnaround process. They analyse a group of 97 firms, monitoring their performance over a period of 6 years. The first relevant result of their analysis is that on average, the causes of crises that can be avoided or counteracted by managers contribute more to recovery than environmental factors. Moreover, among the context factors analysed, Francis and Desai (2005) obtain evidence that the size of the company is not significantly relevant for the success of the turnaround. This seems to be against intuitive behaviour as large companies have greater access to resources and bargaining power. Francis and Desai (2005) argue that these effects are compensated for by the organisational inertia affecting large companies (as stated by Weitzel and Jonsson 1989).

Poon et al. (2001) study the impact of restructuring announcements on the market price of shares of companies in financial distress. Their sample consists of 30 U.S. companies that announced restructuring to the market in the period 1988-1995. In particular, their study focuses on the reaction of the market following the publication in the Wall Street Journal of the news of corporate restructuring. Their findings show that the effect on the stock price is negative and significant.

The work of Coucke et al. (2007) aims to investigate the factors that influence employee layoffs in the context of restructuring processes. Their work studies a sample of 659 Belgian companies that have carried out collective layoffs. Coucke et al. (2007) obtain evidence that downsizing is

significantly influenced by context factors. In particular, the industry to which it belongs plays a fundamental role. Among the factors judged most relevant, they identify operating in more technologically advanced sectors, the degree of product differentiation in the reference market segment, the possibility of exploiting economies of scale. The size of the company is relevant in their study. Larger companies have a greater propensity to downsize.

The effect of layoffs is also studied by Hancock et al. (2013). They focus on the different effectiveness of downsizing actions in different sectors and for different company sizes. The effect of employee turnover is negative in medium-sized companies while it does not seem to have positive effects on large companies. As for the influence of the industry to which they belong, the authors find that the effect of higher employee turnover in manufacturing and transport. The effect is much less for services and jobs where quality and safety are important.

Chava and Jarrow (2004) investigate the effect of context factors affecting the industry in which the company operates. Their paper studies a sample of US companies between 1962 and 1999. They formulate a model for predicting bankruptcy and among the variables they take into account is that the macroeconomic condition and the degree of dynamism of the industry are highly significant in explaining the probability of failure.

Denis and Denis (1995b) analyse a sample of 29 companies that completed recapitalisation between 1985 and 1988. They investigate the reasons why some of these recapitalizations have become distressed. The ex-ante analysis of the sample shows that there are no substantial differences between companies. The two authors identify industry-wide problems as the main reason for distress. Companies belonging to industries in trouble are not able to make divestments at market prices and when they do, they are not positively received by the market. Finally, the regulatory and legal framework plays a very important role in the possibility of bankruptcy for highly indebted companies.

Moulton and Thomas (1993) provide an empirical study on external factors influencing the outcome of a corporate crisis and filing for bankruptcy. The authors analyse a sample of 73 companies listed on the stock market which filed for bankruptcy in the years between 1980 and 1986. Their findings show that external factors significantly influence the outcome of the crisis. Of all the factors, the size effect plays an important role in the survival of the company. Larger companies have a greater chance of reorganization than smaller companies.

Davydenko and Francks (2008) investigated the correlation between the legal system and the chances of survival of companies in crisis. They analyse a sample of bankrupt companies from three different countries (France, Germany and the United Kingdom). Among these countries

the legal systems are very different and offer a different system of protection to creditors. The French system is disadvantageous for creditors and therefore, from the results of the analysis, it emerges that banks compensate for an unfavourable legal system by increasing the collaterals required in the context of debt restructuring operations.

The implications of a legal system that protects creditors are also investigated by Acharya and Subramanian (2009). They study various legal systems and study their implications for the life cycle of companies. The major result of their analysis is that in debtor-friendly legal systems, companies invest more in research and development projects while in systems that favour creditors the impact of these activities is significantly less.

Authors	**Main findings**
Francis and Desai (2005)	The causes of crises that can be avoided or counteracted by managers contribute more to recovery than environmental factors. The size of the company is not significantly relevant for the success of the turnaround.
Poon et al. (2001)	Restructuring announcements effects on the stock price are negative and significant.
Coucke et al. (2007)	Downsizing is significantly influenced by context factors. In particular, the industry to which the company belongs plays a fundamental role.
Hancock et al. (2013)	The industry to which the company belongs influences the magnitude of employees' layoffs during periods of financial distress.
Chava and Jarrow (2004)	Macroeconomic conditions and degree of dynamism of the industry are highly significant in explaining the probabilities of failure.
Denis and Denis (1995b)	Companies belonging to industries in troubles are not able to make divestments at market prices and when they do, they are not positively received by the market.
Moulton and Thomas (1993)	Size plays an important role in the survival of the company. Larger companies have a greater chance of reorganization than smaller companies.
Davydenko and Francks (2008)	Banks compensate for an unfavourable legal system by increasing the collaterals required in the context of debt restructuring operations.
Acharya and Subramanian (2009)	In debtor-friendly legal systems, companies invest more in research and development projects while in systems that favour creditors the impact of these activities is significantly less.

Table 1.8: Context factors: Summary of the strategies reviewed – Source: personal elaboration

Chapter 2

2 Crisis management tools

After the review of academic contributions concerning crisis and turnaround, the second chapter deals with actions and methods to manage and resolve the state of crisis. First, the chapter focuses on methods that can be used for early diagnosis of the crisis. In particular, the tools available to management to early intercept the decline and prevent the crisis from undermining the probabilities of survival of companies are taken into account. The first group of methods is based on the analysis of financial data in order to intercept possible signals of difficulty. The second group is characterized by a lower level of discretion and is based on the use of econometric models. Then, the legal instruments available to companies in financial distress are examined. Since the empirical analysis contained in this work is based on a sample of Italian companies, the laws and regulations in force in Italy are described. Particular attention is paid to the description of the recent reform of Bankruptcy Law in Italy that provides new legal tools that will come into force from 2020.

2.1 Methods to detect corporate crisis

The downward spiral of corporate decline can assume various and complex characteristics. As the previous paragraphs demonstrate, there are many causes that can lead a company to negative performance. The paths that the corporate crisis can take may be different in terms of intensity and speed. In all these cases, an early diagnosis is essential to identify the symptoms of a probable crisis. Methods are therefore necessary to enable the entrepreneur to become aware of the critical moment and identify the reasons. This type of analysis is functional in order to adopt the most appropriate strategies, to attempt to restructure the business and to avoid insolvency and bankruptcy. Early recognition of the state of crisis is an element of interest also for all those stakeholders who operate with the company (banks, suppliers, employees). Credit institutions in particular are the most interested in assessing creditworthiness and consequently in estimating the probability of insolvency of the company.

The monitoring of company performance and the application of models aimed at assessing the possibility of insolvency is very different between individuals operating inside and outside the entity. The availability of information for external users is limited to the financial statements and other information voluntary disclosed by the company. The internal analyst, on the other

hand, has a significant number of "non-accounting information on operations" available (Fedele and Antonucci 2015).

The search for the best tools to predict the emergence of the crisis has been studied by researchers and practitioners for many years. In the literature, the methods that allow to anticipate a possible corporate crisis are classified as follows (Guatri, 1995):

- Methods based on intuition
- Methods based on ratios analysis
- Methods based on models

The three types of methods differ significantly from one another. It is not only the information capacity that makes them different but above all the methods of analysis and the complexity of the instruments.

The methods based on intuition, according to the definition of Guatri (1995), are characterized by the "external recognisability of crisis factors". This category of methods consists in the observation of "typical" events or circumstances that can signal possible difficulties. The recognition of the crisis based on intuition is strongly affected by subjectivity since it is based on the evaluation of characteristics that are qualitative in nature. Some of these indicators can be: operating in mature or distressed sectors, loss of market share, commercial or organizational inefficiencies, little product renewal and financial imbalances. However, it is impossible to draw up a complete list of factors that can be taken into consideration. The effectiveness of this method depends significantly on the analyst's ability and on their capacity to contextualize the various events in the framework in which the company operates. According to Guatri (1995), the recognition of these qualitative factors can work to identify the possible crisis well in advance, long before it can manifest itself.

The second type of methods is based on the analysis of financial statement data. Accounting information has to be processed and ratios are calculated. These are useful tools for the analyst in order to read the performance and to identify critical elements. However, the mechanical calculation of ratios is not enough to have a clear picture of the possible symptoms that indicate the crisis. The values of the single indicators have to be compared with those of previous financial years (time series comparison) and with the average or the median values of a group of comparable companies (cross-sectional comparison).

Finally, model-based methods rely on the use of quantitative data deriving from financial statements to which mathematical and econometric tools are applied. The first contribution concerning this type of analysis is usually associated with the paper of Beaver (1966). His work

is part of the so-called univariate analysis and concerns the analysis of various financial ratios in order to identify those that are most likely to signal the outbreak of the crisis. The most famous and most widespread technique is the so-called multivariate discriminant analysis (MDA). Within the latter category is classified the so-called Altman Z-score. This model is undoubtedly the most popular in the field of instruments for assessing corporate insolvency risk. It is the result of a work by Altman published 1968 and consists of a linear equation in which the independent variables are financial ratios. For each of these variables, a coefficient is attributed, which indicates the relative weight of any individual variable. Altman sets numerical thresholds that are aimed at expressing an opinion on the financial conditions of the company. If the algebraic sum of the variables multiplied by their coefficients generates a number higher than the threshold, the firm is considered "at risk". In addition to multivariate discriminant analysis in recent years, with the development of technology and the progress of studies, new techniques for the prediction of insolvency have emerged, such as probit analysis, logit analysis and neural networks.

In the following paragraphs, the methods based on the analysis of ratios and the main contributions to the academic debate on statistical methods for predicting bankruptcy are analysed.

2.1.1 Financial statement analysis

Financial ratios are an important tool for internal and external observers to understand the performance achieved in a specific financial year and to have clues about potential problems that company data may hide. In particular, financial ratios significantly facilitate cross-sector comparisons between companies and the study of company trends. In the context of the corporate crisis, financial statement ratios can be very relevant as they can anticipate possible dysfunctions. The signals given by numbers very different from those of comparable companies can serve as a stimulus for companies to implement the restructuring strategies necessary to avoid or to solve a crisis.

The outbreak of the crisis very often coincides with financial tension. The company is unable to meet its financial, operational or tax obligations. Therefore, the monitoring of financial indicators capable of expressing the degree of liquidity and sustainability of financial debts is very relevant. However, the financial tension is often only the external manifestation of a state of crisis that has affected the profitability and efficiency of the business that, thus, can no longer remunerate the inputs used with the proceeds of sales. Therefore, the analysis through financial ratios cannot neglect the monitoring of those indicators that express the performance and

profitability of the operating business. The evaluation of the company's performance requires the evaluation of each result in the context of other ratios' outputs. If large samples are analysed, the median of ratios of companies close to bankruptcy and of healthy entities are different. But if companies are taken individually and if ratios are analysed individually, some companies in distress may have indicators similar to healthy companies (Penman 2013). Therefore, the prediction of bankruptcy through the analysis of the financial statement requires a thorough examination.

In order to have an overall picture of the company's performance, it is therefore essential to monitor the following financial ratios and financial statement indicators:

- Economic performance and profitability
    - Sales growth
    - Operating margins
    - ROA and ROIC
- Liquidity and financial structure
    - Current ratio and quick ratio
    - Debt to equity ratio
    - Debt sustainability
    - Interest Coverage Ratio
    - Debt Service Coverage Ratio

2.1.1.1 Economic performance and profitability

The analysis of operational performance is the first step of the analysis. It aims at understanding the company's position in the market, the attractiveness of the industry in which it operates, its operational efficiency and its ability to generate a good return on investments. Low profitability combined with falling turnover and margins may be a sign of deterioration that may lead to decline.

To understand the degree of health of a company, one of the first indicators that is observed by the analyst is the growth rate of sales. Each manager has the objective of pursuing the highest possible growth. The benefits of increased turnover are manifold. These certainly include exploiting economies of scale, economies of scope, the enhancement of bargaining power with customers and suppliers, an increased notoriety and the ability to attract and retain human capital. Companies that grow little or even have negative growth rates present fewer opportunities for managers and have more chance of being acquired by fast-growing companies

(Koller, 2015). In addition, growth in turnover is one of the key factors in creating shareholder value along with profitability. Growth can be classified into three different groups: portfolio momentum, market share performance, mergers and acquisitions (Koller, 2015). First, portfolio momentum is a type of growth that is achieved by being part of a market segment that is dynamic and is growing strongly. Second, market share performance refers to companies that increase their influence within the market segments where they operate. Finally, growth through mergers and acquisitions is inorganic and is achieved by taking over other companies. As Baghai et al. (2007) have pointed out, the first type of growth (namely "portfolio momentum") is the one that generates the most value for shareholders since it is the situation that best guarantees that performance can be sustained over time. The growth rate of the companies is deeply influenced by the sector in which they operate, but it must be of interest to the observer to understand the reasons why within the same market segments companies have very different growth rates.

The analysis of the operating margins of the income statement is a very important tool to understand the profitability of the business and the efficiency of production. The most important margins are Gross Margin, EBITDA and EBIT. These margins are significant not so much for their absolute value as for their relationship with total sales. In fact, in order to analyse performance, the dynamics of these percentage margins over the years are analysed. The gross margin is calculated as total sales minus cost of goods sold. Therefore, indirect fixed costs and G&A costs are excluded from the calculation. When its percentage value increases, it means that the company is increasing its production efficiency or its ability to set a higher price. EBITDA is a very important margin for the analysis of corporate profitability but it also has a financial significance. It is composed as revenues less monetary costs. In addition to interest and taxes, also depreciation, amortization and provisions are excluded from its calculation. Therefore, EBITDA shows production efficiency in a sufficiently objective way since there are no costs within it that require the use of estimates or accounting approximations (such as depreciation). At the same time, it excludes non-monetary cost components (such as provisions and write-downs). Therefore, EBITDA also expresses a potential cash flow generated by the company's operating business. However, the analyst must keep in mind that this is only a proxy for the operational cash flow (Whalen et al. 2015). This potential cash flow does not always immediately turn into actual cash flow as changes in net working capital may reduce or increase it. Finally, EBIT expresses the result generated by the operating business without taking into account financial, tax and extraordinary expenses. Its ratio, calculated using total sales as the denominator, is called ROS (Return on Sales). From its analysis it can be understood whether the company is able to remunerate costs through sales prices.

In order to calculate the profitability of a business, ratios that manifest a return on investment can be calculated. In particular, the most common ratios are ROIC (Return on investment capital) and ROA (Return on asset). Both share the numerator, but have different denominators.

$$ROA = \frac{EBIT\ x\ (1 - Tax\ rate)}{Total\ Assets}$$

$$ROIC = \frac{EBIT\ x\ (1 - Tax\ rate)}{Capital\ Invested}$$

Return on assets has total assets as denominator. On the contrary, for the calculation of the ROIC, operational debts, account payables and non-operating assets are subtracted from the total amount of assets to obtain the capital invested. For the calculation of the invested capital it is important to distinguish the operating and financial liabilities. The invested capital contains within it only the assets related to the operating activity, net of the operating liabilities that finance it in part. Account receivables and other operating payables are of a different nature than financial payables and therefore have to be considered in the invested capital. Both ratios have in the numerator the value of operating income net of taxes calculated using EBIT as the tax base. The resulting margin is called NOPLAT (Net operating profit less adjusted taxes). This margin expresses the result that the business gets by excluding financial expenses. More specifically, the benefit of the tax shield generated by interest expense is excluded. In this way the results of this ratios are comparable between the different companies and are not influenced by the differences in capital structures. Given that the NOPLAT is calculated over the duration of an entire financial year, while the value of the denominator (total asset or invested capital) is recorded only at the end of the year, for a more correct calculation of the ratio the average of the value at the beginning and end of the year may be calculated. As explained by Koller (2015), the ROIC is a better indicator for the study of the profitability of the operational business given that the total assets do not consider the benefits of account payables and other operating loans that reduce the amount of funding required to support the invested capital. Theoretically, the ROA's imperfection could be corrected (Whalen et al. 2015). Given that for all debts it is likely that the debtor asks the creditor to recognize an interest (implicit or explicit), even the account payables generate an implicit expense for interest. For example, the implied interest probably manifests itself with higher purchase prices for the lender. In order to make the numerator and denominator of the ROA consistent, the higher cost incurred by the company for having been able to enjoy payment extensions should be removed from the NOPLAT. In practice, however, this estimation is not easy and leaves room for great discretion. ROIC and ROA are deeply influenced by the sector in which the company operates. For example, a company that operates

in the pharmaceutical sector has many chances to have a ROIC higher than that of a company that operates in telecommunications or utilities.

A more precise calculation of the profitability ratios, and in particular of the ROIC, includes the use of EBITA instead of EBIT as the basis for calculating NOPLAT. The difference between EBIT and EBITA is the amortization of acquired intangibles. The latter are not taken into account in the calculation of EBITA. The reason for the exclusion is the different accounting treatment that is reserved for the acquired intangibles and those internally generated. While the acquired ones can be capitalized and recognized separately, investments to maintain and generate intangibles organically cannot be capitalized. Therefore, when an acquired intangible loses value, the company that incurs costs that are expensed in the P&L and cannot be capitalized. Considering the amortization of acquired intangibles implies the risk of double-counting the expense and inappropriately reducing the operating income.

In order to facilitate comparison between different companies and in order to investigate in greater depth the company's performance, ROIC can be calculated in two versions: without and with goodwill and acquired intangibles. In ROIC without goodwill and acquired intangibles these components are subtracted from the denominator (invested capital). The indicator calculated in this way allows to understand the performance of the operating business, regardless of inorganic growth. The ROIC calculated on the total invested capital mixes the operating performance with the ability of the company to obtain an appropriate return above the price paid for acquisitions.

2.1.1.2 Liquidity and Financial Structure

The inability to meet a financial obligation is very often the external appearance of the situation of distress. The monitoring of liquidity levels and the appropriateness of the financial structure is therefore of pivotal importance for the prevention of corporate crisis. The most crucial aspect is obviously liquidity, that is the ability to cope with short-term payments (loan instalments, employees, suppliers). However, the structure of medium and long-term debts also needs to be monitored in order to assess their consistency with the cash flows generated by the operating business.

One of the most widely used indicators for assessing the degree of short-term liquidity of companies is the current ratio. This is calculated by comparing the assets that are expected to turn into cash within a financial year with debts that will require payment within 365 days.

$$Current\ Ratio = \frac{Current\ Assets}{Current\ Liabilities}$$

The higher the index value, the more liquidity is expected to be available for the repayment of current liabilities. In practice it is customary to assume that a current ratio value greater than 1.2 means a good short-term financial situation. However, in order to appreciate the value of the index and to compare it with those of other companies, it is necessary to understand in depth the monetary cycle of the entity considered. There are many differences between industrial sectors. Companies operating in the retail sector, for example, will have a very different cash cycle compared to companies operating in the Real Estate sector. As illustrated by Whalen et al. (2015), the calculation of this index must be accompanied by a thorough analysis of the business situation. It could happen that some companies present a very high current ratio not because they can count on a solid short-term financial structure. This can happen when companies have accumulated a large inventory and are unable to cash account receivables because of operational difficulties, a decline in demand or a recession. At the same time, a company that makes a very efficient use of the inventory and is able to manage net working capital in order to minimize it could present a current ratio very close to 1.

Another financial ratio used for the assessment of the short-term financial balance is the so-called "quick ratio". This compares the assets for which a transformation into cash is expected in a short period with current liabilities. In other words, the denominator contains all the current assets with the exception of the inventory.

$$Quick\ Ratio = \frac{Cash + Marketable\ Securities + Account\ receivables}{Current\ Liabilities}$$

The value considered critical for the quick ratio is 0.8. The difference between the quick ratio and the current ratio makes it possible to understand the role of inventory in guaranteeing the short-term financial balance of the company. In the presence of a considerable relevance of inventory, the analyst should investigate the reasons. In particular, the analyst has to understand if a high value of the inventories is in the mean of all comparable companies or if this represents a specific symptom of the single company.

The solidity of the capital structure can be appreciated through the calculation of the debt to equity ratio.

$$Debt\ to\ equity\ ratio = \frac{Net\ Financial\ Position}{Total\ Equity}$$

This indicator compares the Net Financial Position with the total value of equity and makes it possible to assess the proportion of the two figures that finance the needs generated by the net invested capital. It is also an expression of the degree of capitalization of the company. In practice, the threshold value of this indicator is considered to be 1.5x. Companies with a debt to equity ratio above this threshold are deemed to have a high financial risk. Also in this case the simple reckoning of the value of the ratio is insufficient to understand the appropriateness of the financial structure of the company considered and the critical value equal to 1.5x is not always able to discriminate between healthy companies and companies in financial distress. The value of the ratio should be read considering the characteristics of the company (size, type of shareholders) and the context in which it operates (industry and country). In the event that the net financial position is negative (i.e. the value of the cash and marketable securities is greater than the financial debts) this index loses significance. The purpose of the debt to equity ratio is to investigate the structure of the company's sources of financing. In the case of negative NFP this would no longer be a source of financing but all the capital invested would be financed by equity (Sostero et al. 2016).

The financial ratio that compares net financial position and EBITDA is widely used in practice for assessing the sustainability of financial debts. It is an index that is also widely used by credit institutions and is often used as covenants that companies have to respect within loan agreements.

$$Debt\ coverage\ ratio = \frac{Net\ Financial\ Position}{EBITDA}$$

The sustainability of loans is evaluated based on the cash flows that the company is able to generate and EBITDA is the margin that can provide such proxy. The ratio shows the number of years needed, if EBITDA remains constant, to fully repay the net financial debt.

$$Interest\ coverage\ ratio = \frac{EBITDA}{Interest\ Expenses}$$

The interest coverage ratio makes it possible to assess the ability of the company to meet the payment obligations of interest expenses. Once again, EBITDA is used as a proxy for the operating cash flow generated by the company.

The debt service coverage ratio is an index aimed at investigating the ability of the company to cope with the service of the debt (principal repayment and interests) with the cash flows generated (cash flow from operations).

$$Debt\ service\ coverage\ ratio = \frac{Cash\ flow\ from\ operations}{Debt\ service\ (debt\ repayments + interests)}$$

A value greater than 1 represents the company's ability to generate sufficient cash to cover debt instalments and interest payments. However, a value of 1 would not be acceptable since there would be no possibilities of paying dividends to shareholders.

The assessment of the level of coverage and leverage through the calculation of financial ratios requires the comparison of the results with some reference values. In practice, there is no univocal value that can discriminate between healthy companies and those with an inadequate financial structure. There are many factors that influence the interpretation of financial ratios. One of the most relevant is the industry in which the company operates. Moody's, e.g., expresses credit ratings regarding the relative ability of an entity to meet financial obligations. The company uses different models for the evaluation of companies operating in different sectors. Despite the change in components, the methodology remains the same. Five factors are taken into consideration: scale, business profile, profitability, financial policy and leverage and coverage. The last component involves the calculation of some financial ratios.

Depending on the industry to which companies belong, Moody's uses different ratios capable of expressing credit ratings. Table 2.1 shows the different indicators that are considered for the evaluation of leverage and coverage on a sample of six industries. The most widely used ratios are NFP / EBITDA and Retained Cash Flows / Net Financial Position. Interest coverage ratios used by Moody's assume two different forms. In both formulations, the denominator is the total of the interest expenses while the denominator, depending on the industry, is EBITDA-CAPEX or EBIT.

Industry	Debt / EBITDA	(EBITDA - CAPEX) / Int. Exp.	EBIT / Int. Exp.	RCF / Net Debt	Total Debt / Book Cap	(Debt + Pref. Stock) / Gross Assets	Secured Debt / Gross Assets	Fixed-Charge Coverage
Consumer Durables	x		x	x				
Media	x	x						
Oil & Gas			x	x	x			
Real Estate	x					x	x	x
Retail	x		x	x				
Telecommunications	x	x		x				

Table 2.1: Financial ratios used to evaluate leverage and coverage – Source: personal elaboration from Moody's rating methodologies

Moody's methodologies also contain the ranges of values associated with a given rating. Taking into account NFP / EBITDA (Table 2.2) it is possible to infer that there are important differences between the different industries. First of all, weights given to the ratio differ

between different industries. While for Media NFP / EBITDA counts for 25% of the final rating, for companies operating in the Real Estate industry the relevance is much lower (10%). However, what is most relevant are the different critical values that are used. Taking into account the lower limit of the Ba rating (which determines the classification of the company as "non-investment grade"), the heterogeneity between the different industries emerges. In particular, while in the Media industry companies with a ratio greater than 2x are given a Ba rating, companies operating in Real Estate receive a Ba rating only when NFP / EBITDA exceeds 8x.

	Debt / EBITDA								
Industry	**Sub-factor Weight**	**Aaa**	**Aa**	**A**	**Baa**	**Ba**	**B**	**Caa**	**Ca**
Consumer Durables	15%	≤ 0.5	0.5x - 1x	1x - 2x	2x - 3x	3x - 4x	4x - 6x	6x - 8x	≥ 8x
Media	25%	≤ 0.5	0.5x - 1x	1x - 1.5x	1.5x - 2x	2x - 3x	3x - 5x	5x - 8x	≥ 8x
Real Estate	10%	≤ 2	2x - 3.5x	3.5x - 4x	4x - 6x	6x - 8x	8x - 10x	10x - 13x	>13x
Retail	15%	≤ 0.75	0.75x - 1.5x	1.5x - 2.5x	2.5x - 3.5x	3.5x - 4.5x	4.5x - 6.5x	6.5x - 8x	≥ 8x
Telecommunications	15%	≤ 0.5	0.5x - 1x	1x - 2x	2x - 2.75x	2.75x - 3.75x	3.75x - 5.5x	5.5x - 8x	>8x

Table 2.2: NFP/EBITDA: ranges and critical values – Source: personal elaboration from Moody's rating methodologies

Important differences also emerge with regard to coverage ratios (Table 2.3). As mentioned above, coverage is assessed through two different formulations of the ratio. Also in this case, the weight of the component on the final rating varies considerably. While interest coverage ratio for companies operating in Oil & Gas industry counts for 7.5%, in Media it counts for 20%. The range scale is different for each industry, the value that determines the transition to the category "non-investment grade" is on average 4.0x.

	EBIT / Interest Expenses								
Industry	**Sub-factor Weight**	**Aaa**	**Aa**	**A**	**Baa**	**Ba**	**B**	**Caa**	**Ca**
Consumer Durables	10%	≥ 18x	12x - 18x	7x - 12x	4x - 7x	2.5x - 4x	1x - 2.5x	0.5x - 1x	< 0.5x
Oil & Gas	7.5%	≥ 25x	15x - 25x	7x - 15x	4x - 7x	2x - 4x	1x - 2x	0.5x - 1x	< 0.5x
Retail	15%	≥ 20x	12x - 20x	6x - 12x	4x - 6x	2.25x - 4x	1x - 2.25x	0.5x - 1x	< 0.5x
	(EBITDA - CAPEX) / Interest Expenses								
Industry	**Sub-factor Weight**	**Aaa**	**Aa**	**A**	**Baa**	**Ba**	**B**	**Caa**	**Ca**
Media	20%	≥ 15x	12x - 15x	9x - 12x	6x - 9x	3x - 6x	1.5x - 3x	1x - 1.5x	< 1x
Telecommunications	10%	≥ 8	6.5x - 8x	5x - 6.5x	3.5x - 5x	2x - 3.5x	1x - 2x	0.5x - 1x	< 0.5x

Table 2.3: Interest coverage ratio: ranges and critical values – Source: personal elaboration from Moody's rating methodologies

2.1.2 Models of Financial Distress Assessment

The development of statistical and econometric models for assessing company performance and estimating insolvency risk originated in the 1930s, in the years immediately following the outbreak of the 1929 crisis. The impetus for the development of these methods came from the

banking system. In the years leading up to the 1929 crisis, banks granted credit very easily, without an appropriate assessment of creditworthiness. As Dimitras et al. (1996) points out, credit granting problem is different than the estimation of probabilities or proximity to default. However, lending institutions can use default estimation models to attribute the credit rating. The first contributions to the literature concerned the identification of appropriate ratios and the use of financial statement information to predict a future state of insolvency. Over the years the models have increased in numerical terms and have reached an ever-increasing degree of sophistication. They are all based on statistical techniques and their goal is to distinguish bankrupt from non-bankrupt companies by differentiating them on the basis of financial indicators. The ultimate objective is to diagnose the first signs of the downward spiral with high reliability. One of the main advantages of statistical methods is to totally eliminate the discretion of the analysts who find themselves judging the company. A further advantage is that of reducing observation and evaluation to a limited number of variables, thus reducing the effort for the analyst (Danovi and Quagli 2015).

The main work at the origin of all the literature on models of bankruptcy prediction is that of Beaver (1966) which is part of the so-called "univariate analysis". Since 1960, there have been many studies on the models for predicting corporate crisis. Dimitras et al. (1995) and Bellovary et al. (2007) have carried out important reorganization and classification work on the various models that have been proposed from 1930 to today. The classification work highlights considerable differences in terms of model factors considered, assumptions and contributions to literature. However, all the statistical tools for modelling the corporate crisis share the same approach. In most models, companies are divided into two groups. A group of bankrupt firms is associated with a comparable group of healthy firms. The objective of the various studies is to find the best indicators that are able to differentiate the two groups. This approach is called discriminant analysis. Therefore, the contributions to literature that use this approach also share the methodology of their work. Dimitras et al. (1995) points out that the basic steps for defining the model are the following:

a. “Sample selection and collection of data;
b. Selection of specific variables;
c. Model validation (statistical significance and accuracy of results)”

Bellovary (2007) classifies model types into 4 different categories:

- Multivariate discriminant analysis (MDA)

- Logit analysis
- Probit analysis
- Neural networks

Multivariate discriminant analysis (MDA) models are the most applied in the literature. They consist in defining a sample of companies that have entered a bankruptcy procedure. For each company that is part of this group, one entity with a normal level of performance is assigned. Paired companies have the same size and operate in the same industrial sector. The reason for this procedure is to control for those factors, other than a different performance, that can justify a difference between the ratios. Then, it is assumed that each company can be described by a linear function of *n* variables where the variables represent different financial ratios.

$$Z = A_1X_1 + A_2X_2 + \cdots + A_nX_n$$

Where:

- Z is the output of the model
- A_n are the coefficient (weights)
- X_n are the variables (financial ratios)

The ratios chosen are those that differentiate the two groups in the best possible way. The ultimate goal is to estimate the coefficients of the linear equation so that the variance between the two groups of companies is maximized. The inclusion of financial ratios in the estimated equation generates a Z-score. This number allows for the probability of bankruptcy to be estimated. Each model has to face statistical uncertainty and a margin of error. Type I error consists in considering a company healthy when it actually does default. Incorrectly classifying a company as bankrupt is referred to as a Type II error. For each model, authors have to check the patterns of type I error and type II error in order to establish the appropriate cut-off, that is the number that discriminates with the minimum level of errors the companies with high probability of insolvency with those with a low probability.

The Logit and Probit models do not simply identify a cut-off level. The output of the equations that make up the model is a probability that expresses the likelihood that the company will go bankrupt. These methods are based on a cumulative probability function. In the logit models the probability of a company going bankrupt is expressed by the following function:

$$P(X_i, \hat{a}) = F(\tilde{a} + \hat{a}X_i)$$

Where a_i are the parameters and x_i are the set of variables of the model.

The only difference between the models is the function $F(\tilde{a} + \hat{a}X_i)$ (Dimitras et al., 1996). In the case of the logit method, it is the so-called "cumulative logistic function" and takes the following form.

$$F(\tilde{a} + \hat{a}X_i) = \frac{1}{1 + e^{-(\tilde{a}+\hat{a}X_i)}}$$

On the contrary, in the probit method it is the "cumulative standard normal distribution function".

$$F(\tilde{a} + \hat{a}X_i) = \int_{-\infty}^{\tilde{a}+\hat{a}X_i} \frac{1}{(2\pi)^{1/2}} e^{z^2/2} dz$$

The assumption of model linearity creates limitations on multivariate analysis, probit and logit models. Neural networks are mathematical models that try to simulate the biological neural networks that form human brains. They are defined as "flexible, nonparametric modelling tools. They can perform any complex function mapping with arbitrarily desired accuracy" (Zhang et al. 1999 p. 17). Starting from some input data that are filtered by some nodes, which represent the model's calculation elements, the neural networks arrive at a certain output trying to imitate a human decisional process.

	Discriminant Analysis	Logit Analysis	Probit Analysis	Neural Networks	Other
1960's	2	0	0	0	1
1970's	22	1	1	0	4
1980's	28	16	3	1	7
1990's	9	16	3	35	11
2000's	2	3	0	4	3
Overall	63	36	7	40	26

Table 2.4: Types of Models for Bankruptcy prediction. Source: Bellovary et al. (2007), p. 6

As Table 2.4 shows, Bellovary et al. (2007) in their work categorise 172 different jobs. The classification shows that multivariate discriminant analysis is the most widely used for estimating bankruptcy prediction models. The Table 1.5 shows that this method was the most successful in the 1970s and 1980s. Academic contributions using logit analysis are also relevant (36 models). Finally, in the 1990s there was a large production of models based on the neural networks method. It is also noted that the models differ significantly in the composition of the sample. Some studies adopt a general sample; others focus on a specific sector. Most of the

studies analyse U.S. companies but there is also significant production with applications in other countries.

	Minimum	Maximum	Average (rounded)
1960's	5	30	15
1970's	2	18	8
1980's	1	47	9
1990's	2	57	11
2000's	5	13	8
Overall	1	57	10

Table 2.5: Number of Variables in Models. Source: Bellovary et al. (2007), p. 8

Bellovary et al. (2007) also classify the number of variables considered in the various models (Table 2.5). The average number of variables used is 10. The use of an excessive number of variables in the model could generate a problem of multicollinearity. This problem emerges when the independent variables of the model are correlated with each other (as in the case of the financial ratios). There are procedures to solve or reduce this problem, but the solution most used in the literature is to use a limited number of variables without having concerns about multicollinearity. The study shows that 674 different indicators were used in the 172 models. The most commonly used financial ratios are the following:

1. Return on assets = Net income / Total assets
2. Current ratio = Current assets / Current liabilities
3. Working capital / Total Assets

2.1.2.1 Univariate analysis

Beaver (1966) is the author of the first relevant study aimed at estimating a model for distinguishing bankrupt companies from healthy ones. His work uses univariate statistical methods, which focus on individual analysis of financial ratios. His study is based on the analysis of companies that have experienced failure. He defines this concept as "the inability of a firm to pay its obligations as they mature" (Beaver 1966). Beaver's contribution is based on the analysis of a sample of 79 bankrupt firms and an equivalent number of healthy companies. The sample is made up of US companies, active in the years 1954-1964, selected from the Moody's Industrial Manual. The average size of the assets of the entities in the sample was $6 million, with a minimum of $0.6 million and a maximum of $45 million. For each of the selected companies, Beaver analysed the financial ratios calculated on the data of the financial statements for the 5 years preceding the insolvency. The objective of the work was to investigate

the differences between the two groups of companies and identify those financial ratios that are able to signal in advance the emergence of the corporate crisis.

Based on studies from previous years, 30 financial ratios (Table 2.6) were identified and divided into 6 classes:

- Cash flow ratios
- Net-Income ratios
- Debt to Total-Assets ratios
- Liquid-Asset to Total-Asset ratios
- Liquid-Asset to Current Debt ratios
- Turnover Ratios

TABLE 1

List of Ratios Tested[a]

GROUP I (CASH-FLOW RATIOS)
1. Cash flow to sales
2. Cash flow to total assets
3. Cash flow to net worth
4. Cash flow to total debt
GROUP II (NET-INCOME RATIOS)
1. Net income to sales
2. Net income to total assets
3. Net income to net worth
4. Net income to total debt
GROUP III (DEBT TO TOTAL-ASSET RATIOS)
1. Current liabilities to total assets
2. Long-term liabilities to total assets
3. Current plus long-term liabilities to total assets
4. Current plus long-term plus preferred stock to total assets
GROUP IV (LIQUID-ASSET TO TOTAL-ASSET RATIOS)
1. Cash to total assets
2. Quick assets to total assets
3. Current assets to total assets
4. Working capital to total assets
GROUP V (LIQUID-ASSET TO CURRENT DEBT RATIOS)
1. Cash to current liabilities
2. Quick assets to current liabilities
3. Current ratio (current assets to current liabilities)
GROUP VI (TURNOVER RATIOS)
1. Cash to sales
2. Accounts receivable to sales
3. Inventory to sales
4. Quick assets to sales
5. Current assets to sales
6. Working capital to sales
7. Net worth to sales
8. Total assets to sales
9. Cash interval (cash to fund expenditures for operations)
10. Defensive interval (defensive assets to fund expenditures for operations)
11. No-credit interval (defensive assets minus current liabilities to fund expenditures for operations)

Table 2.6: Financial Ratios Tested. Source: Beaver (1966), p. 78

The financial ratios were analysed by comparing the value of the sample of 79 bankrupt companies with the average value of the sample of healthy companies. For each ratio, Beaver identifies a cut-off level that discriminates companies that risk encountering a situation of insolvency with healthy companies. The cut-off value is the value that minimizes the portion of incorrect predictions. For each group of indicators, the author has found the most accurate indicator for forecasting. These are:

$$Long\ term\ solvency\ risk = \frac{Net\ income\ plus\ depreciation, depletion\ and\ amortization}{Total\ Liabilities}$$

$$Profitability = \frac{Net\ income}{Total\ Assets}$$

$$Long\ term\ solvency\ risk = \frac{Total\ debt}{Total\ Assets}$$

$$Short\ term\ liquidity\ risk = \frac{Net\ Working\ Capital}{Total\ Assets}$$

$$Short\ term\ liquidity\ risk = \frac{Current\ Assets}{Current\ Liabilities}$$

$$Short\ term\ liquidity\ risk = \frac{Cash, Marketable\ Securities, Accounts\ Receivable}{\begin{matrix}Operating\ Expenses \\ Excluding\ Depreciation, Depletion\ and\ amortization\end{matrix}}$$

The financial ratio with the best predictive capacity is Cash Flow/Total Assets with 10% of misclassifications at 1 year and 28% at 5 years after bankruptcy.

One of Beaver's results is that the average index of companies that will go bankrupt is systematically lower than the average of the other group of companies even 5 years before the insolvency event. The study of the ratios dynamics shows that the distance between healthy companies and those close to bankruptcy increases significantly over the years as can be seen from Figure 2.1.

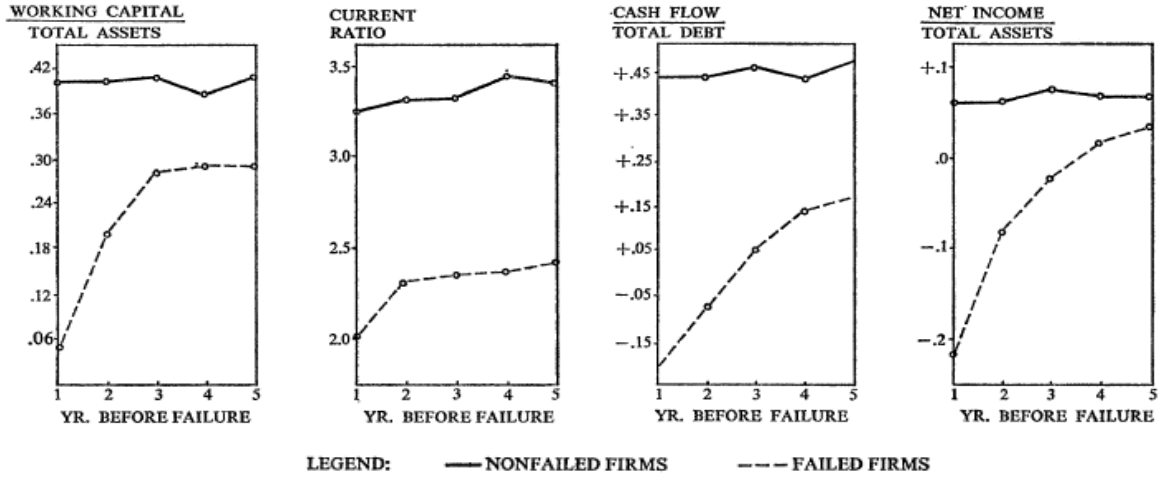

Figure 2.1: Financial ratios in failed and non-failed firms. Source: Beaver 1966, p. 82.

As summarized by Pozzoli and Paolone (2017), the Beaver model has the merit of being the first contribution aimed at discriminating against groups of healthy and distressed companies using financial ratios and statistical techniques but soon requested to be overcome. First, there is a very high correlation between financial ratios and therefore their individual evaluation risks being incorrect. Moreover, the model risks giving contradictory signals when different indices have a different outcome.

2.1.2.2 Multivariate Discriminant Analysis

The main limit of univariate statistical methods, i.e. to consider only one financial ratios at a time, is surpassed with the adoption of multivariate discriminant analysis. This method allows the simultaneous analysis of a (limited) number of characteristics of a company. The most relevant contribution in this area of research is the so-called Z-score model by Altman (1968). The model has been modified, updated and adapted several times to different contexts and is still very popular in research and practice today. This model, in order to increase the probability of prediction of insolvency, combines a series of financial ratios. However, the author himself (Altman 1970) states that the output of the model is not to provide a probability on the future state of insolvency of the company analysed. The model is defined as "descriptive-comparative" and must be used as a tool capable of giving "early warnings".

The first model developed by Altman (1968) had as its sample 33 bankrupt companies with which 33 healthy companies were associated. The matching took place by making sure that the companies were operating in the same sector and that they were of the same size. The reason for this procedure is to check for those factors, other than different performance, that may explain a different output of the Z-score. In addition, the author considered a group of 50 companies that served as holdout sample in order to validate the data. The selected companies operated between 1946 and 1965 and were between $0.7 million and $25.9 million in size. The first phase of Altman's work consisted in the identification of the ratios which, in the best way, are able to identify in advance the possibilities of bankruptcy and discriminate the two groups under analysis. Selected financial ratios are able to monitor 5 different aspects of corporate performance (activity, solvency, financial structure, profitability and level of liquidity) and have been chosen on the basis of their relevance in practice and in the literature (Altman et al. 2014). Subsequently, the model coefficients were calculated using the sample and maximizing the variance between the two groups. Therefore, the final model is composed of a simple linear function obtained from the weighted sum of the five financial ratios. After the calculation of financial ratios and the application of the model, each company is given a score (Z-score).

The function of Z-Score and financial ratios used by Altman for the first version of the model are as follows: $Z - Score = 1.2\,X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$

$$X_1 = \frac{Working\ Capital}{Total\ Assets} \qquad X_2 = \frac{Retained\ Earnings}{Total\ Assets} \qquad X_3 = \frac{EBIT}{Total\ Assets}$$

$$X_4 = \frac{Market\ Value\ of\ Equity}{Book\ Value\ of\ Total\ Liabilities} \qquad X_5 = \frac{Sales}{Total\ Assets}$$

The output of the Altman model is a number (Z-score) that expresses the condition of the company. The classes identified by the author are 3: "safe", "distress" and "grey". In order to classify the companies, the author has defined two cut-off points. In particular, all companies that obtain a Z-score below 1.81 are classified as "distressed" and all companies with a Z-score above "2.99" are in the "safe" zone. All intermediate values (between 1.81 and 2.99) force companies to enter a "grey" area. The precision of the model allowed to accept very low cut-off levels. In particular, in the initial sample taken into consideration by Altman, the type I error was 6% and the type II error 3%. The original Z-Score failure model has a very high accuracy. Based on the holdout sample, one year before failure, it was able to predict correctly in 94% of cases. The degree of accuracy decreases as the number of years before failure increases. Two years before the bankruptcy declaration the number of correct forecasts is 72%, 48% three years before and 36% five years before. The holdout sample also confirms the degree of accuracy found in the original sample with 96% correct forecasts one year before the insolvency event and 80% two years before. In the following years the model was tested several times on different samples referred to different time intervals (1975, 1995, 1999). In all tests the model proved to be very efficient and capable of intercepting companies that will go bankrupt one year in advance with a probability always higher than 85%.

The first version of the Altman model suffered from some important limitations. The model was built on a sample of manufacturing companies, all listed in the United States. For this reason, Altman, together with other scholars, in the following years presented many versions of its model suitable for specific industries (textile, industrial, etc.), specific countries (France, Brazil, South Korea, etc.) and small companies (US and Italy). The most relevant advances of the model are the so-called Z'-score (Altman 1968) and Z''-score (Altman et al. 1995) models.

The Z' score is an adaptation of the original model for private companies. It is always based on a linear function where 5 variables are weighed but, since it is dedicated to unlisted companies, the equity market value is replaced by the equity book value. The coefficients of the linear equation also change values. The final formulation of the model is therefore as follows (Altman, 1968):

$$Z' - Score = 0.717\,X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$$

$$X_1 = \frac{Working\ Capital}{Total\ Assets} \qquad X_2 = \frac{Retained\ Earnings}{Total\ Assets} \qquad X_3 = \frac{EBT}{Total\ Assets}$$

$$X_4 = \frac{Book\ Value\ of\ Equity}{Book\ Value\ of\ Total\ Liabilities} \qquad X_5 = \frac{Sales}{Total\ Assets}$$

As a consequence of the change in coefficients and variables, the cut-off values also change. In particular, Altman states that the value separating the potential solvency zone from the potential insolvency zone is 2.675. However, as in the original model, 3 different zones are identified ("safe", "distress", "grey"). Companies with a Z' score above 2.90 will be considered healthy, those with a value below 1.23 suffer from potential insolvency. For companies with a value between 1.23 and 2.90 it is not possible to make a final judgement and therefore the analyst will have to perform further analysis to understand if the value of the Z'-score signals a problem or if the value of the financial ratios falls within a normal range.

Finally, the Z''-score model (Altman et al. 1995) is an adaptation of the model for application to samples from non-U.S. companies not operating in manufacturing. In particular, the model applies appropriately to emerging country entities. The sample investigated by Altman et al. (1995) is a group of Mexican companies. The linear function and variables of the Z''-score model are as follows:

$$Z'' - Score = 3.25 + 6.56\,X_1 + 3.26X_2 + 6.72X_3 + 1.05X_4$$

$$X_1 = \frac{Working\ Capital}{Total\ Assets} \qquad X_2 = \frac{Retained\ Earnings}{Total\ Assets} \qquad X_3 = \frac{EBT}{Total\ Assets}$$

$$X_4 = \frac{Book\ Value\ of\ Equity}{Book\ Value\ of\ Total\ Liabilities}$$

Unlike the two previous versions of the Z-score, the 1995 model contains only 4 variables. The variable containing the ratios that related sales and total assets has been eliminated since the authors have certified that it was very influenced by the sector of belonging of the companies, in particular in "countries whereby capital for investment in fixed assets is inadequate". (Altman et al 2019). In addition, the function of the Z'' model contains a constant (equal to 3.25) with the function of standardizing the results and ensuring that the cut-off of the model is equal to 0. Therefore, companies that obtain a Z''-score greater than 0 will be considered safe.

Altman et al. (2019) have created a correspondence between the outputs of the Z-score model and the ratings assigned by the most famous rating agencies (i.e. Moody's or S&P). The authors have prepared this model for both the U.S. and emerging markets. The work involved the average calculation of the Z-Score for each notch of the rating scale of the agencies. The final result is a table through which the analyst can derive the rating class of a given debt security of a company from the calculation of the Z-score of Altman.

Rating	2017 (No.)	2013 (No.)	2004–2010	1996–2001	1992–1995
AAA/AA	4.30 (14)	4.13 (15)	4.18	5.20	5.80*
A	4.01 (47)	4.00 (64)	3.71	4.22	3.87
BBB	3.17 (120)	3.01 (131)	3.26	3.74	2.75
BB	2.48 (136)	2.69 (119)	2.48	2.81	2.25
B	1.65 (79)	1.66 (80)	1.74	1.80	1.87
CCC/CC	0.90 (6)	0.33 (3)	0.46	0.33	0.40
D	−0.10 (9)[1]	0.01 (33)[2]	−0.04	−0.20	0.05

*AAA Only; No. = Number of firms in the sample.
[1]From 1/2014 to 11/2017;
[2]From 1/2011 to 12/2013.

Table 2.7: Median Z-Score by S&P Bond Rating for U.S. Manufacturing Firms. Source: Altman et al. (2019), p.199

The Altman model has been applied to a sample of Italian companies (Altman et al. 2013). The sample of companies is made up of companies that have been admitted to extraordinary administration of large firms in the state of insolvency (Law No 270 of 8 July 1999). The sample of companies was composed of 89 entities, 52 of which were active as manufacturing companies. The authors decided to apply the Z" score. The reason for this is that only 4 of these companies were listed on the stock exchange and that a large part of them was not active in manufacturing. The results show that the Z" Score model applied in the Italian context has a sufficient precision. Five years after the entry into the extraordinary administration procedure, 50% of the sample was classified as being in a situation of distress, 70.8% three years after the procedure and 95.2% the year before. However, the authors suggest updating the parameters of the model on the basis of the characteristics of Italian companies, namely "low capitalization, heavy use of bank credit and budget policies that at times are not transparent" (Altman et al. 2013, p. 8).

Recently, again with regard to Italian companies, the Altman model has been readapted for the evaluation of the bankruptcy probability of Italian SMEs (Altman et al. 2018). The model was designed to be applied to a sample of small companies with the characteristics to issue so-called "mini-bonds". These are simplified financial instruments that can allow non-listed Italian companies to access capital markets. The authors have prepared 4 different models in order to better adapt to the four industries that are analysed (Manufacturing, Retail, Services and Construction and Real Estate). The models were then applied to the 102 Italian companies that issued mini-bonds in the Italian stock exchange. The authors used the table that provides the bond rating equivalent based on Z"-Score model and the result is that 70% of the instruments issued have a non-investment grade financial profile.

2.1.2.3 Logit Models

Olhson (1980) criticises the approach used by multivariate discriminant analysis since it does not express the probability of default of the company taken into account but is limited to a descriptive approach. In order to overcome these limitations, Olhson adopts a logistic regression approach. As in the case of multivariate discriminant analysis, this technique uses a linear function composed of variables that are the result of different financial ratios. The linear function of the Ohlson model assumes the following formulation:

$$Y = B_0 + B_1X_1 + B_2X_2 + \cdots + B_9X_9$$

The sample used by the author is made up of 105 bankrupt firms and 2,058 healthy companies that were operational in the time span between 1970 and 1976. The Olhson model assumes the following formula:

$$O - Score = -1.32 - 0.407X_1 + 6.03X_2 + 1.43X_3 + 0.076X_4 + 1.72X_5 + 2.37X_6 - 1.83X_7 + 0.285X_8 + 0.521X_9$$

$$X_1 = \log\frac{Total\ Assets}{GNP\ price - level\ index} \qquad X_2 = \frac{Total\ Liabilities}{Total\ Assets} \qquad X_3 = \frac{Working\ Capital}{Total\ Assets}$$

$$X_4 = \frac{Current\ Liabilities}{Current\ Assets} \qquad X_5 = \begin{cases} 1\ if\ Tot.Liab. > Tot.Assets \\ 0\ otherwise \end{cases} \qquad X_6 = \frac{Net\ Income}{Total\ Assets}$$

$$X_7 = \frac{Funds\ from\ operations}{Total\ Liabilities} \qquad X_8 = \begin{cases} 1\ if\ Net\ Income < 0\ for\ the\ last\ 2\ years \\ 0\ otherwise \end{cases}$$

$$X_9 = \frac{Net\ Income_t - Net\ Income_{t-1}}{|Net\ Income_t| - |Net\ Income_{t-1}|}$$

The output of the Olhson model is a number (O-score) which varies between 0 and 1. The O-score, if introduced in the probability function, returns the likelihood of the entry into a situation of distress of the company analysed. The probability function is as follows:

$$Probability\ of\ failure = \frac{e^{O-score}}{1 + e^{O-score}}$$

As the O-score increases, the probability of default increases. The cut-off point that minimizes type I and type II errors is 0.038.

2.1.2.4 Probit Models

The most relevant study applying the statistical method based on probit analysis is the model by Zmijewski (1984). As for logit models, the output is the probability of bankruptcy of the company. As summarized by Lin (2009), Zmijewski's choice to apply a different method from previous studies stems from the critique of the methodology applied. He believes that those studies are affected by two biases. First, the author argues that when bankrupt companies are matched with healthy companies the sample is not random. In fact, the author first chooses the bankrupt company and then chooses one that is similar in terms of size and industry. Then, companies with incomplete data are often removed from the sample being studied. This can only happen, without affecting the precision of the model, when companies with incomplete data are a random set of the sample. Zmijewski (1984) states that without appropriate techniques to correct these distortions, model outcomes and the probability of default risk being unreliable. Through the use of the probit method, the author analyses a sample composed of 40 bankrupt enterprises and 800 non-bankrupt enterprises active between 1972 and 1978. The set of companies is made up of listed companies in the United States from a variety of industries. The only exclusions are state-owned, service and financial companies. The model is composed as follows:

$$Zmijewiski\ Score = -4.2 - 4.5X_1 + 5.7X_2 + 0.004X_3$$

$$X_1 = \frac{Net\ Income}{Total\ Assets} \quad X_2 = \frac{Total\ liabilities}{Total\ Assets} \quad X_3 = \frac{Current\ Assets}{Current\ Liabilities}$$

The cut-off level of this model is 0.5. In particular, when a company obtains a Zmijewiski score equal to or greater than 0.5 it is classified as bankrupt. The reliability of the Zmijewiski's work is particularly high as the model has an accuracy of 99% in the sample.

2.2 The Italian Bankruptcy Law

When a company is facing a period of decline, the management in charge of carrying out the business turnaround has to consider the tools offered by the legal framework within which the entity operates. Companies in financial distress are a relevant issue for the legislator. When a company finds itself in a phase of its business life in which, instead of creating value, it is not able to generate the cash flows necessary to remunerate investments, it may happen that it does not have sufficient liquidity to repay debts instalments. In this situation the intervention of the legislator becomes necessary to provide rules and procedures for an orderly and efficient management of the crisis. From a macroeconomic point of view, the intervention of the state works to protect the interests of the community and the efficiency of the market through the reorganization of companies that can become once again profitable and the elimination of others that cannot. On the other hand, from a microeconomic point of view, the aim of legislator is to guarantee an equal treatment between creditors and to regulate their right to obtain a refund. Furthermore, it also becomes necessary to protect the interests of many stakeholders (i.e. workers) in the continuation of the business.

A company in financial distress could be forced to interrupt its activity. Generally, in such a situation, the cash flows expected from the liquidation are not sufficient for the full repayment of the creditors. In order to guarantee efficiency and equality among the various creditors, the law provides a uniform and simultaneous procedure, under the control of a court. On the contrary, the situation of financial distress could only be temporary: in this case the company may need legal tools that allow it to reach an agreement with creditors to suspend payments or make a cut-off of the residual debt in order to allow the company to recover and to guarantee creditors a greater reimbursement than it would be with the liquidation.

The Italian legal system of insolvency currently in force has as its main source the Royal Decree no.267 of 16 March 1942 (hereinafter referred also as Bankruptcy Law or L.F.). The Bankruptcy Law of 1942 was strongly focused on the bankruptcy procedure, on the protection of creditors through the elimination of the bankrupt company from the market and the satisfaction of claims through the sale of its assets. Over the years, the awareness has grown that not necessarily forcing the company to leave the market and liquidate its assets guarantees creditors a greater satisfaction than the corporate restructuring and going concern. These new requirements have radically changed insolvency proceedings. Besides credit protection, the preservation of the business continuity in order to protect stakeholders (and especially employees) has become more and more important. Therefore, the Bankruptcy Law has been

subject to significant reforms in the last 15 years[1]. The legislator's intervention has been carried out in several tranches and never with an overall approach on the matter. With the passing of the years an intervention for the complete re-organization of the subject has become more and more necessary. A further reform impetus came from the European Commission which in March 2014 approved a recommendation (2014/135/EU) that encouraged Member States to take a new approach to the corporate crisis and insolvency. According to the Commission, the principles of the new European approach to insolvency are the possibility of giving entrepreneurs a second chance to re-launch their businesses, the admission to fast and efficient insolvency procedures to guarantee the protection of all stakeholders and the creation of alert mechanisms to intercept with advance companies that may encounter periods of distress. In order to implement the recommendation and to organize the Italian legal system, the government started a long process of reforms. Thanks to the work of a Commission appointed by the government (so-called Rordorf commission), the final version of the reform (Legislative Decree 14/2019) was published in the Italian Official Journal on 12th February 2019. The approved legislative text takes the name of "*Codice della Crisi d'impresa e dell'insolvenza*" ("Code of the corporate crisis and insolvency", hereinafter "CCII"). It replaces in full the previous Italian Bankruptcy Law (R.D. 267/1942). However, the entry into force of the main part of new provisions is postponed to 18 months from the publication on the Official Journal (therefore they will become binding in August 2020)[2]. Thus, for the purposes of this work, the procedures currently available for companies to manage the crisis are described. Following, the changes introduced by the recent reform of the bankruptcy law will be clarified and analysed.

The Italian bankruptcy law offers several legal instruments to manage the crisis. The first important difference that can be drawn between the different procedures depends on the degree of involvement of the court. In-court procedures require the presence of a judicial authority that

[1] The most significant reforms include:
- The law of 3 April 1979, no. 95, the so-called Prodi Law which introduced the new insolvency procedure for the extraordinary administration of large companies in crisis. This procedure was later reformed with the legislative decree of 8 July 1999, no. 270.
- Law decree of March 14, 2015, no. 35 converted by the law of May 14, 2005, no. 80 which led to relevant modification of the claw-back action. Furthermore, in this period of reforms the composition with creditors has been significantly modified and debt restructuring agreements (Article 182-bis, L.F.) and certified recovery plans (Article 67, paragraph 3, letter d) L.F.) has been introduced in the Italian legal system.
- Legislative decree of 9 January 2006, no. 5 reformed the bankruptcy.
- Law decree law of 22 June 2012, no. 83 converted into law with the law of 7 August 2012, no. 134 (the so-called *"Decreto Sviluppo*") and the law decree of 21 June 2013, no. 69 converted with the law of 9 August 2013, no. 98 (the so-called "*Decreto del Fare*") have introduced new regulations aimed at the early appearance of the corporate crisis and the preservation of the going concern.

[2] Some of the provisions of the new CCII have become binding 30 days after publication in the Official Journal. These are the legal rules aimed at facilitating a more efficient management of procedures and civil code changes functional to the introduction of alert procedures.

guarantees compliance with the law and acts as an arbitrator in crisis management. The Italian in-court insolvency procedures are:

- Bankruptcy – "*Fallimento*"
- In-bankruptcy composition – "*Concordato fallimentare*"
- Composition with creditors – "*Concordato preventivo*"
- Forced administrative liquidation – "*Liquidazione coatta amministrativa*"
- Extraordinary administration of large enterprises in a state of crisis - "*Amministrazione straordinaria delle grandi imprese in stato di crisi*";

In addition to these procedures, the legislator has provided alternative legal instruments for the settlement of the crisis through private agreements between the debtor and the creditors. The out-of-court procedures are:

- Debt restructuring agreements – "*Accordi di ristrutturazione*"
- Certificate plan – "*Piani attestati di risanamento*"

These insolvency procedures also differ in the outcome they may have. While the bankruptcy always ends with the liquidation of the company and the approval of certified plans is compatible only with the going concern, the other procedures can be conducted either with the continuation of the business activity or with the liquidation.

2.2.1 Bankruptcy – *Fallimento*

Bankruptcy is the main insolvency procedure of the Italian bankruptcy law and it is also the most common. It is an in-court procedure that consists in the satisfaction of creditors and the elimination of the company in distress from the market.

Pursuant to Article 1 of L.F., bankruptcy provisions (and also those concerning the composition with creditors) apply to non-small businesses[3] that carry out commercial activities (excluding public entities). The necessary condition for the declaration of bankruptcy is the ascertainment of the state of insolvency. Even if the law does not provide a definition of insolvency, Article 5 L.F. specifies that the state of insolvency occurs "with defaults or other external facts, which

[3] Article 1 L.F., paragraph 2, contains the requirements that define small businesses. In order to be excluded from the bankruptcy regulations, the entrepreneur must:

- "Have had, in each of the three fiscal years before the date of filing of the petition for bankruptcy or, if less, from the beginning of the business activity, net equity not exceeding EUR 300,000;
- Have realized, in each of the three fiscal years before the date of filing of the petition for bankruptcy or the beginning of the activity (if less), gross revenues not exceeding EUR 200,000;
- Owe debts, even if not yet two upon adjudication, not exceeding EUR 500,000."

prove that the debtor is no longer able to regularly meet his obligations". Some events that may signal insolvency may be irregular payment or failure to meet deadlines.

The declaration of bankruptcy can be activated with a public or private initiative. In particular, the Law gives the possibility to one or more creditors, to the debtor or to a public prosecutor to file a petition to the court. The bankruptcy is declared in the court of the area where the company has its headquarters (art. 9 L.F.). The court has the task of supervising the procedure and of appointing, revoking and replacing the actors of the procedure, which are:

- Bankruptcy judge: its role is to monitor the correct execution of the procedure.
- Official receiver: pursuant to art. 28 L.F., this role can be assumed by a certified accountant, a lawyer, a person who acted as CFO or controller or a law or accountancy firm. The official receiver is the administrator of the debtor's assets and he acts as a public official. He takes all necessary actions during the procedure. His work is supervised by the creditors' committee and the bankruptcy judge.
- Creditors committee: it is a commission of 3 or 5 members appointed by the bankruptcy judge. The representatives shall represent the different types (secured, unsecured) and dimensions of credits. The committee performs consultation, inspection and control functions over the work of the official receiver, as well as possessing propositional powers. The agreement of the creditors' committee may be necessary for the authorization of certain acts performed by the receiver.

The declaration of bankruptcy has serious consequences for the debtor. On the asset side, he is dispossessed: the entrepreneur is deprived of the administration of the company and of the availability of his assets (art. 42, paragraph 1, L.F.)[4].

Section II of Chapter III of the Title devoted to bankruptcy refers to the effects of the procedure on creditors. In particular, with the objective of guaranteeing the *par condicio creditorum*, from the date of the declaration of the bankruptcy, it is not possible for the creditors to initiate or continue enforcement actions against the assets of the entrepreneur (art. 51 L.F.). The subsequent articles (art. 52 et seq. L.F.) establish the credit assessment procedure and the way in which secured creditors can exercise their rights. Finally, article 55 L.F. states that the declaration of bankruptcy blocks the debtor's situation with the immediate expiry of the debts which thus become payable on the date of the bankruptcy declaration.

[4] There are some limitations to the debtor's dispossession. The debtor cannot be taken off assets of a strictly personal nature and, pursuant to paragraph 3 of article 42 L.F., even those assets "whose acquisition and conservation are too expensive compared to the presumable realizable value" can be left to the entrepreneur.

One of the official receiver's duties is to locate and dispose of the debtor's assets. The receiver shall place its seal on the assets of the bankrupt entity and conduct the inventory process. Within 60 days from the conclusion of these operations, he shall prepare an assets liquidation plan. This program must indicate the terms and conditions envisaged, the possibility of continuing the business activity through the provisional exercise or the possibility of renting or selling the company or certain branches. The fact that the law contemplates the possibility that business activity can be continued signals the attention of the legislator regarding the importance of protecting the value of the company. During the progress of the procedure, every four months the official receiver must prepare a report with the amount available to be distributed and the breakdown of the amount between the various creditors. The official receiver can count on two additional options for the satisfaction of creditors. In particular, he can promote responsibility actions against company officers and directors or he can promote the exercise of claw-back actions.

The ordinary claw-back action is governed by Article 2901 of the Civil Code. With this article, the legislator wants to prevent the debtor from attempting to take away part of his assets from the legitimate claims of creditors. In particular, this provision establishes that the creditor may request that the acts with which the debtor has transferred part of his assets in the previous 5 years causing damage to the creditor are declared ineffective. This rule is referred to by the bankruptcy law in Article 66. In bankruptcy, the exercise of the claw-back action is a task of the official receiver before the bankruptcy court.

The bankruptcy law (in art. 67) provides a strengthened claw-back action, exercisable only for the acts performed by the entrepreneur six months before the bankruptcy. Compared to the ordinary action, here the official receiver does not have to prove the fraudulent intentions of the bankrupt entrepreneur, nor the damage to the creditors. Furthermore, in many cases, the law assumes that the creditor is aware of the distress condition of the debtor and therefore it is not the receiver's duty to prove it.

In parallel with the realization of the asset, the official receiver shall verify the creditor's claims (both secured and unsecured) and prepare a list of the liabilities to be presented to the court. The actors of the procedure ascertain liabilities through the verification of the claims presented by the creditors. First, the official receiver performs the verification and then the delegated judge.

The official receiver uses all the funds that have been collected from the asset transfer (minus the expenses necessary for the bankruptcy procedure to take place) in order to satisfy the

creditors. The principles governing the division of the amount collected are the *par condicio creditorum* and the absolute priority rule.

The bankruptcy procedure is declared by the court upon application by the trustee or the official receiver when:

- all creditors were satisfied
- the assets have been fully realized and distributed among the creditors
- the continuation of the procedure would not allow the realization of any assets.

2.2.2 In-bankruptcy composition – *Concordato fallimentare*

The law provides an alternative way in which the bankruptcy procedure can end. It is called in-bankruptcy composition and is governed by the art. 124 and following of the Bankruptcy Law. It does not consist of an autonomous procedure as it is a legal tool aimed at speeding up the bankruptcy procedure.

Pursuant to Article 124 of L.F., the in-bankruptcy composition can be proposed by one or more creditors or a third party. It can also be proposed by the debtor in bankruptcy but on condition that one year has passed since the declaration of bankruptcy and provided that two years have not elapsed since the decree of enforceability of the passive state.

The proposal implies the preparation of a plan with content similar to that required for the composition with creditors. It must guarantee "debt restructuring" and "creditor satisfaction". The law provides that this objective can be achieved "through any form" also by “assigning assets or carrying out disposals"(art. 124 L.F.).

Article 124, paragraph 2, L.F. provides a different treatment of creditors with respect to bankruptcy. As in the arrangement, creditors can be divided into classes according to their economic interests and their legal status. Different treatments can be provided for the different classes (paragraph 2, letter c). However, the ranking of the preferred claimants cannot be changed. The plan may provide for the not complete payment of secured creditors. The condition for which this may be proposed is a satisfaction at a price no lower than the price that can be obtained on the market for that financial instrument.

The creditors' committee and the official receiver evaluate the content of the composition proposal. The official receiver's opinion is not binding while the approval of the creditors' committee is necessary so that the judge fixes the deadline (between 20 and 30 days) within which the claimants can make opposition and vote on the proposal. The unsecured claimants

and the preferred creditors for which the proposal does not provide for full payment can vote. The majority required for the approval of the proposal is 50%. If several classes of debtors have been defined, the majority must also be reached in the majority of classes.

If the proposal is approved by the creditors, the request to the court for the homologation of the composition is formulated. The court decides by motivated decree whether to admit the company to the in-bankruptcy composition after waiting for a deadline (between 15 and 30 days) in which the creditors can file an objection and the report with the opinion of the creditors' committee is deposited. With the approval of the proposal, the bankruptcy procedure ends, and the debtor recovers the full availability of his assets. In this way the procedure will continue according to the rules of composition with creditors.

The resolution (art. 137 L.F.) or cancellation (art. 138 L.F.) can be requested when the composition's plan is not executed, or a fraud emerges. The conclusion of the in-bankruptcy composition determines the reopening of the bankruptcy procedure.

2.2.3 Composition with creditors – *Concordato preventivo*

Composition with creditors (*concordato preventivo*, laid down in art. 160 et seq. L.F.) is a procedure that allows the entrepreneur in a distressed situation to avoid bankruptcy by entering into an agreement with creditors under the control of the court. With this legal instrument, the entrepreneur has the possibility to maintain the control of his company and formulate a proposal to the creditors for their (possibly partial and deferred) satisfaction. The objective of this procedure is clarified by the law in article 160 L.F.: the plan contained in the proposal aims at "the satisfaction of creditors and the restructuring of debts". It should be noted that the legislator does not expressly state that these objectives have to be achieved through the continuation of the activity. Therefore, the composition with creditors is not incompatible with the liquidation of the company.

The entrepreneur who possesses the characteristics provided for in Article 1 L.F. (same characteristics necessary for the declaration of bankruptcy) is eligible to enter the procedure of the composition with creditors. However, unlike bankruptcy, the objective condition is no longer the state of insolvency but rather the state of crisis. The state of crisis is not defined by the legislator, but the jurisprudence considers that it is not an alternative to insolvency. Conversely, it is believed that insolvency is the most serious case of crisis and the last stage of the downward spiral of corporate distress. The notion of crisis is therefore broader than that of insolvency and includes the latter within it. The fact that the requirement for admission to the

arrangement includes more cases with respect to bankruptcy suggests that the latter offers a tool to prevent and anticipate bankruptcy (Cian, 2014).

A plan is at the base of the proposal presented by the creditor to the debtors. The Law (art. 160 L.F.) illustrates some of the possible contents of the proposal. The debtor can enjoy discretion in choosing the form in which the claimants can be satisfied (e.g. assignment of assets or disposal of company branches). The same article gives the possibility to divide creditors into classes according to their economic rights and interests. The proposal may contain differentiated treatments between creditors belonging to different classes. Finally, in order to achieve the plan, the entrepreneur can opt for the continuation of the business activity, the sale of the company or the transfer of the business in a NewCo.

Despite this, the law clearly establishes the functions performed by the plan, but great freedom is left to the debtor for the formalization of the plan. The debtor's proposal is presented to the court in the form of a petition through which he requests admission to the procedure. Attached to the plan, the debtor must deliver an ample documentation that will allow creditors to form their own opinion on the convenience of the proposal. The plan must be accompanied by a report with which a professional certifies the truthfulness of the accounting data and the feasibility of the plan. In the case of a composition with creditors with business continuity, the attestor must certify that the going concern assumption guarantees the best satisfaction of the creditors. The professional is appointed by the debtor company but must be in possession of the requisites of independence[5], must be registered in the register of statutory auditors and must comply with the requirements contained in the article 28 LF, letter a) and b)[6], for the appointment as bankruptcy receiver.

The court, after having verified the conditions and the documentation presented, admits the company to the insolvency procedure of composition with creditors. With the court's admission decree, the procedure starts, and a delegated judge and one or more judicial commissioners are

[5] According to article 67, paragraph 3, letter d), the attestor must not "be related to the company and to those who have an interest in the recovery process from relationships of a personal or professional nature such as to compromise the independence of judgment". Furthermore, he must comply with the requirements of article 2399 of the Italian Civil Code concerning the causes of ineligibility for the members of the *Collegio Sindacale*. Finally, the assessor "must not, even by means of persons with whom he is member of a professional association, have provided subordinate or autonomous work for the debtor in the last 5 years or participated in the administrative or control bodies. "

[6] Article 28 L.F. provides for the requirement to be satisfied in order to be appointed as bankruptcy receiver. Point a) and b) are required to be designated as attestor:

a) lawyers and chartered accountants (*Dottori Commercialisti* and *Ragionieri Commercialisti*) and accountants (*Ragionieri*).
b) associations between professionals (*Studi Professionali Associati* and *Società tra Professionisti*) if the members comply with the requirements of letter a).

appointed. Moreover, the court schedules a meeting of creditors in which the creditors are called to express their vote on the debtor's proposal.

With the publication in the Companies' Register of the Decree for Admission consequences emerge for debtor and creditors. During the procedure, the entrepreneur continues to manage the company and maintains the availability of his assets. However, his actions are subject to the supervision of the judicial commissioner. The acts of extraordinary administration (e.g. concession of guarantees, disposals of real estates) must be authorized in written form by the delegated judge. Pursuant to article 168 L.F., creditors cannot initiate or continue precautionary or enforcement actions on the debtor's assets and cannot acquire pre-emption rights on the debtor's assets without the authorization of the delegated judge.

At least ten days before the creditors' meeting, the judicial commissioner shall deposit in Court a report on the causes of the distress, on the debtor's behaviour, on the feasibility and reliability of the proposal and on the guarantees offered to the creditors (art. 172 L.F.). During the meeting, the judicial commissioner explains his report and the debtor's final proposals and creditors can express their vote on the plan. Unsecured creditors and secured creditors for whom the proposal does not provide for full satisfaction are entitled to cast their vote. An absolute majority of votes is required for the approval of the procedure. If the plan provides for the division of creditors into several classes, an absolute majority shall be reached in the majority of classes.

If the majority of creditors vote in favour of the proposal, the court schedules the hearing for the homologation judgment. Ten days before the date scheduled, the debtor, the judicial commissioner (and any dissenting creditors) shall appear in court. Pursuant to paragraph 2 of article 180 L.F., the judicial commissioner must present his opinion within ten days of the hearing.

After evaluating any opposition, the Court decides on the approval that must take place within 180 days from the presentation of the petition (art. 181 L.F.). If the plan is not approved, the Court may declare the bankruptcy of the society if the conditions exist. Bankruptcy can also be declared if the conditions for eligibility for the procedure have ceased and in the presence of bankruptcy petitions promulgated by creditors or the public prosecutor.

With Law Decree of 22 June 2012, no. 83 (so-called "*Decreto Sviluppo*") a simplified procedure has been introduced for the admission to the composition with creditors. In particular, when the business crisis strikes the company in a particularly fast and impetuous way, it may happen that the entrepreneur does not have the time to prepare the proposal for the creditors and the relative documentation to deposit in Court according to the article 161 L.F. The debtor can request an

early admission to the procedure by delivering to the Court only the financial statements of the last 3 years and a list of creditors. This simplified admission procedure is called "*pre-concordato*" or "*concordato in bianco*". At the same time with the delivery of this documentation, the court sets the deadline for the deposit of the plan and the missing documentation. The court assigns a term between 60 and 120 days (which may be extended for a further 60 days) for the integration of the documents. During this period, the debtor can try to reach an agreement with the creditors without being pressured by the enforcement actions of individual creditors and without risking to incur in a declaration of bankruptcy.

If the company integrates the petition with the necessary documentation, the procedure will continue as in the standard composition with creditors. Otherwise, if the documentation is not received by the Court or if it is incomplete, the effect is similar to that of an impossibility for the admission to the procedure with a possible subsequent declaration of bankruptcy if the conditions exist. The entrepreneur has a third possibility. He can supplement the documentation by presenting a petition for the approval of debt restructuring agreements pursuant to Article 182-bis L.F. In this way, the procedure changes its nature and will continue following the discipline of the debt restructuring agreements.

The introduction of this legal instrument has encountered success and the requests for admission to the composition with creditors procedure have increased. However, as noted by (Danovi and Quagli, 2015), the ease of access to the procedure and the lack of control over the actual conditions of the company in the initial phase, allow access to the so-called *concordato in bianco* also to companies for which the conditions for a successful outcome of the procedure are lacking. These companies therefore try to be admitted to the composition with creditors through this simplified approach in order to postpone the declaration of bankruptcy with the consequent maturation of "*crediti prededucibili*" that are detrimental to all creditors.

The so-called *Decreto Sviluppo* of 2012 (Law Decree of 22 June 2012) introduced another case of particular importance in the context of composition with creditors, the so-called *concordato con continuità aziendale*. The introduction of this case into the law confirms the legislator's purpose to protect the business value and try to favour the continuation of economic activity. Article 186-bis L.F. offers advantages applicable in the event that the proposal to creditors provides for the continuation of the business activity or for the transfer to another company or in a NewCo.

There are special conditions to be respected for the proposal that the debtor makes to the creditors. In particular, the plan must contain a detailed business plan on the financial needs

and the cash flows expected from the continuation of the activity. Furthermore, the assessor must certify that the continuation of the business activity is instrumental to the best satisfaction of the creditors with respect to a liquidation situation. Finally, the arrangement must provide the payment of secured creditors to take place no later than one year after the homologation of the agreement.

If the provisions of the proposal are respected and the creditors are satisfied to the extent and with the timing approved, the procedure can be defined as fulfilled and the company assets return to be fully available to the entrepreneur.

2.2.4 Forced administrative liquidation – Liquidazione coatta amministrativa

The forced administrative liquidation is a procedure governed by Title V of the Bankruptcy Law. It is introduced by the legislator for the management of liquidations of companies that have a social importance. These are institutions that have important implications for the country and its citizens and therefore justify the existence of a special procedure. The main feature of this legal tool is the management of the procedure by an administrative authority for reasons of public interest. The administrative nature of the procedure also justifies the absence of the delegated judge (who is instead appointed in all other in-court procedures).

It mainly applies to public economic entities and to companies subject to public supervision. The categories of companies that can be subjected to forced administrative liquidation are expressly provided for by law. These include credit institutions, insurance companies, cooperative companies, SIM (*Società di intermediazione mobiliare*), SGR (*Società di gestione del risparmio*) and SICAV (*Società di investimento a capitale variabile*). The forced administrative liquidation can be activated in case of insolvency of the company, but this is not the only reason that justifies the intervention of the administrative authority. Other reasons may justify the intervention such as administrative anomalies (e.g. management irregularities, laws that are violated).

In the event that the insolvency occurs, the conditions for the subjection to both the bankruptcy and the forced administrative liquidation are present. Some companies are automatically subjected to the latter (public economic entities, credit institutions, insurance companies, SIM, SGR, SICAV). In other cases, such as for cooperatives, the procedure that is first opened is applied. If the procedure is activated due to economic and financial difficulty, insolvency is ascertained by the court. However, after the examination, it is the administrative authority that orders the opening of the procedure. In the event that the procedure is opened for other

irregularities, the declaration is always the task of the administrative authority. With the start of the procedure, the entrepreneur is replaced by an administrative body that acts on their behalf . The liquidator (*commissario liquidatore*), the administrative supervisory authority (*autorità amministrativa di vigilanza*) and supervisory committee (*comitato di sorveglianza*) are appointed. Pursuant to Article 204 L.F., the liquidator carries out all liquidation operations according to the provisions of the administrative supervisory authority and under the control (which is binding) of the supervisory commission. The latter is composed of 3 or 5 members who are chosen among experts in the branch of activity exercised by the company.

The effects produced are similar to those of the bankruptcy procedure: the company's activity is suspended and the debtor is dispossessed. With regard to the effects on creditors, they participate in the distribution for the repayment of debts pursuant to arts. 51 and following of the bankruptcy law.

2.2.5 Extraordinary administration of large enterprises in a state of crisis – *Amministrazione straordinaria delle grandi imprese in stato di crisi*

The Extraordinary administration of large enterprises in a state of crisis procedure (hereinafter "extraordinary administration") was introduced into the Italian legal system in 1979 with the so-called "Prodi Law" (Law of 3rd April 1979, No. 95). It was later reformed with the legislative decree of 8th July 1999, No. 170. The need that pressed the legislator to introduce this procedure in the legal system is the management of the crisis in large companies. For these companies, the protection of creditors is combined with economic policy necessities. The liquidation of large companies could in fact have a serious impact on the employees and the company. The objective of this law, clarified in article 1 (Legislative decree 270/1999), is "the preservation of productive assets through the continuation, reactivation or conversion of entrepreneurial activities".

Art. 2 of legislative decree 270/1999 states the requirements that companies shall met to be admitted to extraordinary administration. The “large enterprise” shall:

- Have at least 200 employees for at least 4 years
- Have debts for a total amount exceeding two thirds of both total assets and revenues of the last financial year.

The persons entitled to file an application to the court are the same as those provided by the bankruptcy. As in bankruptcy, the company must be in a state of insolvency. However, not all

types of insolvency are instrumental to the activation of extraordinary administration. The court must assess whether the state of insolvency allows to "preserve the productive assets". Furthermore, unlike bankruptcy, extraordinary administration can be declared *ex officio* by the court itself. With the sentence of declaration of the Court that certifies the state of insolvency, a delegated judge and one or three judicial commissioners are appointed.

The "preservation of productive assets" can be achieved through:

- A sale of the company assets to third parties. This can be achieved through a program that provides for the continuation of the company's activity for a period not exceeding one year;
- The restructuring of the company on the basis of a plan which must have a duration not exceeding 2 years.

The activation of the extraordinary administration procedure is divided into two parts. The first phase is called "observation". The court is called upon to express an opinion on the existence of "concrete possibilities for recovering the economic stability of entrepreneurial activities" to be obtained through a sale or restructuring program. During this period, the business activity continues. In this phase the court chooses, depending on the seriousness of the situation, whether the management of the company can be left to the entrepreneur or whether it is more appropriate to delegate the management to the judicial commissioner. The court checks the report of the judicial commissioner and the opinion of the Minister of Economic Development to decide on admission.

If the court finds that the conditions for admission are met, the actual extraordinary administration procedure begins. The discipline of forced administrative liquidation is applied, unless the law provides otherwise. With the opening of the procedure the debtor is dispossessed (if it had not already happened in the "observation" phase) and the management of the company is delegated to an extraordinary commissioner appointed by the Ministry of Economic Development.

Moreover, the ministry appoints the supervisory committee. It is a board composed of 3 or 5 members, usually unsecured creditors and experts in the business sector or insolvency proceedings. Advisory, inspection and control functions on the commissioner's documents are assigned to the supervisory committee.

As regards the effects for creditors, the rules for the forced administrative liquidation are applied. According to Article 27 (Legislative decree 270/1999) the program that the extraordinary commissioner has to present may envisage the sale of the corporate assets or the

restructuring of the company. The termination of the procedure can take place with conversion into bankruptcy in case of failure to implement the program. Furthermore, the procedure can end if no applications for admission to liabilities have been proposed or the economic stability has been re-established and the company returns to be solvent. Finally, the extraordinary administration can be closed if the composition with creditors procedure is opened.

2.2.6 Debt restructuring agreements – "*Accordi di ristrutturazione*"

The legal instruments of debt restructuring agreements were introduced with the 2005 reform (Law Decree of 14th March 2005, no. 35), which consist in overcoming the business crisis through the stipulation of one or more private agreements between the entrepreneur in financial distress and their creditors. These agreements are provided for by article 182-bis L.F. and taking the form of a private arrangement they are considered out-of-court agreements. For a long time in the doctrine there has been debate about the nature of these agreements. According to the prevailing opinion, these agreements are part of the private law instruments on corporate crisis and differ from the composition with creditors that is an insolvency proceeding (Di Marzio, 2018). On the contrary, the jurisprudence (Cass. 9087/2018) has recently considered the restructuring agreements as insolvency procedures since they are regulated by precise mechanisms that characterize them.

The Law clarifies that the objective of this instrument is the restructuring of debts but does not expressly require the business continuity. Therefore, this type of agreement is compatible with a liquidation situation even though the purpose of this procedure is precisely to anticipate the crisis, face it without the need for court intervention and favour the going concern.

This type of agreement refers to the same subjects to whom the discipline of the composition with creditors is addressed: the entrepreneur in a state of crisis. The content of the plan that forms the basis of the agreement is left to the discretion of the parties. The most frequent methods for debt restructuring are credit cut-off, extension of maturities, waiver of interest due. The agreement is reached when the plan is approved by a number of creditors representing at least 60% of the total. If there are creditors who have not approved the agreement, the plan must guarantee that thanks to the restructuring there will be sufficient cash flows for the full payment of those who have not approved. If the agreement has been reached, it must be homologated. The entrepreneur must deposit the documentation required by Article 161 L.F. accompanied by the report of an assessor that certifies the truthfulness of the accounting data and the feasibility of the agreement. The restructuring agreements take effect from the day of publication at the

companies' register. From this event the procedure aimed at the approval of the agreements begins and creditors have 30 days to propose opposition. The Court has to assess the merits of the claims of creditors who file an opposition. The Court approves the agreement with a motivated decree.

The approval of an agreement pursuant to article 182-bis of the Bankruptcy Law has important consequences for both the debtor in financial distress and the creditors. In particular:

- The creditors are protected by the law since, in the event of a future bankruptcy procedure, "the acts, the payments and the guarantees put in place in execution of the agreement" by the entrepreneur are exempt from claw-back actions pursuant to article 67, paragraph 1 and 2 of the L.F.
- The entrepreneur is exempt from the crimes of *bancarotta fraudolenta preferenziale* and *bancarotta semplice* for the actions carried out to give effect to the plan.
- Priority is given to credits arising out of the implementation of the plan. This applies to credits either from banks or financial intermediaries, either from shareholders (but for them it is limited to 80% of the loan). Priority is not only given to credits raised after homologation but also prior to that time provided that these credits are mentioned in the petition and the right of precedence is confirmed by the court.
- Pursuant to paragraph 1 of article 182-bis L.F., the debtor enjoys a payment extension of 120 days for the satisfaction of creditors who have not approved the plan. If the credits have expired at the time of homologation, the 120 days are calculated starting from that day.

If every creditor is satisfied and the risk of insolvency is prevented, the agreement is executed. Since art. 182-bis L.F. is an out-of-court procedure, the law does not provide for supervision of the regular execution of the agreement. Supervision of the plan is therefore totally in charge of the creditors.

2.2.7 Certificate plan – *"Piani attestati di risanamento"*

The recovery plans prepared pursuant to art. 67, paragraph 3, letter d) L.F. were introduced as part of the claw-back action reform in 2005. In particular, these agreements were included in the Italian legal system through the Law Decree of 14th March 2005, no. 35 and were reinforced with the Law Decree of 22nd June 2012, no. 83.

The execution of these agreements consists of the preparation of a certified plan aimed at guaranteeing the going concern through the reorganization of the financial structure and the restructuring of the debt exposure. The benefit deriving from the use of this legal instrument consists in the exclusion of the claw-back action "for the acts, the payments and the concessions of guarantees put in place by the debtor" in execution of the plan in the case of a future bankruptcy procedure. The certified plans of art. 67, paragraph 3, letter d) L.F. are efficient in cases where the entrepreneur needs to make payments or make fundamental disposals for the maintenance of the going concern.

The intervention of no judicial body is required by law for the approval of the plan. Its reasonableness is attested by an independent professional, appointed by the debtor, registered in the register of statutory auditors and in possession of the requirements of Article 2399 of the Italian Civil Code and the requirements of Article 28, lett. a) and b) of the Bankruptcy Law for the appointment as official receiver in a bankruptcy procedure. The law does not require the entrepreneur to publish the plan, but the debtor may decide to publish it in the Companies' register.

This legal instrument differs from all other procedures (besides the fact that no interventions of the Court are required) since in theory the plan may be certified for a unilateral decision of the entrepreneur. However, given that the benefits deriving from the approval of these plans (the exemption from claw-back actions) are exclusively for the benefit of the creditors, there would be no interest for the entrepreneur to have the plan certified if this had not been requested by creditors (Cian, 2014).

2.3 The 2019 Reform and the Code of the Corporate Crisis and Insolvency.

The legislative decree 12th January 2019, n.14 published in the Official Gazette of 14th February 2019 is divided into 4 parts:

a) The Code of the corporate crisis and insolvency (CIII) destined to completely replace the R.D. 16th March 1942, n.267, the Italian bankruptcy law.
b) Changes to the civil code
c) Amendments to the law 122/05 (concerning constructions to be built)
d) Transitional rules and entry into force

As already mentioned above, the main objectives pursued by the legislator with this reform intervention are:

- to give priority to legal instruments that involve overcoming the corporate crisis by ensuring business continuity
- to introduce alert procedures aimed at encouraging the early appearance of the crisis and the continuation of the distressed company activities.

One of the most important regulatory modifications concerns the elimination of the term "bankruptcy". Pursuant to article 349 CCII, the legislator has replaced the term "bankruptcy" with that of "judicial liquidation" and the term "debtor in bankruptcy" with that of "debtor subject to judicial liquidation". The reason for this intervention is to align Italy with other European countries (France, Spain, Germany) and to eliminate the dishonour caused by the entrance of the debtor in a bankruptcy procedure. This respects the will of the European legislator in the proposed directive 2016/723 established that "entrepreneurs and company managers should not be stigmatized when their honest business endeavours fail. Individuals should not be deterred from entrepreneurial activity or denied the opportunity of a second chance."

As regards the substantial changes, the legislator has introduced new rules aimed at speeding up the procedure (such as allowing the appointment of experts to support the official receiver in order to speed up the preparation of the bankruptcy liability report) and regulations aimed at maintaining the corporate structure. Pursuant to article 221, paragraph 1 of the CCII, the law provides, differently from the past, that the business activity may continue even in the presence of a declaration of bankruptcy. In the new system introduced by the reform, the composition with creditors plays a more central role. The legislator tries to encourage its use and in particular tries to use it in order to restructure the business complex.

The Code of the corporate crisis and insolvency (CIII) is composed by 391 articles but the parts in which the provisions are totally new with respect to Royal Decree of 16th March 1942, no. 267 are:

- Articles 1-11, Definitions and general principles

  The most important novelty in this group of provisions is the definition of the concept of corporate crisis. In article 2, paragraph 1, letter a), the crisis is defined as "the state of economic-financial difficulty which makes the debtor's insolvency probable, and that with respect to companies it is manifested as the inadequacy of future cash flows to regularly face planned obligations."
- Articles 12-25, Alert procedures and assisted settlement of the crisis

New provisions on alert procedures will be the subject of a separate discussion in the next paragraph.

- Articles 40-53, uniform process for accessing the procedures for regulating the crisis and insolvency.

  The new code introduces a uniform procedural model for ascertaining the state of crisis and insolvency. Although homogeneous, the model is then declined in relation to the different procedures.

- Articles 284-292, Provisions regarding corporate group

  The introduction of these new rules is justified by the need to coordinate the discipline of the insolvency and corporate crisis with the penal provisions. These rules include the confirmation of the so-called anti-mafia laws code (Legislative Decree 2011/159) and new provisions concerning the overlapping of insolvency laws and criminal laws. In general, with the new CCII the prevalence, although not absolute, of insolvency proceedings has been established.

- Articles 317-321, Judicial settlement and penal cautionary measures

  The intervention of the legislator in this matter is dictated by a need to manage the crisis consistently and efficiently in the case of groups of companies. Until the 2019 reform, groups entering into crisis were obliged to submit multiple applications for insolvency proceedings. With the new CCII, companies can present a unitary arrangement with creditors including intra-group transactions aimed at maintaining the going concern, the appointment of the same official receiver and delegated judge.

2.3.1 Early warnings and forward-looking approach

Articles 12 to 25 of CCI regarding alert procedure represent the most innovative and ambitious element of the 2019 reform (Giacomelli, 2018). The alert procedures are based on the monitoring of some indicators, "early warnings", which act as premonitory tools for the crisis. The introduction of early warnings in the Italian legal system originates from the requests of the European legislator. The European Directive 2016/723 requires Member States to provide for preventive restructuring tools that should be able to avoid insolvency. Early diagnosis of the crisis “maximize total value to creditors, owners and the economy as a whole and should prevent unnecessary job losses and losses of knowledge and skills.” Furthermore, the European Commission emphasises that in most cases, when no action is taken to promptly remedy the corporate crisis, it translates into insolvency. Early warnings are a fundamental element for the anticipation of the state of insolvency given that, according to article 3 of the European directive

2016/723, they "can detect a deteriorating business development and signal to the debtor or the entrepreneur the need to act as a matter of urgency."

The forward-looking approach on which early warnings and the entire insolvency procedures reform are based is not exclusive to bankruptcy law. The system of alert procedures has also become relevant in terms of accounting regulation and credit risk management. Following the 2009 crisis, there was a strong debate on the information capacity of the historical cost on which the accounting information was based up until that date. Various authors have stated that the historical cost is not a criterion that allows to anticipate the crisis, given that it is based exclusively on the present and has no element of forward-looking. Over the years, the opinion has emerged that a system of accounting and elaboration of financial data that adopts a forward-looking approach may be able to anticipate crisis situations, speeding up the recovery process. In the intention of the legislator, this paradigm shift has a systemic effect, given that it is functional to reduce the contagion caused by the crisis or insolvency of a company. The early management of the company crisis has therefore significant effects both economic efficiency and social well-being. However, the use of an approach based on prospective information is not straightforward in its application. In the opinion of Giacomelli 2018, the adoption of a prospective criterion for the detection and interpretation of financial data poses doubts and uncertainties about the application. In particular, since the forward approach is based on information concerning the future and therefore affected by uncertainty, it involves the need to adequately weigh the possible alternative scenarios that can be achieved.

The European Directive 2016/723 and the reform of the Italian bankruptcy law are part of a wide framework of reforms that have also involved different sectors in addition to corporate crisis. The most relevant examples of the affirmation of the forward-looking approach are the introduction of the standard IFRS 9 in the field of accounting regulation and, as regards banking regulation, the guidelines of the ECB for the valuation of non-performing loans.

IFRS 9 deals with the valuation of financial instruments. It changes approach compared to IAS 39 where losses were recognized with the incurred loss model. IFRS 9, on the other hand, provides that a loan can be impaired even without the occurrence of a default event but simply with the significant increase in credit risk since initial recognition. BDO (2018) provides a list of conditions that may suggest a significant increase in credit risk. These can include:

- "Changes in general economic and/or market conditions (e.g. expected increase in unemployment rates, interest rates);
- Significant changes in the operating results or financial position of the borrower;

- Changes in the amount of financial support available to an entity (e.g. from its parent);
- Expected or potential breaches of covenants; Expected delay in payment"

The introduction of IFRS 9 is relevant both for banking institutions and for companies that receive loans. The new standard forces banks to adopt models for monitoring these alert indicators and a more stringent creditworthiness assessment. On the other hand, IFRS 9 pushes companies to a more prudent management of the economic and financial situation since only a deterioration of their position could result in a reduction in credit lines and in general to a tightening of the banking system support.

EWI at a borrower level from external sources	Debt and collateral increase in other banks Past-due or other NP classifications in other banks Guarantor default Debt in private central register (if any) Legal proceeding Bankruptcy Changes in the company structure (e.g. merger, capital reduction) External rating assigned and trends Other negative information regarding major clients/counterparties of the debtor/suppliers
EWI at a borrower level from internal sources	Negative trend in internal rating Unpaid cheques Significant change in liquidity profile Liabilities leverage (e.g. equity/total < 5% or 10%) Number of days past due Number of months with any overdraft/overdraft exceeded Profit before taxes/revenue (e.g. ratio < -1%) Continued losses Continued excess in commercial paper discount Negative own funds Payments delay Decrease of turnover Reduction in credit lines related to trade receivables (e.g. year-on-year variation, 3m average/1y average) Unexpected reduction in undrawn credit lines (e.g. undrawn amount/total credit line) Negative trend in behavioural scoring Negative trend in probability of default and/or internal rating

Table 2.8: Examples of EWI. Source: ECB, Guidance on NPL, 2017 (p. 107)

The concept of "early warnings" also appears in the guidance on NPL of the European Central Bank of March 2017. They are defined as “quantitative or qualitative indicators, based on asset quality, capital, liquidity, profitability, market and macroeconomic metrics. In the context of the risk control framework, an institution can use […] EWI to inform the institution’s management that a stress situation (“red triggers”) could potentially be reached.” The ECB argues that to monitor credit quality and prevent its decay, banks must prepare tools and procedures aimed at managing a very early impaired position. It is recommended that the data be updated on a monthly basis and it is also advisable to prepare indicators of deterioration both at the portfolio level and at the individual debtor level.

2.3.2 Alert procedures in the Italian Reform

Title II of the new Code of the corporate crisis and insolvency (CCII) is titled "alert procedures and assisted settlement of the crisis” and contains provisions on early warnings relevant to the new Italian law on insolvency proceedings. The rules, aimed at the early emergence of the corporate crisis, have also required changes to the Civil Code. In particular, article 2086 of the Civil Code has acquired a new formulation. The new text requires that the entrepreneur establishes “an organizational, administrative and accounting structure appropriate to the nature and size of the company, also in function of the timely detection of the business crisis and the loss of the business continuity, as well as in function of taking action without delay for the adoption and implementation of one of the instruments envisaged by the regulation for overcoming the crisis and recovery of business continuity”. The new article, which is expressly referred to in article 3 of the CCII, places a new obligation for the company management that has "a specific duty to monitor the continuity of the business" (Della Rocca and Grieco, 2019) and to prepare suitable tools to try to combat it. The introduction of this obligation for the entrepreneur implies that in the absence of an adequate "administrative and accounting organizational structure" or if the latter proves inadequate to prevent the crisis, they can be sanctioned.

The "early warnings" in the Italian legal system are introduced by Article 12 of the CCII which defines them as "the reporting obligations [...] aimed at the timely detection of signs of crisis of the company and the prompt adoption of the most suitable measures for its composition". The entities to which the rules on "early warnings" are applied are all companies that carry out business activities, excluding large companies (including listed companies), credit institutions, SIMs, SGRs, SICAVs, insurance companies and trusts.

The law does not accurately state the indicators that must be monitored in order to evaluate the early warning procedure but defines the areas that must be kept under observation. Article 13 of the CCII defines the indicators of the crisis as "the income, equity or financial imbalances that can be detected through specific indices that give evidence of:"

- Sustainability of debts for at least the next 6 months;
- Perspective of going concern in the following 12 months.

The legislator points out that for the purposes of the objectives pursued by the law, those that assess the sustainability of the financial debt with the cash flows generated, the adequacy of the equity related to the debt and the indicators that show delays in payments are significant. The law delegates the CNDCEC (*Consiglio Nazionale dei Dottori Commercialisti ed Esperti Contabili*) to prepare the ratios that "evaluated unitarily" trigger the corporate crisis.

The legislator is aware that the use of the same indicators and the use of the same thresholds for companies that are different from the dimensional point of view and are in different stages of the corporate life cycle can lead to distorted results. Article 12 CCII illustrates that crisis indicators and consequently the respective "critical" values have to be consistent with the characteristics of the company, with the sector of activity in which it operates and must consider the start date of the activity. For this reason, the law requires the CNDCEC to prepare different ratios for start-ups and innovative SMEs.

If a company believes that the indicators prepared by the CNDCEC are not adequate "in consideration of its own characteristics", the law (art. 13, paragraph 3) allows the company to indicate in the notes to the financial statements the indicators it considers most suitable. The list of indicators must be certified by an independent professional.

The law provides that the obligation to report the presence of early warnings that presuppose the state of corporate crisis lies with individuals inside and outside the company. The internal bodies are identified in the *Collegio Sindacale*, the auditor, the auditing company. Their task is to supervise the administrative body. In particular, they must assess whether the company can count on an "adequate organizational, administrative and accounting structure" (pursuant to Article 2086 of the Civil Code) and whether the going concern assumption is constantly monitored. These parties are obliged to immediately report to the administrative body the presence of early warnings that imply a state of crisis. Reporting to the administrative body (article 14, paragraph 3) is a cause of exemption from joint liability and accusations of omissions.

In addition to subjects within the company, the alert procedures can also be activated by "qualified public creditors". In particular, the law provides (art. 15 CCII) that the *Agenzia delle entrate*, INPS and the collection agent have the obligation to send a communication to the debtor when his exposure exceeds the thresholds of relevance established by law. The sanction for failure to communicate consists in the lack of the right of pre-emption for the claims claimed by those public entities. In particular, for *Agenzia delle Entrate* "the total amount of the overdue and unpaid debt for value added tax [...] shall be equal to at least 30% of the turnover of the same period." Past due amount must exceed € 25,000 in case of turnover of the previous year up to € 10 million and more than € 100,000 for turnover over € 10 million. With regard to the INPS, the debtor must have an overdue debt exceeding € 50,000 and must be at least 6 months late for the payment of social security contributions exceeding half of those due in the previous year. Finally, for the collection agent the credits must have expired for at least 90 days. The amount must be greater than € 500,000 for individual businesses and € 1 million for collective enterprises.

The management of the alert procedure and the debtor's assistance is delegated to the "body for composition of business crisis" (*Organismo di composizione della crisi di impresa*, hereinafter "OCRI"). This body introduced by the new reform is set up in each Chamber of Commerce (Art. 16 CCII). The procedure is initiated by the representative (*referente*, the general secretary of the Chamber of Commerce of the place where the company has its headquarters) who appoints a committee of three experts. One of the members is elected by the court, one belongs to the debtor's professional association and the last member is elected by the chamber of commerce. The OCRI after receiving the report schedules a meeting with the administrative and control bodies of the company. If the college certifies the existence of the crisis, it set the objectives to be achieved to return in a sound economic condition together with the entrepreneur and decide a date within which the debtor must report on the implementation.

Finally, Chapter III (Article 19 - 23 CCII) deals with the assisted settlement process of the crisis. This can be activated by the debtor's initiative in order to find a solution to the crisis. The process is carried out under the supervisor's monitoring. The debtor must provide the college with documentation concerning the company's assets, the economic and financial situation and a list of creditors. In the event of an agreement with the creditors, this is deposited in the Chamber of Commerce and may optionally be entered in the register of companies. If, on the other hand, the agreement is not reached, the college invites to apply for access to one of the insolvency proceedings.

2.3.3 Impact of alert procedures in Italy

Cerved[7] was commissioned by the Ministry of Justice to carry out a study on the number of corporations that each year could be signalled as a company in crisis according to the new alert procedures. Cerved has analysed the data of all the joint-stock companies (*società di capitali*) in the financial years 2011-2016. The study has entailed two phases of analysis. In the first phase, Cerved think-tank identified the best financial ratios for identifying the corporate crisis. After identifying the ratios and estimating the level of the cut-offs, the number of companies showing data that could have indicated a possible default has been identified.

In order to identify the most appropriate indicators, two groups of companies were considered. The first regards those joint-stock companies for which the state of insolvency has been ascertained in the 5 years considered and a group of comparable companies which operated under normal conditions of economic and financial equilibrium.

The indicators chosen by Cerved are:

- Cash Flow / Total Assets
- Shareholders' equity / Liabilities
- Financial charges / Revenues
- Current ratio (Current assets / Current liabilities)

According to the Cerved report, these 4 ratios perform different information duties. In particular, they allow indications respectively concerning profitability, financial structure, sustainability of debts and financial equilibrium. For each of these indicators a cut-off value was identified. This represents the threshold above which the company with a certain level of probability is considered to be at risk of default. The choice of cut-off level has to balance two possible errors. The mistake of considering companies that will go into crisis as "safe companies" is defined as a type I error. On the contrary, the type II error consists in attributing the status of "company at risk" to companies that won't go into bankruptcy. Increasing the cut-off threshold would reduce the risk of Type II error but increases the risk of Type I error. Avoidance of Type II error is particularly crucial. The improper designation of state of crisis to a healthy company could cause reputational damage that could be relevant for the company in question (Koh, 1987).

[7] Cerved is an Italian group that provides and processes financial and commercial information, offers marketing solutions and credit management services. In particular, through the business "credit information" it assesses the solvency of companies, credit rating and financial risk.

The second phase consisted in the calculation of the identified ratios for the 936,999 companies belonging to the considered sample. The result that Cerved has obtained indicates that with an 80% confidence, about 275,000 companies and with a confidence of 90% more than 90,000 companies would be signalled. These are very high values, representing 27.7% and 9.7% respectively of the total sample. Such a large number of reports is equivalent to heavy work delegated to the body for composition of business crisis (OCRI) and to a consequent potential difficulty in managing all reports.

Another result obtained by Cerved is the evidence that size is a factor that plays an important role. In particular, small companies, at the same cut-off level, have a much higher probability of being signalled. The same happens for younger companies compared to companies with a longer history. This result leads Cerved to recommend the institution of different thresholds for companies of different sizes and different ages. Finally, Cerved reports that the joint analysis of more indicators would reduce Type I errors and Type II errors and consequently improve the efficiency of the system.

Chapter 3

3 Empirical analysis: rationale and methodology

The purpose of this dissertation is to investigate in depth what are the determinants of corporate distress and which are the activities that a company can undergo to restructure the business and avoid default. After having reviewed current available literature on corporate crisis and turnaround and having investigated the instruments that management can use to achieve the turnaround, the remainder of this dissertation will be devoted to empirical analysis. The study focuses on a group of Italian companies listed on the Italian Stock Exchange that have encountered a period of crisis between 2011 to 2016. For the purposes of this work, the moment that determines the outbreak of the crisis is the request by CONSOB (the government authority that supervises the Italian securities market) for periodic disclosure of additional financial information due to the critical situation of these companies. CONSOB's intervention is triggered by the opinion expressed by the auditors on the interim or annual financial statement. The first part of the following chapter describes the regulatory framework that allows CONSOB to request disclosure of confidential information and the way in which auditors judge the informative capacity of the financial statement and compliance with the going concern assumption. After a brief description of the companies listed on Borsa Italiana, the chapter focuses on the companies included in the lists of issuers monitored by CONSOB and describes the methodology used to compose the sample and to carry out the empirical analysis.

3.1 Supervision of listed company in Italy and companies monitored by CONSOB

With the issuance of shares in a regulated market, companies offer financial instruments and become an integral part of the financial market and in particular of the securities market. Subjecting themselves to the logic of the market, issuers are influenced by market movements but at the same time are able to influence the evolution of the negotiations. Market dynamics influence the way in which companies are managed and at the same time the provisions regulating the functioning of the markets have to be consistent with corporate governance's rules. In order to have an efficient allocation of investor savings, the exchange value of shares must reflect the fundamentals of the products offered. The price of traded securities is closely linked to expected returns, which in turn derive from the recognition of business events, once

known. Therefore, it is of fundamental importance for the authorities supervising the functioning of securities markets to ensure transparency and proper dissemination of relevant information.

For this reason, the legal sources governing listed companies pertain both to corporate law and capital markets law. In particular, in Italy companies that issue financial instruments in regulated markets are subject to the provisions of Title V, Book V of the Italian Civil Code. The provisions of the code are limited to "companies with shares listed on regulated markets unless otherwise provided for in other provisions of the Civil Code or in applicable laws" (Art. 2325-bis, Italian Civil Code). Listed companies are disciplined also by:

- Consolidated Law on Finance (hereinafter also T.U.F. or *Testo Unico della Finanza*, Legislative Decree n. 58 of February 24, 1998);
- Regulations and implementing acts issued by CONSOB, the Italian government agency in charge for regulating and supervising the security market;
- Regulations and codes of conduct of Borsa Italiana.

Part IV of the Consolidated Law on Finance (Legislative Decree n. 58 of February 24, 1998) is devoted to the discipline of the issuers of financial instruments in regulated markets. In particular, Title I with articles 91 and 92 is reserved to the presentation of the general principles of the legal intervention, responsibilities and functions carried out by CONSOB. According to Art. 91 of T.U.F., powers assigned to CONSOB are instrumental in "protecting investors and guaranteeing efficiency and transparency of the market in corporate control and the capital market". Article 92 is devoted to the principle of equality of shareholders. Issuers have to guarantee the "same treatment and identical terms and conditions" to all shareholders and at the same time providing them with "instruments and information necessary for the exercise of their rights".

For the purposes of the analysis proposed in this dissertation, the provisions concerning transparency and information obligations of the companies are of particular importance. As discussed above, a company that issues financial instruments on the stock market is subject to the judgment of the market operators and at the same time is able, with its conduct, to influence the values represented by the financial instruments themselves. The aim of the legislator is precisely to promote transparency in order to guarantee efficient exchanges and avoid potential market failures. In particular, the moment of the emergence of the crisis requires a pervasive set of information to be disclosed in order to protect investors and ensure transparency in a phase of the life cycle of the company characterized by high uncertainty. Therefore, issuers

have to adopt a system of production and communication of "regulated information" to be disseminated publicly and to be filed with CONSOB.

The law provides for timely and widespread market information on the main transactions carried out by issuers as well as on the events of the organization deemed relevant, such as those identified by the CONSOB with its own regulation. Significant events can be extraordinary business transactions such as mergers, spinoffs or acquisitions.

Secondly, with the fundamental provision of art. 114, paragraph 1, T.U.F., an obligation of continuous market information is envisaged in relation to facts, not punctually identified ex ante by the legislator, destined to be recognized concretely on the basis of their relevance to affect the values negotiated. Therefore, the issuers are obliged to communicate publicly "without delay" price sensitive information (relating to the same issuers or to the companies controlled by them). The law identifies a case in which disclosure is required (Article 181 T.U.F.). Issuers have to disclose “privileged information”. This implies information “of a precise nature which has not been made public concerning directly or indirectly one or more financial instruments which, if made public, could significantly affect the prices of such financial instruments”.

Finally, Article 114 T.U.F. is also relevant for its fifth paragraph which allows CONSOB to request, where it deems there is a need to inform investors, the "publication, in the manner it will establish, the information and documents needed to inform the public.” This provision is relevant given that it directly involves entities in financial difficulty given that it is the legal basis of the introduction of companies in the so-called "black-list" and “grey-list” by CONSOB. These terms refer to the groups of companies for which the supervisory authority has requested the periodic disclosure of a group of qualitative and quantitative information regarding the state of managerial and financial uncertainty.

The introduction of a company in black or grey lists takes place through a note issued by CONSOB which contains the request by the commission to increase the set information required by law. Companies fulfil their duty to provide information by publishing a press release with the information requested by the authority and respecting the methods of market disclosure provided for by the regulation n. 11971/1999 issued by CONSOB (*Regolamento emittenti*). In particular, entities shall follow those provisions regarding corporate disclosure contained in part III, title II of the regulation. The introduction of a company in the group of issuers monitored by CONSOB is triggered by the auditors’ opinion on the annual financial statement or by the review of an interim financial statement. In particular, the event that usually

activates the request for more information from CONSOB is the expression by the auditors of an unmodified opinion with an emphasis of matters on the uncertainties concerning the going concern or the expression of a modified opinion (disclaimer of opinion or adverse opinion).

The note issued by CONSOB also contains the list of information that the issuer must periodically disclose to the market. For all companies that join the watch list, the authority requires the following information to be disclosed:

- Net financial debt of the Group and of its Parent company showing short-term and medium-long term components separately;
- Past due borrowing positions broken down by type (i.e. financial, trade, tax and social security) and any related actions taken by Group creditors (i.e. reminders, injunctions, supply suspensions);
- Related party transactions of the Group and of its Parent;
- Failure to comply with covenants, negative pledges and any other Group borrowing clause which limits the use of financial resources, including updated degree of compliance with such clause;
- Business plan implementation status, including any variation between actual and forecast data.

CONSOB also reports the frequency with which the information must be disclosed to the market. CONSOB may in fact request that the press release be issued monthly or quarterly. The choice of frequency of the request depends on the degree of financial uncertainty of the company and on the probability of the company to continue as a going concern. The different timing of information disclosure has generated a division between the companies called to issue periodic information according to Article 114 of the T.U.F. In journalistic jargon only companies that have to give the market monthly information are part of the black list, the companies that inform the market on a quarterly basis are part of the grey list. Usually the companies for which the auditors issue unmodified opinions with emphasis of matters on going concern are more likely to receive a quarterly request for information while the companies for which a modified opinion is issued are more likely to receive a monthly request. However, there is no general rule and therefore the choice of frequency is left to the discretion of the CONSOB commission.

Companies that are part of the so-called “grey list” are not required to issue press releases expressly dedicated to the disclosures required by Article 114 but may include the information required in the annual financial report, in the half-year financial report and in the interim

financial statements. Alternatively, they may include information in press releases concerning the approval of the aforementioned documents. With Legislative Decree 25 of February 15th 2016, the obligation to publish quarterly management reports is eliminated. However, companies can fulfil the same, on a voluntary basis, by issuing the interim management report through a press release.

3.2 Audit opinions and going concern

The companies that receive the request for periodic disclosures pursuant to Article 114 of the T.U.F., are all companies that face a period of distress and, even if with different degrees, for all of them doubts regarding the continuation of the company as going concern arise.

The international accounting principle IAS 1 in paragraphs 25 and 26 requires that the management in the preparation of the financial statement assesses the ability of the company to continue its activity. In particular, standard setters require that when "material uncertainties arise related to events or conditions that may be cast doubts into a given entity", the entity shall disclose those uncertainties. Therefore, companies will include in the management report contained in the financial statement a paragraph dedicated to illustrating the assessments made by management.

The time horizon considered to carry out the aforementioned valuation must be at least 12 months beyond the date of conclusion of the reporting period (IAS 1, par 26). IAS 1 shows that each business situation has characteristics that make it unique and that therefore management in any case will have to assess the amount and quality of information to be considered in order to reach a conclusion. Companies in financial distress that have a long history of profitability and can count on the support of the banking system will require less analysis than companies that for years have failed to generate value and fail to comply with terms negotiated with creditors.

The auditors are required to obtain sufficient appropriate audit evidence regarding the ability of the company to continue as going concern and to conclude on the appropriateness of the management's conclusions. The reference audit principle for the assessment of the going concern is ISA 570. In assessing whether the going concern assumption is appropriate, the auditor will have to perform risk assessment procedures to identify if circumstances exist which may generate doubts about the ability of continue as going concern. Paragraph A3 of the ISA 570 contains a non-exhaustive list of events or circumstances (Table 3.1).

FINANCIAL	✓ Net liability or net current liability position. ✓ Fixed-term borrowings approaching maturity without realistic prospects of renewal or repayment; or excessive reliance on short-term borrowings to finance long-term assets. ✓ Indications of withdrawal of financial support by creditors. ✓ Negative operating cash flows indicated by historical or prospective financial statements. ✓ Adverse key financial ratios. ✓ Substantial losses or significant deterioration in the value of assets used to generate cash flows. ✓ Arrears or discontinuance of dividends. ✓ Inability to pay creditors on due dates. ✓ Inability to comply with the terms of loan agreements. ✓ Change from credit to cash-on-delivery transactions with suppliers. ✓ Inability to obtain financing for essential new product development or other essential investments.
OPERATING	✓ Management intentions to liquidate the entity or to cease operations. ✓ Loss of key management without replacement. ✓ Loss of a major market, key customer(s), franchise, license, or principal supplier(s). ✓ Labor difficulties. ✓ Shortages of important supplies. ✓ Emergence of a highly successful competitor.
OTHER	✓ Non-compliance with capital or other statutory or regulatory requirements, such as solvency or liquidity requirements for financial institutions. ✓ Pending legal or regulatory proceedings against the entity that may, if successful, result in claims that the entity is unlikely to be able to satisfy. ✓ Changes in law or regulation or government policy expected to adversely affect the entity. ✓ Uninsured or underinsured catastrophes when they occur.

Table 3.1 – Events and conditions that may cast significant doubt on the entity's ability to continue as a going concern. Source: ISA 570 (revised) – Paragraph A3.

As previously described, the request for periodic additional information from CONSOB depends fundamentally on the form of the report issued by the auditors. The audit standard that regulates the forms that the opinion can take is ISA 705. When the auditor is able to obtain sufficient appropriate audit evidence and it concludes that the financial statements are free from material errors, he will issue an unmodified opinion. Otherwise, the auditor will issue a modified opinion. The latter can take the form of qualified opinion, adverse opinion or disclaimer of opinion. The choice between qualified opinion, adverse opinion and disclaimer of opinion depends on two variables:

- The nature of the reason for which the opinion is not unmodified (presence of a material misstatement or inability to obtain sufficient appropriate audit evidence).
- Auditor's judgement about the pervasiveness of the effects or possible effects on the financial statement.

In the event that a material misstatement is detected, the auditor will have to assess whether this is pervasive. According to the ISA 700, an error or the possible effect of errors is considered pervasive when:

- Are not confined to specific elements, accounts or items of the financial statements;
- If so, it could represent a substantial proportion of the financial statements; or
- In relation to disclosures, are fundamental to users' understanding of the financial statements.

In the case of pervasiveness, the auditor will express an adverse opinion that states that the financial statement is not prepared in compliance with the general accepted accounting framework, otherwise he will express a qualified opinion. In the case of companies that become part of the so-called "black list" of CONSOB, the second type of reason that justifies the expression of a modified opinion, that is the inability to obtain sufficient appropriate audit evidence, becomes more important. Companies that go through a financial distress period are characterized by great uncertainty and the information available may not be sufficient to conclude on the reliability of the financial statement. Where, in the auditor's judgment, the inability to obtain information could be pervasive, the report will be expressed in the form of a disclaimer of opinion. In this case, the auditor will express the impossibility to issue an opinion. In the event that the potential effect is not deemed relevant, instead, a qualified opinion will accompany the financial statements.

The judgment on the appropriateness of the assumption of the going concern that the auditor took based on the standard ISA 570 has consequences on the auditor's report. If the management's choice of going concern basis of accounting is deemed inappropriate, the auditor must issue an adverse opinion. On the contrary, if management disclosure of a material uncertainty is deemed adequate, the auditor expresses an unmodified option but he has to include in the report a section (emphasis of matters) under the heading “Material Uncertainty Related to Going Concern” in which he has to make a reference to events and circumstances that may cast doubt on the company’s ability to continue as a going concern.

3.3 Italian Stock Market Overview and companies monitored by CONSOB

The trading system in Italy is managed by Borsa Italiana S.p.A. As regards equity trading, Borsa Italiana is divided into 3 major markets: MIV, AIM and MTA.

- MIV (Market for Investment Vehicles) is the market intended for the listing of funds and company vehicles. The companies that are admitted in this market are mostly private equity and Special Purpose Acquisition Vehicles (SPACs).
- AIM (Alternative Investment Market) is a recently established market (active since 2012) for small and medium-sized companies with high growth potential. Through AIM these companies can access funds through a simplified admission process, according to a flexible regulation and little request for bureaucratic requirements.
- The main Italian equity market is MTA, which is aimed primarily at large and medium-sized companies. It is subject to stringent requirements for listing in line with the best international standards. Within the MTA, the STAR segment (*Segmento Titoli ad Alti Requisiti*) is dedicated to companies with a capitalization of less than € 1 billion who voluntarily decide to comply with transparency, governance and liquidity requirements in order to exploit the visibility services offered by Borsa Italiana and enjoy greater recognition from investors.

Until today, only the companies belonging to MTA have been subject to requests from CONSOB and have been part of the so-called black and grey lists.

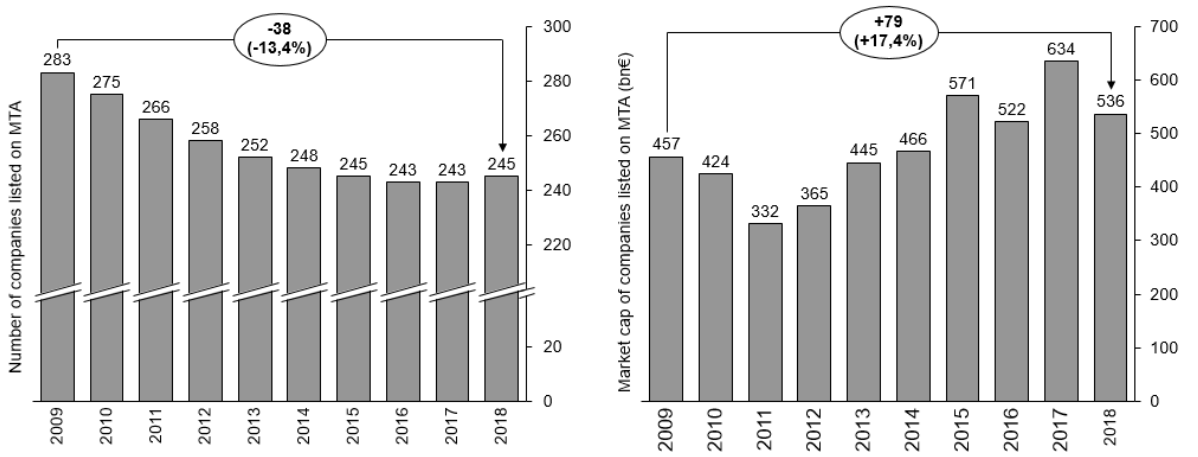

Figure 3.1: Number of listed company and market capitalization of issuers listed on MTA 2009-2018. Source: personal elaboration from Borsa Italiana and Thomson Reuters Eikon

From the end of 2009 to 2018, 343 different companies were listed on the MTA market. As figure 3.1 illustrates, the year with the highest number of listed issuers was 2009 (283 listed companies). The trend in subsequent years was downward and at the end of 2018 the number of companies admitted to the stock exchange was 245, down by 38 units compared to December 2009. While the number of issuers overall has decreased, the value of the market capitalization of the companies considered has increased over the years analysed. The 283 companies listed in 2009 amounted to a total of € 456.5 billion of market capitalization. Starting in 2013, the

trend in stock market prices was particularly favourable and in 2018 the total market cap of companies listed on the MTA was € 535.8 billion, an increase of 17.4% compared to 9 years earlier.

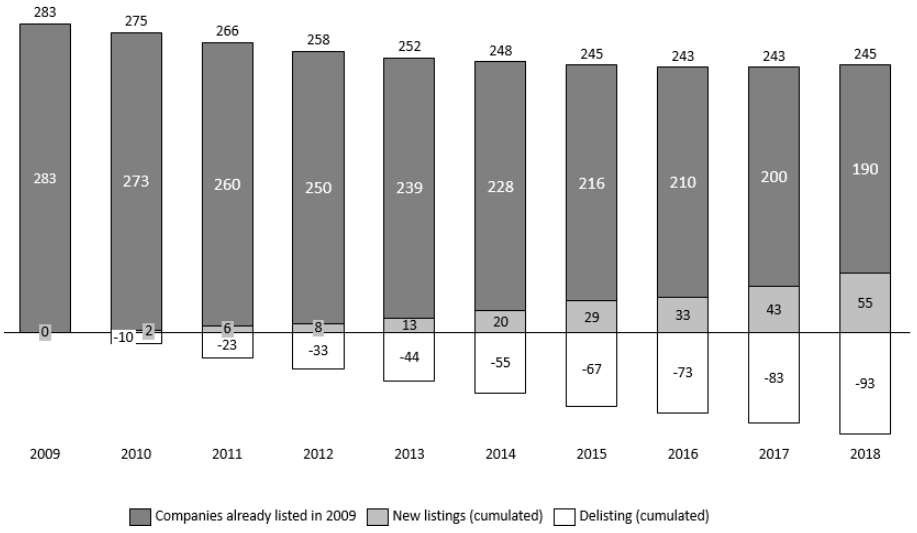

Figure 3.2: Change in composition of Italian companies listed on MTA 2009-2018. Source: personal elaboration from Borsa Italiana

The analysis of listing and delisting from the Italian stock market shows that, out of the 283 listed companies in 2009, 190 have remained listed in 2018 (equal to 67.1%). In 9 years, 93 companies withdrew their shares from stock exchange trading (Figure 3.2). Figure 3.3 shows that the year with the most revocations was 2011 with 13 delistings while the one with the smallest number was 2016 with 6. While the trend of delisted companies has been fairly constant during all the years analysed, 40% of the listings (22 companies) took place in the last few years (2017 and 2018). The total number of new companies admitted to the Italian stock exchange from 2009 to 2018 is 55 companies.

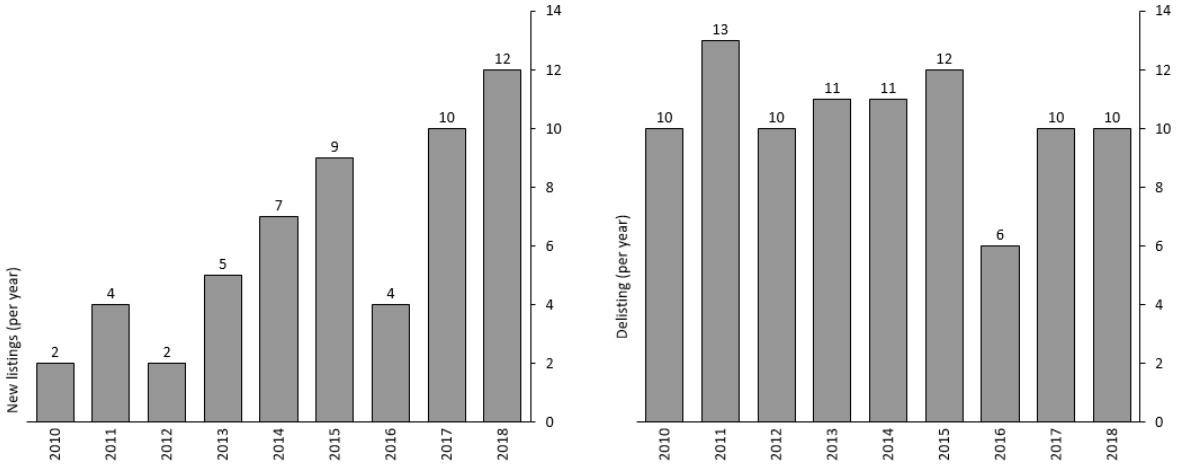

Figure 3.3: Yearly listings and delistings 2009-2018. Source: personal elaboration from Borsa Italiana

The segmentation of market capitalization by category of company shows that the 190 companies that have been listed since 2009 have seen their market value increase by 4% (€ 16 billion). The change in the Italian stock market capitalization of € 79 billion is therefore largely justified by the market capitalization of the 55 new companies (€ 107 billion in December 2018), which more than offset the € 45 billion in market capitalization of the 93 companies that left the stock exchange.

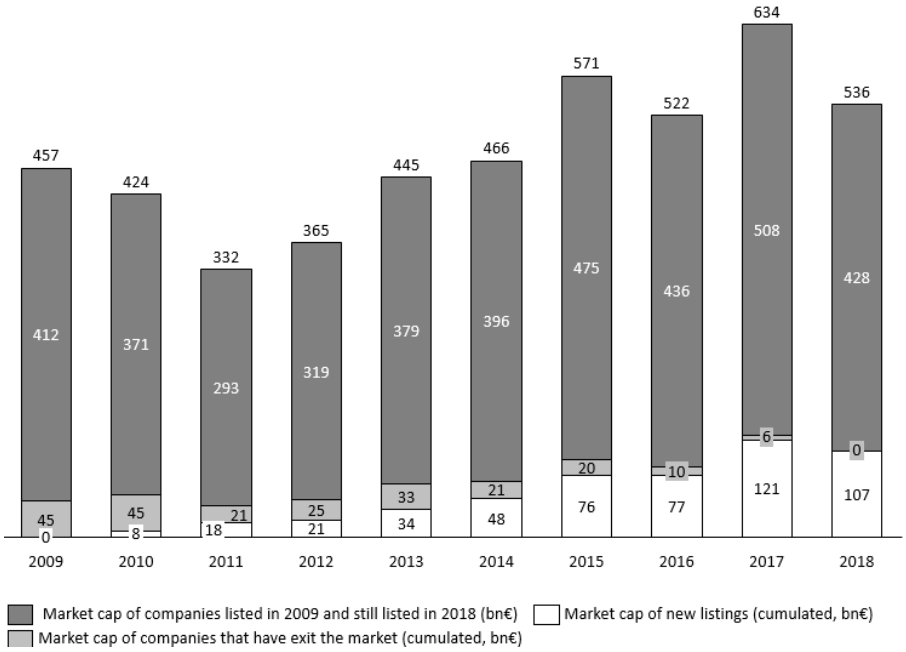

Figure 3.4: Market capitalization by categories; MTA 2009-2018. Source: personal elaboration from Borsa Italiana and Thomson Reuters Eikon

Dividing companies by industry (Table 3.2), it emerges that the largest number of companies belongs to the Industrial goods and services segment (50 companies in December 2018, up one unit compared to 2009). The industries that have seen their number decrease most from 2009 to 2018 are Personal & Household Goods and Technology which fell by 6 units and Utilities by 5 units.

In terms of capitalization, there are very different performances among industries. Some industries obtain a large increase in the market capitalization despite a reduction in the number of companies. These are financial services (+ 213%) and personal & household goods (+ 177%), automobiles and parts (+158%) and food and beverage (+144%). On the other hand, Media and Oil & Gas, despite not registering decreases in terms of number of companies, have their market capitalization on a downward trend (-39% for Media and -29% for Oil and Gas). Analysing the composition of the list of issuers of MTA, data show that the incidence of the industries is different depending on whether they are considered in terms of market cap or for their absolute value. The 6 companies that make up the Oil & Gas industry account for 2% in

terms of numbers but 13% in terms of market capitalization. Similarly, the 15 listed companies operating in the utilities industry account for 6% in terms of number but 16% in terms of value. The financial sector (financial services, banks and insurance) accounts for 18% in terms of number but 28% in terms of capitalization. On the other hand, industrial goods and services, technology and media count for 34% in absolute number but only 14% in terms of value.

	Number of companies				Market Cap (bn€)			
Industries	**2009**	**2018**	**Δ**	**% 2018 on total**	**2009**	**2018**	**Δ**	**% 2018 on total**
Industrial Goods & Services	49	50	1	20%	31	62	100%	12%
Personal & Household Goods	32	26	-6	11%	17	46	177%	9%
Financial Services	23	21	-2	9%	8	24	213%	5%
Banks	21	17	-4	7%	120	82	-32%	15%
Media	16	16	0	7%	11	7	-39%	1%
Technology	22	16	-6	7%	2	3	42%	1%
Utilities	20	15	-5	6%	62	84	35%	16%
Construction & Materials	15	11	-4	4%	9	6	-30%	1%
Real Estate	11	11	0	4%	3	3	-5%	0%
Automobiles & Parts	11	10	-1	4%	18	47	158%	9%
Food & Beverage	10	9	-1	4%	6	15	144%	3%
Health Care	8	8	0	3%	4	14	254%	3%
Retail	7	7	0	3%	1	2	53%	0%
Travel & Leisure	10	7	-3	3%	5	4	-27%	1%
Oil & Gas	6	6	0	2%	97	69	-29%	13%
Insurance	8	5	-3	2%	39	41	5%	8%
Chemicals	5	4	-1	2%	0	1	204%	0%
Telecommunications	6	4	-2	2%	21	14	-36%	3%
Basic Resources	3	2	-1	1%	0	11	7231%	2%
TOTAL	**283**	**245**	**-38**	**100%**	**457**	**536**	**17%**	**100%**

Table 3.2 – Number of listed company and market capitalization by industry. MTA 2009 and 2018. Data sorted by industries highest number of companies in 2018. Source: personal elaboration from Borsa Italiana and Thomson Reuters Eikon

The reason for these differences is to be attributed not only to the opinions of investors (reflected on prices) on the investment merit of the industry, but also to the different sizes of the companies as shown by table 3.3. The breakdown by market capitalization range confirms the different size of companies across the different industries. Some groups are composed mostly of companies with a market capitalization of over € 1 billion, such as Insurance (100%), Oil% Gas (83.3%), Banks (58.8%) and Utilities (53%). On the other hand, industries such as media, technology and industrial goods and services are characterized by a greater number of companies but by a smaller average size compared to the categories mentioned above.

	Number of companies								
Industries	**Total**	**below 100M€**	**100M€ - 1Bn€**	**1Bn€ - 5Bn€**	**above 5Bn€**	**below 1Bn€**	**above 1Bn€**	**% below 1Bn€**	**% above 1Bn€**
Insurance	5	0	0	2	3	0	5	0%	100%
Oil & Gas	6	0	1	3	2	1	5	17%	83%
Banks	17	2	5	6	4	7	10	41%	59%
Utilities	15	2	5	6	2	7	8	47%	53%
Basic Resources	2	0	1	0	1	1	1	50%	50%
Telecommunications	4	1	1	1	1	2	2	50%	50%
Automobiles & Parts	10	0	6	1	3	6	4	60%	40%
Health Care	8	2	3	2	1	5	3	63%	38%
Industrial Goods & Services	50	11	24	12	3	35	15	70%	30%
Financial Services	21	5	10	4	2	15	6	71%	29%
Travel & Leisure	7	2	3	2	0	5	2	71%	29%
Personal & Household Goods	26	12	7	5	2	19	7	73%	27%
Food & Beverage	9	3	4	0	2	7	2	78%	22%
Technology	16	6	7	1	2	13	3	81%	19%
Retail	7	4	2	1	0	6	1	86%	14%
Media	16	8	6	2	0	14	2	88%	13%
Construction & Materials	11	5	5	1	0	10	1	91%	9%
Real Estate	11	8	2	1	0	10	1	91%	9%
Chemicals	4	2	2	0	0	4	0	100%	0%
TOTAL	**245**	**73**	**94**	**50**	**28**	**167**	**78**	**68%**	**32%**

Table 3.3 – Number of companies by market capitalization clusters and by industry. MTA 2018. Data sorted by industries with highest % of companies with a market capitalization higher than 1Bn€. Source: personal elaboration from Borsa Italiana and Thomson Reuters Eikon

As for the total number of issuers listed on the MTA, 31.8% of companies (78 units) in 2018 recorded a market capitalization of more than € 1 billion. On the other hand, the great majority (68,2%) has registered a market capitalization of less than € 1 billion and 73 companies (29.8% of the total) had a market capitalization of less than € 100 million.

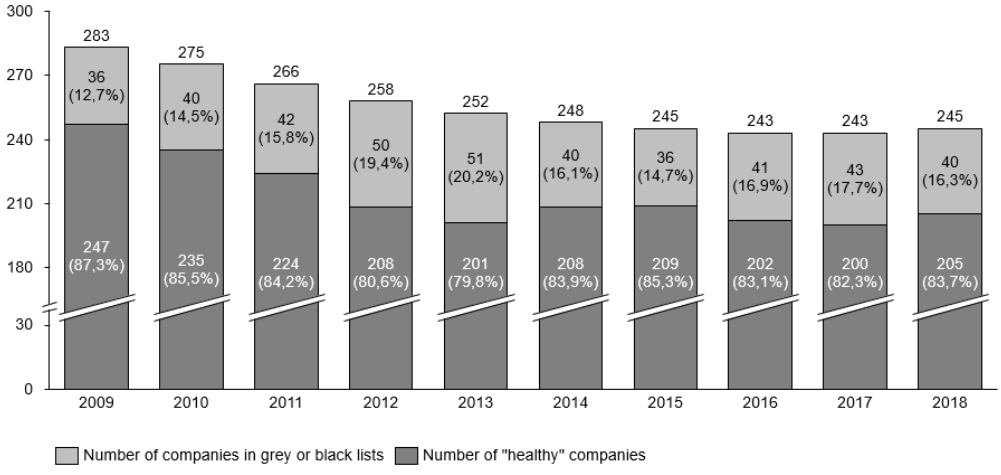

Figure 3.5: Number of companies subject to CONSOB supervision and number of healthy companies; MTA 2009-2018. Source: personal elaboration from Borsa Italiana and CONSOB

Between 2009 and 2018, 81 different companies were the object of CONSOB's requests to provide the market with additional information (either monthly or quarterly) according to Article 114 of the T.U.F. Therefore, almost a quarter (23.6%) of listed companies between 2009 and 2018 went through a period of financial distress and entered the supervision of CONSOB. Out of the 81 different companies that went into crisis, 36 were already part of the so-called grey and black lists in December 2009 as figure 3.5 illustrates.

Market Cap (Bn€)	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Total Market Cap	456,5	424,5	331,8	364,8	445,5	465,8	570,7	522,2	634,4	535,8
Companies in grey or black lists	2,6	1,6	1,1	1,1	2,8	2,7	3,1	3,1	9,2	3,5
% on total	*0,6%*	*0,4%*	*0,3%*	*0,3%*	*0,6%*	*0,6%*	*0,5%*	*0,6%*	*1,4%*	*0,6%*

Table 3.4 – Market capitalization of companies in black and grey list and total market cap (MTA 2009-2018). Source: personal elaboration from Borsa Italiana and Thomson Reuters Eikon

The years with the highest number of companies under observation were 2012 and 2013 with 50 and 51 companies respectively. In terms of numbers, on average each year the 17% of companies listed on the MTA have been part of the CONSOB requests. In terms of market capitalization, on the other hand, the incidence is much lower and amounts to an average of 1% of the total market value (table 3.4).

Industries	**Companies listed 2009-2018**	**Companies monitored 2009-2018**	**% on total**
Real Estate	13	6	46,2%
Travel & Leisure	11	5	45,5%
Chemicals	7	3	42,9%
Technology	25	10	40,0%
Health Care	10	3	30,0%
Telecommunications	7	2	28,6%
Retail	11	3	27,3%
Media	19	5	26,3%
Personal & Household Goods	39	10	25,6%
Food & Beverage	12	3	25,0%
Automobiles & Parts	13	3	23,1%
Construction & Materials	18	4	22,2%
Industrial Goods & Services	63	12	19,0%
Oil & Gas	6	1	16,7%
Financial Services	31	5	16,1%
Banks	24	3	12,5%
Insurance	9	1	11,1%
Utilities	22	2	9,1%
Basic Resources	3	0	0,0%
TOTAL	**343**	**81**	**23,6%**

Table 3.5: Number of companies subject to CONSOB supervision by industry; MTA 2009-2018. Data sorted by percentage of companies monitored on total. Source: personal elaboration from Borsa Italiana and CONSOB

Table 3.5 shows that the probability of going into crisis and consequently the probability of entering the black list depends significantly on the dynamics of the sector in which the company

operates. 23.6% of the total number of listed companies became part of the black list, but if industries are considered, it can be noted that some sectors (such as real estate, travel & leisure and chemicals) have a portion of companies subject to the information obligations of the Article 114 T.U.F. greater than 40%. On the other hand, oil and gas, utilities and basic resources have a lower frequency of issuers in crisis. Even companies in the financial sector (banks, insurance, financial services) have a low incidence of supervised companies thanks to the prudential regulations to which these entities are subject.

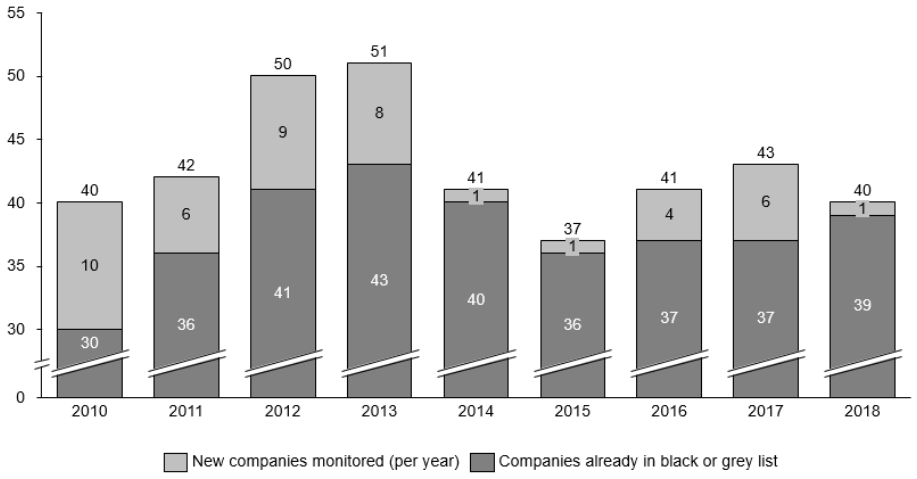

Figure 3.6: Evolution in the composition of CONSOB's list of supervised companies, 2009-2018. Source: personal elaboration from CONSOB

Figure 3.6 shows that years between 2010 and 2013 are those with highest number of requests by CONSOB for additional disclosure. Over the 9 years between 2009 and 2018, 43 companies have left the black and the grey list (Figure 3.7). Out of these 43, 23 (53.5%) entities were unable to overcome the crisis, are no longer active and have been liquidated. 9 entities (20.9%) are still active (either as independent entities or have been subject to mergers or acquisitions) but have delisted from the stock exchange. The companies that have overcome the period of financial distress, remained listed and are no longer subject to the disclosure requirements of CONSOB are 11 (25.6%).

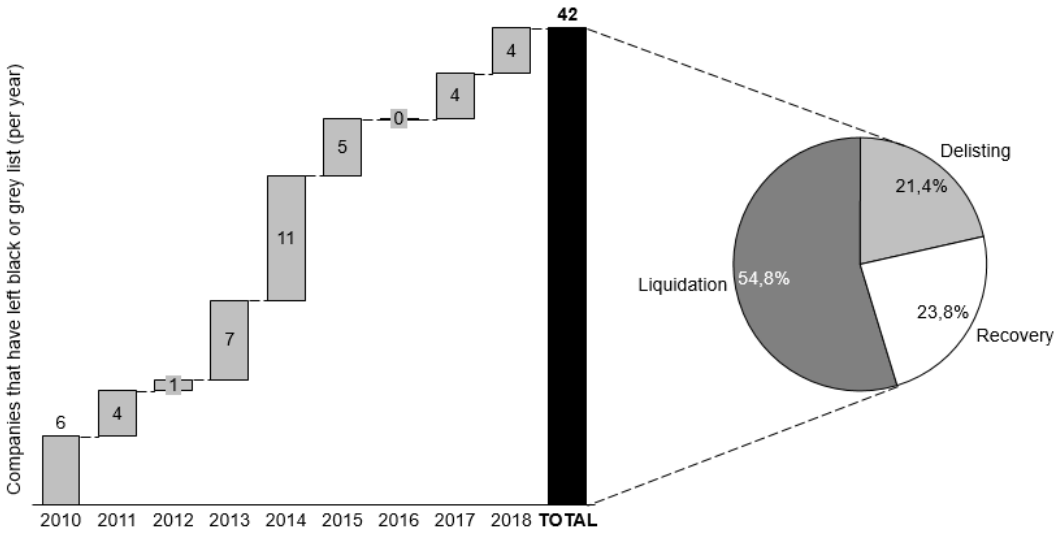

Figure 3.7: Companies that left CONSOB's supervision list, 2009-2018. Source: personal elaboration from CONSOB and Borsa Italiana

At December 31, 2018, 40 companies are still required to submit press releases pursuant to Article 114 of the T.U.F. (22 on a monthly basis and 18 on a quarterly basis).

3.4 Empirical Analysis: rationale and methodology

The objective of this work is to analyse the causes and the events that determine the outbreak of the corporate crisis and the strategies that companies adopt in order to achieve the business turnaround. In order to fulfil this research question, a group of Italian listed companies is analysed. In particular, the (non-financial) companies that have been included by CONSOB in the lists of issuers monitored ("grey list" and "black list") are investigated.

The request by CONSOB to provide the market with additional information on the economic and financial state of the company is considered as the event that confirms the exteriorization of the state of financial distress. Therefore, for the purposes of the analysis, "year zero" has been identified for each company. This represents the first year in which the auditors have issued an opinion with an emphasis of matters or a modified opinion due to the uncertainties surrounding the financial statements or because of doubts about the going concern. This opinion is also the element on which CONSOB's request for information is based.

The time interval considered in the analysis is from 2011 to 2016. This period was chosen in such a way as to neutralise the effect of the economic cycle and to analyse companies that have faced moments of crisis in phases characterised by different macroeconomic characteristics.

Between 2011 and 2016, 29 different companies were included by CONSOB in the lists of issuers monitored. Out of these companies, 5 were excluded from the sample under analysis:

- **Alba Private Equity.** Industry: Financial services. In CONSOB's black list since 2011.
- **LVenture Group.** Industry: Financial services. In CONSOB's black list since 2012.
- **Premafin Finanziaria – Holding di Partecipazioni.** Industry: Insurance. In CONSOB's black list since 2012.
- **PLC.** Industry: Financial services. In CONSOB's black list since 2013.
- **Banca Monte dei Paschi di Siena.** Industry: Banks. In CONSOB's grey list since 2016.

These companies belong to the financial sector and have a very different business model with respect to industrial companies. In addition, they prepare financial statements according to schemes typical of financial institutions that make their data not comparable with those of non-financial entities. Therefore, the final sample to be analysed comprises 24 different companies.

This dissertation consists of a two-part analysis. First, the causes of the crisis and the deterioration of performance in the two years preceding the "year zero" are analysed. Second, the strategies adopted by companies to achieve turnaround in the two years following the outbreak of the crisis are investigated. To achieve this objective, for each of the issuers, the "year zero" has been identified, as explained above, starting from the year in which the auditors began to express doubts regarding the going concern. In addition to "year zero", four other financial years are part of the analysed database.

Data collection is not limited to the 24 entities in the sample. In order to better appreciate the results and to neutralize industry trends and industry-specific effects, a cluster of companies listed in MTA and comparable in terms of activity has been formed for each company. The subdivision by industry has been made starting from the classification in industries of Borsa Italiana. As shown in the table 3.6, the sample is composed of entities belonging to 10 different industries. For each of the 24 companies in the sample, a group of comparable companies was composed. These are Italian companies listed and included in the same industry by Borsa Italiana. The total number of companies that are part of the samples of comparable companies is 170 units. For each group of comparable companies, the financial years analysed are equal to the years analysed for the individual company that is part of the original sample. For example, the "year zero" for Beghelli is 2012 and therefore the financial years analysed are the 5 years between 2010 and 2014. Beghelli's sample of comparable companies is composed of 59 companies belonging to the "Industrial goods and Services" industry and the years analysed are always the 5 years between 2010 and 2014.

Industry	Companies analysed	Number of company analysed	Sample of comparable companies
Automobiles & Parts	Cogeme	1	12
Construction & Materials	Ceramiche Ricchetti, RDB	2	17
Health Care	Arkimedica, Pierrel	2	9
Industrial Goods & Services	Bastogi, Beghelli, Biancamano, Carraro, Monti Ascensori, Premuda	6	59
Media	Il Sole 24 Ore, Mediacontech, RCS Mediagroup, Seat PG	4	18
Oil & Gas	Maire Tecnimont	1	6
Real Estate	Brioschi, Pierrel	2	12
Retail	CHL, Dmail Group	2	9
Technology	CDC Point, EEMS, Screen Service	3	22
Telecommunications	Acotel	1	6
TOTAL		**24**	**170**

Table 3.6: Dimension of sample analysed and of sample of comparable companies. Source: personal elaboration

All the raw data on which the analysis is based are taken from the Aida database published by Bureau van Dijk. The Aida database contains the income statement and balance sheet of the companies. For the purposes of this dissertation, sometimes this data is not sufficient and, therefore, has been supplemented, where necessary, by the data contained in the notes to the companies' financial statements published at the Chamber of Commerce and on the company website.

Therefore, for the 24 companies in the original sample, 120 financial statements were analysed. If we consider the financial statements of the companies belonging to the group of comparable companies, the total number of documents analysed is 970. Each of these years has been reclassified using the same schemes in order to make the data comparable. The income statement has been reclassified in such a way as to highlight the fundamental margins for assessing economic performance. Instead, the balance sheet has been reclassified using the two main criteria. First, the "time" criterion was used to arrive at the financial reclassification of the financial statements. Secondly, the balance sheet data have been reclassified using the "destination" criterion in order to highlight the capital invested and the net financial position. Finally, a group of financial ratios was calculated for each company, in accordance with the theoretical explanation illustrated in the second chapter. An example of the reclassified schemes that make up the financial statement and of the financial ratios that have been calculated is contained in the appendix.

Two financial ratios have been chosen to classify companies and their state of health into three classes. These ratios are Return on Assets (ROA) and NFP/EBITDA and they focus on operating profitability and financial structure respectively. The first has the ability to show the performance of the assets employed by the company. This ratio was preferred to Return on Invested Capital (ROIC) as the latter is frequently distorted in the case of companies in financial distress. In particular, companies that significantly increase their operating debt in order to

survive reduce the value of net working capital until it reaches a negative value. When the net working capital becomes particularly negative, the value of the invested capital may assume negative values. The presence of a denominator with an unnaturally low value or a negative value, makes ROIC lose its function as an indicator of the profitability of the company. NFP/EBITDA has been used as an indicator of the company's debt and ability to meet its obligations. Depending on the value that these indicators assume, 3 classes have been identified that show the level of performance and the intensity with which the company has been affected by the crisis. These classes are normal performance, under performance and strong under performance. The criteria for assigning companies to the various classes are described in figure 3.8.

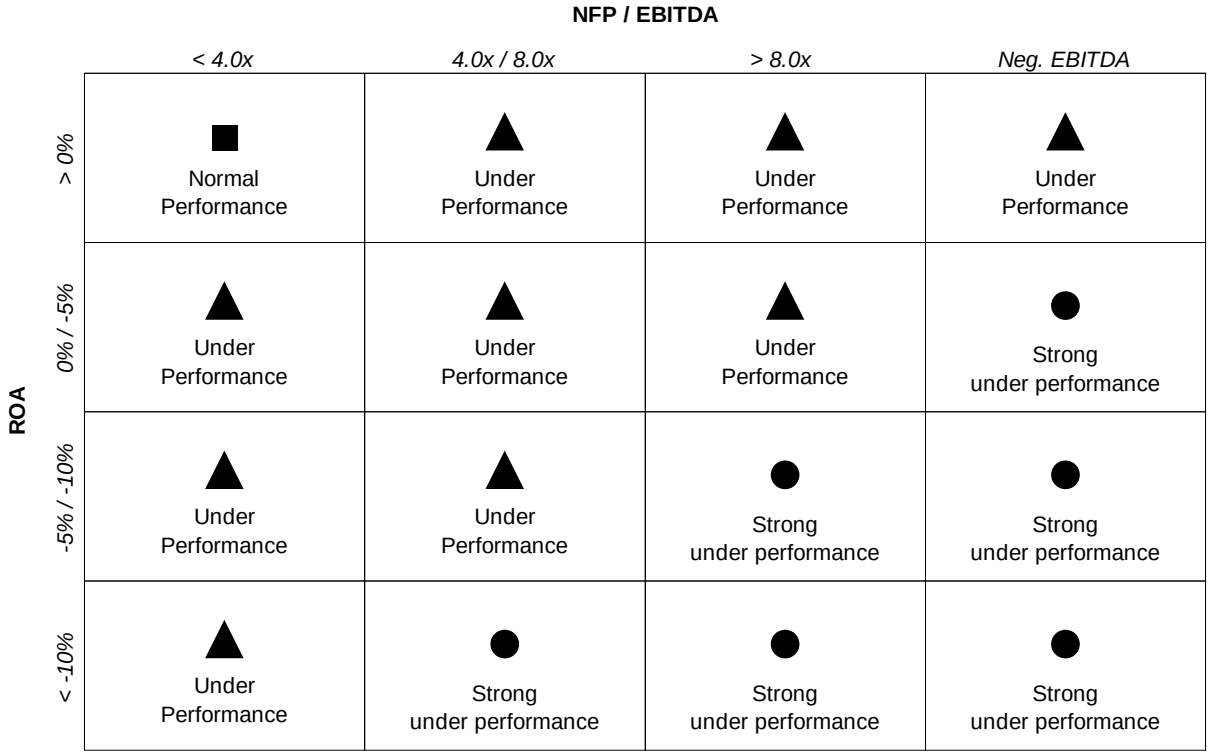

Figure 3.8: Classification of companies based on severity of distress. Source: personal elaboration

3.5 Description of the sample

The companies analysed in this work, as described above, are the 24 companies that have received a request for additional disclosure pursuant to Article 114 of the T.U.F. between 2011 and 2016. The year with the largest number of companies subject to the request was 2012 with 9 companies followed by 2013 with 8 companies. Among the 24 companies monitored, 15 were subject of a monthly request for information from CONSOB (black list) while 9 were requested to issue quarterly announcements (grey list). The 24 companies operate in 10 different

industries and among these the most represented industries are "Industrial goods and services" (6 companies) and "Media" (4 companies). In the following part of this paragraph, for each company the business model and the activities performed in the year of the crisis outbreak are briefly described.

#	Company	Industry	Date of CONSOB request	Year 0	Grey/Black list	Form of audit opinion
1	ACOTEL GROUP	Telecommunications	lug-16	2015	Black	Unmodified opinion
2	ARKIMEDICA	Health Care	ott-11	2010	Black	Unmodified opinion
3	BASTOGI	Industrial Goods & Services	lug-13	2012	Grey	Unmodified opinion
4	BEGHELLI	Industrial Goods & Services	lug-13	2012	Black	Disclaimer of Opinion
5	BIANCAMANO	Industrial Goods & Services	lug-13	2012	Grey	Disclaimer of Opinion
6	BRIOSCHI	Real Estate	nov-13	2012	Black	Unmodified opinion
7	CARRARO	Industrial Goods & Services	ott-15	2015	Grey	Unmodified opinion
8	CDC POINT	Technology	set-12	2012	Black	Disclaimer of Opinion
9	CERAMICHE RICCHETTI	Construction & Materials	lug-13	2012	Grey	Unmodified opinion
10	CHL	Retail	lug-16	2015	Black	Unmodified opinion
11	COGEME SET	Automobiles & Parts	nov-11	2011	Black	Disclaimer of Opinion
12	DMAIL GROUP	Retail	giu-12	2011	Black	Unmodified opinion
13	EEMS	Technology	set-12	2011	Black	Unmodified opinion
14	IL SOLE 24 ORE	Media	dic-16	2016	Black	Unmodified opinion
15	MAIRE TECNIMONT	Oil & Gas	mag-13	2012	Grey	Unmodified opinion
16	MEDIACONTECH	Media	giu-12	2012	Grey	Unmodified opinion
17	MONTI ASCENSORI	Industrial Goods & Services	giu-11	2010	Black	Adverse opinion
18	PIERREL	Health Care	giu-12	2011	Black	Unmodified opinion
19	PRELIOS	Real Estate	set-12	2011	Black	Unmodified opinion
20	PREMUDA	Industrial Goods & Services	lug-14	2013	Grey	Unmodified opinion
21	RCS MEDIAGROUP	Media	mag-13	2012	Grey	Unmodified opinion
22	RDB	Construction & Materials	lug-12	2011	Grey	Adverse Opinion
23	SCREEN SERVICE	Technology	mag-13	2012	Black	Unmodified opinion
24	SEAT PG	Media	set-11	2011	Black	Unmodified opinion

Table 3.7: Composition of the sample of companies analysed. Source: personal elaboration

1. ACOTEL GROUP – Telecommunications. Acotel Group S.p.A. is an international group historically engaged in providing value-added services in the mobile telecommunications market. In 2015 the group has faced a change that has led it to change its identity and be divided into 3 business lines: in addition to the historic business unit of value-added services for telecommunications, the group has started to be engaged in the production of devices for monitoring of energy consumption (electricity, water and gas) and in the development of products and services related to "Internet of Things" (in particular the construction of security systems for companies and individuals).

2. ARKIMEDICA – Health Care. Arkimedica S.p.A. (now known as Eukedos S.p.A.) is a group engaged in the distribution and supply of products and services related to healthcare. At December 2010, the group was operating through 4 divisions. Through the Contract Division, the company designed, produced and distributed furniture for hospitals and healthcare facilities, created operating theatres and set up ambulances and special vehicles. Through the Care

division, the company managed nursing homes for the elderly. The Equipment division produced and distributed sterilization and washing machines for the healthcare sector. Finally, the Medical Devices division produced and distributed products for infusion therapies.

3. BASTOGI – Industrial Goods and Services. Bastogi S.p.A. is the oldest company listed on the Milan Stock Exchange (it has been present since 1863). It is a holding company and during its history its activity has changed several times. In 2012 it operated mainly in the sectors of art services (conservation and restoration, transport and art logistics, art consulting, custody and art spaces) and in hotel business through the brand " H2C Hotel ". In 2012, the group had a considerable amount of real estate (land and buildings) which in 2012 had a book value of around € 35 million out of total fixed assets of € 45 million.

4. BEGHELLI – Industrial Goods and Services. Beghelli S.p.A. is a company founded in 1982 in Monteveglio (Bologna) which operates in the electrical engineering and electronics industry. In these industrial sectors it is particularly active in the segments of industrial lighting and emergency lighting. Moreover, in 2012 the group was engaged in a second line of business devoted to the production of photovoltaic systems.

5. BIANCAMANO – Industrial Goods and Services. Biancamano S.p.A. is a company founded in 2004 and listed since 2007 that is active in the entire cycle of the waste management services. In 2012, the activity was divided into 2 business areas: waste management and waste disposal. The first was the most significant in terms of turnover (in 2012, it has counted more than 90% of revenues) and involved urban hygiene services (collection and transport of urban waste, recycling, street cleaning activities and planning, managing and control of ecological platforms). The second business unit (waste disposal) focused on treatment and recovery for the purpose of re-using solid waste.

6. BRIOSCHI – Real Estate. Brioschi Sviluppo Immobiliare S.p.A. is a company founded in 1907 that was initially engaged in the production and distribution of chemical products (soaps, detergents and hygiene products). Around 1970 it withdrew from production, becoming a financial company and finally a real estate company. In 2012, the group's real estate assets accounted for € 411 million, but according to independent appraisers, the market value of those assets amounts to € 569 million.

7. CARRARO – Industrial Goods and Services. Carraro SpA is an Italy-based company world leader in the production of transmission systems for off-highway vehicles and of specialized tractors. In 2015, Carraro structured its activities into three business units. Through Carraro Drive Tech, the Company produced axles and transmissions for agriculture and

construction equipment. The division Carraro Agritalia was engaged in the design and production of specialized tractors maily for third parties. The last division (Elettronica Santerno) designed and manufactured electronic power converters (inverters) destined to the photovoltaic sector and the industrial automation sector.

8. CDC POINT – Technology. CDC Point S.p.A. is a company founded in 1986. It was active in the information technology industry as manufacturer and distributor. The company operated through two divisions. The first sector of activity was attributable to the production and distribution of IT products. In particular, CDC Point operated through a multi-channel retail strategy and a deep-rooted and widespread presence on the territory. The second strategic business unit (CDC Tech) designed and implemented video surveillance solutions, enterprise software to manage business operations and cloud computing services.

9. CERAMICHE RICCHETTI – Construction & Materials. Gruppo Ceramiche Ricchetti SpA is an Italian company founded in 1960 and listed on the Italian Stock Exchange since 1996. It is engaged in the Construction & Materials industry. In particular, in 2012, the company produced and distributed ceramic surfaces for use in the building sector both for interiors or exteriors. The main market of the company is the Italian one but the company generated a relevant part of its sales also abroad and in particular in Europe (Switzerland, Norway and Finland were the main foreign markets).

10. CHL – Retail. Centro HL Distribuzione SpA is an Italian company listed on the Italian Stock market since 2000 and in 1999 it was the first company in Italy to develop and activate an e-commerce platform. The first products sold by CHL were computers assembled by the company itself, accessories and components. Over the years, the company has begun the commercialization of products related to telecommunications and photography. In parallel with the online activity, CHL has also opened numerous physical stores on the Italian territory in which the same products of the e-commerce platform were sold. In 2015, the company entered the telecommunications services business by developing a system for secure internet access.

11. COGEME SET – Automobiles and Parts. Cogeme Set S.p.A. has been operating since 1991 in the production and distribution of metal components for the main international manufacturers in the automotive components sector. In 2011, the company had a strong international attitude given that it operated production facilities in Italy, Brazil, Romania and India.

12. DMAIL GROUP – Retail. Dmail Group S.p.A. (now known as Netweek S.p.A.) is an Italian company founded in 1999 and listed since 2000. In 2011, the company has been involved

in the online retail sector and local media publishing sector. Dmail Group was organized in two business units: Media Commerce and Local Media. Through Media Commerce the group was engaged in online sales of a wide variety of "innovative and affordable" products. The Local Media business unit managed "Netweek" which is a network of local periodicals published weekly in Northern Italy.

13. EEMS – Technology. EEMS Italia S.p.A. is a group historically engaged in the assembly, testing and finishing of semiconductor memories. During 2008, taking advantage of the industrial knowledge developed over 30 years of activity, the company added a second business area to the traditional business dedicated to the production of cells and modules for photovoltaic systems.

14. IL SOLE 24 ORE – Media. Il Sole 24 Ore S.p.A. is an Italian mass media company engaged in the sector of financial information. In 2016, the company has operated through 6 business areas. “Publishing and Digital” represents the core business of the group. This division was engaged in publishing the newspaper “Il Sole 24 Ore” and periodicals, in managing the website (www.ilsole24ore.it) and the press agency "Radiocor plus". Through "Tax & Legal" the group distributed databases, online services, magazines and books with technical and regulatory content for professionals. Through the "Radio" division the group edited and managed an Italian broadcaster known as "Radio 24". System was involved in the activity of advertising concessionary. The group was involved also in education for young graduates or professionals through the division "Education & Services". Finally, with "Culture" the Group was involved in organizing exhibitions and publishing books.

15. MAIRE TECNIMONT – Oil & Gas. Maire Tecnimont S.p.A. is an Italian company that operated in the Oil and Gas industry. It was founded in 2005 with the merger of two existing companies (Maire Holding S.p.A. and Tecnimont S.p.A.) and it has been listed on the Italian stock exchange since 2007. The company operated through 3 business units: Oil, Gas & Petrochemical Activities, Energy and Infrastructure & Civil engineering. The first division represented the core business of the Group and was involved in the design and manufacture of systems for the transport of natural gas and for the chemical and petrochemical industry. Through the "Energy" division, the company was active in the production of electricity generation plants both from hydrocarbons and from renewable sources. Finally, "Infrastructure and Civil engineering" business unit was engaged in the production and construction of major infrastructure projects (highways, railways, tunnels and bridges).

16. MEDIACONTECH – Media. Mediacontech S.p.A. is an Italian company, based in Milan, engaged in the multimedia sector and, in particular, in the production of content and services. The group operated through two business units "Broadcast & Digital Media" and "Advertising & Entertainment". The "Broadcast & Digital Media" area was aimed at media companies through the production and management of services with technological skills (for example television graphics and statistics management services for sports results). The Advertising & Entertainment area operated in the creation of contents for advertising.

17. MONTI ASCENSORI – Industrial Goods and Services. Monti Ascensori S.p.A. is a company founded in 1975 whose core business was the production and maintenance of elevators and escalators. The Group segments its activities in Repair, Installation, Restructure and Services. Restructuring activity is the most significant in terms of turnover and it represents 40% of the group's revenues. Historically the company has relied on a business model based on outsourcing but since 2008 the management chose to begin a transformation process that leaded the company to have an organizational model with direct staff.

18. PIERREL – Health Care. Pierrel S.p.A. is an Italian company founded in Milan in 1948 and listed on the Italian Stock Exchange since 2006. Pierrel is a specialized supplier of the pharmaceutical industry and is one of the leading European manufacturers of local and dental anaesthetics. In 2011, it divided its activities into 3 divisions: Manufacturing, Pharma and Research. Through the manufacturing division the company was involved in the production of pharmaceutical products. The Pharma division was specialized in development, registration and licensing of new drugs and medical devices. Finally, the Research division provided advisory services for research and development of new medicines.

19. PRELIOS – Real Estate. Prelios S.p.A., formerly known as Pirelli Real Estate, is a company engaged in real estate management, founded in 1990 and listed on the MTA since 2002. In 2011, the company was particularly active in Italy, Germany and Poland. In 2012 the company underwent a transformation process that would have lead it to be a "pure management company". In the past, the company took minority stakes in the investment initiatives undertaken. Following the implementation of the new strategy, the company, through the "Agency, Property & Project Management" business unit, would manage real estate portfolios on behalf of third party investors and through the "credit servicing" business unit would offer services related to the management of non-performing loans.

20. PREMUDA – Industrial Goods & Services. Premuda S.p.A. is an Italian company founded in Trieste in 1907 and engaged in the transportation and logistics industry and, in

particular, in marine shipping. The company is specialized in maritime transportation services. In 2013, it operated a fleet of more than 20 vessels (tankers and bulk carriers) for the ocean transport. The company transported both liquids (such as crude oil) and raw materials (such as bauxite or oil).

21. RCS MEDIAGROUP – Media. Rizzoli Corriere della Sera Mediagroup S.p.A. is an Italian mass media company. It is involved in several activities and, in 2012, it operated through 7 different business units: Newspapers Italy, Newspapers Spain, Books, Magazines, Advertising, Dada, Television activities. The main operations in which the company is involved are the publishing of newpapers in Italy and Spain (the group's portfolio include "Il Corriere della Sera" and "La Gazzetta dello Sport" in Italy and "El Mundo" and "Marca" in Spain). In 2012, the company was also engaged in publishing magazines and books and in radio and television broadcasting. Finally, through the business unit "advertising" RCS operated as an advertizing agency.

22. RDB – Construction & Materials. RDB S.p.A was an Italian company with more than 100 years of history, active in the Construction & Materials industry. In particular, in 2011, the company was engaged in the design, production and installation of prefabricated systems and structures for industrial and commercial activities and for residential construction and renovation. The company operated 25 factories and could count on around 200 points of sale. The business was divided into 2 areas: prefabricated building systems and structures & exposed bricks.

23. SCREEN SERVICE – Technology. Screen Service Broadcasting Technologies S.p.A. was an Italian listed company that was engaged in the telecommunications infrastructure industry. In particular, the company's core business was dedicated to the production of systems and the provision of services for the development of innovative solutions for digital television signal transmission. Alongside its historical business, the company was directly involved as a network provider and through two subsidiaries was a network operator with national coverage for the television and telephone signal.

24. SEAT PAGINE GIALLE – Media. Seat Pagine Gialle S.p.A., now known as ItaliaOnline S.p.A., is an Italian company that in 2011 carried out the supply of telephone directories, directory assistance, management of websites and digital advertising as its core business. The main business unit of the company is devoted to the supply of telephone directories. In 2011 the company generated most of its income in Italy (through its famous brands "Pagine Gialle" and "Pagine Bianche") and to a lesser extent in the UK. Other activities carried out by the

company included web marketing services, creation and management of multimedia content and management of social networks activities.

Company	2011	2012	2013	2014	2015	2016	2017	2018	2019	Reason of exit
ACOTEL GROUP						Black	Black	Black	Black	
ARKIMEDICA	Black	Black	Black	Grey	Grey	Grey	Grey	Grey	Grey	
BASTOGI			Grey	Grey	Grey	Grey	Grey	Grey	Grey	
BEGHELLI			Black	Black	Grey	Grey	Grey	Grey	Grey	
BIANCAMANO		Grey	Black	Black	Black	Black	Black	Black	Black	
BRIOSCHI			Black	Black	Black	Black	Black	Black	Black	
CARRARO					Grey	Grey				Recovery
CDC POINT		Black	Black							Liquidation
CERAMICHE RICCHETTI			Grey	Grey	Grey	Grey	Grey	Grey	Grey	
CHL						Black	Black	Black	Black	
COGEME SET	Black	Black	Black	Black						Liquidation
DMAIL GROUP		Black	Black	Black	Black	Black	Black	Black	Black	
EEMS		Black	Black	Black	Black	Black	Black	Black	Black	
IL SOLE 24 ORE						Black	Black	Black	Black	
MAIRE TECNIMONT			Grey	Grey	Grey	Grey	Grey			Recovery
MEDIACONTECH		Grey	Black	Black	Black	Black	Black	Black	Black	
MONTI ASCENSORI	Black	Black								Liquidation
PIERREL		Black	Black	Black	Black	Black	Black	Black	Black	
PRELIOS		Black	Black	Black	Black	Black	Black			Delisting
PREMUDA				Grey	Grey	Black				Delisting
RCS MEDIAGROUP			Grey	Grey	Grey	Grey	Grey			Recovery
RDB	Grey	Black								Liquidation
SCREEN SERVICE			Black	Black						Liquidation
SEAT PG	Black	Black	Black	Black	Black	Grey	Grey	Grey	Grey	

Table 3.8: Evolution of companies' situation in CONSOB's lists. Source: personal elaboration from CONSOB

Table 3.8 shows the evolution of companies' condition after their inclusion by CONSOB in the list of supervised companies. Out of the 24 companies that joined the black list or grey list between 2011 and 2016, 14 are still on it. Among these 14, 5 are part of the grey list and 9 make up the grey list. Out of the 10 companies that no longer have to disclose additional information pursuant to Article 114 T.U.F., 5 are no longer active (CDC point, Cogeme SET, Monti Ascensori, RDB and Screen Service). Instead, Prelios and Premuda have chosen to delist their shares from the stock market. Finally, 3 companies have received notification from CONSOB that additional information under Article 114 T.U.F. is no longer required. These are Carraro, Maire Tecnimont and RCS Mediagroup. From the point of view of the intensity of the crisis, it is worth noticing that the 5 bankrupt companies have stopped their activities after having been part of the so-called "black list". On the contrary, the three companies that have recovered their economic equilibrium have always and only been part of the so-called "grey list".

In terms of size, companies in the sample are very heterogeneous. In "year 0" 4 companies had a turnover of more than €500 million and 11 companies had net revenues lower than €100 million. The trend in revenues reflects quite symmetrically the number of employees with the

three largest companies in terms of turnover that employ more than 4000 employees. In terms of market capitalisation, RCS Mediagroup has the best market value and is close to €1 billion. The other companies have a much lower capitalization with only Maire Tecnimont exceeding €100 million.

		Year 0		
Company	***Industry***	**Revenues (M€)**	**Number of employees**	**Market Cap (M€)**
MAIRE TECNIMONT	*Oil & Gas*	2.158	4.470	132
RCS MEDIAGROUP	*Media*	1.645	5.079	940
SEAT PG	*Media*	962	4.292	48
CARRARO	*Industrial Goods & Services*	698	3.276	93
IL SOLE 24 ORE	*Media*	288	1.241	16
BIANCAMANO	*Industrial Goods & Services*	250	3.283	23
PRELIOS	*Real Estate*	192	974	70
CERAMICHE RICCHETTI	*Construction & Materials*	192	1.533	15
EEMS	*Technology*	173	1.452	27
BEGHELLI	*Industrial Goods & Services*	171	1.666	68
RDB	*Construction & Materials*	150	850	21
ARKIMEDICA	*Health Care*	141	886	40
MEDIACONTECH	*Media*	123	810	24
CDC POINT	*Technology*	90	225	5
PREMUDA	*Industrial Goods & Services*	77	185	54
DMAIL GROUP	*Retail*	77	280	10
COGEME SET	*Automobiles & Parts*	66	n.d.	3
PIERREL	*Health Care*	47	419	13
SCREEN SERVICE	*Technology*	46	197	22
MONTI ASCENSORI	*Industrial Goods & Services*	43	218	11
ACOTEL GROUP	*Telecommunications*	39	213	35
BRIOSCHI	*Real Estate*	29	48	66
BASTOGI	*Industrial Goods & Services*	12	110	14
CHL	*Retail*	6	19	9

Table 3.9: Key data of the companies in the sample (year 0). Data sorted by Revenues (M€). Source: personal elaboration from Aida Bureau van Dijk, Thomson Reuters Eikon and Annual Financial Statements.

In order to contextualize the performance and sales trends, it is not possible to ignore the trend of the sector in which companies operate. In particular, taking into consideration the 10 sectors in which the entities of the sample operate, very different dynamics can be noted. Comparing the compound annual growth rates (CAGR), the best performance can be attributed to companies operating in the retail sector (+15.8%), followed by health care (+7.1%), technology and construction and materials (+6%). These data show a high annual growth rate that shows a good dynamism of these sectors. On the opposite side, the sectors that showed very negative rates between 2011 and 2016 are Oil & Gas (-11.2%), Real Estate (-6.2%) and Media (-5.4%).

Chapter 4

4 Empirical analysis: performance deterioration and turnaround

This chapter contains the empirical analysis on the financial data of the 24 Italian listed companies that have experienced a downward spiral of economic and financial performance and have attempted to achieve turnaround in subsequent years. As explained in Chapter 3, the analysis consists of two parts. First, the years before the outbreak of the crisis and the causes of the deterioration in performance are investigated. In particular, the dynamics of revenues, the impact on economic margins, the composition of invested capital and sources of financing before the outbreak of the crisis will be analysed. Secondly, after describing the reasons that explain the financial distress situation, the determinants of the success or failure of the recovery strategy will be studied. As in the first part of the empirical research, the main performance indicators of the companies that managed to survive the decline will be analysed. Particular attention will be paid to negotiations with lenders (in particular financial institutions) and financial plans implemented by companies to overcome the situation of financial tension.

4.1 Performance before the crisis

The first step of the study conducted on the companies of the sample consists in the analysis of the financial data of the two years preceding the onset of the corporate crisis. As explained in Chapter 3, the introduction in the "supervised lists" by CONSOB is considered as the external manifestation of the crisis. The financial year of the auditor's report which constitutes the trigger event for the introduction[8] is considered the year in which the crisis hit the company and is called "Year 0". Therefore, for all the companies considered, the years analysed are the two previous financial years. The objective of this first phase of the examination is to understand what were the levels of company performance two years before the outbreak of the crisis and how results have evolved over the next two financial years. In particular, the research questions in this first phase are:

- Two years before the outbreak of the crisis, were the companies' performances in line with those of the competitors or were they lower?

[8] Often the auditors' report refers to the financial year prior to the year of request for information from Consob.

- What are the determinants of the downward spiral that has affected the companies and that in two years has raised doubts about their going concern?

As described in the methodology paragraph, the 24 companies that constitute the sample are analysed from many points of view. At each time interval, in order to summarize the situation of the various entities under analysis and keep track of improvements and deteriorations, 2 main financial ratios have been taken into consideration: ROA (Return on Assets) and NFP/EBITDA. In order to categorize the companies according to the performance level, 3 groups were created which divide the companies in normal performance, underperformance, strong underperformance.

As Table 4.1 explains, the first company classification shows that two years before the appearance of the state of crisis only 6 companies performed in "normal" conditions while 75% of the companies presented conditions of economic or financial instability. In particular, 5 companies had a negative EBITDA and a return on assets of less than -5%.

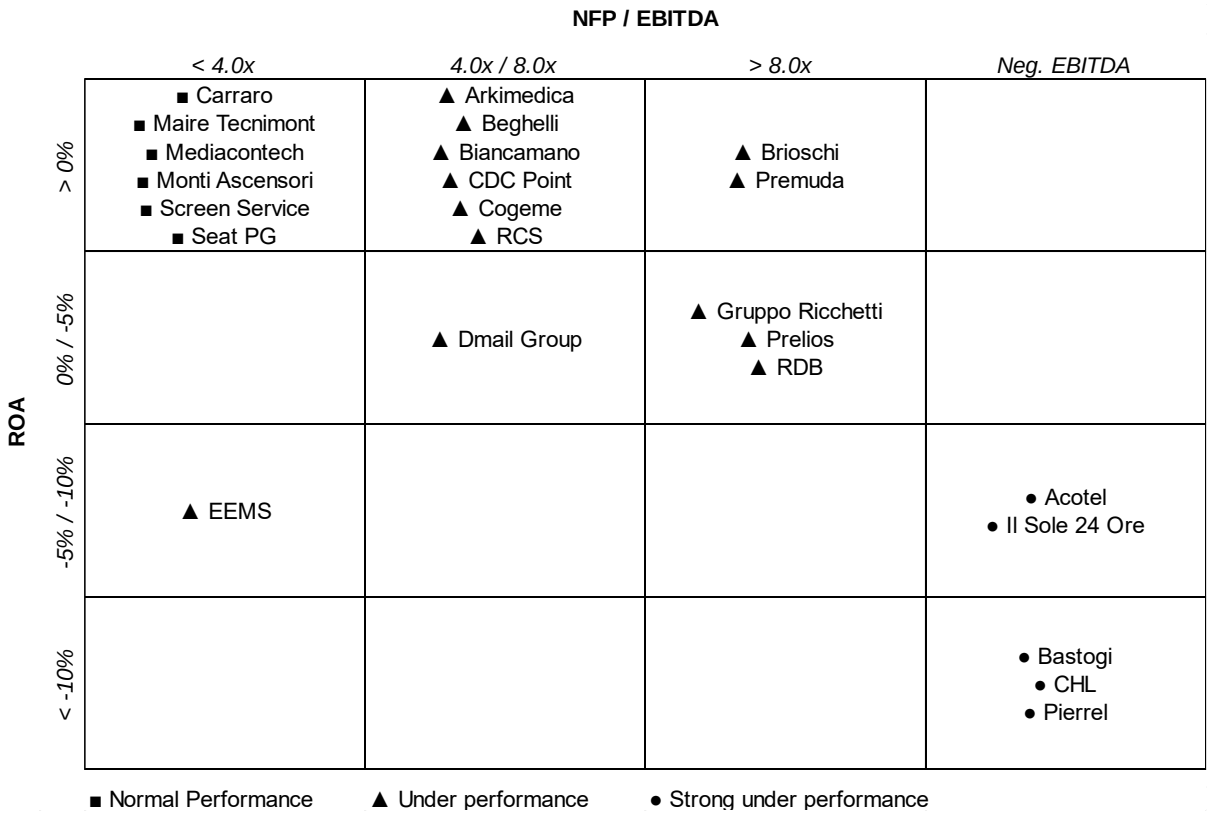

Figure 4.1: Classification of companies based on performance in year -2. Source: personal elaboration

From a first and preliminary analysis of the data, it seems self-evident that two years before the manifestation of the state of financial tension for most companies is already evident a condition of difficulty and insufficient performance. The signs that indicate a potential state of crisis are

more financial than operational. Two years before the outbreak of the crisis, only 7 companies (29.2%) have a balanced financial structure and an NFP/EBITDA lower than 4.0x. At the same time, from an operational perspective, 14 companies (58.3%) were able to achieve a positive operating result (EBIT).

As figure 4.2 shows, a first analysis of the operational performance of the companies in the sample shows that for some of the entities, already two years before the event that signals the crisis, the performance was strongly negative. The companies classified as strong under performers show very low ROA and ROIC values and a negative EBITDA margin. The companies that are part of the group of underperformers show returns that differ slightly from 0% that indicate a situation of weakness but not yet of crisis. Finally, the group of normal performers obtains high returns, in line with the average of the industries to which they belong and therefore the state of crisis is not expected.

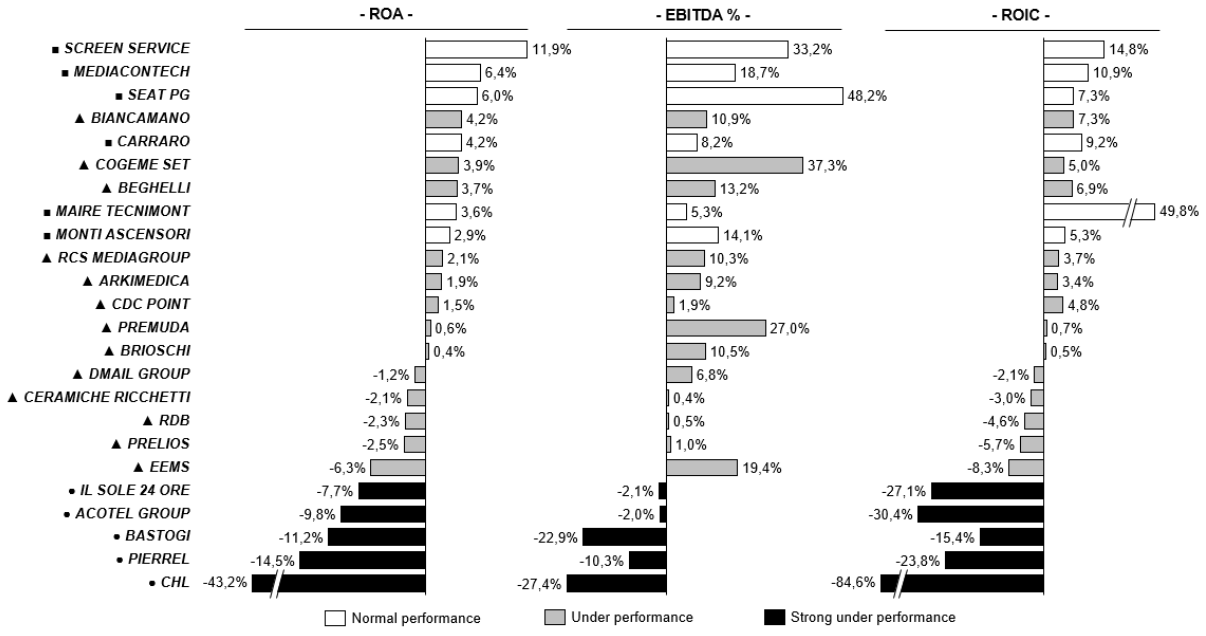

Figure 4.2: ROA, EBITDA Margin, ROIC of companies in the sample in year -2. Data sorted by ROA values. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

From a financial point of view, as figure 4.3 illustrates, the 24 companies of the sample show greater tension. Most companies have high levels of indebtedness. In many cases, the value of the NFP/EBITDA ratio suggests that in the event of a slight drop in EBITDA and cash flow generation from the operating business, financial tensions and difficulties in meeting financial obligations may arise. These doubts are confirmed by the value of the quick ratio, which for only 25% of the companies exceeds the critical value of 0.8. For 20 out of 24 companies, the value of NFP/EBITDA is higher than 3x. As regards the relationship between sources of

funding (equity and financial debt), the NFP/EQUITY ratio shows positive values for most of the companies in the sample. Only two companies (Acotel and Maire Tecnimont) have a net financial position in which liquidity exceeds the value of liabilities. Most companies have a balanced structure. 12 companies have an NFP/EQUITY value of less than 1.0x and 19 companies have a value of less than 1.5x.

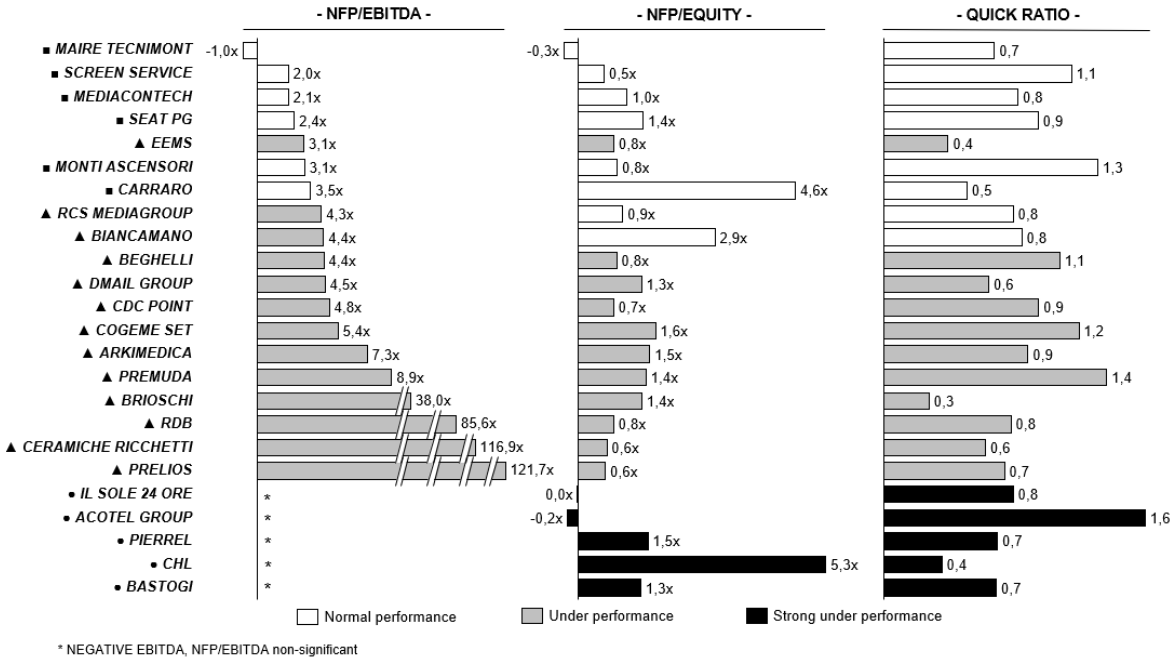

Figure 4.3: NFP/EBITDA, NFP/EQUITY and Quick Ratio of companies in the sample in year -2. Data sorted by NFP/EBITDA values. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.2 Decline: Sales trends and causes of deterioration

Sales trends of the 24 companies analysed show that most of them suffered heavy reductions in the two years that preceded the crisis. In particular, taking into account the annual compound growth rate (CAGR), it can be appreciated (figure 4.4) that only 4 companies have grown, the majority of entities shows negative rates. The worst performances are obtained by CDC point (-49.2%), Acotel (-43.7%), RDB (-25.9%), Premuda (-22.1%) and Prelios (-21.2%). A decrease of more than -10% per year hit Seat PG, Carraro, Screen Service and RCS.

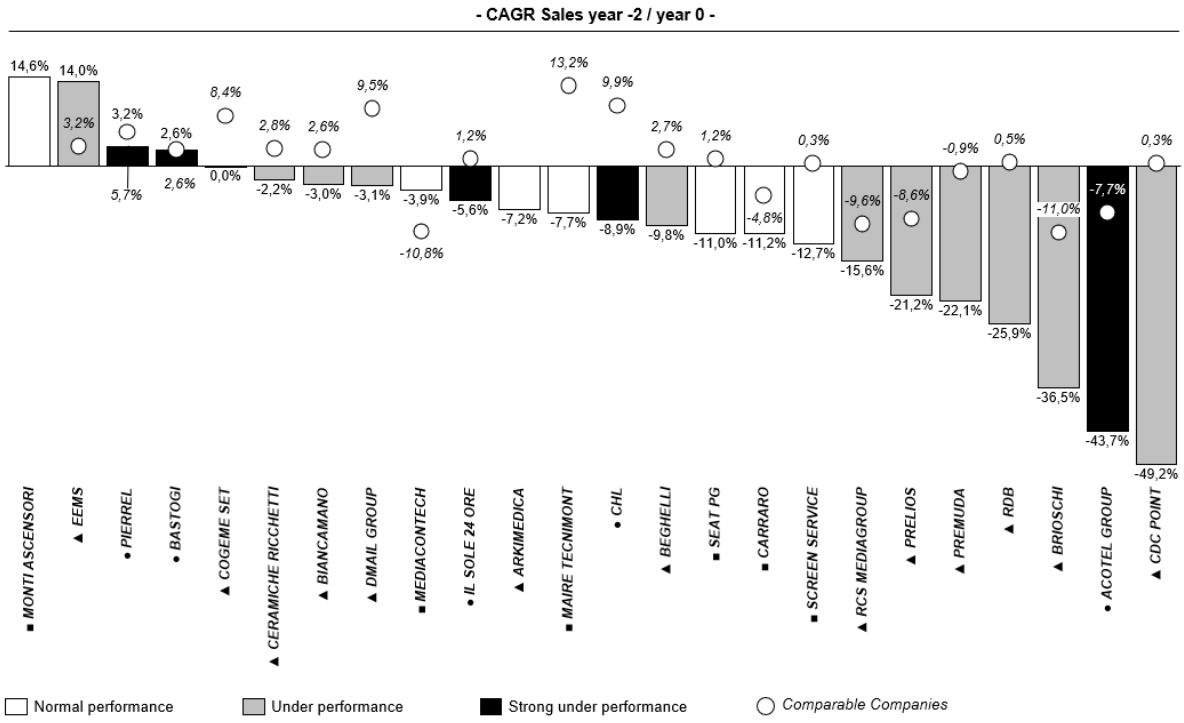

Figure 4.4: CAGR of Net Sales between year -2 and year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

These negative performances are motivated by a variety of different causes. The table below (Table 4.1) shows, for each company, some of the main reasons that led to the drop in sales and the emergence of a crisis situation.

Company	Main reasons of decline
Acotel Group	*Changes in technology*
Arkimedica	*Over-complexity of the group structure*
Bastogi	*Decline in demand*
Beghelli	*Legislative changes*
Biancamano	*Financial tension due to late payments of Italian public administration*
Brioschi	*Industry in decline*
Carraro	*Decline in demand, legislative changes*
Cdc Point	*Decline in demand, over-indebtedness, financial paralisis*
Ceramiche Ricchetti	*Industry in decline*
CHL	*Negative macroeconomic factors, decline in demand*
Cogeme Set	*Increase in competition, decrease of efficiency*
Dmail Group	*Negative macroeconomic factors, decline in demand*
Eems	*Increase in competition, legislative changes*
Il Sole 24 Ore	*Negative macroeconomic factors, decline in demand*
Maire Tecnimont	*Portfolio composed by unprofitable orders*
Mediacontech	*Negative macroeconomic factors, business seasonality*
Monti Ascensori	*Inefficient inorganic growth*
Pierrel	*Start-up phase of new projects*
Prelios	*Industry in decline*
Premuda	*Inability to adapt to a changing competitive dynamic*
RCS Mediagroup	*Negative macroeconomic factors, decline in demand*
RDB	*Industry in decline, over-indebtedness, financial paralisis*
Screen Service	*Changes in technology*
Seat PG	*Changes in technology*

Table 4.1: Main reasons of decline for company in the sample. Source: personal elaboration.

CDC Point suffers a decline in revenues (CAGR -49.2%) because it has lost access to bank credit, credit institutions have reduced credit lines and demanded the repayment of short-term credit lines granted. This situation made it impossible to finance working capital. In the course of the year 0 (2012) the company had its inventory depleted that, combined with the impossibility to find the resources to finance itself from the suppliers, has generated the paralysis of the business and the emergence of a situation of very serious crisis.

Acotel is a company classified as strong under performer in year -2. The reasons for the corporate crisis are to be found in technological change. Over the years, value-added services for mobile telephony have gradually lost their attractiveness due to the propagation of smartphones. Despite the very negative sales trend and cash absorption, the company has managed to find the necessary resources to survive by selling some of its business lines. Therefore, a large part of the decline in revenues is attributable to a change in the scope of consolidation. On a constant consolidation perimeter, the company estimates that the average annual decline in turnover was -26.5% (instead of -43.7%). Technological changes are also the root causes of Screen Service crisis. The company, which in year -2 was able to achieve an excellent performance, suffered a sharp fall in turnover due to the completion of the switch-off of the traditional television broadcasting signal and the adoption of the digital terrestrial TV signal.

Brioschi, Ceramiche Ricchetti, Prelios and RDB are involved in the construction and real estate industries. All these companies suffered, with different intensity, in the years between 2011 and 2016 from the crisis that hit these industries in Italy. Both Brioschi and Prelios, real estate management companies, identify macroeconomic uncertainties and the crisis in the real estate sector as the reasons for the slowdown in the process of disposal of their real estate assets. As shown in Figure 4.4, both companies suffered heavy reductions in turnover (Prelios -21.2%, Brioschi -36.5%) in the presence of a declining sector. Also for Ceramiche Ricchetti, the generalised worldwide drop in demand for ceramics produced in Italy has led to stagnant revenues (CAGR -2.2%). On the contrary, the compound annual growth rate of turnover for RDB is very severe (-25.9%). A large part of the decline is attributable to the year of the outbreak of the crisis. Company’s turnover, which had been suffering for years from the negative trend in the construction industry, has fallen in year 0 (2011) due to the company's financial tensions, which led to the paralysis of its operating activities.

Technological evolution has also led to the crisis of Seat Pagine Gialle, included by Borsa Italiana in the media industry. The company's main products were paper telephone directories, the demand for which fell significantly in the early 2000s due to the diffusion of Internet. The

company started a process of reorganization and refocusing entering the IT services market segment, but the growth in online activities did not immediately compensate for the drop in turnover and margins of the traditional business.

Companies operating in Media industry involved in traditional publishing, RCS Mediagroup and Il Sole 24 Ore, suffered noticeable reductions in revenues (-15.6% and -5.6% respectively) for two main reasons: the fall in the sale of paper products (books and newspapers) and the fall in advertising revenues. The latter in particular are strongly influenced by the macroeconomic cycle and therefore the fall in revenues is justified by Italy's weak economic situation in the years 2011-2015. Mediacontech also suffered a decrease in sales (-3,9%). This was caused primarily by the "Advertising" business unit as well as by the seasonality of the business, that partly relies on the supply of digital services to television transmitters for major sporting events (Olympic Games and football World Championships).

Publishing market also impacted the performance of the Dmail Group and in particular the business unit involved in the publication of "Local Media". However, the most relevant part of the decrease in revenues is related to the "retail" business unit, company's core business, which has suffered from the Italian recession and the drop in demand in 2010-2011. The drop in the consumers' propensity to buy is one of the causes of the crisis of CHL, which already in year -2 (2013) showed clear signs of difficulty (strong under performance). The causes of company's crisis are drop in demand and increased competition. In addition, the delay in the launch of a new technology platform for mobile technology further weakened performance.

Premuda also suffered a significant drop in turnover (CAGR -22.1%) due to the company's inability to adapt to a changing competitive dynamic. The company argues that the main reason for the crisis is the surplus available capacity against shipping demand. The trend that characterizes the industry is of a growth of the fleet, with smaller dimensions. Premuda's fleet is not competitive as it is composed of too large bulk carriers.

Legislative changes are at the root of the crisis of EEMS, Beghelli and Carraro. The three companies are characterised by having all been involved in the photovoltaic industry. Between 2011 and 2012, regulatory changes in Italy generated strong uncertainty that reduced demand in the sector due to the elimination of a governmental economic stimulus package. Over the years, the 3 companies have completely disposed of their business units dedicated to the production of photovoltaic technologies. Despite the crisis in the photovoltaic sector, EEMS achieves significant growth, related to the strong impetus of sales between year -2 and year -1 followed by a decline in year 0 and in subsequent years. Carraro suffers a drop in sales (CAGR

-12.7%) also that is also triggered by weakness and uncertainty of the markets for agricultural and construction technologies.

Biancamano achieved a reduced decline in turnover (CAGR -3.0%). Company's difficulties are due to late payments performed by the Italian public administration. Biancamano was forced to stop participating in tenders for the renewal of orders in its portfolio, which have resulted in unsatisfactory collection times.

Maire Tecnimont suffered negative economic performances over the years (2011 and 2012) due to some orders that the company was carrying out in South America. These orders proved to be highly unprofitable due to exceptional and unpredictable events such as a sharp increase in real wages, trade union claims and the Chilean earthquake.

Arkimedica (CAGR -7.2%) was a company that in the year -2 has obtained satisfactory economic results. This entity grew a lot over the years through inorganic growth and through the acquisition of small companies. This strategy led to the creation of a very complex corporate group, engaged in numerous business lines. This complexity resulted in the company's inability to exploit synergies and economies of scale.

For Cogeme SeT, the limited decline in turnover (CAGR -2.2%) is accompanied by a sharp loss of efficiency and a reduction in operating margins due to the increase in the incidence of raw materials costs.

Bastogi and Pierrel are two companies that, already in year -2, recorded a negative EBITDA and a consequential absorption of cash flow from operations. Both companies managed to survive and guarantee solvency in the following two years thanks to a slight increase in turnover (3.2% and 2.6% respectively) and a slight improvement in margins. Pierrel's underperformance situation is determined by the start-up phase of new projects that required heavy investments. Bastogi, on the other hand, is unable to make the business hotel services profitable.

Monti Ascensori is a company that was able to obtain normal performances in the year -2. In the following two years the company chose to start a restructuring process aimed at changing the business model. The company's strategy aimed at growing through inorganic growth. Turnover grew substantially in the following two years (CAGR +14.6%) but this was at the expense of efficiency. The effect of this disruptive and not well managed growth was the significant worsening of operating margins.

The analysis of growth rates shows that, globally, companies that were already strong underperformers in year -2 have lower negative growth rates than other categories of

companies. While strong underperforming companies drop on average by 9,8% annually (and some companies even increase their turnover), other categories of companies see their turnover fall by an average of 12,8%. This evidence partly explains why companies in severe economic imbalance since year -2 were able to continue their business and ensure solvency for two years.

Figure 4.5 shows a relationship between change in number of employees and compound annual growth rate of revenues. As revenues fall, companies reduce the number of employees. However, a good number of companies are located in the lower right area of the graph. This evidence might signal that sometimes companies are unable to respond to the decline in sales by resigning employees or are confident that the decline is only temporary.

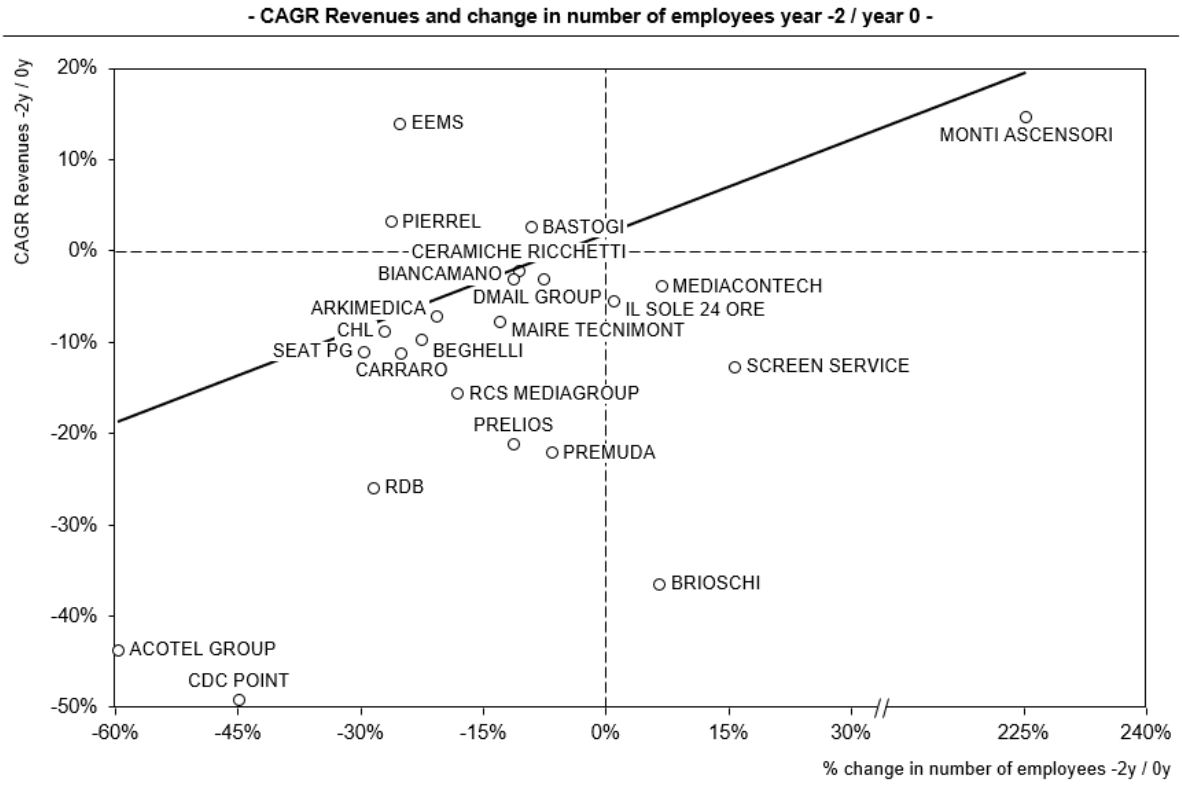

Figure 4.5: Relation between change in revenues and change in employees, year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.3 Decline: Operating Margins

The aggregate analysis of economic margins shows that, on average, companies are already showing signs of weakness two years before the outbreak of the crisis. Data show that, in year -2, companies' average EBITDA margin is positive (8.8%). However, the incidence of write-downs and extraordinary expenses added to periodic depreciation and amortisation, results in a negative operating income (EBIT) (-3.6%). Therefore, two years before the event that certified

the outbreak of the crisis, the companies of the sample are on average unprofitable at the operating level. Aggregated figures show a progressive loss of efficiency over the years. The incidence of the cost of raw materials (usually a variable cost) increased by 2.9 percentage points between year -2 and year 0. Despite the partial correlation between the fall in turnover and change in the number of employees, the percentage incidence of personnel costs also increased in the years of deterioration in performance (+3.4 percentage points). Finally, other operating costs (usually G&A fixed costs) increase their incidence due to the reduction of the turnover of the companies in the sample. These three cost components result in an EBITDA margin that gradually declines over the years and reaches an average negative value in year 0 (-1.8%). The incidence of non-monetary costs increases over the years but while the incidence of depreciation and amortization remains constant (approx. 8.5%), the impact of write-downs of receivables and fixed assets increases exponentially. The result of these effects is an EBIT margin that went from -3.6% to -30.8% in year 0.

Average values of the sample	**-2y**	**-1y**	**0y**
Raw materials %	*-28,1%*	*-29,3%*	*-31,0%*
Personnel %	*-21,0%*	*-21,9%*	*-24,4%*
Other operating costs %	*-42,1%*	*-43,4%*	*-46,4%*
EBITDA %	**8,8%**	**5,3%**	**-1,8%**
Writedowns %	*-4,3%*	*-6,5%*	*-20,6%*
Amort. & Depr. %	*-8,1%*	*-8,5%*	*-8,5%*
EBIT %	**-3,6%**	**-9,7%**	**-30,8%**

Table 4.2: Average of income statements of the sample, values in % of net sales. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The analysis of the trend of the two main operating margins of the income statement dividing companies in different performance classes (Figure 4.6) shows that it is possible to identify different trends among companies that had been showing weak performances since year -2 and entities that in year -2 have obtained good performances. Companies classified as "Normal performers" two years before the crisis have achieved an excellent EBITDA margin and an EBIT margin of more than 10%. Companies classified in the middle class (under performance) have reached the break-even (EBIT % 0.6%) while companies in severe operating difficulties (strong underperformers) have an EBIT margin of -33.1%. The evolution over the years is different for the three categories. While the companies in the first two categories suffered a very intense and rapid drop in operating margins, the companies that had the worst conditions in the year -2 did not worsen their performance further but, on the contrary, slightly improve their operating income (+7.5 percentage points).

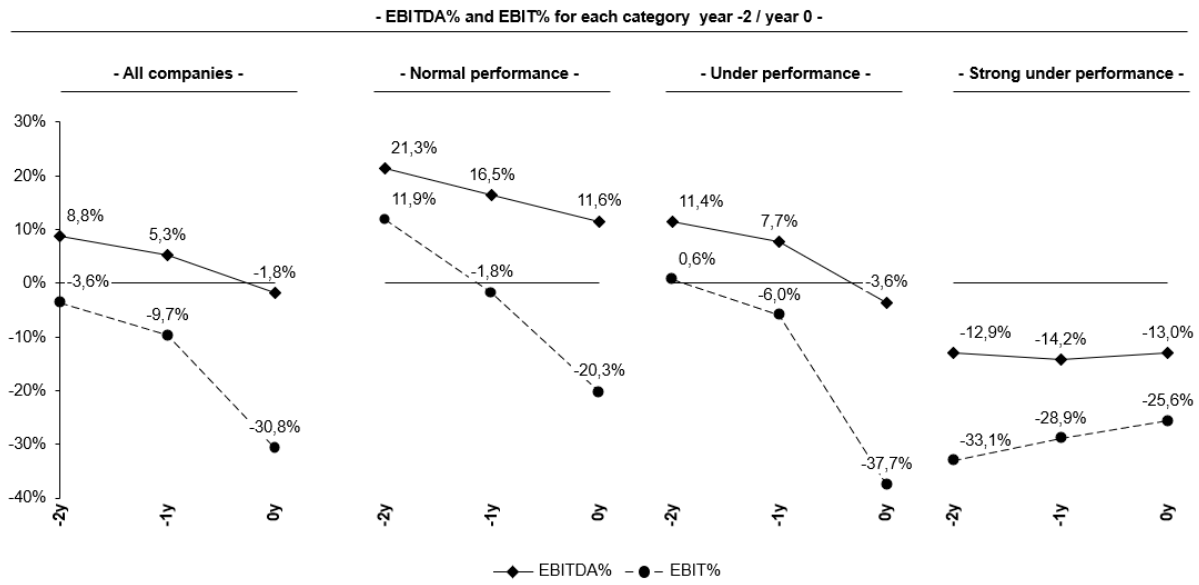

Figure 4.6: EBITDA margin and EBIT margin by category, year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The comparative analysis of the change in sales and the change in EBITDA margin between year -2 and year 0 (Figure 4.7) points out that most companies show a strong correlation between the two figures. This symmetry between the two changes suggests that much of the decline in EBITDA is related to the inability of companies to absorb fixed and G&A costs given the rapid and sudden reduction in sales volume.

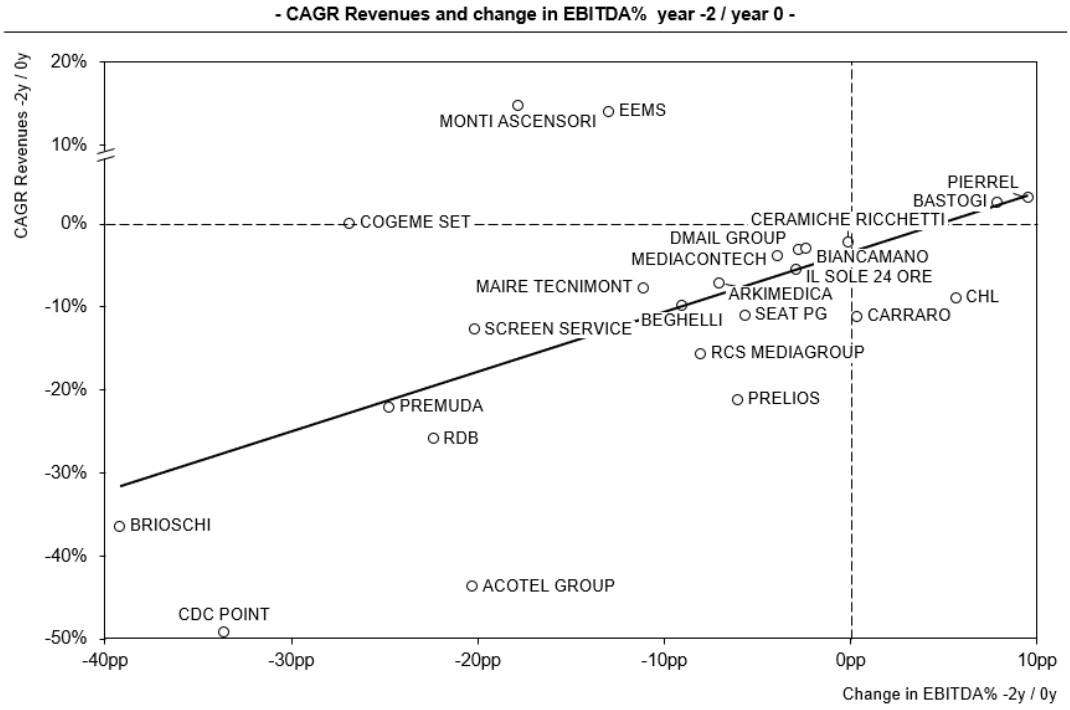

Figure 4.7: Change in Net Sales (CAGR) and change in EBITDA%, year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.4 Decline: Invested Capital

As figure 4.8 describes, two years after the manifestation of the state of corporate crisis, the average invested capital of the companies that make up the sample was 75.9% composed of fixed assets and 19.5% of net working capital. Over the next two years, the incidence of net working capital on the total capital invested has been significantly reduced. In particular, the net working capital went from 19.5% to 13.5% of the invested capital. The reduction of the operating net working capital for healthy companies is a sign of efficient management of the monetary cycle but in the case of companies in difficulty it indicates the increase in payables to suppliers and tax authorities due to the inability to meet the obligations in a timely manner due to the state of financial tension.

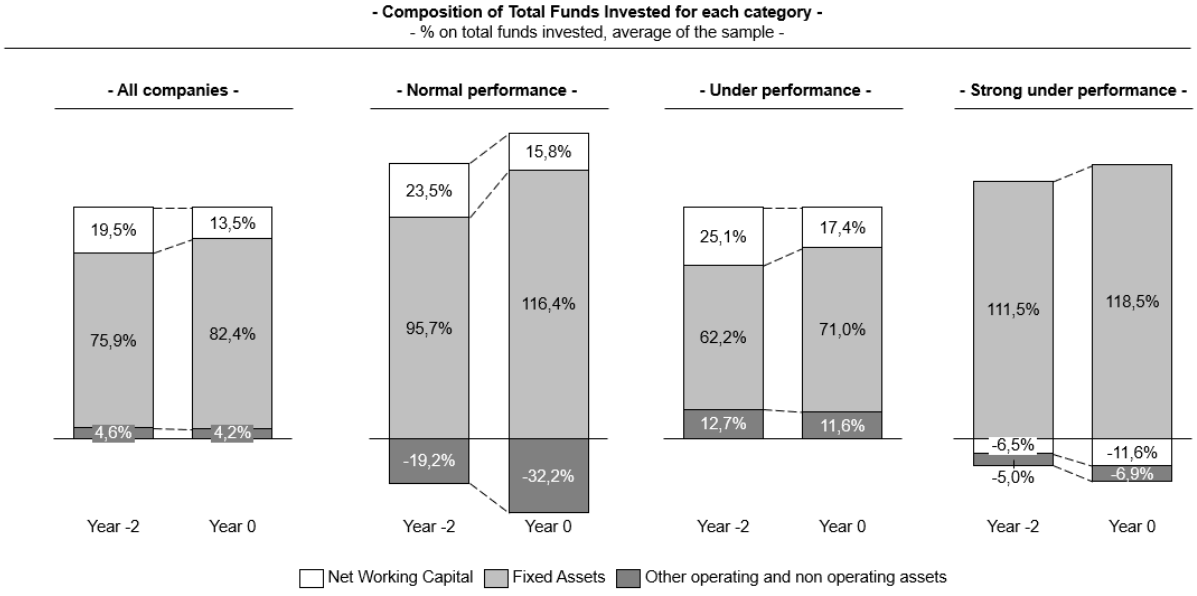

Figure 4.8: Composition of total funds invested by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The amount of net working capital, in fact, is negative in companies classified as "strong under performers". These companies already in year -2 have operating current debts that exceed the amount of current assets. This unbalance raises significant doubts about the ability of these companies to meet future obligations. In the following two years, the net working capital became even more negative, worsening by 5.1 percentage points.

As for normal and underperformers, the structure of invested capital is similar in year -2. The most important part is represented by fixed assets, while net working capital accounts for approximately 25% of the total. The most significant difference between these two categories lies in the residual category of "other operating non-current and non-operating assets", which has a negative value (debts exceed assets) for normal performers, while the opposite happens

for under performers. In the period of time analysed preceding the introduction in the lists monitored by CONSOB, for both groups of companies the incidence of net working capital on the total invested capital decreased considerably (about 8 percentage points for both categories).

4.4.1 Fixed Capital

An analysis of the aggregate data for the entire group of companies considered (24 companies) shows a sharp reduction in absolute terms in the amount of fixed assets of the companies.

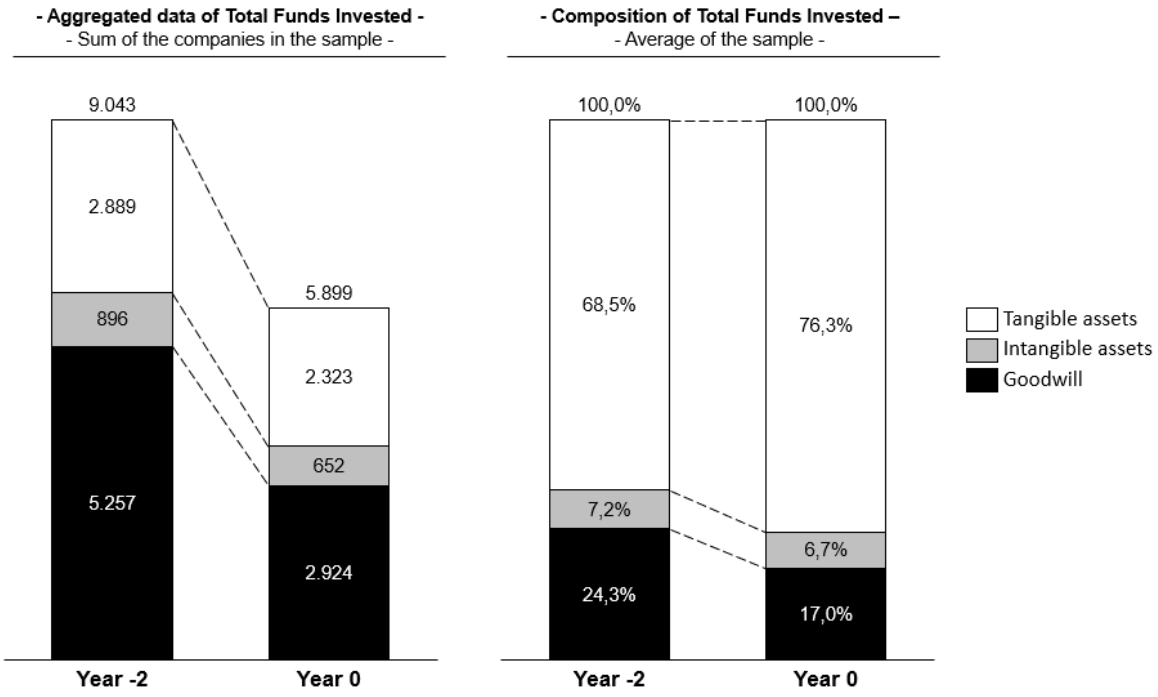

Figure 4.9: Composition of total fixed assets in absolute value and in % of total fixed assets. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

As can be seen from Figure 4.9, the amount of fixed assets went from approximately € 9 billion to € 5.9 billion, a decrease of about 34.4%. Most of this reduction is determined by a reduction in the value of goodwill (-44.4%). This reduction indicates that the companies of the sample in the years prior to the crisis engaged in acquisitions in which the price paid was excessively high and could not justify the expected benefits. The net amount of tangible assets also declined in the years considered. The reason is to be attributed both to the scarce investments that the companies were able to make due to the precarious financial situation, and to the disposals of business areas and divisions considered non-strategic that the entities have undertaken in order to generate cash. Between year -2 and year 0, these changes significantly changed the composition of the total funds invested. Tangible assets represent a more significant percentage (increase of 7.8 percentage points) while a lesser proportion is represented by goodwill

(decrease of 7.3 percentage points) and other intangible assets (decrease of 0.5 percentage points).

Figure 4.10 shows large differences between categories. In particular, normal performing companies are characterized by a fixed asset structure with a lot of intangible assets. Two years before the crisis, 85% of fixed assets consisted of goodwill and other intangibles. Due to worsening economic performance and write-downs, the incidence of the value of intangible assets decreased in terms of incidence in year 0.

The two categories of underperforming companies are characterized by an incidence of tangible assets on total fixed assets of about 82%. However, the two categories of entities follow two different and opposite trends. While for the under performers the write-downs of goodwill and other intangible assets increase the incidence of tangible assets, the companies considered strong underperformers are forced to sell tangible assets (business units or individual assets) to recover the liquidity necessary to continue to compete and therefore these companies experience an increase in the incidence of intangibles on total fixed assets.

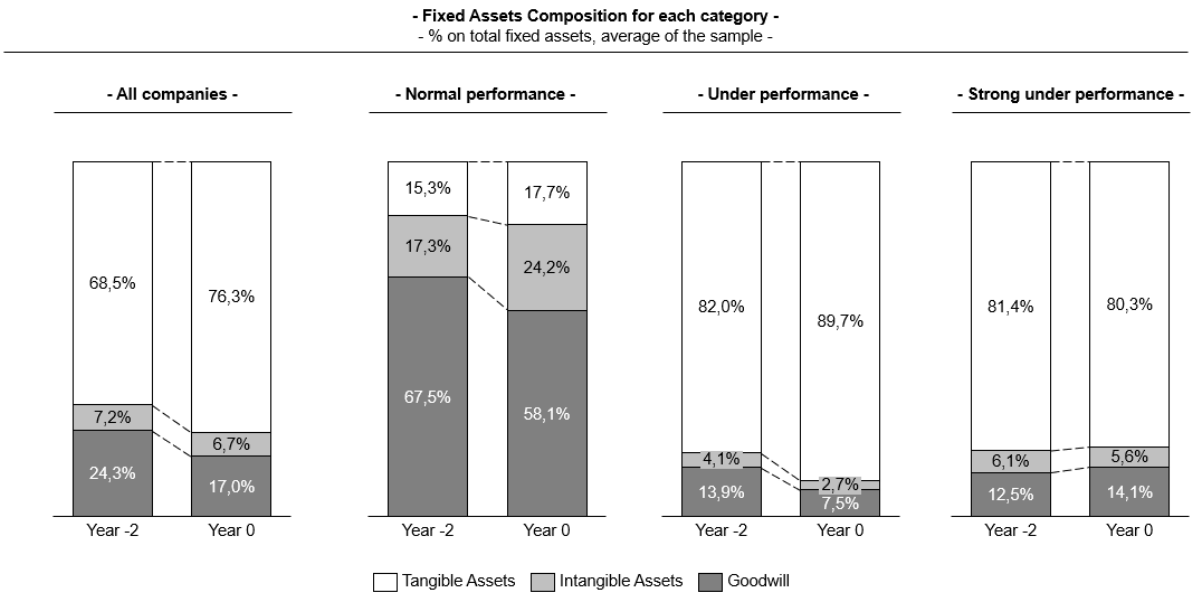

Figure 4.10: Composition of total fixed assets in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.4.2 Working Capital

Figure 4.11 shows the composition of net working capital two years before and in the year of the outbreak of the crisis. Taking into consideration the entire sample of companies analysed, the data show that, in terms of incidence on turnover, the value of current assets (trade

receivables and other operating credits) remains approximately constant. The value of inventory is increasing. This dynamic is probably due to the difficulty of the companies to sell their products on the market with a consequent increase of the goods in warehouse. The most evident sign of the state of financial tension is shown by the increase in the incidence of operating debts. In order to continue to meet their financial commitments on a regular basis, companies find the necessary resources by delaying payment to suppliers and tax authorities. The weight of current liabilities increases by 12.1 percentage points.

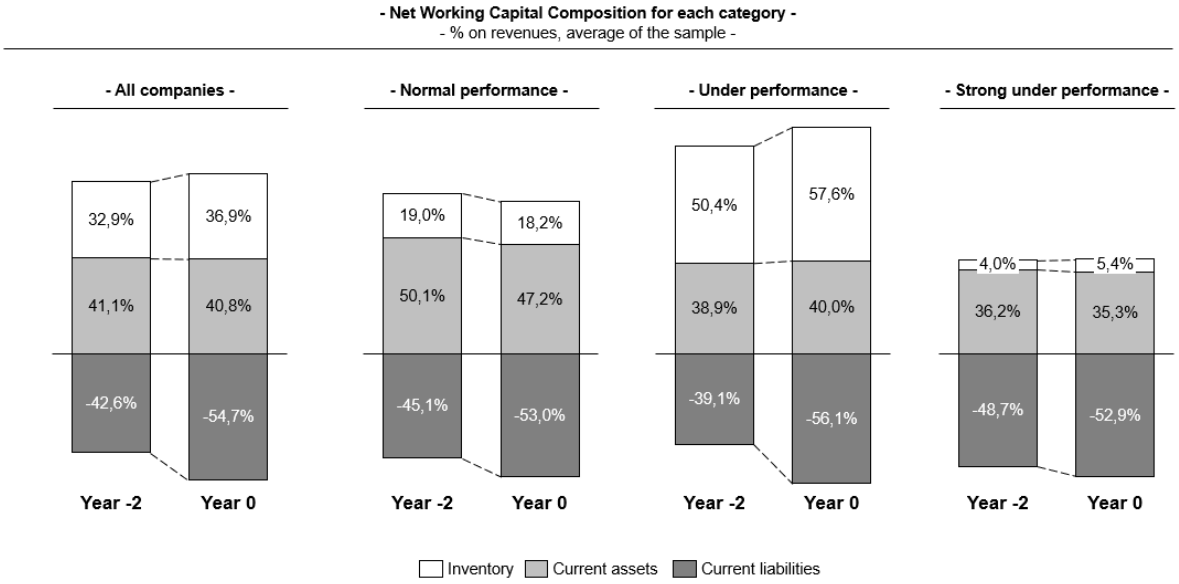

Figure 4.11: Composition of operating net working capital assets in % of sales by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The upward trend in short term operating liabilities is common to all three categories of companies under analysis. For each group, the incidence on sales increases with the consequent increase of days of payable outstanding. It is worth noticing that, before the outbreak of the crisis, the strong under performers had yet the highest incidence of operational current liabilities but they further worsen their situation in the following two years.

Taking into account total current assets and liabilities and not only operating debts and receivables, it is possible to compute current and quick ratios (Figure 4.12). The data of the entire sample show that, two years before the crisis, companies show on average values of these ratios equal to the values considered critical (1.2 for the current ratio and 0.8 for the quick ratio). The sharp deterioration of the short-term liquidity situation occurs in "year 0" with the values of the ratios suffering a severe decline. In particular, the current ratio went from 1.1 to 0.7, while the average quick ratio went from 0.8 to 0.5.

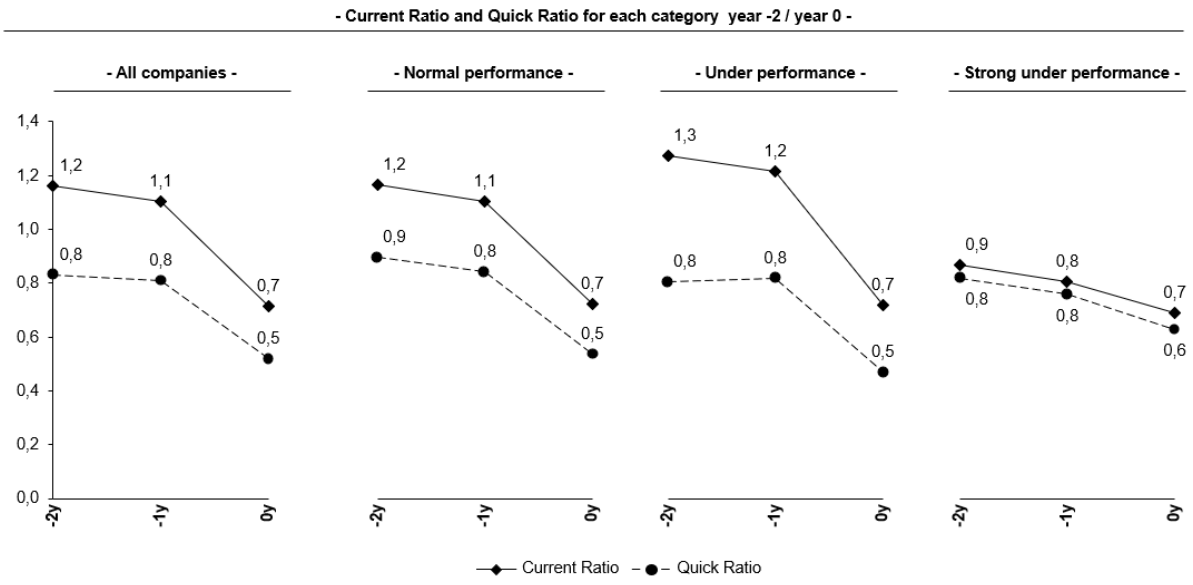

Figure 4.12: Quick ratio and Current Ratio by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Normal and under performers show a similar dynamic. The decline in the value of these ratios is rapid and takes place between year -1 and year 0. On the other hand, trend of the strong under performers is different. Values of current and quick ratios for these entities are lower than the values considered dangerous already in the year -2. For strong underperformers the decline is much more slight and regular. In year 0, the value of current and quick ratios for this group of companies converges with the values of the other groups (current ratio 0.7, quick ratio 0.6).

4.4.3 Returns

The dynamics of operating profitability (measured by Return on Assets, ROA) show a generalized and severe deterioration in performance for almost all companies in the sample. In year -2, 14 companies of the sample (58.3%) have obtained a positive return on assets. Two years later, only one company had a positive ROA value (Biancamano, 0.3%).

Normal performers went from an average value of 5.8% to an average ROA of -9.7% with a reduction of 15.5 percentage points. The average ROA value of underperforming companies is similar. In year 0, they had an average value of -9.9% (excluding two outliers). For this category the decline is less pronounced. The value of ROA in year -2 is 0.3% and therefore the decrease in percentage points is 10.2. The behaviour of companies in the worst performing category is different. These companies recorded an average ROA of -17.3% in year -2. While remaining in a situation of severe economic imbalance, three out of five companies belonging to this group

improved their profitability. However, the average ROA of this group of companies in year 0 remains strongly negative and equal to -17.3%.

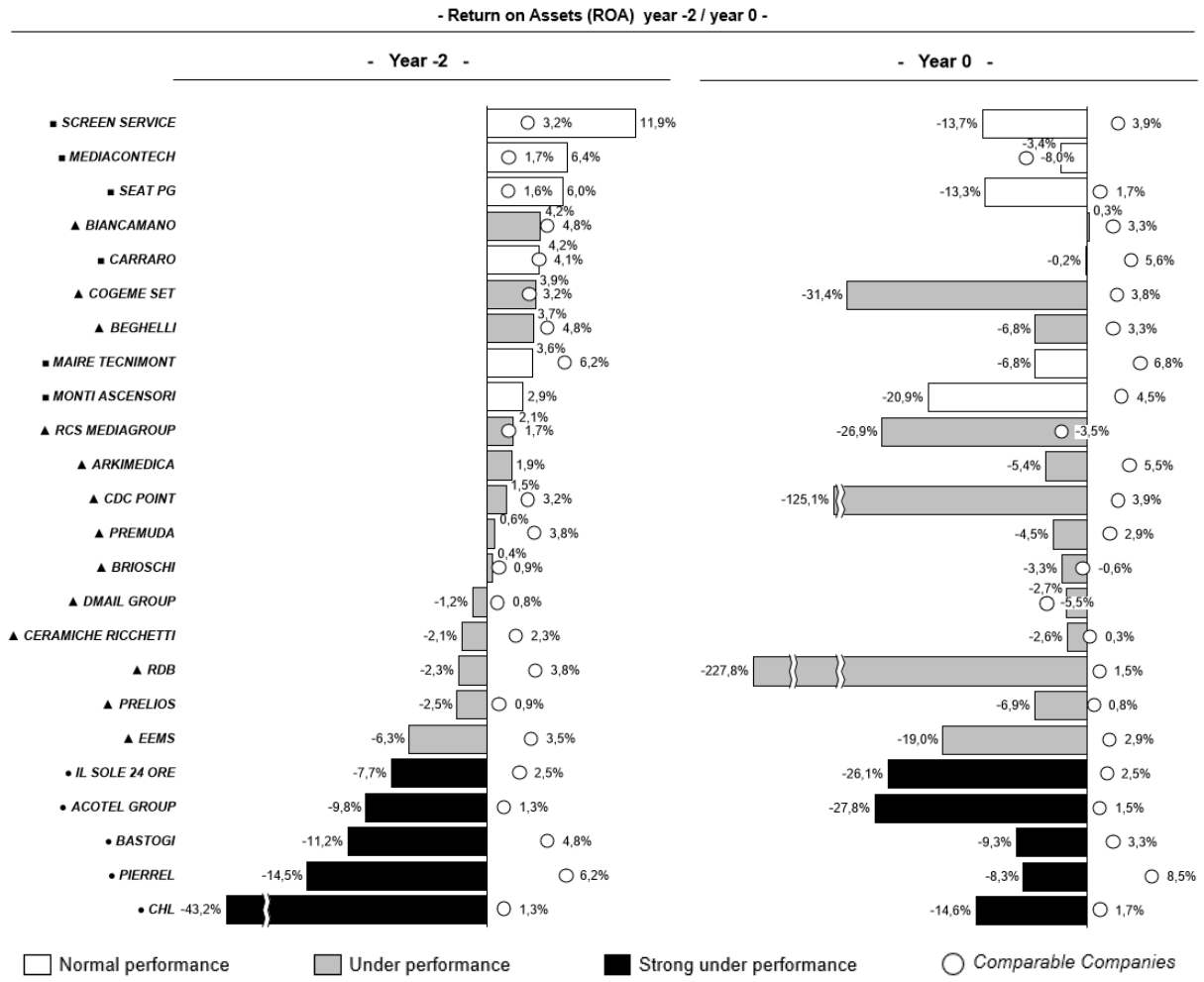

Figure 4.13: Return on Assets (ROA) of the company of the sample, year -2 and year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Table 4.2 shows the comparison between ROA and ROIC. From this table it is possible to perceive how, in the case of companies in financial distress, ROIC can lose its signalling capability. In the case of companies with a small amount of fixed assets on the total capital invested, when the net working capital decreases significantly and becomes negative due to the increase in operating payables, the capital invested becomes negative or assumes a very small value. In this case the denominator of the ROIC assumes a non-meaningful value and produces a distorted value of the ratio. This is what happens in the cases of Maire Tecnimont, CDC Point, RDB, Il Sole 24 Ore and Acotel.

	ROA %			ROIC %		
	-2y	-1y	0y	-2y	-1y	0y
■ SCREEN SERVICE	11,9%	8,4%	-13,7%	14,8%	11,1%	-17,9%
■ MEDIACONTECH	6,4%	-1,1%	-3,4%	10,9%	-1,9%	-7,8%
■ SEAT PG	6,0%	-7,0%	-13,3%	7,3%	-8,7%	-18,1%
▲ BIANCAMANO	4,2%	2,3%	0,3%	7,3%	4,2%	0,5%
■ CARRARO	4,2%	1,7%	-0,2%	9,2%	4,2%	-0,5%
▲ COGEME SET	3,9%	1,6%	-31,4%	5,0%	2,1%	-83,3%
▲ BEGHELLI	3,7%	2,6%	-6,8%	6,9%	4,3%	-10,7%
■ MAIRE TECNIMONT	3,6%	-13,3%	-6,8%	49,8%	-580,6%	1959,4%
■ MONTI ASCENSORI	2,9%	3,4%	-20,9%	5,3%	5,7%	-41,9%
▲ RCS MEDIAGROUP	2,1%	-9,9%	-26,9%	3,7%	-18,8%	-60,4%
▲ ARKIMEDICA	1,9%	2,1%	-5,4%	3,4%	4,0%	-8,7%
▲ CDC POINT	1,5%	-3,0%	-125,1%	4,8%	-8,2%	473,1%
▲ PREMUDA	0,6%	-4,6%	-4,5%	0,7%	-5,4%	-5,3%
▲ BRIOSCHI	0,4%	-1,9%	-3,3%	0,5%	-2,3%	-4,3%
▲ DMAIL GROUP	-1,2%	0,5%	-2,7%	-2,1%	0,9%	-5,7%
▲ CERAMICHE RICCHETTI	-2,1%	-1,1%	-2,6%	-3,0%	-1,6%	-3,8%
▲ RDB	-2,3%	-0,7%	-227,8%	-4,6%	-1,4%	576,4%
▲ PRELIOS	-2,5%	-0,2%	-6,9%	-5,7%	-0,5%	-16,5%
▲ EEMS	-6,3%	-1,1%	-19,0%	-8,3%	-1,8%	-27,0%
● IL SOLE 24 ORE	-7,7%	-5,3%	-26,1%	-27,1%	-16,8%	-185,6%
● ACOTEL GROUP	-9,8%	-21,9%	-27,8%	-30,4%	-251,9%	882,0%
● BASTOGI	-11,2%	-11,2%	-9,3%	-15,4%	-14,7%	-12,1%
● PIERREL	-14,5%	-10,5%	-8,3%	-23,8%	-16,8%	-14,6%
● CHL	-43,2%	-27,5%	-14,6%	-84,6%	-46,8%	-24,7%

Table 4.2: ROA and ROIC for company in the sample, from year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.5 Decline: Capital Structure

Figure 4.14 shows the evolution of the capital structure for the 24 companies in the sample. The average of the sample shows that the proportion between net financial position and equity has changed significantly in the two years under analysis. In particular, losses that companies accumulate as a result of the worsening in operating performance erodes significantly the value of equity. This reduction in accounting capitalisation is often accompanied by a constant or slightly increase of net financial position. The overall effect of these two factors is a structure of sources of financing that increasingly relies more on financial debt. This dynamic is common to all the groups of companies considered (normal performance, under performance and strong under performance) which, as can be seen in Figure 4.13, do not show significant differences.

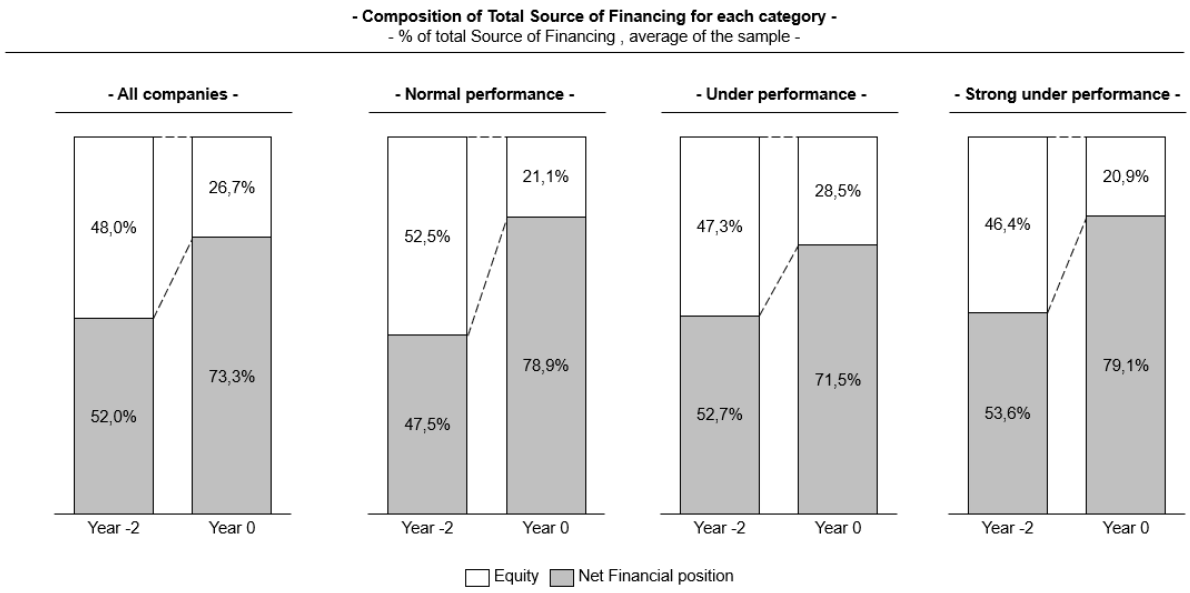

Figure 4.14: Composition of total source of financing in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.5.1 Equity

Decisions on dividends distributions and capital strengthening varies widely across the different categories of companies analysed. As far as payments of dividends and repurchase of shares are concerned, the trend is very different between the different groups. All six companies with the best performance in the year -2 distribute dividends to their shareholders in years -2 and -1. Most of them continue to distribute dividends even in year 0 (four out of six companies). On the other hand, just over 50% of underperformers distribute dividends in the two years preceding the outbreak of the crisis. The percentage decreases in year 0 with only 38.5% of companies making payments to their shareholders. Finally, for companies with the worst performance, the distribution of dividends is approximately zero. In the three years considered there are only 2 cases of payments to shareholders.

As shown in Table 4.3, the dynamics of capital increases are opposite. Only one is the case of capital increases for companies that are part of the normal performers (Seat PG, year -2) while cases are more frequent for the other two categories. Five out of the thirteen underperformers (38.4%) and two of the five companies with the worst performance (40%) strengthened their equity in the three years considered.

		Dividends/Share repurchases			Capital Increases		
		-2y	-1y	0y	-2y	-1y	0y
Normal performance							
CARRARO	■	-104	-127	0	0	0	0
MAIRE TECNIMONT	■	-9.305	-18.705	0	0	0	0
MEDIACONTECH	■	-4.216	-3.072	-1.940	0	0	0
MONTI ASCENSORI	■	-226	-300	-133	0	0	0
SCREEN SERVICE	■	-5.124	-3.006	-19	0	0	0
SEAT PG	■	-9.760	-6.729	-2.163	199.914	0	0
Frequency		*100,0%*	*100,0%*	*66,7%*	*16,7%*	*0,0%*	*0,0%*
Under performance							
ARKIMEDICA	▲	-3.164	-2.469	0	0	0	0
BEGHELLI	▲	-3.984	-3.984	-3.984	0	0	0
BIANCAMANO	▲	-1.878	-494	0	0	0	0
BRIOSCHI	▲	0	0	0	0	0	0
CDC POINT	▲	-1.028	-1.369	0	0	0	0
CERAMICHE RICCHETTI	▲	0	-269	-164	7.920	0	0
COGEME SET	▲	-297	0	0	27.917	4.262	0
DMAIL GROUP	▲	-441	-89	-85	0	0	0
EEMS	▲	0	0	0	0	1.358	0
PRELIOS	▲	0	0	0	399.287	0	0
PREMUDA	▲	0	0	0	0	0	0
RCS MEDIAGROUP	▲	0	-14.000	-300	0	0	0
RDB	▲	-100	-996	-263	0	0	15.000
Frequency		*53,8%*	*61,5%*	*38,5%*	*23,1%*	*15,4%*	*7,7%*
Strong under performance							
ACOTEL GROUP	●	0	-789	0	0	0	0
BASTOGI	●	0	0	0	0	0	0
CHL	●	0	0	0	2.145	2.866	1.463
IL SOLE 24 ORE	●	-214	0	0	0	0	0
PIERREL	●	0	0	0	2.399	0	1.217
Frequency		*20,0%*	*20,0%*	*0,0%*	*40,0%*	*20,0%*	*40,0%*

Table 4.3: Dividend distribution, share repurchases, capital increases, from year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.5.2 Net Financial Position

As the previous paragraph shows, during the two-year period preceding the crisis, the capital structure of the companies analysed has changed its composition and it has increased its reliance on financial debt. However, the net financial position not only has changed its importance among the sources of capital but also its composition has evolved significantly over the years.

The average of the sample shows a reduction in long-term financial debt accompanied by an increase in financial debt with maturities of less than one year. Cash and cash equivalents also decline over the years, further reducing the liquidity of companies. The data in Figure 4.15 show a capital structure that relies increasingly on short-term debt and requires companies to raise the necessary resources to service debt or to enter into negotiations with financial institutions for the renegotiation of loan contracts. It should be noted that the shifting of funding sources between long-term and short-term, in many circumstances, does not manifest a change in the technical form of financing adopted by companies but it is associated with non-

compliance with the contractual clauses of the financing contracts. When a company does not comply with the covenants of a long-term loan, the bank may request the immediate repayment of the entire amount of the loan. If the company does not negotiate with the financial institution a waiver on compliance with the contractual clauses or a change in the contractual conditions, the entity classifies the debt (even if contractually it is a long-term debt) among the short-term sources of financing. The relative increase in short-term financial sources is a trend that equally accompanies the three groups of companies analysed. Cash and cash equivalents also reduce their incidence in the entire group of companies considered.

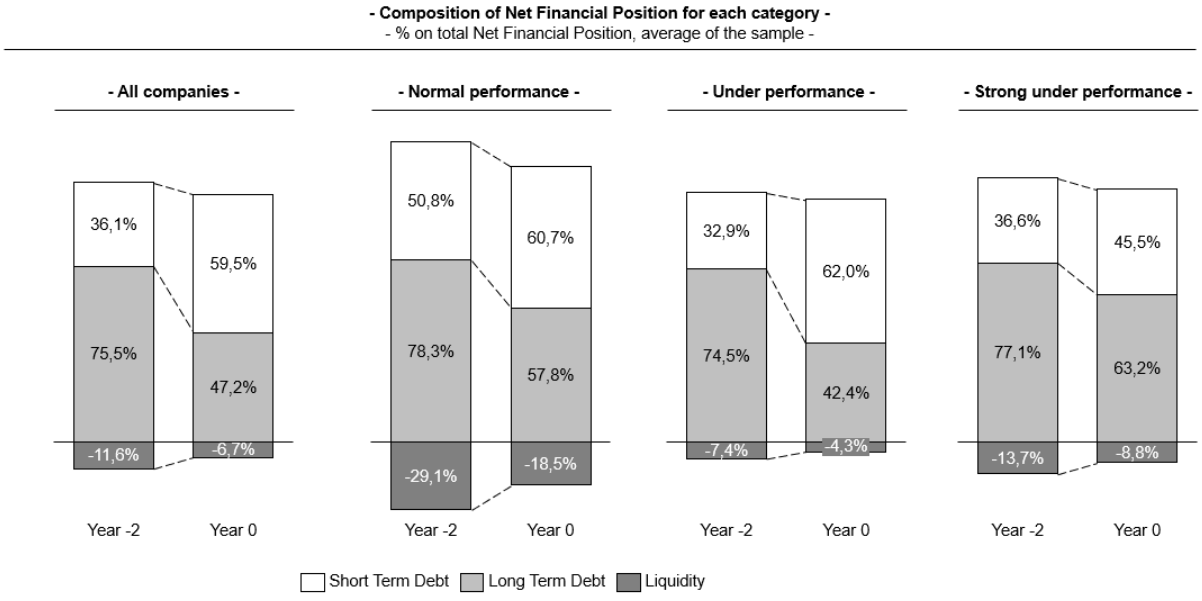

Figure 4.15: Composition of net financial position in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Table 4.4 shows the values of NFP/EBITDA and interest coverage ratio over the three years analysed. In many cases, due to the negative value assumed by the EBITDA, the ratios lose significance. On average across all the categories analysed, a deterioration in the solvency of companies has occurred. In the year -2, 21.2% of the companies showed a value of NFP/EBITDA lower than the value considered critical (4.0x). In year 0, the portion of companies was reduced to 8.3%. As far as the interest coverage ratio is concerned, 62.5% of the companies two years before the event that manifested the crisis had an index value higher than 1.0. In year 0, the proportion of companies with a value greater than 1.0 was 29.2%.

	NFP/EBITDA			EBITDA/Interest expenses		
	-2y	-1y	0y	-2y	-1y	0y
■ MAIRE TECNIMONT	-1,0x	Neg. EBITDA	Neg. EBITDA	7,7	Neg. EBITDA	Neg. EBITDA
■ SCREEN SERVICE	2,0x	2,2x	6,2x	14,0	6,9	2,5
■ MEDIACONTECH	2,1x	2,6x	2,5x	6,2	5,5	4,2
■ SEAT PG	2,4x	2,7x	3,3x	2,6	2,0	1,5
▲ EEMS	3,1x	1,0x	4,8x	4,5	5,0	4,6
■ MONTI ASCENSORI	3,1x	4,0x	Neg. EBITDA	3,7	3,6	Neg. EBITDA
■ CARRARO	3,5x	4,5x	4,1x	3,7	2,3	2,6
▲ RCS MEDIAGROUP	4,3x	4,9x	23,5x	7,1	4,1	0,5
▲ BIANCAMANO	4,4x	4,9x	7,4x	4,2	2,6	1,7
▲ BEGHELLI	4,4x	6,2x	21,1x	2,6	2,3	0,5
▲ DMAIL GROUP	4,5x	7,0x	10,2x	3,8	2,9	1,5
▲ CDC POINT	4,8x	Neg. EBITDA	Neg. EBITDA	2,9	Neg. EBITDA	Neg. EBITDA
▲ COGEME SET	5,4x	5,3x	14,2x	3,3	3,0	0,8
▲ ARKIMEDICA	7,3x	6,2x	34,2x	1,8	2,0	0,4
▲ PREMUDA	8,9x	12,5x	171,2x	3,8	1,0	0,1
▲ BRIOSCHI	38,0x	Neg. EBITDA	Neg. EBITDA	0,7	Neg. EBITDA	Neg. EBITDA
▲ RDB	85,6x	223,5x	Neg. EBITDA	0,2	0,1	Neg. EBITDA
▲ CERAMICHE RICCHETTI	116,9x	22,3x	174,5x	0,2	0,9	0,1
▲ PRELIOS	121,7x	24,6x	Neg. EBITDA	0,1	0,4	Neg. EBITDA
● IL SOLE 24 ORE	Neg. EBITDA	9,5x	Neg. EBITDA	Neg. EBITDA	0,8	Neg. EBITDA
● ACOTEL GROUP	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● BASTOGI	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● PIERREL	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● CHL	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA

Table 4.4: NFP/EBITDA and interest coverage ratio, from year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.6 Decline: Market Reaction

Over the two years in which the performance of the companies in the sample was in a downward spiral, market reaction was very negative almost in the entirety of the cases analysed. The value lost by the companies in terms of market capitalization is very relevant. In 10 cases the market capitalization has decreased by more than 50% and only 2 companies have suffered a decrease of less than 30%.

The market trend is different and wide-ranging between the categories; it is not possible to find clusters between the various groups. It is worth noticing that strong underperformers are not the companies that achieve the worst performance in the two years analysed. This is not surprising, since it is legitimate to expect that market prices already in the year -2 were affected by the unsatisfactory performance of these companies and incorporated negative expectations for the future. This reason also justifies the fact that, among the companies with the worst market performance between year -2 and year 0, there are two companies that in the year -2 have obtained good economic and financial performance (Maire Tecnimont and Seat PG). For these companies, the market operators did not foresee a very severe crisis and therefore, when the symptoms of difficulty appeared, the price reaction was very negative.

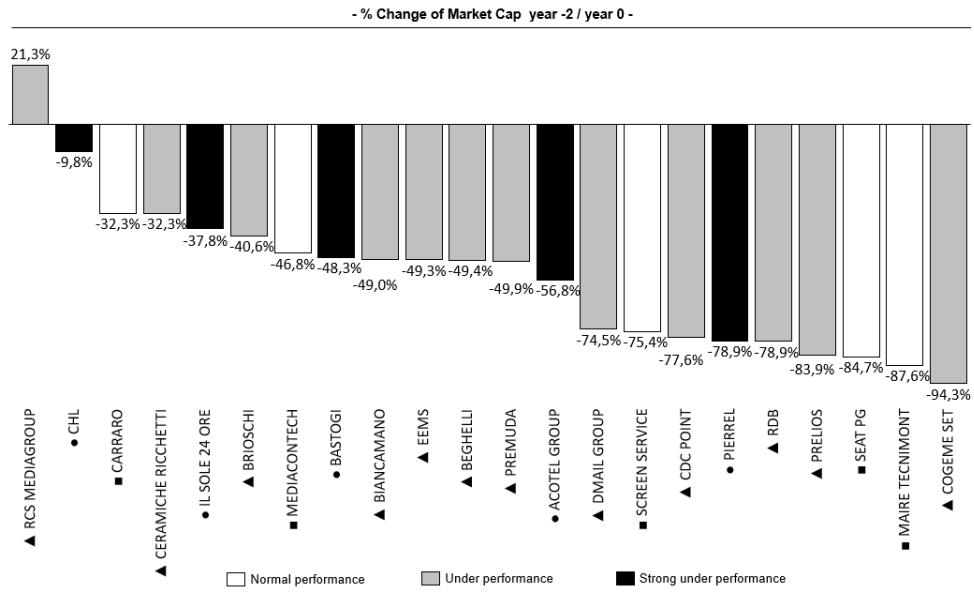

Figure 4.16: Change in market capitalization. Source: personal elaboration, data from Thomson Reuters Eikon

Table 4.5 contains the value of the P/B ratio for all the companies considered. The value of this market ratio does not always result in a significant value. When the equity of the companies analysed decreases significantly, the P/B ratio assumes high values even in the presence of falling market prices. However, in general, it is possible to appreciate how, even two years before the exteriorization of the state of crisis, the market valued the companies analysed with very low multiples.

	Market Cap			Equity			P/B RATIO		
	-2y	-1y	0y	-2y	-1y	0y	-2y	-1y	0y
■ CARRARO	136,7	86,3	92,6	54,9	41,2	31,0	2,5	2,1	3,0
■ MAIRE TECNIMONT	1.066,2	319,1	131,7	431,9	46,7	-120,7	2,5	6,8	n.d.
■ MEDIACONTECH	44,5	26,5	23,7	49,3	38,8	23,8	0,9	0,7	1,0
■ MONTI ASCENSORI	n.d.	18,6	11,3	17,6	17,5	5,0	n.d.	1,1	2,3
■ SCREEN SERVICE	87,7	66,2	21,6	75,7	78,2	59,0	1,2	0,8	0,4
■ SEAT PG	313,6	160,4	48,0	1.034,1	374,7	-555,1	0,3	0,4	n.d.
▲ ARKIMEDICA	n.d.	62,6	40,0	72,3	71,2	50,1	n.d.	0,9	0,8
▲ BEGHELLI	134,7	88,8	68,1	150,5	154,1	116,4	0,9	0,6	0,6
▲ BIANCAMANO	44,5	44,9	22,7	43,6	43,4	30,9	1,0	1,0	0,7
▲ BRIOSCHI	111,6	64,2	66,3	211,6	182,0	141,2	0,5	0,4	0,5
▲ CDC POINT	20,4	11,7	4,6	43,0	33,2	-36,0	0,5	0,4	n.d.
▲ CERAMICHE RICCHETTI	21,5	13,5	14,6	173,1	168,8	153,9	0,1	0,1	0,1
▲ COGEME SET	52,7	22,6	3,0	80,1	86,8	-54,7	0,7	0,3	n.d.
▲ DMAIL GROUP	39,7	22,5	10,1	18,6	14,1	4,7	2,1	1,6	2,2
▲ EEMS	52,9	58,0	26,8	105,2	110,8	75,5	0,5	0,5	0,4
▲ PRELIOS	434,0	372,6	69,7	663,1	589,6	326,2	0,7	0,6	0,2
▲ PREMUDA	108,2	44,6	54,2	213,5	164,5	126,0	0,5	0,3	0,4
▲ RCS MEDIAGROUP	774,6	507,2	939,8	1.067,4	702,7	179,0	0,7	0,7	5,3
▲ RDB	98,6	91,7	20,8	142,6	134,1	-110,9	0,7	0,7	n.d.
● ACOTEL GROUP	81,2	42,7	35,1	46,4	27,3	14,4	1,8	1,6	2,4
● BASTOGI	28,0	16,4	14,5	20,4	14,0	8,7	1,4	1,2	1,7
● CHL	10,0	9,4	9,0	0,8	0,4	0,0	13,2	21,6	203,9
● IL SOLE 24 ORE	25,5	27,7	15,8	110,6	87,2	-11,7	0,2	0,3	n.d.
● PIERREL	63,7	50,8	13,4	18,5	10,7	1,8	3,4	4,8	7,3

Table 4.5: Market capitalization, accounting equity and P/B Ratio, from year -2 to year 0. Source: personal elaboration, data from AIDA Bureau van Dijk, Annual Financial Statement and Thomson Reuters Eikon

4.7 Situation at year 0

The second part of the analysis contained in this dissertation starts from the economic situation of the 24 companies in sample in year 0. The objective of this section is to understand which are the strategies that companies implement to try to realize the turnaround and recover previous levels of performance. In order to do this, the year 0 and the data of the financial statements referring to the following two financial years are taken into consideration. The research questions in this second phase are:

- What are the causes that push companies to stop their activities and exit the market?
- What are the most effective strategies that allow companies to achieve the turnaround?
- How long does it take for companies to regain profitability and get out of the distressed situation?

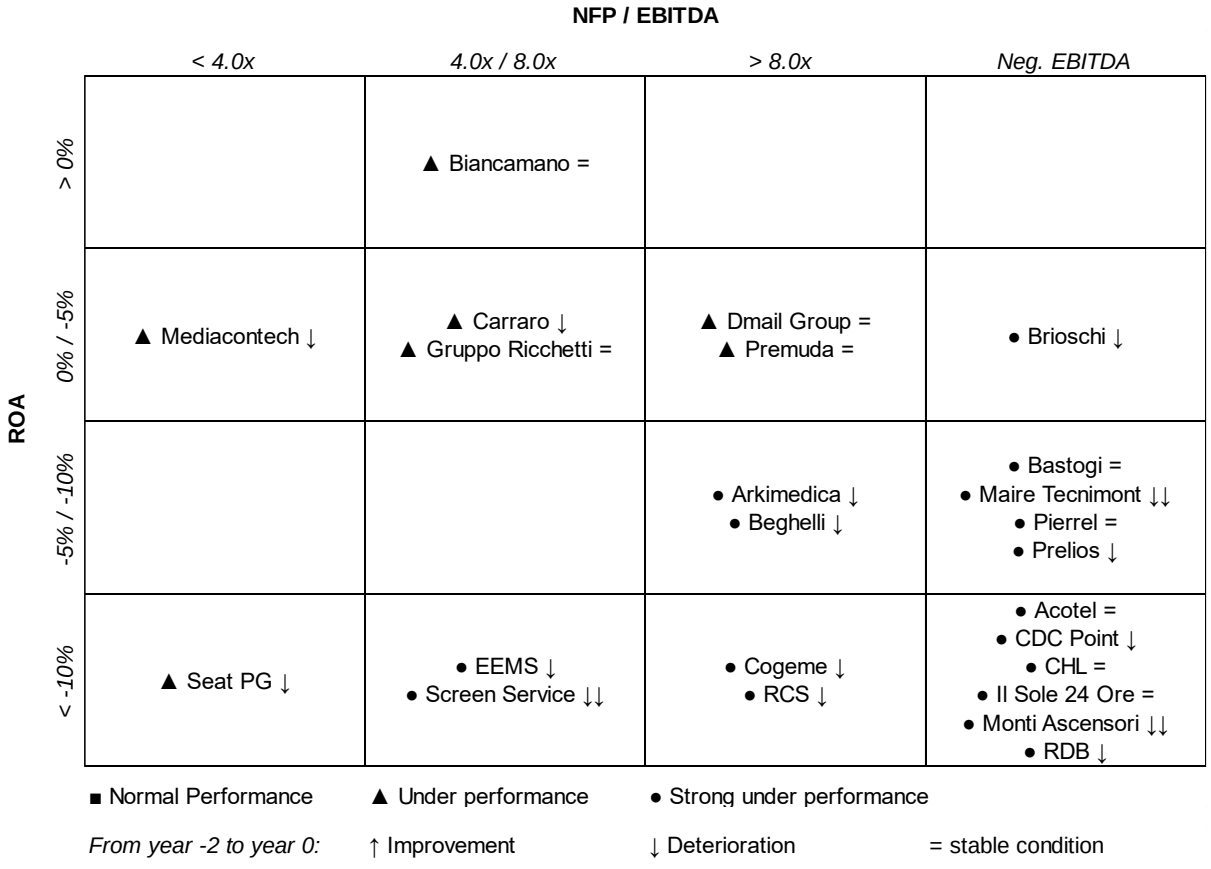

Figure 4.17: Classification of companies based on performance in year 0. Source: personal elaboration

Year 0 is the year that triggers CONSOB's request for disclosure of additional periodic financial information and represents the financial year in which the crisis hits companies with the greatest intensity. In year 0, performance is generally very negative. From the point of view of operating profitability, only one company obtains a positive Return on Assets (ROA) and EBIT. From a financial point of view, only two companies (Mediacontech and Seat PG) have an

NFP/EBITDA value below the critical threshold. No company is classified as "normal performer". 17 companies are classified as strong underperformers; the remaining 7 companies are classified as under performers. 12 companies worsen their performance and change category (their classification worsen). 3 more companies (Monti Ascensori, Screen Service and Maire Tecnimont) move from the category of normal performers to the one characterized by the worst performance. The five companies that, in year -2, made up the category of "strong under performers" do not improve their condition and remain with a strongly negative performance.

Figure 4.18 shows a negative ROA for the vast majority of companies. CDC Point and RDB have obtained a very negative value of ROA. The reason for this is that the financial statement of these two companies has been composed without using the going concern assumption. Therefore, the weight of write-downs is very relevant and the value of Return on Assets (ROA) is not reliable. EBITDA margin is negative for the vast majority of companies. Only some of the companies classified as "under performers" have a positive margin. However, the value of EBITDA % is highly influenced by the type of business in which the company is engaged. Seat PG, for example, is engaged in a business in which the EBITDA margin is very high. In the case of this company, EBITDA is then reduced by the impact of non-monetary costs (amortizations, depreciations and write-downs). The ROIC trend reflects the ROA trend quite symmetrically, with the exception of companies in which the capital invested is negative. In this latter case the Return on Invested Capital (ROIC) loses its significance.

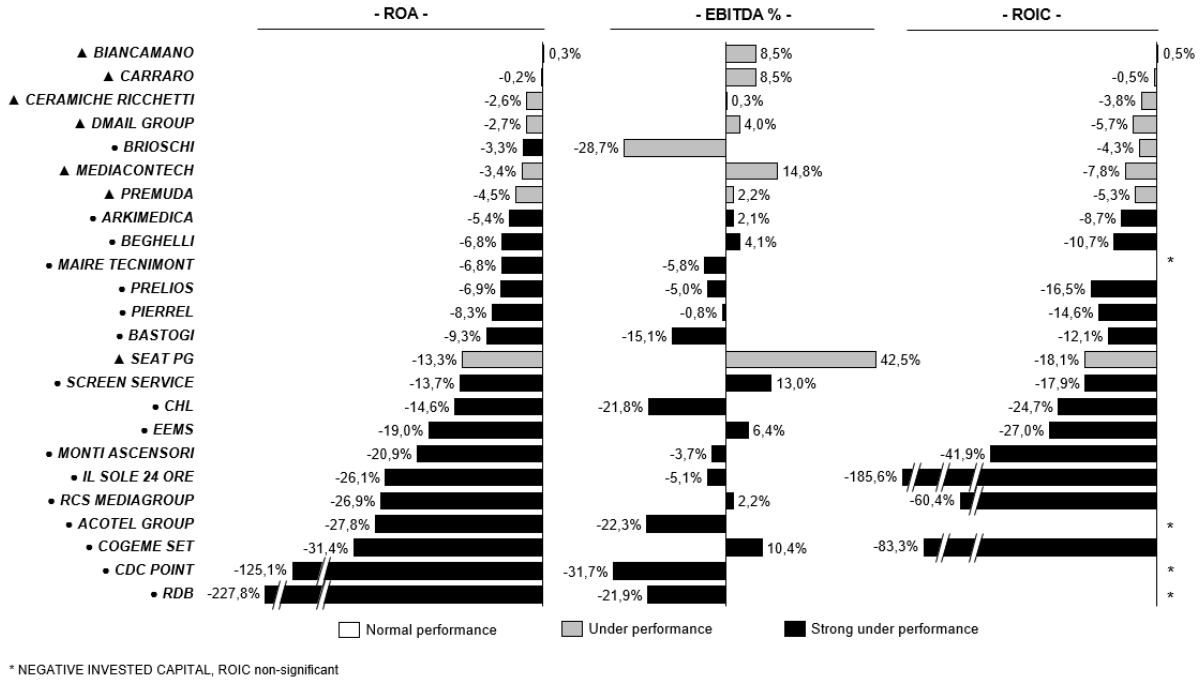

Figure 4.18: ROA, EBITDA Margin, ROIC of companies in the sample in year 0. Data sorted by ROA values. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

From a financial point of view (figure 4.19), most of the companies has a risky financial structure and an NFP/EBITDA value which suggests potential difficulties in servicing debt or the necessity to renegotiate existing financing contracts. Only two companies achieve a NFP/EBITDA value of less than 4.0x. The negative results obtained by the 24 companies in the sample in the years prior to year 0 caused an erosion of equity. As shown by the NFP/EQUITY ratio trend, most companies have equity imbalances with a very high incidence of the NFP on the total equity or a negative value of the ratio due to the presence of a negative accounting equity. The situation of financial tension is also manifested by the values of the quick ratio. At year 0, 21 out of 24 companies had a quick ratio higher than the value considered critical (0.8).

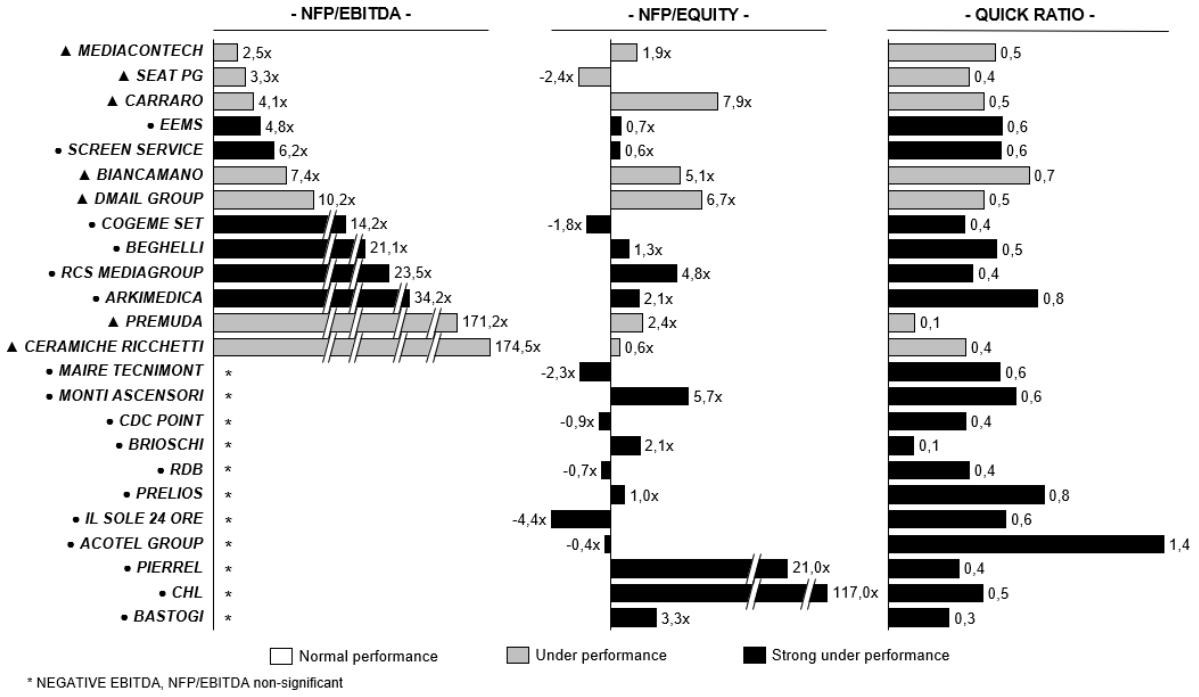

Figure 4.19: NFP/EBITDA, NFP/EQUITY and Quick Ratio of companies in the sample in year 0. Data sorted by NFP/EBITDA values. Source: personal elaboration, data from AIDA Bureau van Dijk and Financial Statement.

4.8 Triggers of the crisis

Opinions on the financial statements of year 0 expressed by auditors contain the causes that have produced the emergence of a situation of financial tension that has generated doubts on the going concern. Table 4.6 contains a summary of the triggers of financial distress that are described in details below.

#	Company	Form of Opinion	Triggers of the crisis
1	Acotel Group	Unmodified	Substantial cash flows absorption from operations
2	Arkimedica	Unmodified	Negative EBIT and situation of liquidity tension
3	Bastogi	Unmodified	Liquidity tension (overdue financial debts) and difficulty to dispose assets
4	Beghelli	Disclaimer of	Liquidity tension, difficulties in meeting financial obligations
5	Biancamano	Disclaimer of	Liquidity tension, high amount of uncollectable trade receivables
6	Brioschi	Unmodified	Liquidity tension, difficulties in meeting financial obligations
7	Carraro	Unmodified	Difficulties to sign a debt rescheduling agreement with banks
8	CDC Point	Disclaimer of	Liquidity tension, payment delays to suppliers and absence of an agreement with banks
9	Ceramiche Ricchetti	Unmodified	Liquidity tension, overdue financial and operational debts
10	CHL	Unmodified	Liquidity tension, difficulties in meeting financial obligations
11	Cogeme Set	Disclaimer of	Liquidity tension, difficulties in meeting financial obligations
12	Dmail Group	Unmodified	Liquidity tension, payment delays to suppliers and absence of an agreement with banks
13	EEMS	Unmodified	Liquidity tension, covenant breach
14	Il Sole 24 Ore	Unmodified	Negative accounting equity, coventant breach
15	Maire Tecnimont	Unmodified	Covenant breach, past-due payables to suppliers, negative accouting equity
16	Mediacontech	Unmodified	Liquidity tension, difficulties in meeting financial obligations
17	Monti Ascensori	Adverse	Financial imbalance (overdue financial debt), negative accounting equity
18	Pierrel	Unmodified	Liquidity tension, difficulties in meeting financial and operational obligations
19	Prelios	Unmodified	Liquidity tension, difficulties in meeting financial obligations
20	Premuda	Unmodified	Liquidity tension (overdue financial debts)
21	RCS Mediagroup	Unmodified	Liquidity tension, severe reduction of accounting equity
22	RDB	Adverse	Liquidity tension, difficulties in meeting obligations, absence of going concern assumption
23	Screen Service	Unmodified	Liquidity tension, covenant breach
24	Seat PG	Unmodified	Financial imbalance (overdue financial debt)

Table 4.5: Triggers of financial distress. Source: personal elaboration.

1. ACOTEL GROUP – Telecommunications. *Auditors' Report as at December 31, 2015: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors point out that the company is facing a moment of operational difficulty due to two main reasons: the deterioration of the conditions of the main markets where the group operates and the start-up phase of the new business areas undertaken that are not yet able to remunerate the investments made.

2. ARKIMEDICA – Health Care. *Auditors' Report as at December 31, 2010: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors point out that the company in the financial year 2010 has suffered from operational losses and is characterized by a strong financial imbalance. As highlighted by the directors in the management report, a preponderant part of the companies that make up the group is in a situation of financial tension and the business plan shows that the expected cash flows are not sufficient to meet the financial requirements. For this reason, the directors have submitted a moratorium request to banks and have provided for a plan of disposals for all the companies that are part of the contract division.

3. BASTOGI – Industrial Goods and Services. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors point out that financial year 2012 has been characterized by a substantial economic loss attributable to a progressive worsening of the economic conditions that influenced the performances of the sectors in which the company operates. In particular, the crisis in the real estate market has slowed down the timing of the

disposal of some assets not considered strategic, not allowing the company to repay financial debts which at March 31, 2013 show an expired amount of € 2.5 million.

4. BEGHELLI – Industrial Goods and Services. *Auditors' Report as at December 31, 2012: disclaimer of Opinion.* Auditors state their inability to express an opinion on Beghelli's financial statements due to the numerous uncertainties that cast doubt on the going concern. In particular, according to their report, the group is threatened by a liquidity contraction that is attributable to 3 main causes. First, the results of the photovoltaic systems business have been heavily influenced by the regulatory changes that have reduced the incentives causing the impossibility to meet expected economic results. Second, the contraction of volumes due to the global economic crisis on all the main markets of the traditional business has increased the incidence of fixed costs and has prevented the group from exploiting economies of scale. Finally, contractual and bureaucratic problems did not allow the disinvestment of a Chinese subsidiary that was supposed to generate liquidity for about € 10 million.

5. BIANCAMANO – Industrial Goods and Services. *Auditors' Report as at December 31, 2012: disclaimer of Opinion.* According to auditors' report, the impossibility to express an opinion is related to 2 main reasons. First, the group has a very significant amount of trade receivables among its assets, of which 58% have expired. The directors, in the management report, point out that the company is trying to recover those credits but due to legal uncertainties they do not exclude that there may be the risk of not completely collecting those amounts. The second reason is connected to the average payment times of the public administration. The group has the Italian public administrations as its main customer which, especially during the financial year 2012, have significantly lengthened payment times. This situation, aggravated by the lower propensity of the financial system to grant credit had significant effects on the group's liquidity.

6. BRIOSCHI – Real Estate. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors identify the main reasons for uncertainty regarding the going concern in the tightening of credit access conditions and in the negative dynamics of the real estate market. The directors in the management report of the 2012 financial statements highlight how the lengthening of time in the definition of property sales has led to the emergence of liquidity problems. The directors communicate that negotiations are underway with the financial institutions for the rescheduling of long-term loans.

7. CARRARO – Industrial Goods and Services. *Auditors' Review as at June 30, 2015: unmodified conclusion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* In June 2015 the group faced a period of liquidity tension that has required the proposal to financial institutions for debt rescheduling. The delay of the conclusion of negotiation for a debt rescheduling agreement is an element of significant uncertainty regarding the going concern.

8. CDC POINT – Technology. *Auditors' Report as at December 31, 2012: disclaimer of Opinion.* In the years prior to 2012 the company had to face a restructuring process due to unsatisfactory performances of its core business. These extraordinary operations generated extraordinary cash absorption that altered the financial balance, generating important payment delays to suppliers. Due to a situation of serious uncertainty, the company has submitted an application for admission to the composition with creditors pursuant to Article 161, paragraph 6 of the Italian Bankruptcy Law. However, the auditors are not able to express an opinion on the financial statements since the assumption of the going concern is subject to uncertainty and depends on the admission by the court to the procedure, to the favourable vote of the creditors and finally to the homologation by the court. Furthermore, the auditors consider the absence of an agreement with the banking class as a source of considerable uncertainty.

9. GRUPPO CERAMICHE RICCHETTI – Construction & Materials. *Auditors' Report as at December 31, 2010: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* Auditors point out that the group suffers from a significant loss at operational level caused by the deterioration of the general economic situation. This poor performance has generated a situation of financial tension that has manifested itself through the failure to comply with the covenants agreed with the banks, the failure to repay a loan instalment and a relevant fraction of past due trade payables. In this situation the directors have obtained debt rescheduling and are negotiating a waiver with the banking system. Management has expressed the will to reorganize the group, make production more efficient and dispose the relevant inventory. The company can count on a considerable amount of real estate largely free of collateral.

10. CHL – Retail. *Auditors' Report as at December 31, 2015: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors point out that the company is in financial tension and is struggling to find the financial resources necessary to continue the activity. In particular, the difficult situation is attributed to the technical problems related to the implementation of the system for secure internet access and to the delays for the registration of the patent which deferred the start of

commercialization and generated economic results below the expectations in the "telecommunications" sector. However, the directors indicate that shareholders have accepted to subscribe convertible bonds for an amount sufficient to guarantee business continuity.

11. COGEME SET – Automobiles and Parts. *Auditors' Review as at June 30, 2011: disclaimer of opinion.* The 2011 half-year financial statement shows a substantial negative result due to the performance of the parent company and the subsidiaries. In particular, the loss is generated by the write-downs of fixed assets, trade receivables and equity investments. The directors point out that the expected cash flows are not sufficient to meet short-term financial requirements. With regard to the relationship with the banks, the auditors stress that the covenants to maintain the loans granted have not been respected. Auditors are unable to express an opinion. Although the directors have drawn up a plan for restoring the financial stability and the conditions of operational effectiveness and efficiency, the outcome of this plan is subject to substantial uncertainty, given that the company has registered a capital deficit which makes it fall under the provisions of Article 2447 of Italian Civil Code.

12. DMAIL GROUP – Retail. *Auditors' Report as at December 31, 2011: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* In 2011, the company has suffered from a significant economic loss which led to a decrease in equity of more than a third with the consequent application of the provisions of article 2446 of the Italian Civil Code. The causes of this distress situation are the insufficient performance of companies in the media commerce area, the write-down of goodwill and provisions for possible risks arising from a subsidiary in liquidation. From the financial point of view, directors report that there has been a reduction in the credit lines that are fully utilized. The intention of the management is to strengthen the share capital and restructure bank debts.

13. EEMS – Technology. *Auditors' Report as at December 31, 2011: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The semiconductor market presents elements of uncertainty and a drop in demand which has led to a deterioration of the financial situation of the group. The performance below expectations caused the violation of the covenants and the need to restructure the debt. The directors have prepared an updated business plan which has been certified in order to ascertain its reasonableness by an independent expert pursuant to article 67, paragraph 3, of the Italian Bankruptcy Law.

14. IL SOLE 24 ORE – Media. *Auditors' Report as at December 31, 2016: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to*

going concern". The auditors' report points out two important uncertainties that call into question the assumption of the going concern. First, in 2016 the group sustained a considerable economic loss that generated a situation of equity deficit which causes the group to fall into the case described by Article 2447 of the Italian Civil Code. Second, in 2016 the operating activity has not generated cash flows. This situation led to the failure to comply with some covenants agreed with the banking system. The shareholders have undertaken to subscribe to a capital increase and the management intends to divest part of the "Education & services" business so as to obtain the necessary liquidity.

15. MAIRE TECNIMONT – Oil & Gas. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* Auditors express 3 situations that can put at risk the assumption of the going concern. First, the Group in 2012 suffered from a significant economic loss which reduced the share capital and caused the company to fall into the case described by Article 2447 of the Italian Civil Code. Second, due to a generation of operating cash flow that did not meet expectations, a situation of liquidity tension emerged. This led the company to have € 130 million past-due payables to suppliers. Finally, the negative results of the year led to the failure to comply with the covenants agreed with the banking system and necessary to maintain the existing loans. However, the auditors believe that the assumption of business continuity is appropriate given that the directors have approved a complex financial plan that provides for the rescheduling of financial debts, for a capital increase of € 150 million and for the disposal of non-strategic assets for an amount of 300 € million.

16. MEDIACONTECH – Media. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors state that the liquidity situation generates doubts about the assumption of business continuity. In particular, the expected cash flows are not consistent with the financial needs of the following financial year. However, the directors inform that negotiations with the banks have started in order to find an agreement for a restructuring agreement and a new debt structure.

17. MONTI ASCENSORI – Industrial Goods and Services. *Auditors' Report as at December 31, 2010: adverse opinion.* The auditors believe that the management's choice to use the assumption of going concern is incorrect. In the report of the auditing firm it is noted that due to the poor performance of the last financial year the company is in a situation of serious financial imbalance, has a negative equity and is in liquidity tension. The covenants have not been respected and some instalments of financial debts have not been paid. The auditors point

out that in this situation the management has not started negotiations for debt rescheduling and the requests for a moratorium have not received a positive response from the banks. Furthermore, tax and social security debts are not paid. In addition, the report signals the presence in the company's accounts of some anomalous operations that do not have documentation that justifies their rationale and have a doubtful economic substance.

18. PIERREL – Health Care. *Auditors' Report as at December 31, 2011: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors point out that doubts related to the going concern subsist. After two years of huge investments the results obtained in the financial year 2011 are worse than the forecasts articulated in the business plans. The failure to achieve the targets is related to a slowdown in sales of the Manufacturing division and to the delay in entry into the US market of a new product of the Pharma division. This has entailed the generation of an insufficient amount of cash flows that led to an increase in the company's debt. The short-term lines of credit that the company can rely on are fully utilized. Furthermore, there are tensions with suppliers due to overdue trade payables and the company has not fulfilled the payment of social security contributions. However, the directors consider the use of the going concern assumption appropriate given that in November 2011 a capital increase was made and the shareholders committed to make a further capital increase in the following months in order to provide the company with the resources necessary to continue the activity.

19. PRELIOS – Real Estate. *Auditors' Report as at December 31, 2011: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* Auditors signals the presence of liquidity tensions for Prelios. In particular, the expected cash flows are not sufficient to meet the financial obligations of the company. For this reason, directors have started negotiations with banking institutions aimed at refinancing the debt. The reasons for this distress situation are attributable in particular to the real estate market context which, in 2011, has further deteriorated due to the sovereign debt crisis. The uncertainty has led to a negative impact on property values and to a delay in the disposal of non-strategic assets. The auditors believe that the use of the going concern assumption is appropriate even if they believe that the uncertainty about the effective realization of the business plan derives from the industry context and it is not directly governable.

20. PREMUDA – Industrial Goods & Services. *Auditors' Report as at December 31, 2013: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The auditors inform that during 2013 there was the unexpected non-renewal of an 18-month credit line for an amount of approximately € 20 million. This has

generated a situation of significant financial tension. Premuda has suspended the payments of instalments of existing mortgages and has started the negotiations with banks for the rescheduling of financial debt. In the meantime, the company has respected all its commercial and tax obligations. In the last months of the year, directors submitted a request for a moratorium to the banks based on an industrial plan certified by an independent advisor pursuant to article 67 of the Italian Bankruptcy Law.

21. RCS MEDIAGROUP – Media. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* Auditors include an emphasis of matters paragraph given that the loss incurred by the company in 2012 causes RCS to fall into the case described by Article 2446 of the Italian Civil Code. Auditors agree with the management's choice to use the assumption of going concern given that the management has already provided for a plan with multiple interventions aimed at overcoming the crisis situation. In particular, in the following year a capital increase for a total of € 600 million is planned and bank debt refinancing for a total of € 575 million is expected. The banks consider the capital increase as a necessary condition for obtaining refinancing.

22. RDB – Construction & Materials. *Auditors' Report as at December 31, 2011: adverse opinion.* During 2011, RDB entered a phase of relevant financial crisis and tried to enter the procedure of the composition with creditors in continuity. At the end of 2011, no positive feedback was received from banking institutions. For this reason, directors decided to draw up the financial statements by not applying the going concern assumption. However, the auditors point out that the company has not provided the necessary documentation to conduct the audit activities on write-downs of receivables, fixed assets and inventories. Auditors also report that due to the absence of the going concern assumption some tax credits and other receivables that continue to be recorded in the balance sheet cannot be recovered. Due to these findings and missing information, the auditors believe that the financial statements were not prepared in accordance with IFRS.

23. SCREEN SERVICE – Technology. *Auditors' Report as at December 31, 2012: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern".* The covenants of a pool loan have not been respected and this allows the banks that have granted the loan to request the immediate repayment of the entire amount. The directors with the support of advisors are preparing a financial plan aimed at restructuring the debt and restore the financial equilibrium. Management believes that the liquidity tension can be overcome through the restructuring of short-term loans and the renegotiation of the

maturity of the medium and long-term debt. Shareholders have expressed their commitment by promising a liquidity injection.

24. SEAT PAGINE GIALLE – Media. *Auditors' Review as at June 30, 2011: unmodified opinion with an emphasis of matters paragraph concerning "material uncertainty related to going concern"*. The auditors point out that the strong imbalance in the financial structure can put the continuity of the business at risk. In particular, cash generation below expectations is likely not to produce the cash flows required in the second quarter of 2012 for the repayment of large financial debts. The auditors believe that an intervention is needed to reformulate and reschedule the company's financial debt.

4.9 Companies that did not overcome the crisis

Among the companies most severely affected by the crisis (strong under performers), 5 entities were unable to overcome financial distress and had to suspend operations before year 2. The companies that left the market are summarized in Table 4.6. It is worth noticing that all companies at year 0 were classified as strong underperformers and were part of CONSOB's so-called "black list". Instead, in year -2, not all companies showed signs of difficulty. This suggests that different downward paths and different severity of the crisis have affected these companies. The causes that pushed these 5 entities to leave the market are summarized below.

Exits			
5 companies	**year -2**	**year 0**	**CONSOB Supervision**
CDC POINT	▲ Under performance	● *Strong underperformance*	Black list
COGEME SET	▲ Under performance	● *Strong underperformance*	Black list
MONTI ASCENSORI	■ Normal Performance	● *Strong underperformance*	Black list
RDB	▲ Under performance	● *Strong underperformance*	Black list
SCREEN SERVICE	■ Normal Performance	● *Strong underperformance*	Black list

Table 4.6: Companies that did not overcome the business crisis. Source: personal elaboration.

Cogeme SeT

Cogeme SeT is a company that already two years before the outbreak of the crisis had a very high level of financial indebtedness (NFP/EBITDA 5.4x). From the point of view of the operating business, profitability in 2009 was very high with an EBITDA margin of 37.3% in 2009.

COGEME SET	*Automobiles & Parts*		0y: 2011

Income Statement (million €)	-2y	-1y	0y
REVENUES	**66,0**	**87,4**	**66,0**
Revenues growth (%)		*32,4%*	*-24,5%*
Raw materials	*-17,9%*	*-37,7%*	*-61,8%*
Personnel expenes	*-20,3%*	*-15,6%*	*-11,3%*
Other operating costs	*-24,5%*	*-17,1%*	*-16,5%*
EBITDA	**24,6**	**25,9**	**6,9**
ebitda%	*37,3%*	*29,6%*	*10,4%*
Write-offs	*(1,1)*	*(6,0)*	*(31,5)*
Amortization and Depreciation	*(13,7)*	*(15,4)*	*(7,0)*
EBIT	**9,8**	**4,5**	**(31,6)**
ebit%	*14,9%*	*5,1%*	*-47,9%*
Interest expenses	*(7,5)*	*(8,5)*	*(8,5)*
EBITDA/Interest expenses	*3,3*	*3,0*	*0,8*
NET INCOME	**2,5**	**(2,8)**	**(74,0)**

Other financial ratios	-2y	-1y	0y
DIOH - Days inventory on hand	633	226	89
DSO - Days sales outstanding	143	201	41
DPO - Days payable outstanding	199	202	143
Current ratio	1,5	1,1	0,5
Quick ratio	1,2	0,9	0,4
ROIC	5,0%	2,1%	-83,3%
ROA	3,9%	1,6%	-31,4%

Balance Sheet (million €)	-2y	-1y	0y
Net working capital	61,1	61,6	0,7
Fixed Assets	139,7	150,4	50,1
Other Op. non-current Assets	(2,4)	(2,0)	(13,0)
INVESTED CAPITAL	**198,4**	**210,0**	**37,9**
Non-operating assets	13,5	13,8	5,2
TOTAL FUNDS INVESTED	**211,9**	**223,8**	**43,1**
SHAREHOLDERS' EQUITY	**80,1**	**86,8**	**(54,7)**
NFP - Short Term	39,8	60,1	56,8
NFP - Long Term	92,0	76,9	41,1
NET FINANCIAL POSITION	**131,8**	**137,0**	**97,9**
NFP/EBITDA	*5,4x*	*5,3x*	*14,2x*
NFP/EQUITY	*1,6x*	*1,6x*	*-1,8x*
NFP/Sales	*2,0x*	*1,6x*	*1,5x*

Cash Flow (million €)	-2y	-1y	0y
EBITDA	**24,6**	**25,9**	**6,9**
Tax, Extr. Items, Interest Income	0,2	1,2	(34,0)
GROSS CASH FLOW	24,8	27,1	(27,1)
Increase (decrease) in WC	(32,0)	(5,7)	54,6
CASH FLOW FROM OPERATIONS	**(7,2)**	**21,4**	**27,5**
Capital expenditures	(35,4)	(26,1)	81,6
Inv. In other op. non current assets	(10,8)	3,8	(61,5)
NET CASH FLOW	**(53,4)**	**(1,0)**	**47,6**
Changes in shareholders' equity	27,6	4,3	0,0
Interest expenses	(7,5)	(8,5)	(8,5)
CASH FLOW TO DEBT	**(33,3)**	**(5,2)**	**39,2**

Table 4.7: Cogeme SeT, summarized financial statement. Source: personal elaboration, data from Aida BvD and annual financial report

In 2010, the company's turnover increased by 32.4%. Despite the increase in sales, margins did not increase proportionally. The EBITDA margin declined from 37.3% to 29.6% and EBIT fell in absolute terms by €5.3 million. The reason for this loss of efficiency is attributable to the increase in the incidence of costs of raw material and to €6.0 million in write-downs of tangible and intangible assets. At the end of 2010 all the instalments of financial debts were regularly paid while the trade payables had a past due amount of € 5.5 million. However, the financial situation was critical. At the end of 2010, 95% of the short-term credit lines was already utilized and covenants of the loan agreements were not met. The company began negotiations with the banks in order to obtain a waiver on the conditions not respected. In 2010, Cogeme pointed out that the financial situation could represent a significant risk for the continuity of operations. In particular, the cash flows for 2011 were expected to be not sufficient to satisfy the financial obligations. For this reason, the company appointed a consulting firm to draw up a financial restructuring plan. The plan consists of a request for a moratorium on medium/long-term debt and a commitment by shareholders to increase capital or to seek a partner of an industrial nature in order to strengthen the company.

However, the situation deteriorated further during 2011. Revenues fell by around €20 million. Operating efficiency deteriorated very significantly with a substantial increase in the percentage incidence of raw material costs on total revenues. The EBIT of 2012 was negative for €31.6 million due to a significant amount of write-downs of operating assets (€31.5 million). In this

context, the banks not only did not grant new finance, but they also reduced the credit lines previously granted. In consideration of the negative economic and financial performance, there was also a failure to comply with the covenants. Operating losses and write-downs generated a loss of € 74.0 million. The loss led equity to fall below the legal limit (pursuant to Article 2447 of the Italian Civil Code). These negative results, together with the relevant financial debt of €97.9 million, led to the emergence of an extreme financial tension. As a result of the situation described above, on January 2012, the Shareholders' Meeting, having ascertained the occurrence of the legal cause of dissolution, resolved to put the Company into liquidation. In the meantime, an application has also been submitted for the admission of the insolvency proceedings of composition with creditors.

CDC Point

As described in chapter 3, CDC Point operates in the information technology industry as manufacturer and distributor. In 2011 and 2012, the company was severely affected by the drop in consumption in Italy, by the macroeconomic uncertainty and by the difficulty in accessing finance. In particular, in the second half of 2011, consumption of IT products fell by 20% in Italy.

CDC POINT	*Technology*		
Income Statement (million €)	**-2y**	**-1y**	**0y**
REVENUES	**348,2**	**311,1**	**89,8**
Revenues growth (%)		*-10,7%*	*-71,2%*
Raw materials	*-87,5%*	*-88,8%*	*-97,8%*
Personnel expenes	*-4,1%*	*-4,8%*	*-15,2%*
Other operating costs	*-6,4%*	*-6,7%*	*-18,7%*
EBITDA	**6,7**	**(0,9)**	**(28,4)**
ebitda%	*1,9%*	*-0,3%*	*-31,7%*
Write-offs	*(0,7)*	*(1,0)*	*(29,3)*
Amortization and Depreciation	*(3,1)*	*(3,2)*	*(2,8)*
EBIT	**2,9**	**(5,2)**	**(60,5)**
ebit%	*0,8%*	*-1,7%*	*-67,4%*
Interest expenses	*(2,3)*	*(3,9)*	*(3,4)*
EBITDA/Interest expenses	*2,9*	*-0,2*	*-8,3*
NET INCOME	**0,1**	**(8,4)**	**(69,1)**
Other financial ratios	**-2y**	**-1y**	**0y**
DIOH - Days inventory on hand	43	42	9
DSO - Days sales outstanding	88	88	75
DPO - Days payable outstanding	88	80	118
Current ratio	1,2	1,1	0,4
Quick ratio	0,9	0,9	0,4
ROIC	4,8%	-8,2%	473,1%
ROA	1,5%	-3,0%	-125,1%

0y: 2012

Balance Sheet (million €)	**-2y**	**-1y**	**0y**
Net working capital	32,7	31,9	(23,9)
Fixed Assets	30,1	31,8	14,1
Other Op. non-current Assets	(2,7)	(1,0)	(3,0)
INVESTED CAPITAL	**60,1**	**62,7**	**(12,8)**
Non-operating assets	15,1	14,4	8,4
TOTAL FUNDS INVESTED	**75,2**	**77,1**	**(4,4)**
SHAREHOLDERS' EQUITY	**43,0**	**33,2**	**(36,0)**
NFP - Short Term	18,8	29,0	31,6
NFP - Long Term	13,4	14,9	0,0
NET FINANCIAL POSITION	**32,2**	**43,9**	**31,6**
NFP/EBITDA	*4,8x*	*-48,0x*	*-1,1x*
NFP/EQUITY	*0,7x*	*1,3x*	*-0,9x*
NFP/Sales	*0,1x*	*0,1x*	*0,4x*
Cash Flow (million €)	**-2y**	**-1y**	**0y**
EBITDA	**6,7**	**(0,9)**	**(28,4)**
Tax, Extr. Items, Interest Income	(0,5)	0,7	(5,2)
GROSS CASH FLOW	6,3	(0,2)	(33,6)
Increase (decrease) in WC	10,1	(0,2)	43,2
CASH FLOW FROM OPERATIONS	**16,4**	**(0,4)**	**9,6**
Capital expenditures	(12,8)	(4,9)	(1,8)
Inv. In other op. non current assets	(15,2)	(1,1)	7,9
NET CASH FLOW	**(11,7)**	**(6,4)**	**15,7**
Changes in shareholders' equity	(1,0)	(1,4)	0,0
Interest expenses	(2,3)	(3,9)	(3,4)
CASH FLOW TO DEBT	**(15,0)**	**(11,7)**	**12,3**

Table 4.8: CDC Point, summarized financial statement. Source: personal elaboration, data from Aida BvD and annual financial report

Net sales of CDC Point have reduced by -10.7% in 2011. Margins, which were already very low in 2010, deteriorated further in 2011. In particular, EBITDA became negative (-€0.9 million, EBITDA margin -0.3%). The reduction in profitability was attributed to a lower capacity to absorb fixed costs due to the reduction in turnover. In addition, the company also identifies a "price effect" linked to the reduction in the percentage margin that manufacturers recognize to retailers. CDC's operating costs increased also due to the integration of the chain of stores with the "Essedi" brand, which was completed in 2011. The acquisition of these stores was aimed at achieving the objective of providing a more widespread presence in Italy. In the first months of the year margins were lower than expected due to a period of learning that led to an underperformance in the first period after the integration.

On December 2009 the company signed a loan agreement with a pool of banks for a total of € 21.5 million with a duration of 4 years. During 2011, the company regularly paid the first two instalments for an amount of €7.2 million. However, the expected cash flows for 2012 raised doubt about the ability of the company to pay the instalments. For this reason, it was necessary to start negotiations aimed at restructuring the debt lengthening the maturities.

In 2012, the company's revenues declined sharply (-71.2%) due to the company's reduced financial capacity. The situation of financial tension has led to a delay of the payment terms to suppliers, compromising business relations. The situation worsened further in the second half of the year when procurement processes came to a halt. CDC Point could only continue operations through the sale of the existing inventory. In the latter part of 2012, the level of available stocks was further reduced and the inventory was depleted. This difficult situation led to a collapse in margins. In addition, during the year all the "Computer Discount" and "Essedi" stores managed directly by the Group were closed. In 2012, the Group recorded a loss of approximately €69.1 million. The result was profoundly influenced by write-downs of tangible and intangible assets.

In early 2012, the company began to prepare a financial package to be submitted to credit institutions. In the following months, the conditions and forecasts included in the plan were only partially met and the company was not able to obtain the approval of the banks. The company was therefore forced to apply for admission to composition with creditors and to declare the liquidation.

Monti Ascensori

After the listing on the stock exchange in 2008, Monti Ascensori has chosen to start a restructuring process aimed at changing the business model. In order achieve a more widespread presence in the Italian territory, *Patrimoni destinati a specifici affari* (pursuant to Article 2447 bis of the Italian Civil Code) were set up. The company's strategy aimed at growing through the establishment of these separate units together with local entrepreneurs. In the view of the company, this instrument would have allowed the group to limit risks and, at the same time, to maintain control of the management both from a technical and economic point of view.

MONTI ASCENSORI	*Industrial Goods & Services*		
Income Statement (million €)	**-2y**	**-1y**	**0y**
REVENUES	**33,0**	**36,6**	**43,3**
Revenues growth (%)		*11,1%*	*18,3%*
Raw materials	*-16,2%*	*-14,8%*	*-23,8%*
Personnel expenes	*-5,7%*	*-11,8%*	*-18,0%*
Other operating costs	*-63,9%*	*-57,9%*	*-61,8%*
EBITDA	**4,7**	**5,7**	**(1,6)**
ebitda%	*14,1%*	*15,6%*	*-3,7%*
Write-offs	*(0,2)*	*(0,1)*	*(8,4)*
Amortization and Depreciation	*(2,8)*	*(3,3)*	*(3,9)*
EBIT	**1,7**	**2,3**	**(13,9)**
ebit%	*5,1%*	*6,3%*	*-32,1%*
Interest expenses	*(1,3)*	*(1,6)*	*(1,5)*
EBITDA/Interest expenses	*3,7*	*3,6*	*-1,1*
NET INCOME	**0,4**	**0,4**	**(12,6)**
Other financial ratios	**-2y**	**-1y**	**0y**
DIOH - Days inventory on hand	613	752	407
DSO - Days sales outstanding	290	268	211
DPO - Days payable outstanding	175	157	147
Current ratio	1,6	1,3	0,9
Quick ratio	1,3	0,9	0,6
ROIC	5,3%	5,7%	-41,9%
ROA	2,9%	3,4%	-20,9%

0y: 2010			
Balance Sheet (million €)	**-2y**	**-1y**	**0y**
Net working capital	17,8	17,8	14,0
Fixed Assets	14,3	22,5	20,6
Other Op. non-current Assets	(0,3)	(0,3)	(1,4)
INVESTED CAPITAL	**31,9**	**39,9**	**33,2**
Non-operating assets	0,3	0,6	0,4
TOTAL FUNDS INVESTED	**32,2**	**40,6**	**33,6**
SHAREHOLDERS' EQUITY	**17,6**	**17,5**	**5,0**
NFP - Short Term	0,6	8,4	19,9
NFP - Long Term	14,0	14,6	8,7
NET FINANCIAL POSITION	**14,6**	**23,0**	**28,6**
NFP/EBITDA	*3,1x*	*4,0x*	*-17,8x*
NFP/EQUITY	*0,8x*	*1,3x*	*5,7x*
NFP/Sales	*0,4x*	*0,6x*	*0,7x*
Cash Flow (million €)	**-2y**	**-1y**	**0y**
EBITDA	**4,7**	**5,7**	**(1,6)**
Tax, Extr. Items, Interest Income	(0,0)	(0,3)	2,8
GROSS CASH FLOW	4,6	5,4	1,2
Increase (decrease) in WC	(1,9)	(0,1)	(2,0)
CASH FLOW FROM OPERATIONS	**2,7**	**5,3**	**(0,9)**
Capital expenditures	(8,9)	(11,4)	(2,1)
Inv. In other op. non current assets	(0,0)	(0,4)	(1,0)
NET CASH FLOW	**(6,2)**	**(6,6)**	**(4,0)**
Changes in shareholders' equity	(0,2)	(0,3)	(0,1)
Interest expenses	(1,3)	(1,6)	(1,5)
CASH FLOW TO DEBT	**(7,7)**	**(8,4)**	**(5,6)**

Table 4.9: Monti Ascensori, summarized financial statement. Source: personal elaboration, data from Aida BvD and annual financial report

In the three years under review, the company's turnover increased from €33.0 million to €43.4 million. In addition to the growth brought about by the creation of *patrimoni destinati*, the company's turnover grew as a result of the acquisition of the French company Sealift S.A. (annual turnover of approximately € 6.7 million) in 2009, active in the maintenance and repair of elevators. Thanks to this acquisition, in 2009 the group went beyond the Italian borders and started operating in France. In the two years prior to the onset of the crisis (2008 and 2009) the company did not show any particular criticality from an operational point of view. EBITDA margin in both financial years remained positive and grew from 14.0% to 15.6%. The EBIT margin also has increased (5.1% in 2008 and 6.3% in 2009). In 2008 the company's level of indebtedness was not critical. The NFP/EBITDA ratio was 3.0x and most of the company's debt

was long-term. In 2009, the NFP increased by €8.4 million due to the acquisition of the French company. The NFP/EBITDA ratio increased to 4.0x, reaching a critical level of indebtedness. Compared to the 2008 financial year, a critical aspect is that a large part of the increase in financial debt is represented by short-term debt.

In 2010 financial year, EBITDA was negative by €1.6 million (EBITDA margin -3.7%). The sharp decline in operating profitability was caused by difficulties in implementing the new business model. In particular, the transition from a model based on outsourcing to one based on direct personnel generated additional and unexpected costs. In particular, the transition period brought about an increase in personnel costs that was not appropriately balanced by a reduction in the cost of third-party processing. EBIT in 2010 was also heavily influenced by extraordinary expenses: € 8.1 million of write-downs of receivables and provisions for tax risks. The net result for the financial year was a loss of €12.6 million. At the same time, the net financial position increased further by €5.6 million to a total of €28.6 million, of which €19.9 million in the short term. The dynamics of the current ratio and quick ratio confirm the lack of consistency between short-term assets and liabilities.

Company's auditors have expressed an adverse opinion to 2010's financial statements due to the lack of information provided by the company and the presence of accounting entries with limited economic substance. In the first months of 2011 the company tried to solve the problems of efficiency of new *patrimoni destinati*, replacing them with real commercial branches in certain areas and selling or liquidating the less profitable ones. In June 2011, there were unpaid loan instalments for €1.1 million and overdue tax and social security payables for a total of €2.5 million. The situation of overdue loans worsened further and as at 10 October 2011, the instalments of loans were overdue for € 2.9 million, trade payables were overdue for € 8.1 million and social security payables for € 3.9 million. The banking system also lacked support to the company, given that all the banks communicated the revocation of the credit lines granted. In this situation, the company made an unsuccessful attempt to be admitted to the insolvency procedure of the composition with creditors. Following the non-admission, the court of Bologna declared the company bankrupt on 15 December 2011.

RBD

RDB Group was mainly active in the Italian construction market. In the years following the outbreak of the Great Recession of 2007-2008, the company's results suffered significantly from the negative dynamics of its industry.

RDB *Construction & Materials* **0y: 2011**

Income Statement (million €)	-2y	-1y	0y
REVENUES	**273,0**	**204,2**	**149,8**
Revenues growth (%)		*-25,2%*	*-26,6%*
Raw materials	*-51,3%*	*-50,7%*	*-58,3%*
Personnel expenes	*-19,4%*	*-19,5%*	*-25,7%*
Other operating costs	*-28,8%*	*-29,5%*	*-37,9%*
EBITDA	**1,3**	**0,6**	**(32,9)**
ebitda%	*0,5%*	*0,3%*	*-21,9%*
Write-offs	*(2,7)*	*1,1*	*(214,3)*
Amortization and Depreciation	*(9,1)*	*(4,9)*	*(3,5)*
EBIT	**(10,5)**	**(3,2)**	**(250,7)**
ebit%	*-3,9%*	*-1,6%*	*-167,3%*
Interest expenses	*(5,4)*	*(4,9)*	*(6,1)*
EBITDA/Interest expenses	*0,2*	*0,1*	*-5,4*
NET INCOME	**(19,7)**	**(8,4)**	**(260,7)**

Other financial ratios	-2y	-1y	0y
DIOH - Days inventory on hand	183	186	90
DSO - Days sales outstanding	137	195	165
DPO - Days payable outstanding	203	226	233
Current ratio	1,1	1,0	0,5
Quick ratio	0,8	0,7	0,4
ROIC	-4,6%	-1,4%	576,4%
ROA	-2,3%	-0,7%	-227,8%

Balance Sheet (million €)	-2y	-1y	0y
Net working capital	45,2	46,6	(19,7)
Fixed Assets	218,2	215,8	3,0
Other Op. non-current Assets	(32,7)	(26,8)	(26,9)
INVESTED CAPITAL	**230,8**	**235,5**	**(43,5)**
Non-operating assets	19,1	23,3	7,0
TOTAL FUNDS INVESTED	**249,9**	**258,8**	**(36,5)**
SHAREHOLDERS' EQUITY	**142,6**	**134,1**	**(110,9)**
NFP - Short Term	38,7	71,2	74,4
NFP - Long Term	68,6	53,5	0,0
NET FINANCIAL POSITION	**107,3**	**124,7**	**74,4**
NFP/EBITDA	*85,6x*	*223,5x*	*-2,3x*
NFP/EQUITY	*0,8x*	*0,9x*	*-0,7x*
NFP/Sales	*0,4x*	*0,6x*	*0,5x*

Cash Flow (million €)	-2y	-1y	0y
EBITDA	**1,3**	**0,6**	**(32,9)**
Tax, Extr. Items, Interest Income	(3,8)	(0,3)	(3,9)
GROSS CASH FLOW	(2,6)	0,3	(36,8)
Increase (decrease) in WC	19,0	(0,9)	40,0
CASH FLOW FROM OPERATIONS	**16,4**	**(0,7)**	**3,2**
Capital expenditures	(11,1)	(2,4)	32,9
Inv. In other op. non current assets	6,4	(8,5)	5,6
NET CASH FLOW	**11,7**	**(11,6)**	**41,7**
Changes in shareholders' equity	(0,1)	(1,0)	14,7
Interest expenses	(5,4)	(4,9)	(6,1)
CASH FLOW TO DEBT	**6,3**	**(17,5)**	**50,3**

Table 4.10: RDB, summarized financial statement. Source: personal elaboration, data from Aida BvD and annual financial report

Between 2009 and 2010, the company's turnover fell significantly from €273.0 million to €204.2 million, a decrease of 25.2%. The reasons for this trend can be attributed to the negative trend in demand. In particular, the market for prefabricated constructions (the company's core business) reduced its production by 30% in the two years under analysis. To avoid a drop in margins, the company concentrated its efforts on controlling production costs and fixed costs. In 2010, thanks to an increase in production efficiency, raw materials costs reduced their incidence on turnover by 0.6%. Due to the impossibility of exploiting economies of scale, fixed costs were reduced in absolute value but their incidence on total turnover increased by about 1%. In both 2009 and 2010, the value of the company's EBITDA was very low, indicating the little cash generation of the business. In the two years prior to the outbreak of the crisis, the company recorded heavy economic losses (€28.1 million in the two years) that significantly reduced shareholders' equity.

The substantial amount of loan repayments to be performed in 2011 was identified as one of the main risks for the business continuity. Due to the business's poor ability to generate operating cash flows, the directors considered it necessary to take out new medium/long-term credit lines. During 2011, RDB found that it was unable to meet its financial obligations and therefore began to prepare a financial package to be submitted to the banks. The company has prepared a financial plan pursuant to Article 67, paragraph 3, letter d) of the Italian Bankruptcy Law. The proposal contained in the plan provided for the shareholders to commit to a capital

increase of a total of €65 million. The final agreement signed with the banks provided for the financial rebalancing of the group through an equity-for-debt swap. In particular, medium/long-term debt was reduced by €15 million through conversion into equity. The situation of RDB worsened in 2012. Top management was completely replaced and the approval of the 2011 financial statements was postponed, as the company believed that a review and investigation of economic and financial information was necessary. As a result of the investigation into administrative and accounting information, accounts receivables were written down by 12% of their nominal value. The 2011 financial statement was approved but the auditors expressed an adverse opinion because of the lack of supporting documentation and because of the uncertainties surrounding the going concern. The liquidity situation worsened further and despite the approval of the restructuring plan, the company was not able to meet its financial commitments. RDB applied to the court for admission to the composition with creditors with business continuity. The creditors (and in particular the credit institutions) did not express a favourable opinion on the proposal. The lack of support from creditors made it impossible for the company to be admitted to the insolvency proceedings. RDB therefore found that it was impossible to continue operations and decided to resort to the extraordinary administration procedure for large companies in a state of insolvency (Legislative Decree No 270 of 8 July 1999).

Screen Service

In 2010 Screen Service was one of the leading Italian companies in the development and production of broadcasting technologies for television and telephone signals. In 2010 the company was in good economic health and was able to generate very significant economic margins (EBITDA margin 33.2% and EBIT margin 28.2%). In 2011, Screen Service was awarded the "dynamic business" prize by Mediobanca. The selection was based on the examination of financial statement data, the business model, on meetings with management and on some visits to the production sites.

The first signs of weakness were seen in 2011. Net sales were stable compared to the previous year and a sharp drop in EBITDA (-€4.4 million) occurred. The reasons for the stagnation in revenues are to be found in the delay in orders in Brazil (the company's second most important market after Italy). Good results were generated by the "Network operator" business unit. EBITDA decreased due to a decrease in sales prices per unit of product. Service costs also increased because the company needed greater recourse to third-party contributions for installation services to customers. Capital invested decreased due to a reduction in working

capital for a decrease in trade receivables. The company continued to pay dividends. Debt service in 2011 amounted to €3.1 million in principal and €0.7 million in interest.

SCREEN SERVICE	Technology		0y: 2012

Income Statement (million €)	-2y	-1y	0y
REVENUES	**60,9**	**61,5**	**46,4**
Revenues growth (%)		*0,9%*	*-24,6%*
Raw materials	*-37,2%*	*-34,9%*	*-39,7%*
Personnel expenes	*-16,8%*	*-17,7%*	*-20,4%*
Other operating costs	*-12,7%*	*-21,6%*	*-26,9%*
EBITDA	**20,3**	**15,9**	**6,0**
ebitda%	*33,2%*	*25,9%*	*13,0%*
Write-offs	*(1,1)*	*(0,5)*	*(20,2)*
Amortization and Depreciation	*(2,0)*	*(3,0)*	*(3,2)*
EBIT	**17,2**	**12,4**	**(17,3)**
ebit%	*28,2%*	*20,2%*	*-37,3%*
Interest expenses	*(1,4)*	*(2,3)*	*(2,4)*
EBITDA/Interest expenses	*14,0*	*6,9*	*2,5*
NET INCOME	**10,2**	**5,3**	**(17,9)**

Other financial ratios	-2y	-1y	0y
DIOH - Days inventory on hand	346	391	398
DSO - Days sales outstanding	193	143	189
DPO - Days payable outstanding	179	148	184
Current ratio	1,7	1,5	0,9
Quick ratio	1,1	0,9	0,6
ROIC	14,8%	11,1%	-17,9%
ROA	11,9%	8,4%	-13,7%

Balance Sheet (million €)	-2y	-1y	0y
Net working capital	45,8	36,5	31,5
Fixed Assets	75,3	82,4	72,3
Other Op. non-current Assets	(4,9)	(6,4)	(7,3)
INVESTED CAPITAL	**116,2**	**112,4**	**96,5**
Non-operating assets	1,0	0,2	0,0
TOTAL FUNDS INVESTED	**117,2**	**112,6**	**96,5**
SHAREHOLDERS' EQUITY	**75,7**	**78,2**	**59,0**
NFP - Short Term	18,3	15,5	36,1
NFP - Long Term	23,2	18,8	1,3
NET FINANCIAL POSITION	**41,5**	**34,4**	**37,5**
NFP/EBITDA	*2,0x*	*2,2x*	*6,2x*
NFP/EQUITY	*0,5x*	*0,4x*	*0,6x*
NFP/Sales	*0,7x*	*0,6x*	*0,8x*

Cash Flow (million €)	-2y	-1y	0y
EBITDA	**20,3**	**15,9**	**6,0**
Tax, Extr. Items, Interest Income	(5,5)	(4,8)	1,8
GROSS CASH FLOW	14,8	11,1	7,9
Increase (decrease) in WC	(1,4)	8,9	(3,2)
CASH FLOW FROM OPERATIONS	**13,4**	**20,0**	**4,7**
Capital expenditures	(32,8)	(10,1)	(5,1)
Inv. In other op. non current assets	1,0	2,6	(0,2)
NET CASH FLOW	**(18,5)**	**12,4**	**(0,7)**
Changes in shareholders' equity	(5,1)	(3,0)	0,0
Interest expenses	(1,4)	(2,3)	(2,4)
CASH FLOW TO DEBT	**(25,1)**	**7,1**	**(3,1)**

Table 4.11: Screen Service, summarized financial statement. Source: personal elaboration, data from Aida BvD and annual financial report

In 2012, the company's turnover fell significantly (-24.6%). The reasons for the decrease were mainly technological. In 2012, Italy completed the transition to the digital television broadcasting system. In the same year EBITDA went from 15.9 million to 6.0 million €. Screen Service attributed this decrease to the inability to exploit economies of scale due to the decrease in turnover. The result for the period was also strongly influenced by significant write-downs of intangible assets (€20.2 million). In particular, goodwill was written down for a total of € 11.1 million. A situation of financial tension emerged. In particular, the "Network operator" business unit encountered difficulties in the collection of some trade receivables and the deferment of turnover did not allow the use of the short-term credit lines on which the company could rely.

In addition, the company completely changed its corporate bodies. The activities of the new Board of Directors were focused on the implementation of procedures to control and monitor the activities of the subsidiaries, the restructuring and reduction of costs and the renegotiation of the medium/long-term loan agreement with the banks. By mid-2012, the company had obtained a waiver on the terms of the loan agreement that had not been complied with. Negotiations were severely interrupted in the second half of 2012 when Monte Bianco S.r.l.

announced a public bid for the acquisition of 100 % of the Group. The offer was refused by the Board of Directors because it was considered that the price offered of €0.23 per share was not fair. The estimate of an independent professional attributed a value between €0.329 and €0.372 per share.

The company's activities continued in 2013. However, negotiations with the banks were not successful. In order to obtain the debt restructuring, the credit institutions required a commitment of the shareholders for the recapitalization of the company. However, the tensions arising from the tender offer prevented the group's equity from being strengthened. In 2014, the company, after exploring possible restructuring paths, filed for the admission to the composition with creditors. The opportunity to obtain a composition with creditors with business continuity did not materialize and therefore in 2014 the directors were forced to interrupt the business activities and put the company into liquidation.

4.10 Recovery: Sales trend after the crisis

As can be seen from Figure 4.20, net sales dynamics are also very negative in the years following the outbreak of the crisis. However, these trends are strongly influenced by the divestments (of single assets or business units) that companies make as part of their retrenchment strategy and which result in a reduction in turnover.

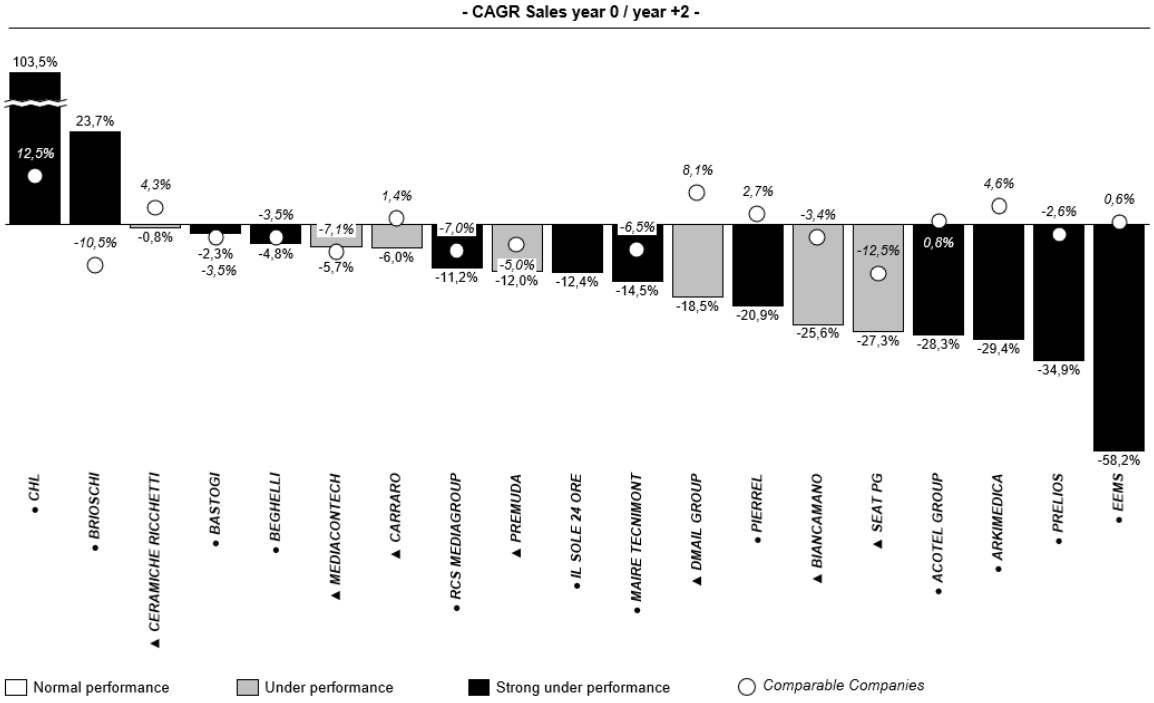

Figure 4.20: CAGR of Net Sales between year 0 and year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

EEMS' turnover fell as a result of the sharp decrease in sales of the photovoltaic business due to the interruption of the governmental fiscal stimulus package and due to the total divestment of the semiconductor business (which until 2008 was the company's core business). This business suffered decreases in margins due to augmented international competition. The other companies involved in the photovoltaic business, Beghelli and Carraro, also discontinue their activities. Beghelli in year +1 completely dismissed the photovoltaic division, which shows a negative EBIT of approximately € 6 million. The company concentrated in the historical core business of lighting that between year 1 and year 2 increased the turnover by 6%. For Carraro, the fall in turnover between year 0 and year 2 is partly due to the sale of the subsidiary "Elettronica Santerno". The purpose of this disposal is to exit the photovoltaic business and concentrate on the traditional business segments. In addition to the change in the consolidation scope, the company suffers from weak demand for the products of the strategic business units "Drivetech" and "Agritalia".

Arkimedica also divests an important business unit. In year 1 the company divested the entire group of companies that made up the Contract division. Through this business unit, the company produced and distributed furniture for hospitals and healthcare facilities and set up ambulances and special vehicles. The contract division had an annual turnover of approximately €60 million. On a constant consolidation perimeter, the average annual reduction in turnover would have been 8.2% (instead of 29.4%).

For Prelios, net revenues continued to decline (CAGR -34.9%) as a result of the negative trend in the real estate sector. Transaction volumes and the number of orders managed were substantially reduced. Service lines "agency & project management" and "fund management" also reduced their turnover over the years. Brioschi, the other company of the sample active in the real estate industry, increased its revenues. Much of the increase (CAGR +23.7%) was generated by an extraordinary and non-recurring real estate disposal in year 2, which generated net revenues of €68.8 million. Ceramiche Ricchetti continues to suffer as a result of the crisis in the construction and real estate sectors. Despite this, the company was able to limit the contraction in turnover (CAGR -0.8%).

Biancamano's turnover (CAGR -25.6%) decreased due to the strategic choice made by the company's top management to refuse to participate in tenders for the renewal of orders to be executed on behalf of clients who in the past have shown significant delays in payment times. Biancamano also divested a secondary business unit to generate liquidity and concentrate on its core business. In year 2, the business unit that managed the disposal of hospital waste was sold. In year 0 Pierrel completed the start-up period of the new “Pharma” business unit, which began

to generate revenues. However, in the two years following the outbreak of the crisis, the company suffered from a sharp decrease in the revenues of the Research division due to international competition and the early closure of some projects. Bastogi (CAGR -2.3%) disposed a large part of its business unit that offers hotel services to focus on the core business of services for the preservation of artistic heritage. Acotel's consolidated revenues continued to decline (CAGR -28.3%) due to technological change that made value added services for mobile telephony less attractive. These products started to be replaced by the diffusion of smartphones and of mobile Internet. Premuda, too, is unable to reverse the negative trend (CAGR -12%) and adapt its offer to international demand. The company continues to suffer from its fleet of large vessels that exceed demand.

Media companies engaged in traditional publishing activities continue to suffer from reduced advertising revenues and from the decline in sales of newspapers and books. Both Il Sole 24 Ore and RCS Mediagroup disposed significant business units in their retrenchment activities. With a constant consolidation perimeter, the fall in sales of Il Sole 24 Ore would have been -7.9% (instead of -12.4%), while the fall in sales of RCS Mediagroup would have been -5.9% (instead of -11.2%). Also for Mediacontech, revenues decreased significantly due to the change in the consolidation scope and also due to the cyclical trend of the business involved in the supply of digital services for television broadcasters. Finally, the technological change continued to impair the consolidated revenues of Seat Pagine Gialle. The company started a process of refocus, concentrating its efforts on Internet services due to the drop in turnover of company's traditional products: telephone directories. Maire Tecnimont's consolidated revenues decreased by 18.5% per annum due to the new corporate strategy that envisages the disposal of the "energy" business unit and the purpose to favour orders with higher margins and lower volumes. In year 1 Maire Tecnimont completed the South American orders that had significantly worsened margins in the financial years that led to the emergence of the state of crisis. Dmail Group reduces its turnover by 18.5% per annum. The reasons for the drop in turnover are to be found in both business lines of the company. The revenues of the retail business unit decreased significantly due to the price pressure exerted by competitors. The revenues of the "local media" business unit decreased mainly due to the contraction in advertising revenues. CHL's revenue growth is due to a total change in the ownership structure of the company. The shareholders of Terra S.p.A. subscribed to a capital increase of CHL, which they exercised by transferring their company's shares to CHL, thus completely changing its group structure. In the same year CHL also discontinued its pharmaceutical outsourcing business through the sale of Farmachl S.r.l.

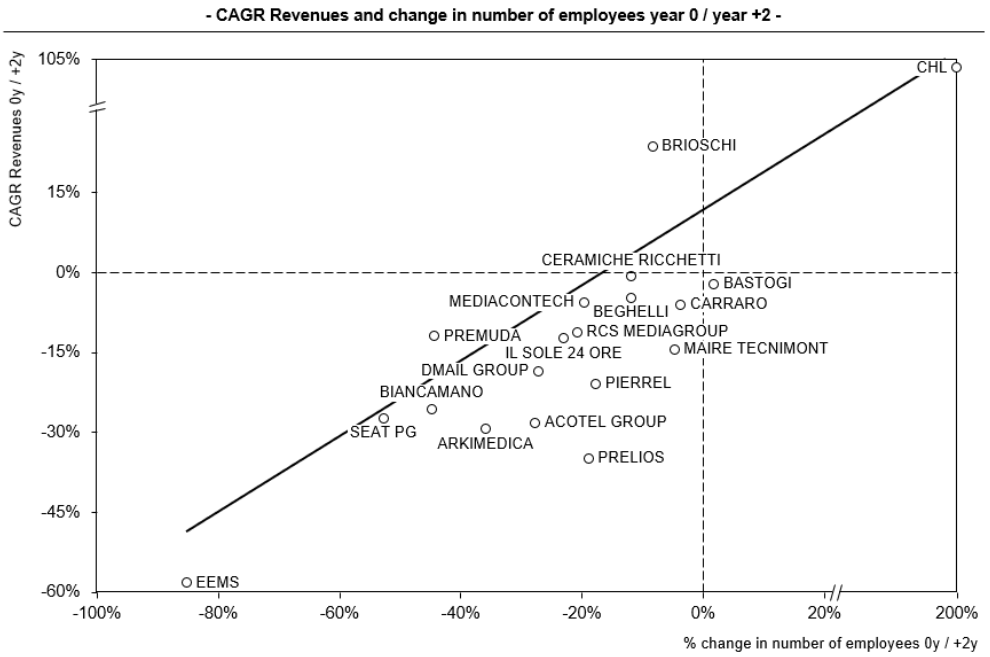

Figure 4.21: Relation between change in revenues and change in employees, year 0 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Figure 4.21 shows that, as in the case of the period prior to the outbreak of the crisis, revenue trends seem to be closely linked to the change in the number of employees. In the years following the outbreak of the crisis, thanks to the cost retrenchment actions implemented by the companies, the number of employees was significantly reduced in almost the entire sample of companies. Only in two cases (Bastogi and CHL) the number of employees increases.

4.11 Recovery: Operating margins

The 19 companies that remained active do not immediately recover their operational efficiency after the emergence of the crisis. On the other hand, they significantly worsened their EBITDA margin in year 1. The main reasons for this further loss of efficiency are the increase in the incidence of personnel costs (+3.9 percentage points) and other operating costs (+1.5 percentage points). Between year 1 and year 2, the effect of restructuring and cost retrenchment becomes evident. The incidence of personnel costs decreases by 0.9 percentage points and that of other operating costs by 4.2 percentage points. The companies in the sample recover efficiency also by reducing the incidence of variable costs. The cost of raw materials in relation to turnover is reduced by 1.7 percentage points. These dynamics result in an EBITDA margin that decreases from year 0 to year 1 and then increases, and returns positive, in year 2. The incidence of depreciation and amortization remains constant over the years (about 8.5% of net revenues) while over the 3 years the weight of write-downs remains significant (10.3%, 3-year

average). The operating result remains severely negative and the sample of companies, on average, continues to destroy value and shows few signs of recovery.

Average values of the sample	0y	+1y	+2y
Raw materials %	*-24,3%*	*-24,6%*	*-22,9%*
Personnel %	*-26,1%*	*-30,0%*	*-29,1%*
Other operating costs %	*-50,1%*	*-51,6%*	*-47,2%*
EBITDA %	**-0,5%**	**-6,2%**	**0,8%**
Writedowns %	*-10,9%*	*-7,7%*	*-12,2%*
Amort. & Depr. %	*-9,0%*	*-8,5%*	*-8,5%*
EBIT %	**-20,4%**	**-22,4%**	**-19,8%**

Table 4.12: Average of income statements of the sample, values in % of net sales. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The breakdown of the sample according to the different degrees of intensity of the crisis shows that, for both categories of companies (under performers and strong under performers), the transition from year 0 to year 1 coincides with a worsening of operating performance. As Figure 4.23 shows, the under-performing companies are affected by a significant incidence of extraordinary expenses (write-downs) also in year 2.

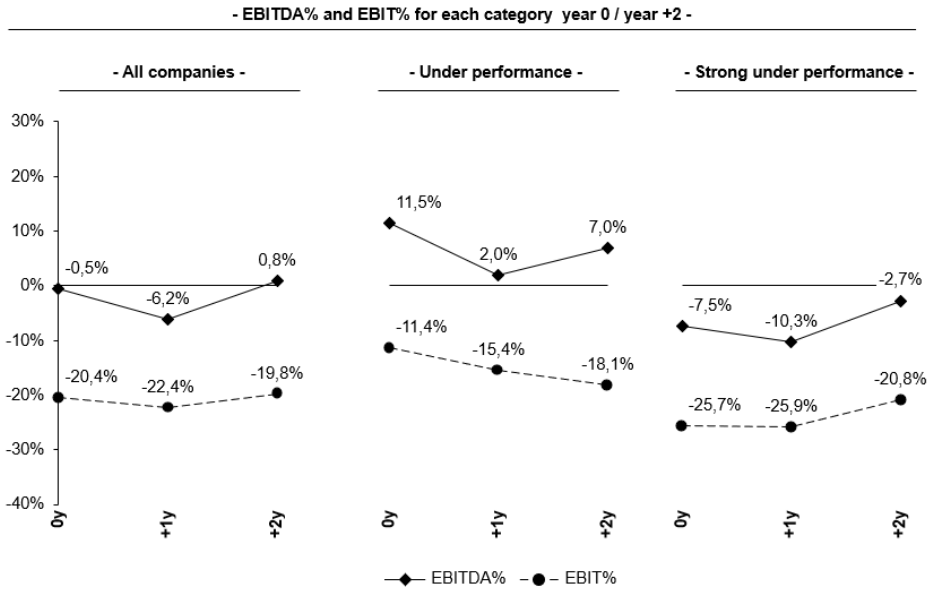

Figure 4.22: EBITDA margin and EBIT margin by category, year 0 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The matrix (figure 4.23) represents the trend of the compound annual growth rate of the revenues and the change in the EBITDA margin showing a relation between the two quantities. The representation suggests that the improvement of the operating margins is strongly linked to the economies (or diseconomies) of scale that the company is able to exploit.

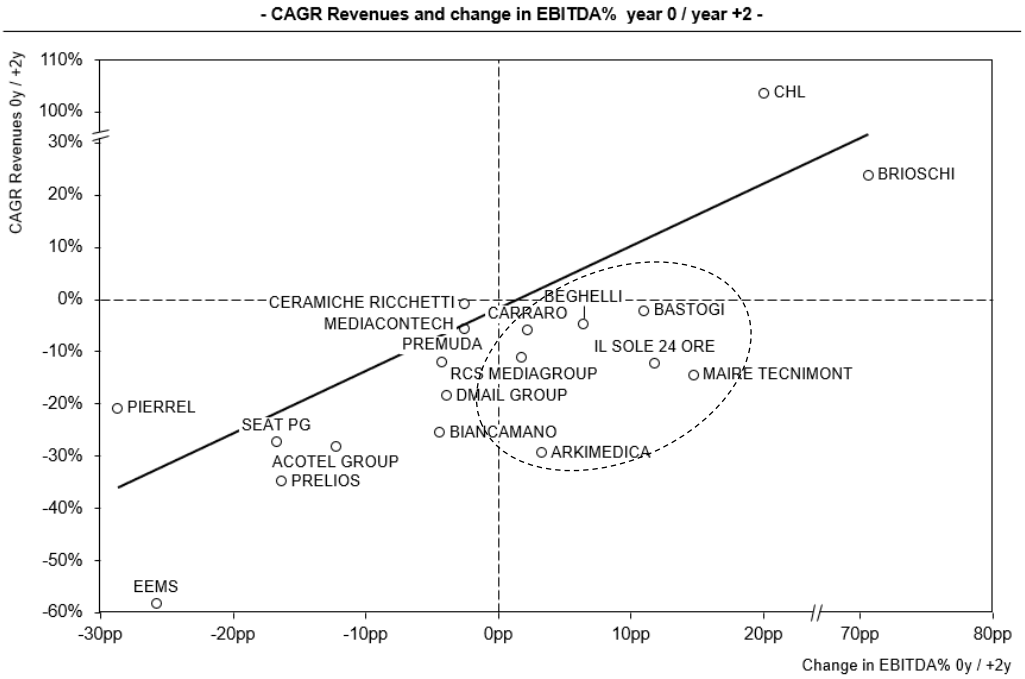

Figure 4.23: Change in Net Sales (CAGR) and change in EBITDA%, year 0 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Some companies (such as Seat PG, Premuda, Brioschi) show a proportional trend of the two quantities. However, there are also many companies that are able to improve their EBITDA margin in the presence of a fall in revenues or a constant turnover (circle in the graph). These companies, all with decreasing revenues between year 0 and year 2, succeed in reducing the impact of fixed costs and recovering production efficiency. For this group of entities, the management effort is appreciable and the cost retrenchment strategy is effective and evident.

4.12 Recovery: Capital invested

The structure of the total funds invested shows that the invested capital of the sample relies in an increasing way on the fixed assets. Figure 4.24 shows that, considering the entire sample of companies that remained active after year 0 (19 entities), the net working capital decreased significantly between year 0 and year 2. This trend is common to the two groups of companies that are characterized by the different intensity of the corporate crisis. For companies that suffer the crisis more intensely, the value of net working capital go from 14.2% to 3.4% of the total funds invested. At the same time, for underperformers, the value of net working capital reduces by 6 percentage points, going from 9.6% to 3.6%. Among the changes occurred between year 0 and year 2, it is relevant the change in the net value of the residual category of other operating

and non-operating assets (liabilities) that for companies with a performance below the average goes from a negative net value (liabilities) to a positive value (credits or assets).

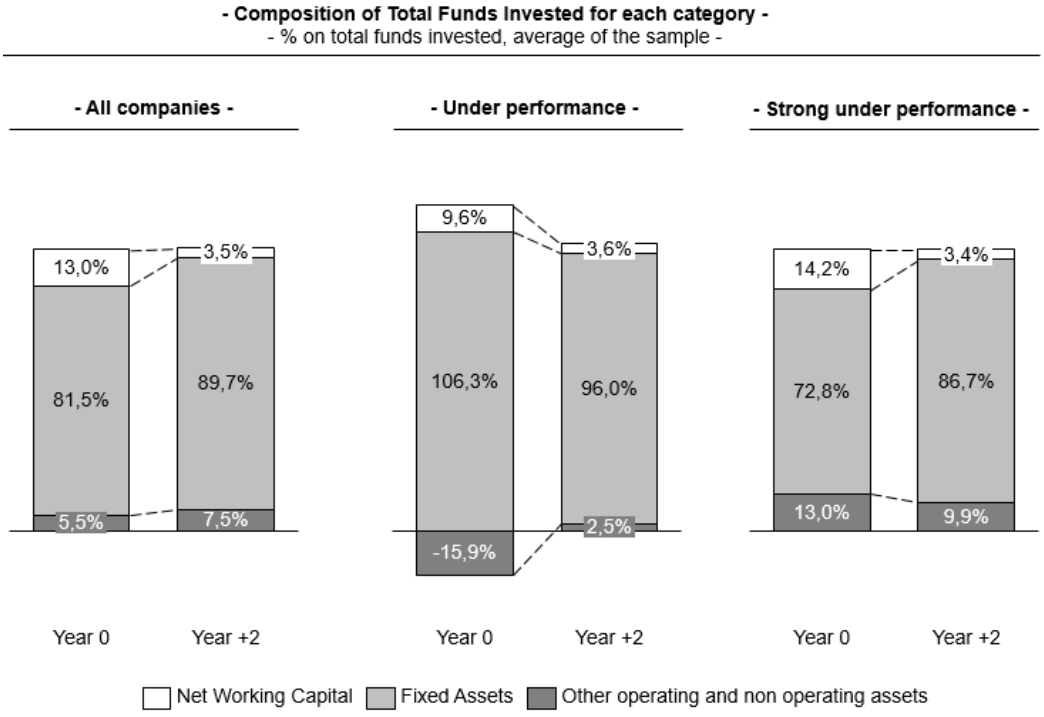

Figure 4.24: Composition of total funds invested by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.12.1 Fixed Assets

As can be inferred from figure 4.25, the amount of fixed assets continues to fall in absolute value. The reduction is about 50% over two years and 70% over four years. There are many reasons for this reduction. First, companies in crisis do not have the liquidity necessary to renew their assets and, therefore, they stop investing. Moreover, in order to find the financial resources to guarantee the business continuity, many companies are forced to dispose business units or assets considered non-strategic. Finally, one of the main reasons for the drop in the absolute value of fixed assets are the write-downs of intangible assets and in particular goodwill. Goodwill represents the premium price paid by companies in the context of an acquisition. Many of the companies analysed have undertaken an inorganic growth strategy through mergers and acquisitions. In many cases the price paid by these companies proved to be excessive compared to the expected benefits. For the 19 companies of the sample, the value of goodwill reduces very significantly and this decrease explains by itself 76% of the total decline in the amount of fixed assets.

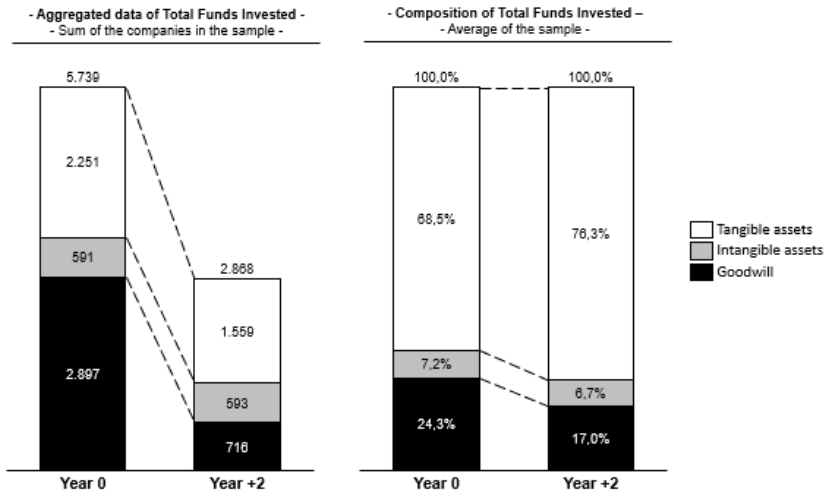

Figure 4.25: Composition of total fixed assets in absolute value and in % of total fixed assets. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

It is possible to identify two different trends between the two categories of companies that struggle to achieve the turnaround. Companies that suffer most from the crisis (strong underperformers) dispose business units considered non-strategic in a more systematic way and therefore for them the reduction, in absolute value of the tangible assets is much more evident. The effect of the reduction in tangible assets added to the constant value of intangibles and goodwill generates the effect of originating a total funds invested structure that relies relatively more on goodwill and intangible assets. On the contrary, under performing companies have not the same necessity to dispose business units in order to generate cash. Therefore, their fixed asset structure is composed in percentage terms more of tangible assets.

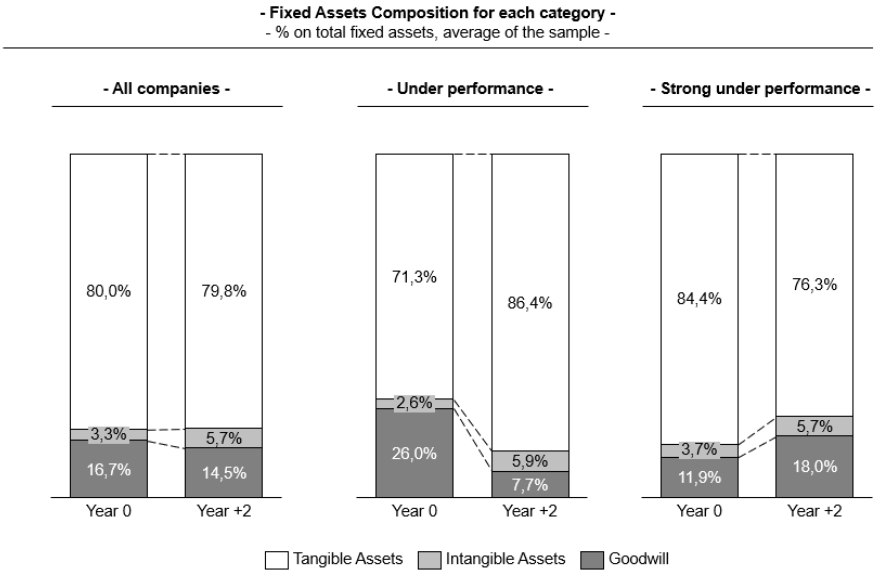

Figure 4.26: Composition of total fixed assets in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.12.2 Net Working Capital

As seen above, in the two years following the emergence of the crisis, the amount of net working capital reduces for all categories of companies considered. The reduction is generated by a huge increase in current liabilities with a constant incidence of trade receivables and other operating credits and a slight increase in inventory (+4 percentage points). The increase in current liabilities is a common trend for the companies considered.

Figure 4.28 shows the trend of current and quick ratio over the period from year 0 to year 2. The trend of these two ratios indicates a stagnant situation. The value of the current ratio is 0.8 (indicating a higher value of current liabilities compared to current assets) while the quick ratio is about 0.6. For both indicators there was no improvement over the years. The analysis for groups shows different results. While underperforming companies enjoy stable or slightly decreasing liquidity ratios, companies that achieved the worst performance in the year 0 improve their indicators. As will be seen below, companies with a strong negative performance are forced to inject liquidity into the company and increase their capital. This strengthening of liquidity has the effect of increasing the amount of current assets and consequently improving the value of current and quick ratios.

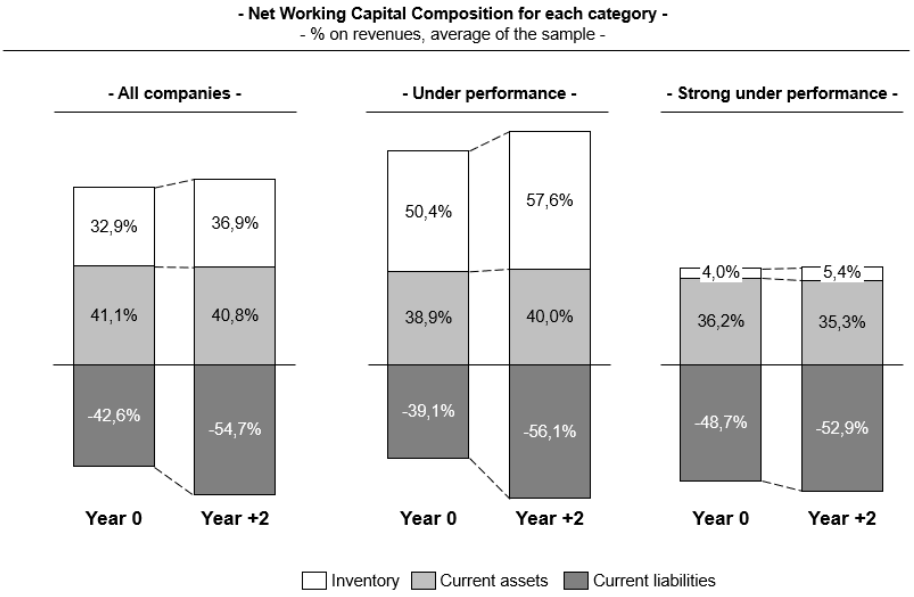

Figure 4.27: Composition of operating net working capital assets in % of sales by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

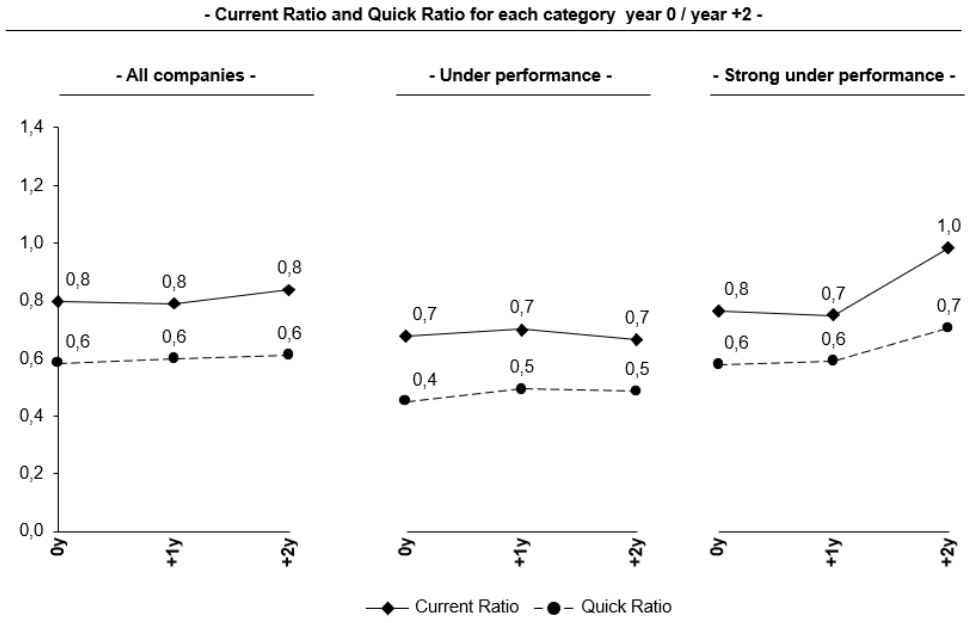

Figure 4.28: Quick ratio and Current Ratio by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

Over the years, the trend of current and quick ratios shows (figure 4.29) that, considering the average values that emerge from the sample, companies are not able to recover the levels of liquidity and short-term solvency within two years from the outbreak of the crisis. The companies analysed in the two years preceding the crisis showed indicators that did not differ significantly from industry average. Between year -1 and year 0, the solvency profile of companies deteriorates significantly. In the following two years, companies only marginally improved the value of these indicators, which remained well below the average for comparable companies.

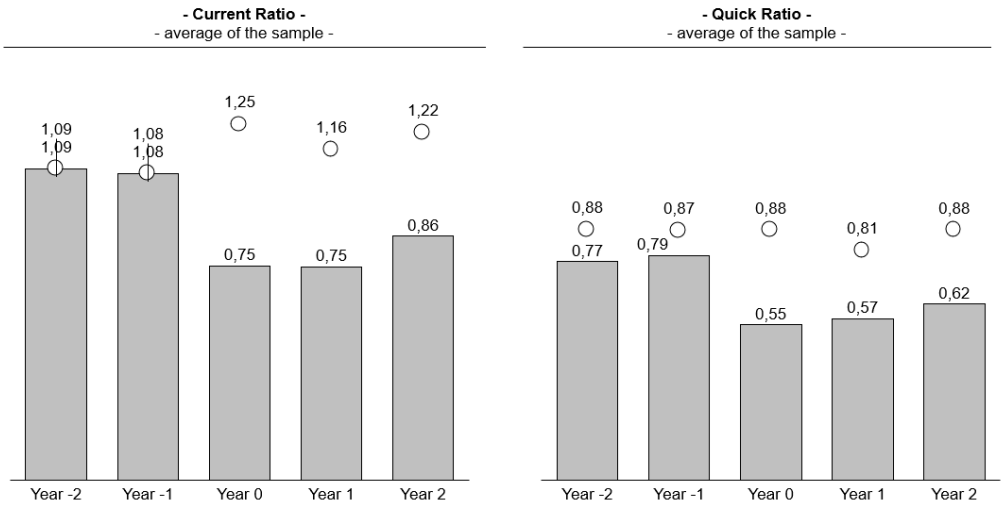

Figure 4.29: Quick ratio and Current Ratio, from year -2 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.12.3 Returns

The analysis of the change in return on assets (Figure 4.30) shows that, between year 0 and year 2, four companies manage to return to positive profitability. This is the case of Carraro (classified as under performers), Brioschi, Maire Tecnimont and Beghelli (classified as strong under performers). The variations in ROA are quite heterogeneous and it is not possible to identify common trends among the companies in the sample and among the groups of companies. About half of the companies improve their ROA in the years analysed (9 companies out of 19). However, among these, in 5 cases the Return on Assets remains negative. For 52.6% of the companies, the restructuring process adopted is not effective and performance is even worse than in year 0. Among these, some companies have very negative values in year +2. This indicates a severe absorption of resources and destruction of value. This is the case of Acotel (-83.7%), EEMS (-21.7%) and Seat Pagine Gialle (-22.4%).

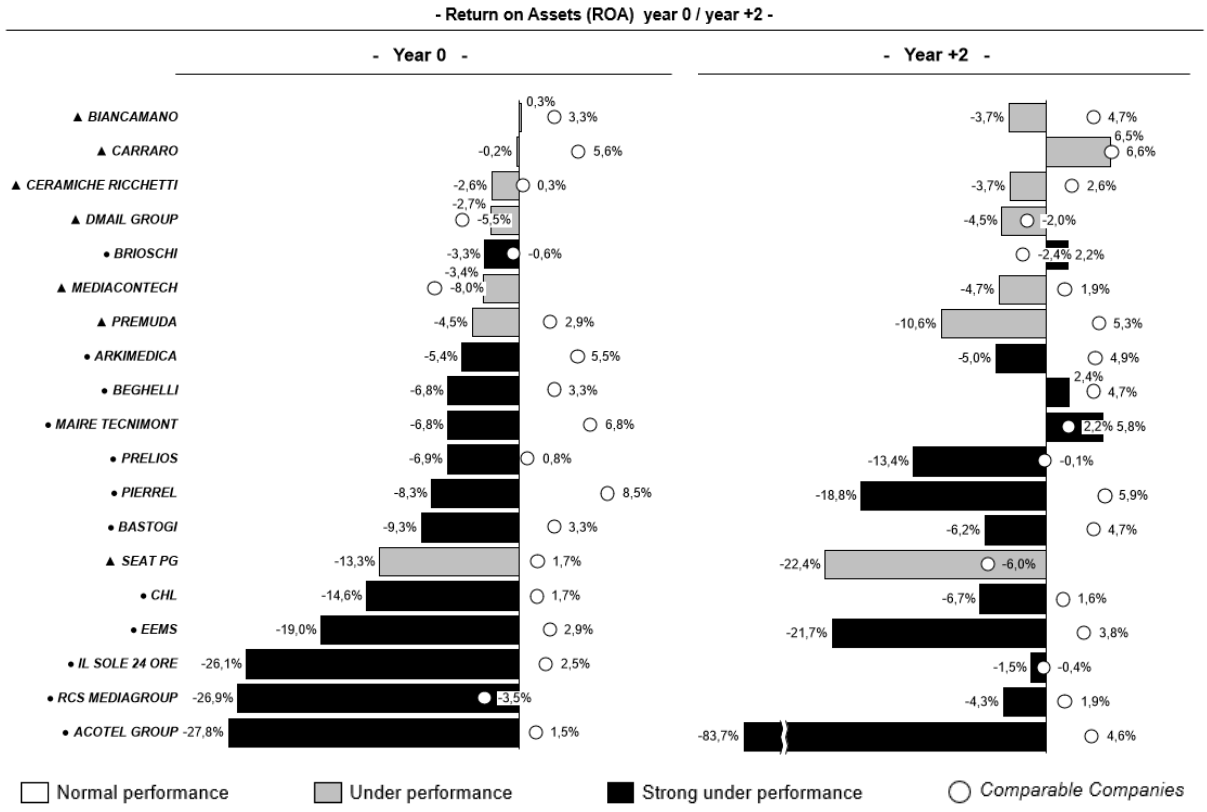

Figure 4.30: Return on Assets (ROA) of the company of the sample, year 0 and year 2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.13 Recovery: Capital Structure

The aggregated balance sheet data of the companies analysed show (figure 4.31) that, over the years, financial debt becomes the main source of financing. In year 0, equity makes up 30.5%

of the financing sources, in year 2 it counts for only 5.8%. This change in the composition of the liabilities side of the balance sheet is not due to an increase in the absolute value of net financial debt. The reduction in the equity portion is due to the capital erosion generated by the accumulation of losses due to the unsatisfactory economic performance of the companies in the sample. As seen in paragraph 4.11, on average the 19 companies in the sample generate a negative operating income (EBIT) each year. This partial result is further worsened by the weight of financial expenses. The two groups of companies show a different trend in the change of the value of equity. In particular, companies that generate the worst economic performance in the year 0, have a more balanced composition of funding sources than the underperforming companies. As will be illustrated below, the companies belonging to the group that performed worst performers most frequently carry out capital increases in order to strengthen their situation and ensure business continuity. It is worth noticing that, as will be explained below, most companies have used the legal tools that Italian bankruptcy law provides to manage the situation of financial tension and ensure the satisfaction of creditors. Some of these insolvency proceedings allow companies to maintain negative equity accounting during the period in which recovery is attempted using one of the legal tools provided by law. This is one more reason why the percentage portion of equity on the total sources of financing is particularly low.

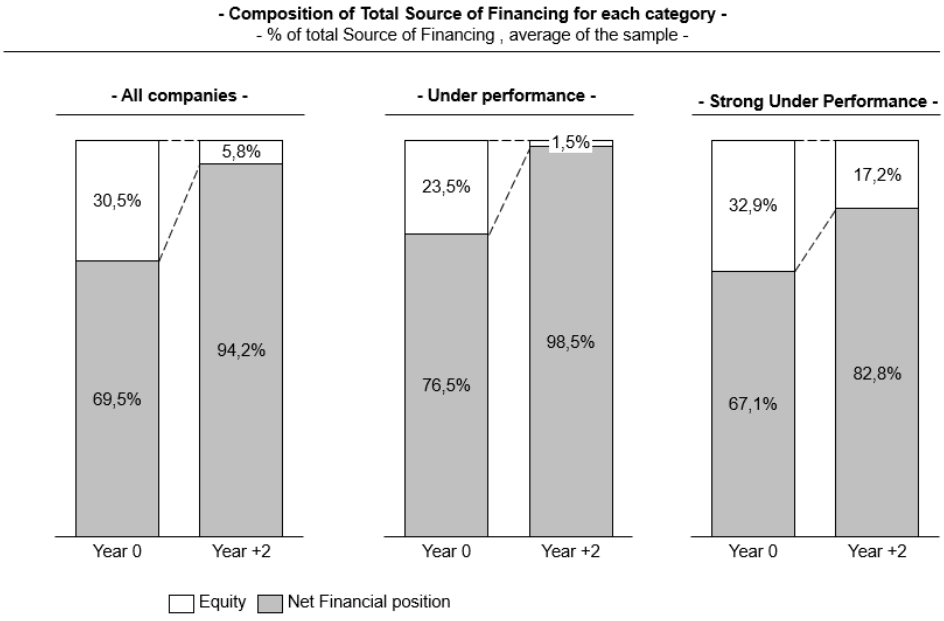

Figure 4.31: Composition of total source of financing in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.13.1 Financial plans

In order to achieve turnaround, in many of the cases among the companies analysed, operational restructuring was not sufficient but, to secure the future of the company, management had to undertake a financial restructuring process. Only Acotel, among the companies analysed, did not undertake a process of financial restructuring as this company, since the year -2, has maintained a very low level of indebtedness. Despite heavy economic losses and the absorption of cash flows from operations, the company did not increase its debt thanks to the disposal of business units not considered strategic.

For all the other cases analysed, industrial restructuring was accompanied by financial restructuring. In particular, two types of financial restructuring can be identified:

- Financial restructuring with new equity injection or write-off of existing debt
- Financial restructuring with rescheduling of existing debt

The two types of restructuring differ in the different degree of complexity that characterizes them. The first type of restructuring process requires more complex negotiations and the consent of creditors, who have to waive some of their claims. The two processes also differ in the duration of the negotiations. Rescheduling existing debt without write-offs usually requires less negotiation effort.

As shown in chapter 2, in this critical phase of business life, in order to satisfy and secure creditors and to ensure, where possible, business continuity, the restructuring process can be conducted by companies under the protection of the legal instruments offered by Bankruptcy Law. 9 out of 19 companies in the sample have arranged their financial plans according to the provisions of the Italian Bankruptcy Law. As table 4.13 shows, most of the companies have adopted an out-of-court restructuring (certificate plan – art. 67 L.F. and debt restructuring agreement - art. 182-bis L.F.).

The financial restructuring process and the details of the agreements with the lenders are partly disclosed by the companies in the annual financial reports. A comparative analysis of the different financial statements made it possible to identify common features of the financial plans and the debt restructuring process.

Company	Situation at year 0	Situation at year 2	Insolvency proceeding
Acotel Group	● Strong under performance	● Strong under performance	-
Arkimedica	● Strong under performance	● Strong under performance	Composition with creditors - Art 160 et seq. L.F.
Bastogi	● Strong under performance	● Strong under performance	-
Beghelli	● Strong under performance	▲ Under performance	Certificate plan - Art 67 L.F.
Biancamano	▲ Under performance	▲ Under performance	Certificate plan - Art 67 L.F.
Brioschi	● Strong under performance	▲ Under performance	Certificate plan - Art 67 L.F.
Carraro	▲ Under performance	■ Normal Performance	-
Ceramiche Ricchetti	▲ Under performance	● Strong under performance	-
CHL	● Strong under performance	● Strong under performance	-
Dmail Group	▲ Under performance	▲ Under performance	Debt restructuring agreement - Art 182-bis L.F.
EEMS	● Strong under performance	● Strong under performance	Debt restructuring agreement - Art 182-bis L.F.
Il Sole 24 Ore	● Strong under performance	▲ Under performance	-
Maire Tecnimont	● Strong under performance	■ Normal Performance	-
Mediacontech	▲ Under performance	▲ Under performance	Debt restructuring agreement - Art 182-bis L.F.
Pierrel	● Strong under performance	● Strong under performance	-
Prelios	● Strong under performance	● Strong under performance	-
Premuda	▲ Under performance	● Strong under performance	Certificate plan - Art 67 L.F.
RCS Mediagroup	● Strong under performance	▲ Under performance	-
Seat PG	▲ Under performance	● Strong under performance	Composition with creditors - Art 160 et seq. L.F.

Table 4.13: Insolvency proceedings adopted. Source: personal elaboration.

The process adopted by the 19 companies analysed can be broken down into two phases: the stabilisation phase and the renegotiation phase.

The stabilization phase is aimed at preserving the business continuity of the company during the period of finalization of the financial plan. At the time of recognition of the situation of liquidity tension, companies, often with the support of their advisors, make a request for standstill to financial institutions. Usually this request consists of a demand to banks not to take action to revoke or reduce loans granted and to maintain short-term credit lines. The request for stand-still usually also includes the so-called "pactum de non petendo" clause. This is the agreement by which the creditor undertakes not to require the debtor to fulfil its obligation. It involves the temporary uncollectability of the credit in order to maintain the solvency of the company and therefore its continuity. Moreover, among the companies in the sample, in many cases the covenants contained in the loan contracts are not respected. Failure to comply with the covenants would allow the banks to request immediate repayment of the debt. In many cases, the companies make a waiver request to the credit institutions with which they renounce the contractual clause. A final element of this first phase is the request for a moratorium on long-term debt instalments, providing that any unpaid instalments are treated as residual debt to be redeemed according to the criteria of the financial plan that will be subsequently presented.

In the second phase (the negotiation phase) the companies present to banks the financial plan which is the main object of negotiation. In this phase, companies undertake to provide a comprehensive and detailed overview of the requests to the financial institutions for assessment

and negotiation and subsequent approval by the banks' internal bodies. The content of the financial plan usually consists of:

- Commitment to equity injection: banks impose as a necessary condition for the approval of the financial plan, the commitment and execution by shareholders of an equity injection;
- Rescheduling of existing long-term debt: medium/long-term financial debt is rescheduled and its maturity is usually extended. Usually, the rescheduling of the long term debt is accompanied by a moratorium of 12 or 24 months aimed at allowing companies to dispose of the cash flows generated to restructure and stabilize the business;
- Request for maintenance of credit lines granted: companies request confirmation of the credit lines available;
- Redetermination of covenants: usually, as part of the negotiation of the financial plan, companies and credit institutions recalculate the ratios and critical values that companies must comply with;
- Request for new financing: in some cases, maintaining existing credit lines and rescheduling long-term financial debt is not sufficient to guarantee business continuity. In these cases, the company, within the framework of the financial plan approved by the banks, makes a request for the granting of new credit lines.

Table 4.14 contains the main terms and conditions of the negotiations of the 19 companies analysed with financial institutions.

	Stabilization phase			Renegotiation phase			
Company	**Standstill request**	**Moratorium**	**Covenants waiver**	**Equity injection**	**Rescheduling of LT debt**	**Debt write-off**	**New financing**
Acotel Group							
Arkimedica	x	x				D for E swap	
Bastogi	x	12 months			x		
Beghelli	x	12 months	x		x		
Biancamano	x	x	Redefined		x		x
Brioschi	x	12 months			x		
Carraro	x	x	Redefined	x	x		
Ceramiche Ricchetti	x	24 months	x		x		x
CHL	x					D for E swap	
Dmail Group	x	12 months	x	x	x	60%	
EEMS	x	12 months	Redefined		x	D for E swap	
Il Sole 24 Ore	x	12 months	x	x	x		x
Maire Tecnimont	x	x	Redefined	x	x		x
Mediacontech	x			x			x
Pierrel	x			x			
Prelios	x	12 months	x	x	x		
Premuda	x	24 months			x		
RCS Mediagroup	x		Redefined	x	x		x
Seat PG	x	x	Redefined			D for E swap	

Table 4.14: Main terms and conditions of financial plans of the sample. Source: personal elaboration.

4.13.2 Equity

The different intensity with which the crisis hit the two groups of companies (under performance and strong under performance) is also evident from the different strategy that these entities adopt as regards dividend distribution and capital increases. In particular, the frequency of capital increases is much higher for the companies classified in the group of companies most in trouble at year 0. The opposite trend emerges with regard to the distribution of dividends and share repurchases.

		Dividends/Share repurchases			Capital Increases		
		0y	+1y	+2y	0y	+1y	+2y
Under performance							
CARRARO	▲	0	0	0	0	32.641	18.974
MEDIACONTECH	▲	-1.940	-2.104	0	0	0	18.633
SEAT PG	▲	-2.163	0	-8.650	0	0	0
BIANCAMANO	▲	0	0	0	0	0	0
CERAMICHE RICCHETTI	▲	-164	-178	-235	0	0	0
DMAIL GROUP	▲	-85	-60	0	0	0	0
PREMUDA	▲	0	0	0	0	0	0
Frequency		*57,1%*	*42,9%*	*28,6%*	*0,0%*	*14,3%*	*28,6%*
Strong under performance							
MAIRE TECNIMONT	●	0	0	-224	0	150.337	0
ARKIMEDICA	●	0	-40	-45	0	960	14.307
BEGHELLI	●	-3.984	0	-46	0	0	0
BRIOSCHI	●	0	0	0	0	0	0
EEMS	●	0	0	0	0	0	0
PRELIOS	●	0	0	0	0	0	185.015
RCS MEDIAGROUP	●	-300	0	0	0	409.000	47.000
ACOTEL GROUP	●	0	0	0	0	0	0
BASTOGI	●	0	0	0	0	0	0
CHL	●	0	0	0	1.463	15.453	66
IL SOLE 24 ORE	●	0	0	0	0	49.984	0
PIERREL	●	0	0	-123	1.217	0	25.610
Frequency		*16,7%*	*8,3%*	*33,3%*	*16,7%*	*41,7%*	*41,7%*

Table 4.15: Dividend distribution, share repurchases, capital increases, from year 0 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

As far as payments to shareholders are concerned, 57.1% of underperforming companies continue to distribute dividends in year 0. The portion of entities decreases with the passing of time and in year 2 only two companies make payments to shareholders. The behaviour of the companies most affected by the crisis is very different. 7 out of 12 companies (58.3%) do not make any payments during the three years analysed. On the contrary, the majority of companies in great difficulty are increasing their capital. In both year 1 and year 2, the frequency of companies that strengthen their equity is 41.7%. None of the underperforming companies increases their shareholders' equity during the year in which the financial crisis emerges (year 0) and only the shareholders of a small fraction of companies (14.3% in year 1 and 28.6% in year 2) make capital increases in subsequent years.

4.13.3 Net Financial position

As can be seen from Table 4.16, financial debt sustainability ratios (NFP/EBITDA and EBITDA/Interest Expenses) are only significant for a limited number of companies due to the high number of companies with negative EBITDA. For almost all the companies for which it is possible to calculate these ratios, a situation of heavy financial tension emerges. In year 0 only 2 companies have an NFP/EBITDA of less than 4.0x. The situation improved slightly in year 2 with four companies with an NFP/EBITDA lower than the critical value (Mediacontech, Carraro, Maire Tecnimont and Il Sole 24 Ore).

	NFP/EBITDA			EBITDA/Interest Expenses		
	0y	+1y	+2y	0y	+1y	+2y
▲ MEDIACONTECH	2,5x	5,5x	3,1x	4,20	3,67	7,37
▲ SEAT PG	3,3x	13,6x	11,1x	1,49	2,13	0,99
▲ CARRARO	4,1x	4,0x	2,4x	2,64	3,11	5,67
● EEMS	4,8x	Neg. EBITDA	Neg. EBITDA	4,59	Neg. EBITDA	Neg. EBITDA
▲ BIANCAMANO	7,4x	12,2x	21,0x	1,70	0,88	0,70
▲ DMAIL GROUP	10,2x	Neg. EBITDA	794,6x	1,52	Neg. EBITDA	0,02
● BEGHELLI	21,1x	Neg. EBITDA	7,3x	0,50	Neg. EBITDA	1,61
● RCS MEDIAGROUP	23,5x	Neg. EBITDA	9,5x	0,54	Neg. EBITDA	1,18
● ARKIMEDICA	34,2x	32,1x	11,3x	0,42	0,48	1,71
▲ PREMUDA	171,2x	Neg. EBITDA	Neg. EBITDA	0,13	Neg. EBITDA	Neg. EBITDA
▲ CERAMICHE RICCHETTI	174,5x	Neg. EBITDA	Neg. EBITDA	0,10	Neg. EBITDA	Neg. EBITDA
● MAIRE TECNIMONT	Neg. EBITDA	3,5x	2,8x	Neg. EBITDA	2,16	3,07
● PIERREL	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● CHL	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● IL SOLE 24 ORE	Neg. EBITDA	Neg. EBITDA	0,1x	Neg. EBITDA	Neg. EBITDA	4,88
● ACOTEL GROUP	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● PRELIOS	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA	Neg. EBITDA
● BASTOGI	Neg. EBITDA	48,0x	Neg. EBITDA	Neg. EBITDA	0,40	Neg. EBITDA
● BRIOSCHI	Neg. EBITDA	40,8x	11,7x	Neg. EBITDA	0,37	1,58

Table 4.16: NFP/EBITDA and interest coverage ratio, from year 0 to year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

The composition of the NFP shows that the portions of short-term and long-term financial debt remain relatively constant (figure 4.32). Long-term debt is always about half of the net financial position. The main evolution that takes place during the three-year period analysed is the increase in liquidity stimulated by the capital increases that the companies carry out between year 0 and year 2. The most critical and delicate part of crisis management is the respect of the financial debt maturities and financial obligations. As shown in paragraph 4.8, most of the companies externalize the financial crisis with liquidity tensions, difficulties in servicing their debt or failure to comply with covenants contained in loan agreements.

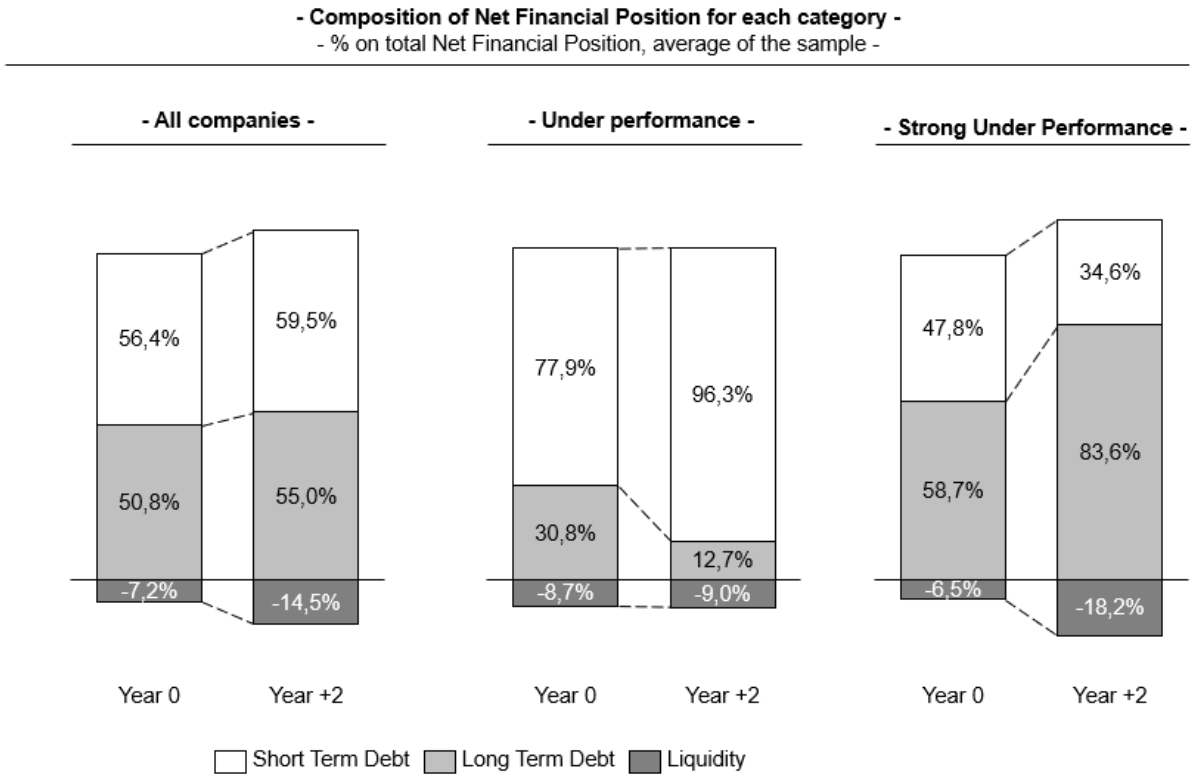

Figure 4.32: Composition of net financial position in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

4.14 Recovery: Market reaction

Market reactions vary widely between companies, and in many cases market price changes indicate the effectiveness of the restructuring process. There are 9 companies for which market capitalization increases between year 0 and year 2. Among these, 7 companies in year 0 were classified as strong underperforming companies. Maire Tecnimont and Carraro are the companies that benefited from the greatest increase in the share price. As will be illustrated in the next section, the restructuring process for these companies has enabled the turnaround to be achieved. Therefore, the market rewards the efforts of managers by increasing the market capitalization of these companies (Maire Tecnimont + 326.1% and Carraro +222.6%). On the contrary, for 10 companies the market capitalization worsens even more. Among these, the 5 companies that as part of their restructuring plan have made a debt write-off (Dmail Group) or have proposed to their creditors a debt for equity swap (Arkimedica, CHL, EEMS, Seat PG) are present.

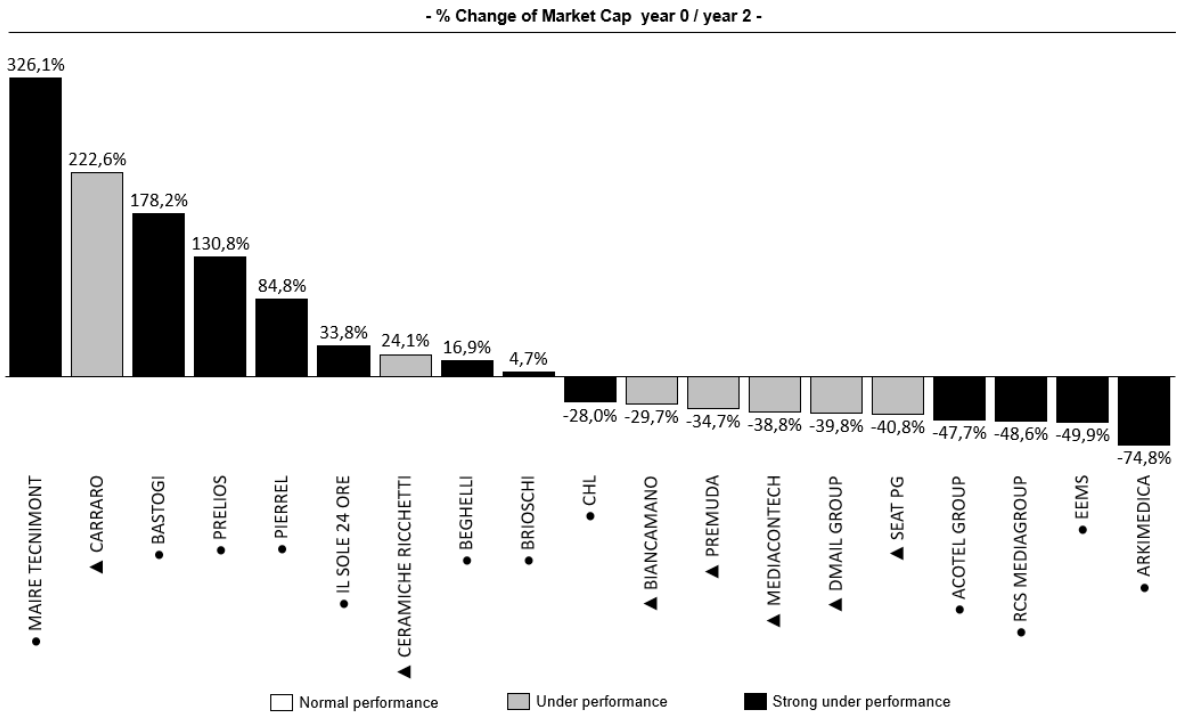

Figure 4.33: Change in market capitalization. Source: personal elaboration, data from Thomson Reuters Eikon

4.15 Situation at year 2

Two years after the outbreak of the crisis, it is possible to identify companies that have been able to improve their performance and to achieve the turnaround and companies for which restructuring has not been effective. In particular, in year 2, 8 companies achieve a negative EBITDA. In the majority of cases, these are companies that have not been able to improve their situation and return to a positive EBITDA in two years. On the contrary, in two cases (Ceramiche Ricchetti and Premuda) the financial and economic situation further deteriorated compared to year 0. The companies belonging to the middle class of underperforming companies are composed of 7 entities, 4 of which confirm their classification and 3 of which improve their condition. Finally, two companies (Carraro and Maire Tecnimont) manage to complete the turnaround and return to profitability in the context of a balanced financial situation. As shown in the previous paragraphs, the merit of these companies has been the will to face the crisis quickly and with an orderly and complete project. Both companies, in the financial years following the outbreak of the crisis, have disposed business areas considered non-strategic in order to focus on the core business. From a financial point of view, both companies were able to reach an agreement with credit institutions for debt rescheduling. Moreover, Maire Tecnimont has obtained new credit lines from credit institutions. Finally, for both companies, the intervention of the shareholders was important. Significant capital

increases were carried out with the aim of reinforcing the capital structure and demonstrating the willingness of the owners to reach the turnaround.

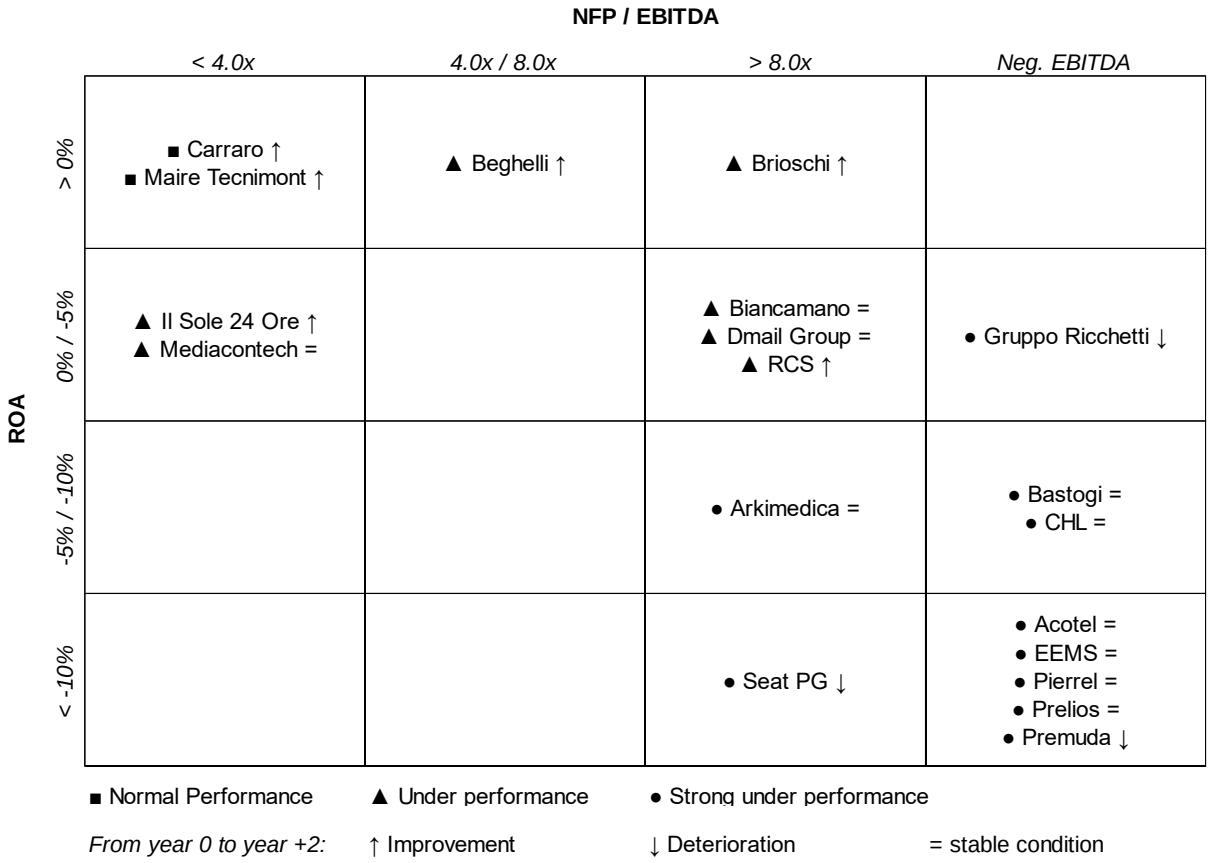

Figure 4.34: Classification of companies based on performance in year 2. Source: personal elaboration

Table 4.17 shows that 6 companies improved their performance between year 0 and year 2. The most significant improvement was achieved by Maire Tecnimont which, in the space of two years, has moved from being a "strong underperformer" to being a "normal performer". Except for Il Sole 24 Ore, for all the companies that improve their performance the situation of potential financial distress was not already evident in the year -2. In the two years preceding the outbreak of the crisis, these companies experienced the decline with a consequent sharp reduction in performance. On the contrary, 13 companies did not achieve the turnaround between year 0 and year 2. 10 companies confirmed their rating and performance level while 3 companies further worsened their results (Ceramiche Ricchetti, Premuda, Seat PG). It is worth noticing that among the 13 companies that have not recovered, the majority of entities that already showed signs of crisis since year -2 is present. This result leads to the conclusion that companies that have been performing negatively for a long period of time finds it more difficult to reverse the trend. On the contrary, companies that experience a fairly rapid decline and intervene immediately to restructure their business have a better chance of success.

Recovery				**Δ**	**Δ**	**Non-recovery**				**Δ**	**Δ**
6 companies	**-2y**	**0y**	**+2y**	**-2y/0y**	**0y/+2y**	*13 companies*	**-2y**	**0y**	**+2y**	**-2y/0y**	**0y/+2y**
BEGHELLI	▲	●	▲	-1	+1	ACOTEL GROUP	●	●	●	0	0
BRIOSCHI	▲	●	▲	-1	+1	ARKIMEDICA	▲	●	●	-1	0
CARRARO	■	▲	■	-1	+1	BASTOGI	●	●	●	0	0
IL SOLE 24 ORE	●	●	▲	0	+1	BIANCAMANO	▲	▲	▲	0	0
MAIRE TECNIMONT	■	●	■	-2	+2	CERAMICHE RICCHETTI	▲	▲	●	0	-1
RCS MEDIAGROUP	▲	●	▲	-1	+1	CHL	●	●	●	0	0
						DMAIL GROUP	▲	▲	▲	0	0
						EEMS	▲	●	●	-1	0
						MEDIACONTECH	■	▲	▲	-1	0
						PIERREL	●	●	●	0	0
						PRELIOS	▲	●	●	-1	0
						PREMUDA	▲	▲	●	0	-1
						SEAT PG	■	▲	●	-1	-1

■ Normal Performance ▲ Under performance ● Strong under performance

Table 4.17: Recovery and non-recovery companies in year +2. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

From a performance point of view, before the crisis broke out, the companies that recovered were not structurally different from the companies that failed to reach the turnaround. On average, in the two years prior to the outbreak of the crisis, the companies that subsequently recovered achieved EBITDA margins equal to 7.6% and -0.4% respectively, while in the same financial years, the companies that did not recover achieved EBITDA margins equal to 6.1% and 4.6%. On average, the non-recovery entities, in the year of the outbreak of the crisis (year 0) achieved a better EBITDA margin than the companies that recovered (respectively 1.2% and -4.1%). While recovery companies significantly reduce the incidence of services and general and administrative expenses (generally fixed costs) and improve their efficiency, non-recovery companies continue to achieve highly negative results and worsen their margins, not suggesting a return to profitability. From the point of view of operating income (EBIT), the results are very different, with companies recovering and achieving a positive result (5.3%) in the year +2, while the result of companies still in crisis is strongly negative (-31.4%).

	Recovery					**Non-recovery**				
Average values of the sample	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Raw materials %	*-30,8%*	*-27,8%*	*-27,4%*	*-27,3%*	*-27,8%*	*-21,4%*	*-23,9%*	*-22,9%*	*-21,4%*	*-20,6%*
Personnel %	*-16,4%*	*-19,1%*	*-21,2%*	*-23,9%*	*-20,8%*	*-26,1%*	*-26,4%*	*-28,3%*	*-30,5%*	*-33,0%*
Other operating costs %	*-45,2%*	*-53,6%*	*-55,5%*	*-46,9%*	*-37,6%*	*-46,4%*	*-45,2%*	*-47,5%*	*-49,9%*	*-51,6%*
EBITDA %	**7,6%**	**-0,4%**	**-4,1%**	**1,9%**	**13,8%**	**6,1%**	**4,6%**	**1,2%**	**-1,7%**	**-5,2%**
Writedowns %	*-1,6%*	*-4,1%*	*-10,5%*	*-3,5%*	*-3,1%*	*-6,8%*	*-9,5%*	*-11,1%*	*-9,1%*	*-16,3%*
Amort. & Depr. %	*-4,0%*	*-8,5%*	*-8,1%*	*-6,2%*	*-5,4%*	*-10,3%*	*-9,2%*	*-9,5%*	*-8,9%*	*-9,9%*
EBIT %	**2,0%**	**-13,0%**	**-22,7%**	**-7,8%**	**5,3%**	**-11,0%**	**-14,1%**	**-19,3%**	**-19,7%**	**-31,4%**

Table 4.18: Average of income statements of the sample, values in % of net sales (recovery and non-recovery companies). Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

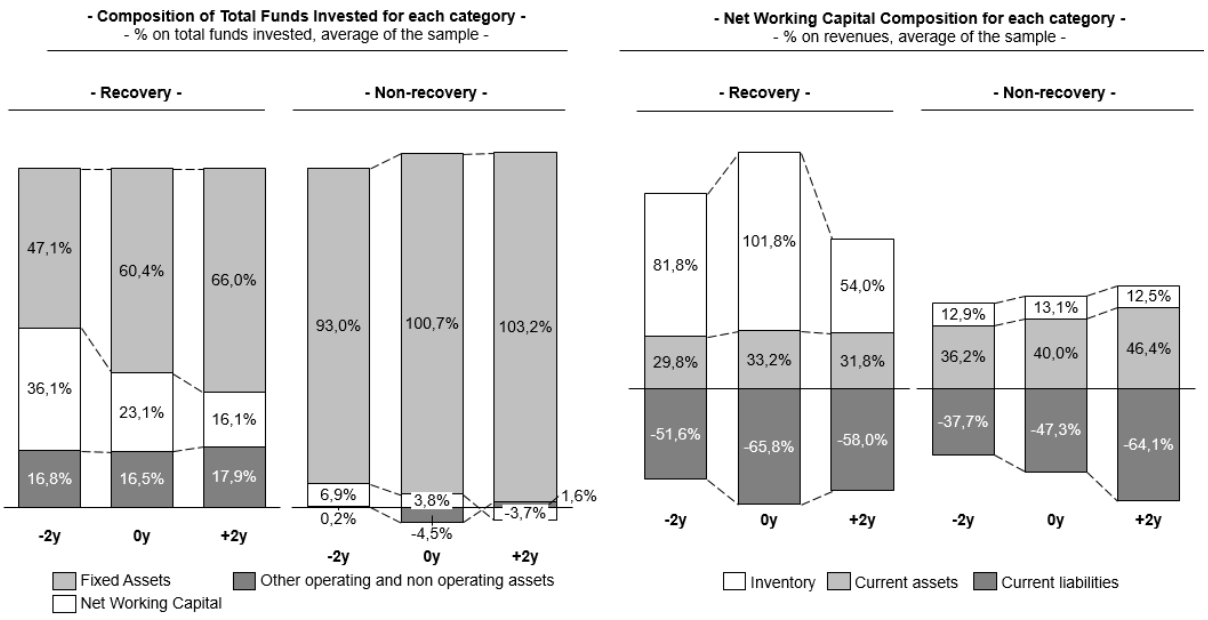

Figure 4.35: Composition of Total Funds Invested and composition of Net Working Capital in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

A relevant difference between the two categories of companies (recovery and non-recovery) emerges from the analysis of the composition of total invested funds (Figure 4.35). The companies that were able to recover had a large positive amount of net working capital in year -2 (36.1%). On the contrary, the companies that did not obtain the turnaround had the invested funds composed mainly of fixed assets. The companies that recovered, relying on a positive net working capital, were able to use those resources (reduction in inventory and increase in current liabilities) to finance themselves and to ensure solvency. On the contrary, non-recovery companies already from year -2 were not able to exploit net working capital to find the resources necessary to try to achieve the turnaround. Figure 4.35 also shows the evolution of net working capital over the years analysed. The amount of inventory is very different between the two companies. This difference is mainly due to the different sectors to which the companies belong. The dynamics of current liabilities, on the other hand, clearly show the different state of health of the two groups of companies. The recovery companies, due to the state of financial tension, increase the amount of their current operating liabilities in year 0 but subsequently, thanks to the improvement of conditions, reduce their exposure. On the contrary, the non-recovery entities worsen their payment terms not only between year -2 and year 0 but also between year 0 and year 2.

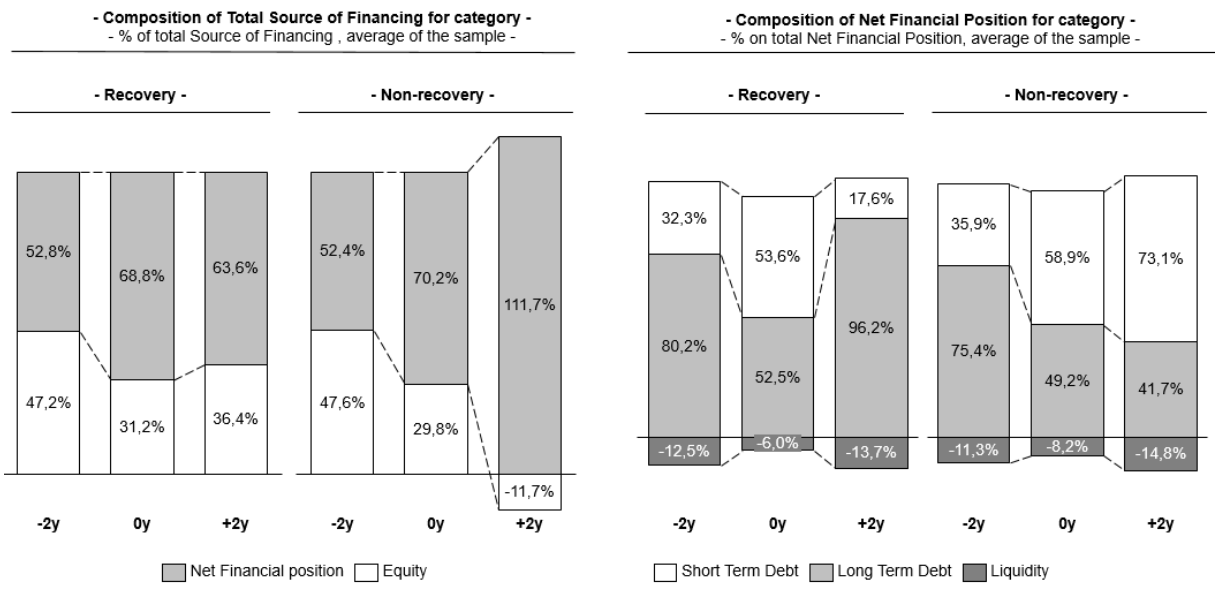

Figure 4.36: Composition of total source of financing and composition of Net Financial Position in % of total by category. Source: personal elaboration, data from AIDA Bureau van Dijk and Annual Financial Statement.

After the outbreak of the crisis, the capital structure (figure 4.36) of the two groups of companies shows very different trends but in the year -2 entities do not show significant differences. Before the crisis erupted, the ratio between equity and net financial position was almost the same for the two categories. For recovery companies, the Net Financial position accounted for 52.8% of the total source of financing and for non-recovery companies it accounted for 52.4%. For both groups, in the period before the crisis, there was a sharp erosion of equity due to the accumulation of economic losses. However, while recovering companies have made capital increases to strengthen their capital structure, non-recovery entities on average in year +2 have negative equity accounting. Recovery and non-recovery entities also show significant differences in loan maturity at year +2. Companies that recover satisfactorily complete negotiations with credit institutions and renegotiate the maturity of outstanding loans. On the contrary, the non-recovery entities have a net financial position consisting mainly of short-term loans.

Summary and conclusions

The deterioration in performance that results in a state of crisis that calls into question business continuity is a very critical phase of the life cycle of companies. The state of financial distress requires management to prepare a strategy and an action plan for the short and the medium term in a situation characterized by limited time available and high tension. The identification of signs of decline, before the concrete outbreak of the crisis, is essential to increase the chances of recovery. However, it is not always easy to understand whether drops in performance or falls in key performance indicators are a symptom of a broader state of difficulty. Early diagnosis of the crisis is important to prepare the most efficient tools for turnaround but understanding the nature of the causes of the crisis is not easy. Over the years, scholars have collected the common features that characterize the declining firms: declining revenues, shrinking operating margins, liquidity tension, excessive indebtedness are typical signs of financial distress. However, it is not always easy to understand whether these manifestations represent the cause of the decline or are a consequence of a deterioration in performance due to another cause or to the negligence of managers who ignore real causes of decline. In Balgobin and Pandit (2001), the reasons for decline in performance are divided into external and internal. The former refer to reductions in demand, increases in competition and increases in input costs, while the internal causes are attributable to poor management, inadequate financial policy and high cost structure.

The downward spiral of corporate performance does not affect companies with the same pace and severity. Since the first studies on corporate decline (Argenti, 1976), scholars have stated that companies can experience different paths of decline and each different path needs different strategies to overcome the crisis. D'Aveni (1989) argues that three different trajectories of decline are identifiable, which are characterized by a different level of intensity and speed (sudden decliners, gradual decliners and lingerers). Other scholars theorize that the early indicators of decline are recognizable up to 10 years before the onset of the crisis and even if the signals are difficult to grasp, since they are very often qualitative indicators and only have a marginal impact on performance (Hambrick and D'Aveni, 1988).

Overcoming threats that may raise doubts about business continuity and the return to profitability is a process that requires significant efforts from companies and their stakeholders. The literature divides the turnaround process into two phases: the first is aimed at stabilizing the business, while the second is aimed at recovering efficiency and returning to profitability (Bibault, 1982). Over the years this subdivision has been further deepened and studied and these

phases have been defined by Pearce and Robbins (1993) as retrenchment and recovery. Retrenchment takes the form of actions aimed at reducing costs, suspending the negative effects of the crisis and ensuring the survival of the company. Limiting the product line, reducing the number of employees or disposing of non-strategic assets are typical retrenchment strategies. Recovery is typically characterized by investment, organizational refocus and growth. Operational strategies for achieving turnaround are diverse and the choice of the right mix of actions depends on specific circumstances. In the literature, the content of turnaround strategies is divided into four categories: operational, asset, managerial and financial restructuring. Operational restructuring consists of cost rationalization and layoffs. Asset restructuring entails divestments of subsidiaries, spin-offs and other asset sales. Removal of chairman of Chief executive officer is a managerial restructuring action, while financial restructuring is characterized by capital increases, debt refinancing or omission or reduction of dividends. The restructuring process is decisively influenced by the context in which the company operates. Industry condition, macroeconomic dynamics and changes in legislation changes influence the implementation of a successful turnaround.

The downward spiral of corporate decline can assume various and complex characteristics. In all these cases, an early diagnosis is essential to identify the symptoms of a probable crisis. In addition to the top management team, there are many economic agents (financial institutions, suppliers or rating agencies) interested in assessing creditworthiness of companies. The monitoring of company performance and the application of models aimed at assessing the possibility of insolvency are very different between internal and external agents. Many methods have been designed to intercept the decline and prevent the crisis from reducing the chances of business continuity. A typical methodology is based on the analysis of financial statement data and the computation of financial ratios. The approach based on the use of financial indicators is also used by rating agencies, such as Moody's, which, however, integrates these quantitative indicators with qualitative assessments. Additional models to assess the risk of default rely on mathematical and econometric methods. For both categories of models, the simple application of the methodologies is not sufficient to have a complete view on the risk of insolvency. Each result must be interpreted in the context and in the conditions in which the company carries out its activity.

An important aspect that influences and guides the stabilization process of crisis management is the legal framework within which the entity operates. The intervention of the legislator provides rules and procedures for an orderly and efficient management of the crisis. The Italian Banrkuptcy Law offers several legal instruments to manage the crisis. The different insolvency

procedures differ on the degree of involvement of the court. In-court procedures require the presence of a judicial authority that guarantees compliance with the law and acts, out-of-court procedures are less invasive and entail the settlement of the crisis through private agreements between the debtor and creditors. An innovative aspect of the Italian crisis and insolvency law is the future implementation of a new law (Code of the Corporate Crisis and Insolvency, legislative decree 12thJanuary 2019) that will fully replace the current Italian Bankruptcy Law (R.D. 16th March 1942). With this reform, the legislator wants to give priority to legal instruments that involve overcoming the corporate crisis by ensuring business continuity and introduce alert procedures aimed at encouraging the early appearance of the crisis and the continuation of the distressed company activities.

The empirical analysis conducted on the sample of Italian listed companies that faced a period of financial distress allows to draw numerous conclusions on the process of deterioration of performance and on the strategies adopted to achieve the turnaround. First of all, it is worth noticing that the corporate crisis is a widespread phenomenon that regularly affects the life cycle of companies. Between 2009 and 2018, 81 different companies listed on the MTA segment of Borsa Italiana (23.6% of the total listed companies) were the object of CONSOB's requests to provide the market with additional disclosure on financial information pursuant to article 114 of T.U.F. (*Testo Unico della Finanza*) because of their weak financial condition.

The sample analysed is composed of 24 Italian non-financial listed companies that have encountered a period of crisis between 2011 and 2016. These companies were analysed both in the years prior to the outbreak of the crisis (in order to understand the causes) and in the years following the manifestation of the financial distress (to assess the effectiveness of the turnaround process). First of all, two years before the emergence of liquidity or financial tension, companies obtain very different results. For some companies, performance is very negative, and the key financial data show a situation of severe suffering which may suggest a situation of liquidity tension in the near future. Other companies, the majority in the analysis carried out in this dissertation, achieve economic and financial results slightly lower than those of their competitors. In the case of these companies, financial data recommends a deeper analysis in order to understand whether the underperformance situation is only temporary or is the premise of a more serious crisis. Finally, some companies, two years before the crisis emerges, show no sign of weakness and achieve economic results in line with those of their competitors. Finally, two years before the crisis broke out, companies showed more an unbalanced financial structure and excessive indebtedness than poor profitability.

There are many causes that explain the outbreak of the crisis and they can be classified into various categories. The main reasons that emerged from the analysis carried out include technological change, macroeconomic factors, industry in decline and regulation changes. The downward spiral of corporate performance implies, for almost all companies, significant contractions in turnover and severe reductions in operating margins. However, the intensity with which the decline affects companies is not the same. For the majority of entities, the decline is very fast and in the period between two financial years the companies suffer substantial reductions in net sales and EBITDA. Companies that, two years before the crisis broke out, achieved unsatisfactory results and did not create shareholder value, do not worsen their situation, but manage to survive and remain solvent through the disposal of assets and business units and through the reduction of working capital. These actions allow them to postpone the emergence of financial tension. The behaviour of these companies recalls the category of lingerers introduced in the literature by D'Aveni (1989).

For all companies in the years leading up to the financial crisis, net working capital is significantly reduced. Most of the companies continue to meet their financial obligations increasing the time of payment to suppliers and tax authorities. The different economic situation of the companies in the years preceding the outbreak of the crisis is manifested by the different decisions regarding equity management. While the majority of companies that achieve a normal performance continue to pay dividends, companies that do not achieve satisfactory results do not make payments to shareholders but, on the contrary, strengthen their capital structure. For the vast majority of the companies analysed, the crisis breaks out because of the inability to meet their financial obligations or because of the erosion of accounting equity due to the accumulation of economic losses. The sample of companies analysed shows that it is very difficult to recover the economic results of the past in two financial years. Some companies are unable to survive and, within a few years, they are forced to opt for the liquidation of the company. The main reason that forces companies to close down is the failure to reach an agreement with creditors and, in particular, with the financial institutions. The companies that manage to maintain the going concern acquire the liquidity necessary to guarantee business continuity by disposing of assets or business units considered non-strategic and by reducing costs (cost retrenchment and asset retrenchment). The empirical analysis shows that the effect of cost reduction is evident especially two years after the emergence of the situation of financial tension. In the first year after, the impact of the crisis is still very significant, and the economic margins deteriorate further.

A significant final result concerns the structural differences and similarities, in the period prior to the outbreak of the crisis, between the companies that recover and those that are not able to reach the turnaround. Two years before the manifestation of the state of financial distress, from the point of view of economic performance it is not possible to perceive structural differences between recovery and non-recovery firms. On average, in the year of the outbreak of the crisis, companies that subsequently fail to achieve the turnaround obtain an operating result (EBIT) slightly higher than the recovery firms. On the contrary, the structure of the invested capital is very different between the two groups of companies. While companies that return to profitability enjoy a positive net working capital that accounts for about one third of the capital invested, non-recovery companies have an asset structure characterized by a large incidence of fixed assets. The dynamics of the total source of financing are also profoundly different between the two categories. Before the outbreak of the crisis, the capital structure of the two groups of companies did not show significant differences, but while the companies that achieve the turnaround carry out capital increase and strengthen their structure, the non-recovery firms on average have a capital deficit two years after the outbreak of the crisis.

A key element in achieving corporate restructuring is the negotiation of an efficient and comprehensive financial plan with creditors. The company must quickly prepare the necessary tools to stabilize the situation of tension and must begin negotiations by proposing to creditors a plan that is acceptable and that allows the company to maintain the going concern. In the two cases of effective restructuring that emerged from the analysis, the companies were able to quickly prepare a strategy for refocusing the operating business (which involved the disposal of non-strategic assets) and a financial plan involving all stakeholders. Finally, for both companies, the intervention of the shareholders who committed a significant capital increase was fundamental.

Appendix

Reorganized Income Statement (million eur)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Revenues	181,7	151,1	203,9	168,8	149,8	141,0	149,7	168,1	180,4	177,9
Var %		*-16,8%*	*34,9%*	*-17,2%*	*-11,2%*	*-5,8%*	*6,2%*	*12,3%*	*7,3%*	*-1,4%*
Capitalized internal works	3,1	0,7	2,2	1,2	0,5	0,1	0,1	0,1	0,3	0,3
Other income	2,4	4,3	4,3	6,2	20,9	4,2	5,5	3,8	3,5	9,8
Total Revenues	**187,2**	**156,1**	**210,4**	**176,2**	**171,2**	**145,4**	**155,3**	**172,0**	**184,2**	**187,9**
Raw materials, consumables and goods	(83,8)	(61,5)	(102,2)	(70,8)	(73,2)	(72,7)	(67,1)	(76,4)	(80,8)	(81,6)
% on revenues	*44,8%*	*39,4%*	*48,6%*	*40,2%*	*42,8%*	*50,0%*	*43,2%*	*44,4%*	*43,9%*	*43,4%*
Personnel expenes	(35,9)	(34,8)	(36,6)	(36,8)	(38,4)	(37,6)	(35,0)	(36,5)	(37,2)	(37,7)
% on revenues	*19,2%*	*22,3%*	*17,4%*	*20,9%*	*22,4%*	*25,9%*	*22,5%*	*21,2%*	*20,2%*	*20,1%*
Other operating costs	(44,5)	(41,4)	(43,8)	(44,6)	(52,5)	(41,5)	(36,8)	(42,5)	(46,4)	(44,9)
% on revenues	*23,8%*	*26,5%*	*20,8%*	*25,3%*	*30,6%*	*28,6%*	*23,7%*	*24,7%*	*25,2%*	*23,9%*
EBITDA	**22,9**	**18,4**	**27,8**	**23,9**	**7,1**	**(6,5)**	**16,4**	**16,6**	**19,8**	**23,7**
EBITDA %	*12,2%*	*11,8%*	*13,2%*	*13,6%*	*4,1%*	*-4,5%*	*10,6%*	*9,6%*	*10,7%*	*12,6%*
Write-offs	(2,6)	(3,4)	(3,1)	(4,0)	(25,2)	(10,9)	(2,2)	(0,7)	(2,4)	(4,9)
Amortization and Depreciation	(9,5)	(9,5)	(9,4)	(8,9)	(8,2)	(7,8)	(6,3)	(6,7)	(6,9)	(7,1)
EBIT	**10,8**	**5,5**	**15,3**	**11,0**	**(26,4)**	**(25,2)**	**7,9**	**9,1**	**10,6**	**11,7**
EBIT %	*5,8%*	*3,5%*	*7,3%*	*6,2%*	*-15,4%*	*-17,3%*	*5,1%*	*5,3%*	*5,7%*	*6,2%*
Interest expenses	(7,8)	(7,7)	(10,7)	(10,4)	(14,2)	(11,9)	(10,2)	(15,8)	(5,0)	(4,3)
Interest income	2,5	12,3	9,3	8,6	8,5	9,8	5,8	6,1	1,7	0,2
Non-recurring and extr. income (expenses)	4,9	(0,8)	0,4	4,9	(0,1)	14,8	3,4	1,2	(2,0)	(2,2)
EBT	**10,3**	**9,3**	**14,3**	**14,1**	**(32,2)**	**(12,4)**	**6,8**	**0,6**	**5,2**	**5,4**
Taxes	(3,3)	(1,4)	(4,3)	(3,7)	11,9	5,1	(3,3)	(0,0)	(1,5)	(1,8)
Net income	**7,1**	**8,0**	**10,0**	**10,4**	**(20,3)**	**(7,3)**	**3,6**	**0,6**	**3,7**	**3,6**

Reorganized Balance Sheet (million eur) Functional Reorganization	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Investory	65,7	62,6	64,1	60,7	55,6	45,5	46,7	55,0	54,3	45,8
DIOH	*282*	*366*	*226*	*309*	*273*	*225*	*250*	*259*	*242*	*202*
Trade receivables	35,3	37,4	43,9	42,4	36,2	41,7	37,1	38,4	38,3	34,1
DSO	*70*	*89*	*77*	*91*	*87*	*106*	*89*	*82*	*77*	*69*
Trade payables	(31,3)	(34,5)	(52,5)	(33,1)	(30,7)	(31,9)	(32,7)	(41,0)	(43,4)	(38,8)
DPO	*88*	*121*	*129*	*103*	*88*	*101*	*113*	*124*	*123*	*110*
Trade working capital	69,7	65,5	55,5	70,1	61,1	55,3	51,1	52,4	49,2	41,1
Other operating current assets	93,6	102,2	108,9	133,0	151,1	148,3	135,3	97,7	96,4	103,5
Other operating current liabilities	(17,9)	(20,7)	(17,4)	(18,2)	(23,8)	(19,9)	(24,8)	(22,2)	(21,8)	(21,0)
Net working capital	145,4	147,0	147,0	184,9	188,4	183,7	161,6	127,8	123,9	123,6
Goodwill	11,0	11,0	11,0	11,0	7,9	7,9	7,9	7,9	7,9	7,9
Intangible Assets	13,2	15,0	20,2	16,9	9,3	6,7	8,1	9,7	9,0	8,1
Tangible Assets	85,8	82,7	86,4	87,4	83,1	76,3	78,8	78,3	77,1	66,6
Total operating fixed capital	110,0	108,6	117,6	115,3	100,3	91,0	94,8	95,9	94,0	82,6
Other non-current operating assets (liabilities)	(34,5)	(45,0)	(43,4)	(47,6)	(41,3)	(39,3)	(36,3)	(31,9)	(31,2)	(31,4)
Invested Capital	**220,8**	**210,6**	**221,3**	**252,6**	**247,4**	**235,4**	**220,0**	**191,9**	**186,7**	**174,8**
Net Intercompany Position	0,0	2,2	0,9	1,6	0,6	0,4	1,0	2,6	2,2	1,8
Non-operating non-current assets (liabilities)	1,0	53,1	50,8	48,3	17,3	0,8	1,4	1,7	4,3	3,2
Total funds invested	**221,8**	**265,9**	**273,0**	**302,5**	**265,3**	**236,5**	**222,5**	**196,2**	**193,2**	**179,8**
Shareholders' equity	110,0	141,4	150,5	154,1	116,4	97,3	102,5	104,2	106,3	105,9
Shareholders' financing	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other financial debt	30,5	34,3	48,1	45,0	32,2	25,4	13,6	13,7	11,3	10,1
Bonds	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Short-term bank debt	29,0	38,6	40,5	8,6	125,8	126,0	44,6	36,7	41,5	29,0
Long-term bank debt	70,6	65,4	58,5	118,8	16,7	6,9	72,4	66,7	50,1	59,1
Cash	(18,4)	(13,9)	(24,7)	(24,1)	(25,8)	(19,1)	(10,6)	(25,2)	(16,0)	(24,2)
Net Financial Position	111,8	124,5	122,4	148,4	148,9	139,3	120,0	91,9	86,9	73,9
Total source of financing	221,8	265,9	273,0	302,5	265,3	236,5	222,5	196,2	193,2	179,8

Reorganized Balance Sheet ('000 €) Financial reorganization	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Goodwill	11,0	11,0	11,0	11,0	7,9	7,9	7,9	7,9	7,9	7,9
Intangible assets	13,2	15,0	20,2	16,9	9,3	6,7	8,1	9,7	9,0	8,1
Tangible assets	85,8	82,7	86,4	87,4	83,1	76,3	78,8	78,3	77,1	66,6
Financial fixed assets	0,3	0,9	3,7	4,8	2,8	0,7	0,4	0,4	0,4	0,2
Long term credits	64,6	82,4	99,6	118,8	121,4	117,9	107,5	71,8	63,2	60,4
Fixed assets	**174,8**	**191,9**	**220,8**	**238,9**	**224,6**	**209,6**	**202,7**	**168,1**	**157,6**	**143,2**
Current assets	130,0	123,2	123,0	120,2	124,0	119,6	113,8	121,8	128,0	124,8
Current financial assets	0,7	52,2	47,1	43,5	14,4	0,0	1,1	1,4	4,0	3,0
Cash and cash equivalents	18,4	13,9	24,7	24,1	25,8	19,1	10,6	25,2	16,0	24,2
Current assets	**149,1**	**189,3**	**194,8**	**187,8**	**164,3**	**138,6**	**125,4**	**148,4**	**147,9**	**152,1**
Total assets	**323,9**	**381,3**	**415,6**	**426,7**	**388,8**	**348,3**	**328,1**	**316,4**	**305,6**	**295,3**
Equity and minority interests	**110,0**	**141,4**	**150,5**	**154,1**	**116,4**	**97,3**	**102,5**	**104,2**	**106,3**	**105,9**
Allowances and other liabilities	**34,5**	**45,0**	**43,4**	**47,6**	**41,3**	**39,3**	**36,3**	**31,9**	**31,2**	**31,4**
Shareholders' financing	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Bonds - long term portion	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Long-term bank debt	70,6	65,4	58,5	118,8	16,7	6,9	72,4	66,7	50,1	59,1
Long-term liabilities	**95,6**	**92,9**	**99,6**	**138,9**	**33,3**	**19,3**	**83,2**	**76,6**	**59,1**	**67,4**
Trade payables	31,3	34,5	52,5	33,1	30,7	31,9	32,7	41,0	43,4	38,8
Other short-term liabilities	16,7	19,9	20,1	17,1	19,9	18,9	22,3	19,8	20,3	20,2
Short-term bank debt	29,0	38,6	40,5	8,6	125,8	126,0	44,6	36,7	41,5	29,0
Short-term liabilities	**83,8**	**101,8**	**122,0**	**86,0**	**197,8**	**192,4**	**106,0**	**103,7**	**108,9**	**90,5**
Total liabilities and equity	**323,9**	**381,3**	**415,6**	**426,7**	**388,8**	**348,3**	**328,1**	**316,4**	**305,6**	**295,3**

Cash flow statement (million €)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EBITDA		18,4	27,8	23,9	7,1	(6,5)	16,4	16,6	19,8	23,7
Non-recurring and extr. income (expenses)		(0,8)	0,4	4,9	(0,1)	14,8	3,4	1,2	(2,0)	(2,2)
Interest income		12,3	9,3	8,6	8,5	9,8	5,8	6,1	1,7	0,2
Taxes		(1,4)	(4,3)	(3,7)	11,9	5,1	(3,3)	(0,0)	(1,5)	(1,8)
Gross Cash Flow		28,6	33,2	33,7	27,4	23,3	22,3	23,9	18,0	19,9
Increase (decrease) in working capital		(2,7)	(2,2)	(38,8)	(7,8)	4,7	21,2	33,5	3,9	0,3
Cash flow from operations		**25,8**	**31,0**	**(5,0)**	**19,6**	**28,0**	**43,4**	**57,3**	**21,9**	**20,1**
Capital expenditures (net of disposals)		(9,7)	(18,5)	(9,0)	(12,7)	(4,4)	(10,1)	(7,9)	(6,4)	0,4
Investments in other operating noncurrent assets		(44,5)	1,2	5,3	24,2	9,7	(5,5)	(6,7)	(3,9)	0,7
Free cash flow		**(28,4)**	**13,6**	**(8,7)**	**31,2**	**33,3**	**27,8**	**42,8**	**11,6**	**21,3**
Changes in shareholders' equity		23,4	(0,9)	(6,8)	(17,5)	(11,8)	1,7	1,1	(1,6)	(4,0)
Cash flow to Debt service		**(4,9)**	**12,7**	**(15,5)**	**13,7**	**21,5**	**29,5**	**43,9**	**10,1**	**17,3**
Interest expenses		(7,7)	(10,7)	(10,4)	(14,2)	(11,9)	(10,2)	(15,8)	(5,0)	(4,3)
Cash Flow to Debt		**(12,7)**	**2,0**	**(25,9)**	**(0,5)**	**9,6**	**19,3**	**28,1**	**5,0**	**13,0**
Increase (decrease) in long-term debt		(1,4)	6,9	57,2	(114,9)	(16,6)	53,6	(5,5)	(19,0)	7,8
Increase (decrease) in short-term debt		9,6	1,9	(31,9)	117,2	0,2	(81,4)	(7,9)	4,8	(12,5)
Changes in cash		**(4,5)**	**10,8**	**(0,6)**	**1,8**	**(6,8)**	**(8,5)**	**14,6**	**(9,3)**	**8,3**
Initial NFP		**111,8**	**124,5**	**122,4**	**148,4**	**148,9**	**139,3**	**120,0**	**91,9**	**86,9**
Increase (decrease) in short-term debt		9,6	1,9	(31,9)	117,2	0,2	(81,4)	(7,9)	4,8	(12,5)
Increase (decrease) in long-term debt		(5,2)	(6,9)	60,3	(102,1)	(9,8)	65,4	(5,7)	(16,6)	9,0
Decrease (increase) in cash		4,5	(10,8)	0,6	(1,8)	6,8	8,5	(14,6)	9,3	(8,3)
Change in NFP		12,7	(2,0)	25,9	0,5	(9,6)	(19,3)	(28,1)	(5,0)	(13,0)
Final NFP	**111,8**	**124,5**	**122,4**	**148,4**	**148,9**	**139,3**	**120,0**	**91,9**	**86,9**	**73,9**

	ACOTEL GROUP					ARKIMEDICA					BASTOGI					BEGHELLI				
	0y: 2015		*Telecommunications*			0y: 2010		*Health Care*			0y: 2012		*Industrial Goods & Services*			0y: 2012		*Industrial Goods & Services*		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**122,4**	**71,2**	**38,8**	**24,1**	**19,9**	**164,0**	**162,3**	**141,4**	**82,2**	**70,4**	**11,4**	**12,3**	**12,0**	**13,0**	**11,4**	**210,4**	**176,2**	**171,2**	**145,4**	**155,3**
Var %		*-41,8%*	*-45,5%*	*-37,9%*	*-17,2%*		*-1,0%*	*-12,9%*	*-41,9%*	*-14,4%*		*8,0%*	*-2,6%*	*8,8%*	*-12,3%*		*-16,3%*	*-2,8%*	*-15,1%*	*6,8%*
EBITDA	**(2,4)**	**(11,4)**	**(8,6)**	**(5,9)**	**(6,9)**	**15,1**	**14,9**	**3,0**	**2,6**	**3,8**	**(2,6)**	**(1,9)**	**(1,8)**	**0,6**	**(0,5)**	**27,8**	**23,9**	**7,1**	**(6,5)**	**16,4**
EBITDA %	*-2,0%*	*-16,0%*	*-22,3%*	*-24,3%*	*-34,5%*	*9,2%*	*9,2%*	*2,1%*	*3,2%*	*5,4%*	*-22,9%*	*-15,3%*	*-15,1%*	*4,4%*	*-4,1%*	*13,2%*	*13,6%*	*4,1%*	*-4,5%*	*10,6%*
EBIT	**(8,6)**	**(14,7)**	**(10,3)**	**(7,4)**	**(11,3)**	**5,3**	**5,9**	**(13,1)**	**(25,4)**	**(5,8)**	**(7,3)**	**(6,6)**	**(5,0)**	**(2,8)**	**(2,9)**	**15,3**	**11,0**	**(26,4)**	**(25,2)**	**7,9**
EBIT %	*-7,0%*	*-20,6%*	*-26,5%*	*-30,9%*	*-56,5%*	*3,2%*	*3,6%*	*-9,2%*	*-30,8%*	*-8,2%*	*-64,5%*	*-53,5%*	*-41,6%*	*-21,5%*	*-25,5%*	*7,3%*	*6,2%*	*-15,4%*	*-17,3%*	*5,1%*
Interest expenses	(0,6)	(0,5)	(0,2)	(0,1)	(0,2)	(8,6)	(7,4)	(7,2)	(5,4)	(2,2)	(1,3)	(1,3)	(1,4)	(1,4)	(1,4)	(10,7)	(10,4)	(14,2)	(11,9)	(10,2)
EBITDA/Int Expenses	*-4,4*	*-21,1*	*-41,9*	*-49,3*	*-35,8*	*1,8*	*2,0*	*0,4*	*0,5*	*1,7*	*-2,0*	*-1,4*	*-1,3*	*0,4*	*-0,3*	*2,6*	*2,3*	*0,5*	*-0,5*	*1,6*
Net Income	**(10,4)**	**(19,4)**	**(10,7)**	**(5,5)**	**(6,5)**	**(1,3)**	**(2,9)**	**(17,8)**	**(47,5)**	**12,5**	**(8,2)**	**(6,0)**	**(5,0)**	**(4,2)**	**(4,9)**	**10,0**	**10,4**	**(20,3)**	**(7,3)**	**3,6**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	5,1	(5,8)	(7,5)	(6,7)	(2,3)	29,3	17,2	31,4	11,1	3,5	(1,7)	(0,7)	(2,2)	(5,0)	(5,8)	48,1	68,2	70,2	67,5	55,8
Fixed Assets	23,3	11,6	7,3	7,3	3,5	131,8	136,2	119,8	75,9	64,5	55,2	49,4	46,9	43,7	41,3	117,6	115,3	100,3	91,0	94,8
Other non-current assets	(0,0)	0,0	(1,0)	(2,4)	(3,3)	(7,2)	(6,9)	(1,5)	(6,9)	(0,2)	(5,7)	(4,2)	(3,6)	(2,8)	(3,0)	55,6	69,1	76,9	76,9	69,4
Invested Capital	**28,4**	**5,8**	**(1,2)**	**(1,8)**	**(2,1)**	**153,9**	**146,5**	**149,7**	**80,1**	**67,8**	**47,7**	**44,6**	**41,1**	**35,9**	**32,5**	**221,3**	**252,6**	**247,4**	**235,4**	**220,0**
Equity and minorities	**46,4**	**27,3**	**14,4**	**10,9**	**2,8**	**72,3**	**71,2**	**50,1**	**0,3**	**24,7**	**20,4**	**14,0**	**8,7**	**4,7**	**(0,7)**	**150,5**	**154,1**	**116,4**	**97,3**	**102,5**
Short-term NFP	(11,0)	(6,0)	(6,2)	(9,8)	(3,6)	42,4	21,0	39,0	43,9	0,9	3,3	7,7	9,2	10,2	21,0	22,8	9,6	116,9	120,1	37,1
Long-term NFP	0,0	0,0	0,0	0,0	0,3	67,9	71,4	64,2	39,6	42,1	24,0	22,1	19,6	17,5	5,9	99,6	138,8	32,0	19,1	82,9
Net Financial Position	**(11,0)**	**(6,0)**	**(6,2)**	**(9,8)**	**(3,3)**	**110,3**	**92,4**	**103,2**	**83,4**	**43,0**	**27,3**	**29,8**	**28,8**	**27,7**	**26,9**	**122,4**	**148,4**	**148,9**	**139,3**	**120,0**
NFP/EBITDA	*4,6x*	*0,5x*	*0,7x*	*1,7x*	*0,5x*	*7,3x*	*6,2x*	*34,2x*	*32,1x*	*11,3x*	*-10,5x*	*-15,9x*	*-16,0x*	*48,0x*	*-58,0x*	*4,4x*	*6,2x*	*21,1x*	*-21,4x*	*7,3x*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**(2,4)**	**(11,4)**	**(8,6)**	**(5,9)**	**(6,9)**	**15,1**	**14,9**	**3,0**	**2,6**	**3,8**	**(2,6)**	**(1,9)**	**(1,8)**	**0,6**	**(0,5)**	**27,8**	**23,9**	**7,1**	**(6,5)**	**16,4**
Extraordinary income	(1,3)	(4,2)	(0,2)	2,1	4,9	2,0	(1,3)	2,5	(16,7)	20,5	0,4	1,9	1,4	0,0	(0,6)	5,4	9,9	20,3	29,8	5,9
Gross cash flow	**(3,7)**	**(15,6)**	**(8,8)**	**(3,8)**	**(2,0)**	**17,1**	**13,6**	**5,5**	**(14,1)**	**24,3**	**(2,2)**	**(0,0)**	**(0,4)**	**0,6**	**(1,1)**	**33,2**	**33,7**	**27,4**	**23,3**	**22,3**
Increase (decrease) in WC	6,8	10,9	1,7	(0,8)	(4,4)	8,5	11,4	(15,0)	20,3	7,5	(6,5)	(1,2)	1,4	2,8	0,6	14,4	(21,0)	(6,3)	2,7	10,7
Cash flow from operations	**3,1**	**(4,7)**	**(7,2)**	**(4,6)**	**(6,4)**	**25,6**	**25,0**	**(9,6)**	**6,2**	**31,8**	**(8,7)**	**(1,2)**	**0,9**	**3,4**	**(0,4)**	**47,5**	**12,7**	**21,1**	**26,0**	**33,0**
Capital expenditures	(4,8)	8,4	2,7	(1,6)	(0,5)	(11,9)	(12,7)	1,1	18,6	3,3	(0,9)	1,2	(0,4)	(0,2)	0,2	(18,5)	(9,0)	(12,7)	(4,4)	(10,1)
Changes in op. non current a	2,0	(7,4)	4,8	10,0	0,6	(31,6)	14,4	4,8	(1,8)	(6,5)	0,5	(1,2)	1,9	(0,7)	2,4	(12,3)	(15,3)	9,3	(0,1)	6,7
Free cash flow	**0,3**	**(3,6)**	**0,4**	**3,8**	**(6,3)**	**(18,0)**	**26,6**	**(3,6)**	**23,0**	**28,6**	**(9,0)**	**(1,2)**	**2,4**	**2,6**	**2,2**	**16,7**	**(11,5)**	**17,7**	**21,5**	**29,5**
Changes in shareholders' eq	0,0	(0,8)	0,0	0,0	0,0	(3,2)	2,5	0,0	0,9	14,3	0,0	0,0	0,0	0,0	0,0	(4,0)	(4,0)	(4,0)	0,0	(0,0)
Interest expenses	(0,6)	(0,5)	(0,2)	(0,1)	(0,2)	(8,6)	(7,4)	(7,2)	(5,4)	(2,2)	(1,3)	(1,3)	(1,4)	(1,4)	(1,4)	(10,7)	(10,4)	(14,2)	(11,9)	(10,2)
Cash Flow to debt	**(0,2)**	**(5,0)**	**0,2**	**3,6**	**(6,5)**	**(29,7)**	**21,7**	**(10,8)**	**18,5**	**40,6**	**(10,4)**	**(2,5)**	**1,0**	**1,1**	**0,8**	**2,0**	**(25,9)**	**(0,5)**	**9,6**	**19,3**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	76	163	618	385	112	158	140	176	254	246	26	22	27	18	10	226	309	273	225	250
DSO	99	99	54	62	62	128	151	139	122	78	90	76	88	81	84	77	91	87	106	89
DPO	90	134	71	61	70	137	182	113	155	93	141	112	125	162	182	129	103	88	101	113
Current ratio	1,6	1,4	1,4	1,4	1,4	1,1	1,1	1,0	0,6	1,0	0,7	0,5	0,3	0,2	0,2	1,6	2,2	0,8	0,7	1,2
Quick ratio	1,6	1,4	1,4	1,4	1,4	0,9	0,9	0,8	0,5	0,9	0,7	0,5	0,3	0,2	0,2	1,1	1,5	0,5	0,5	0,7
ROIC	-30,4%	-251,9%	882,0%	419,6%	545,5%	3,4%	4,0%	-8,7%	-31,6%	-8,5%	-15,4%	-14,7%	-12,1%	-7,8%	-9,0%	6,9%	4,3%	-10,7%	-10,7%	3,6%
ROA	-9,8%	-21,9%	-27,8%	-26,0%	-83,7%	1,9%	2,1%	-5,4%	-18,8%	-5,0%	-11,2%	-11,2%	-9,3%	-5,7%	-6,2%	3,7%	2,6%	-6,8%	-7,2%	2,4%

	BIANCAMANO					BRIOSCHI					CARRARO					CDC POINT				
	0y: 2012		*Industrial Goods & Services*			0y: 2012		*Real Estate*			0y: 2015		*Industrial Goods & Services*			0y: 2012		*Technology*		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**265,8**	**272,9**	**250,0**	**179,5**	**138,3**	**71,9**	**19,5**	**29,0**	**45,5**	**44,4**	**885,1**	**741,3**	**698,4**	**603,6**	**616,9**	**348,2**	**311,1**	**89,8**	**12,5**	**n.d.**
Var %		*2,7%*	*-8,4%*	*-28,2%*	*-22,9%*		*-72,8%*	*48,6%*	*56,8%*	*-2,5%*		*-16,2%*	*-5,8%*	*-13,6%*	*2,2%*		*-10,7%*	*-71,2%*	*-86,1%*	*n.d.*
EBITDA	**28,9**	**27,5**	**21,2**	**10,8**	**5,7**	**7,6**	**(4,1)**	**(8,3)**	**7,5**	**18,6**	**72,2**	**50,5**	**59,3**	**50,4**	**66,1**	**6,7**	**(0,9)**	**(28,4)**	**(9,7)**	**n.d.**
EBITDA %	*10,9%*	*10,1%*	*8,5%*	*6,0%*	*4,1%*	*10,5%*	*-12,4%*	*-12,2%*	*20,0%*	*17,3%*	*8,2%*	*6,8%*	*8,5%*	*8,4%*	*10,7%*	*1,9%*	*-0,3%*	*-31,7%*	*-77,9%*	*n.d.*
EBIT	**12,5**	**7,5**	**0,9**	**(17,9)**	**(11,7)**	**2,4**	**(10,4)**	**(16,6)**	**(0,7)**	**8,9**	**28,5**	**11,3**	**(1,2)**	**12,2**	**35,3**	**2,9**	**(5,2)**	**(60,5)**	**(11,5)**	**n.d.**
EBIT %	*4,7%*	*2,8%*	*0,4%*	*-10,0%*	*-8,5%*	*3,4%*	*-53,4%*	*-57,2%*	*-1,5%*	*20,1%*	*3,2%*	*1,5%*	*-0,2%*	*2,0%*	*5,7%*	*0,8%*	*-1,7%*	*-67,4%*	*-92,1%*	*n.d.*
Interest expenses	(7,0)	(10,5)	(12,5)	(12,2)	(8,1)	(10,3)	(19,7)	(18,2)	(20,2)	(11,8)	(19,7)	(22,0)	(22,4)	(16,2)	(11,7)	(2,3)	(3,9)	(3,4)	(0,2)	n.d.
EBITDA/Int Expenses	*4,2*	*2,6*	*1,7*	*0,9*	*0,7*	*0,7*	*-0,2*	*-0,5*	*0,4*	*1,6*	*3,7*	*2,3*	*2,6*	*3,1*	*5,7*	*2,9*	*-0,2*	*-8,3*	*-49,0*	*n.d.*
Net Income	**3,0**	**1,6**	**(10,7)**	**(25,0)**	**(10,9)**	**(9,3)**	**(26,8)**	**(35,8)**	**(20,7)**	**(5,1)**	**2,1**	**(7,8)**	**(9,1)**	**(9,1)**	**13,7**	**0,1**	**(8,4)**	**(69,1)**	**(10,6)**	**n.d.**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	43,2	26,0	36,4	1,6	(3,9)	259,3	169,2	120,0	126,1	62,4	11,7	(30,0)	(5,6)	(7,9)	(3,5)	32,7	31,9	(23,9)	(23,6)	n.d.
Fixed Assets	135,2	157,3	159,0	148,3	138,6	172,5	260,6	257,4	251,1	214,2	292,5	277,4	235,2	212,7	199,0	30,1	31,8	14,1	13,5	n.d.
Other non-current assets	(8,2)	(5,1)	(7,3)	(11,1)	(19,8)	11,3	14,4	8,8	6,2	1,3	4,2	19,6	22,6	12,0	10,9	(2,7)	(1,0)	(3,0)	(2,8)	n.d.
Invested Capital	**170,1**	**178,1**	**188,1**	**138,9**	**114,9**	**443,2**	**444,2**	**386,1**	**383,4**	**277,9**	**308,3**	**267,1**	**252,2**	**216,8**	**206,4**	**60,1**	**62,7**	**(12,8)**	**(12,9)**	**n.d.**
Equity and minorities	**43,6**	**43,4**	**30,9**	**6,3**	**(4,7)**	**211,6**	**182,0**	**141,2**	**123,3**	**112,1**	**54,9**	**41,2**	**31,0**	**46,7**	**82,1**	**43,0**	**33,2**	**(36,0)**	**(46,6)**	**n.d.**
Short-term NFP	66,0	68,5	113,8	107,2	50,7	68,9	105,9	127,1	184,6	(13,1)	74,1	101,9	64,7	40,7	24,4	18,8	29,0	31,6	36,0	n.d.
Long-term NFP	61,4	67,0	44,1	24,8	68,7	218,5	210,6	171,6	122,5	230,3	180,9	127,0	180,2	159,8	134,5	13,4	14,9	0,0	0,0	n.d.
Net Financial Position	**127,4**	**135,5**	**157,9**	**132,0**	**119,4**	**287,4**	**316,5**	**298,7**	**307,1**	**217,3**	**255,0**	**228,9**	**244,9**	**200,5**	**158,9**	**32,2**	**43,9**	**31,6**	**36,0**	**n.d.**
NFP/EBITDA	*4,4x*	*4,9x*	*7,4x*	*12,2x*	*21,0x*	*38,0x*	*-76,7x*	*-35,9x*	*40,8x*	*11,7x*	*3,5x*	*4,5x*	*4,1x*	*4,0x*	*2,4x*	*4,8x*	*-48,0x*	*-1,1x*	*-3,7x*	*n.d.*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**28,9**	**27,5**	**21,2**	**10,8**	**5,7**	**7,6**	**(4,1)**	**(8,3)**	**7,5**	**18,6**	**72,2**	**50,5**	**59,3**	**50,4**	**66,1**	**6,7**	**(0,9)**	**(28,4)**	**(9,7)**	**n.d.**
Extraordinary income	(2,5)	4,5	0,9	5,1	8,9	(1,5)	3,3	(1,0)	0,2	(2,3)	(6,8)	2,9	14,6	(5,1)	(10,0)	(0,5)	0,7	(5,2)	1,2	n.d.
Gross cash flow	**26,4**	**32,0**	**22,2**	**15,8**	**14,5**	**6,1**	**(0,8)**	**(9,4)**	**7,7**	**16,3**	**65,4**	**53,5**	**73,8**	**45,4**	**56,1**	**6,3**	**(0,2)**	**(33,6)**	**(8,6)**	**n.d.**
Increase (decrease) in WC	(9,4)	17,2	(10,4)	21,0	5,5	(51,2)	90,0	48,6	(6,7)	63,0	(32,2)	40,2	(26,7)	1,8	(4,9)	10,1	(0,2)	43,2	(1,4)	n.d.
Cash flow from operations	**17,1**	**49,3**	**11,7**	**36,9**	**20,1**	**(45,1)**	**89,2**	**39,2**	**1,0**	**79,3**	**33,2**	**93,6**	**47,2**	**47,1**	**51,3**	**16,4**	**(0,4)**	**9,6**	**(10,0)**	**n.d.**
Capital expenditures	(15,6)	(36,3)	(18,4)	(0,1)	1,1	(18,8)	(94,3)	(4,4)	(1,3)	28,5	(26,4)	(11,6)	(4,4)	(4,9)	(7,7)	(12,8)	(4,9)	(1,8)	(0,0)	n.d.
Changes in op. non current a	(0,7)	(10,1)	(3,2)	1,4	(0,5)	4,7	(4,4)	1,1	12,1	(6,2)	(19,6)	(33,7)	(36,3)	(14,3)	(9,3)	(15,2)	(1,1)	7,9	5,9	n.d.
Free cash flow	**0,8**	**2,9**	**(9,9)**	**38,2**	**20,7**	**(59,2)**	**(9,4)**	**36,0**	**11,7**	**101,6**	**(12,8)**	**48,3**	**6,5**	**28,0**	**34,3**	**(11,7)**	**(6,4)**	**15,7**	**(4,1)**	**n.d.**
Changes in shareholders' eq	(1,9)	(0,5)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	(0,1)	(0,1)	0,0	32,6	19,0	(1,0)	(1,4)	0,0	0,0	n.d.
Interest expenses	(7,0)	(10,5)	(12,5)	(12,2)	(8,1)	(10,3)	(19,7)	(18,2)	(20,2)	(11,8)	(19,7)	(22,0)	(22,4)	(16,2)	(11,7)	(2,3)	(3,9)	(3,4)	(0,2)	n.d.
Cash Flow to debt	**(8,0)**	**(8,1)**	**(22,5)**	**25,9**	**12,6**	**(69,5)**	**(29,1)**	**17,8**	**(8,4)**	**89,9**	**(32,6)**	**26,1**	**(16,0)**	**44,4**	**41,6**	**(15,0)**	**(11,7)**	**12,3**	**(4,3)**	**n.d.**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	98	27	16	22	23	9.126	4.771	1.395	-7.541	576	102	122	106	91	123	43	42	9	76	n.d.
DSO	156	178	258	330	361	47	37	22	47	13	39	37	30	29	45	88	88	75	523	n.d.
DPO	207	256	316	354	342	239	330	174	467	141	113	150	116	100	138	88	80	118	789	n.d.
Current ratio	0,9	0,8	0,7	0,6	0,7	2,4	1,4	1,0	0,8	2,3	0,9	0,7	0,8	0,8	0,9	1,2	1,1	0,4	0,3	n.d.
Quick ratio	0,8	0,8	0,7	0,6	0,7	0,3	0,2	0,1	0,1	0,6	0,5	0,4	0,5	0,5	0,5	0,9	0,9	0,4	0,3	n.d.
ROIC	7,3%	4,2%	0,5%	-12,9%	-10,2%	0,5%	-2,3%	-4,3%	-0,2%	3,2%	9,2%	4,2%	-0,5%	5,6%	17,1%	4,8%	-8,2%	473,1%	89,4%	n.d.
ROA	4,2%	2,3%	0,3%	-5,2%	-3,7%	0,4%	-1,9%	-3,3%	-0,1%	2,2%	4,2%	1,7%	-0,2%	2,5%	6,5%	1,5%	-3,0%	-125,1%	-27,2%	n.d.

	CERAMICHE RICCHETTI					CHL					COGEME SET					DMAIL GROUP				
	0y: 2012		Construction & Materials			0y: 2015		Retail			0y: 2011		Automobiles & Parts			0y: 2011		Retail		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**200,3**	**194,8**	**191,7**	**188,1**	**188,7**	**6,6**	**5,6**	**5,5**	**4,5**	**22,8**	**66,0**	**87,4**	**66,0**	**58,4**	**60,0**	**81,9**	**77,5**	**76,8**	**63,9**	**51,0**
Var %		*-2,7%*	*-1,6%*	*-1,9%*	*0,3%*		*-15,8%*	*-1,4%*	*-17,6%*	*402,6%*		*32,4%*	*-24,5%*	*-11,6%*	*2,8%*		*-5,3%*	*-0,9%*	*-16,8%*	*-20,1%*
EBITDA	**0,9**	**4,4**	**0,6**	**(8,9)**	**(4,2)**	**(1,8)**	**(2,1)**	**(1,2)**	**(3,5)**	**(0,4)**	**24,6**	**25,9**	**6,9**	**5,8**	**8,2**	**5,6**	**3,9**	**3,0**	**(3,2)**	**0,0**
EBITDA %	*0,4%*	*2,3%*	*0,3%*	*-4,7%*	*-2,2%*	*-27,4%*	*-37,3%*	*-21,8%*	*-77,2%*	*-1,7%*	*37,3%*	*29,6%*	*10,4%*	*10,0%*	*13,6%*	*6,8%*	*5,0%*	*4,0%*	*-5,0%*	*0,1%*
EBIT	**(8,2)**	**(4,3)**	**(9,6)**	**(19,5)**	**(12,1)**	**(4,0)**	**(2,7)**	**(1,3)**	**(4,1)**	**(2,1)**	**9,8**	**4,5**	**(31,6)**	**(5,4)**	**(9,7)**	**(0,9)**	**0,4**	**(2,0)**	**(18,9)**	**(2,1)**
EBIT %	*-4,1%*	*-2,2%*	*-5,0%*	*-10,4%*	*-6,4%*	*-60,4%*	*-47,5%*	*-23,3%*	*-91,2%*	*-9,1%*	*14,9%*	*5,1%*	*-47,9%*	*-9,2%*	*-16,2%*	*-1,1%*	*0,5%*	*-2,6%*	*-29,6%*	*-4,1%*
Interest expenses	(3,7)	(4,9)	(5,5)	(6,2)	(6,3)	(0,2)	(0,5)	(0,6)	(0,5)	(1,3)	(7,5)	(8,5)	(8,5)	(4,8)	(1,5)	(1,5)	(1,3)	(2,0)	(2,6)	(2,3)
EBITDA/Int Expenses	*0,2*	*0,9*	*0,1*	*-1,4*	*-0,7*	*-8,5*	*-4,3*	*-2,0*	*-7,7*	*-0,3*	*3,3*	*3,0*	*0,8*	*1,2*	*5,4*	*3,8*	*2,9*	*1,5*	*-1,2*	*0,0*
Net Income	**(15,9)**	**(5,5)**	**(14,6)**	**(19,7)**	**(16,8)**	**(4,2)**	**(3,1)**	**(1,9)**	**(4,5)**	**(2,3)**	**2,5**	**(2,8)**	**(74,0)**	**(13,1)**	**(15,2)**	**(6,2)**	**(3,1)**	**(9,3)**	**(21,2)**	**(4,6)**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	143,9	138,0	126,4	104,1	81,7	(0,5)	0,6	0,0	(1,6)	0,8	61,1	61,6	0,7	(6,0)	(12,2)	13,8	8,1	5,5	(1,2)	(3,4)
Fixed Assets	171,7	159,8	157,3	152,0	156,8	5,5	5,4	5,4	21,0	18,9	139,7	150,4	50,1	35,6	23,7	34,3	34,2	32,5	22,5	21,6
Other non-current assets	(45,8)	(33,5)	(31,8)	(30,5)	(28,9)	(0,3)	(0,3)	(0,2)	(0,6)	(2,8)	(2,4)	(2,0)	(13,0)	(3,0)	(3,9)	(5,1)	(1,7)	(3,1)	(11,8)	(10,5)
Invested Capital	**269,8**	**264,3**	**251,9**	**225,7**	**209,6**	**4,7**	**5,7**	**5,2**	**18,9**	**16,9**	**198,4**	**210,0**	**37,9**	**26,6**	**7,7**	**43,0**	**40,6**	**35,0**	**9,5**	**7,7**
Equity and minorities	**173,1**	**168,8**	**153,9**	**132,5**	**115,9**	**0,8**	**0,4**	**0,0**	**10,9**	**9,0**	**80,1**	**86,8**	**(54,7)**	**(68,3)**	**(86,2)**	**18,6**	**14,1**	**4,7**	**(16,6)**	**(21,1)**
Short-term NFP	45,9	42,9	71,2	60,7	64,7	4,0	1,9	2,2	3,2	4,8	39,8	60,1	56,8	95,0	93,6	17,4	25,2	24,8	24,7	26,6
Long-term NFP	58,6	54,9	24,9	32,4	29,6	0,0	3,4	2,9	1,9	3,2	92,0	76,9	41,1	0,1	0,3	7,6	1,8	6,4	1,6	1,2
Net Financial Position	**104,6**	**97,9**	**96,2**	**93,1**	**94,3**	**4,0**	**5,3**	**5,2**	**5,1**	**7,9**	**131,8**	**137,0**	**97,9**	**95,1**	**93,9**	**25,0**	**27,1**	**31,2**	**26,2**	**27,8**
NFP/EBITDA	*116,9x*	*22,3x*	*174,5x*	*-10,5x*	*-22,4x*	*-2,2x*	*-2,5x*	*-4,3x*	*-1,4x*	*-20,1x*	*5,4x*	*5,3x*	*14,2x*	*16,3x*	*11,5x*	*4,5x*	*7,0x*	*10,2x*	*-8,2x*	*794,6x*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**0,9**	**4,4**	**0,6**	**(8,9)**	**(4,2)**	**(1,8)**	**(2,1)**	**(1,2)**	**(3,5)**	**(0,4)**	**24,6**	**25,9**	**6,9**	**5,8**	**8,2**	**5,6**	**3,9**	**3,0**	**(3,2)**	**0,0**
Extraordinary income	(4,0)	3,6	0,6	5,9	1,6	(0,0)	0,0	0,0	0,1	1,0	0,2	1,2	(34,0)	(2,9)	(3,9)	(3,8)	(2,1)	(5,3)	0,4	(0,2)
Gross cash flow	**(3,1)**	**8,0**	**1,1**	**(3,0)**	**(2,6)**	**(1,8)**	**(2,1)**	**(1,2)**	**(3,4)**	**0,6**	**24,8**	**27,1**	**(27,1)**	**2,9**	**4,2**	**1,8**	**1,7**	**(2,3)**	**(2,8)**	**(0,1)**
Increase (decrease) in WC	28,6	5,2	10,6	21,7	21,9	(0,2)	(1,1)	0,6	1,6	(2,8)	(32,0)	(5,7)	54,6	4,1	3,3	(5,5)	5,0	1,8	4,7	1,9
Cash flow from operations	**25,5**	**13,2**	**11,7**	**18,7**	**19,4**	**(2,0)**	**(3,2)**	**(0,6)**	**(1,9)**	**(2,1)**	**(7,2)**	**21,4**	**27,5**	**7,0**	**7,5**	**(3,7)**	**6,7**	**(0,4)**	**1,8**	**1,8**
Capital expenditures	(7,1)	4,4	(5,2)	(3,7)	(12,0)	(0,2)	0,0	(0,1)	(15,7)	1,2	(35,4)	(26,1)	81,6	9,7	(1,0)	(0,4)	(1,9)	(0,3)	8,0	(0,9)
Changes in op. non current a	(5,1)	(4,8)	(0,7)	(6,7)	(3,2)	(0,7)	(0,5)	(0,0)	2,6	(0,7)	(10,8)	3,8	(61,5)	(9,1)	(3,8)	(1,4)	(5,4)	(1,3)	(3,0)	(1,3)
Free cash flow	**13,4**	**12,8**	**5,8**	**8,3**	**4,2**	**(2,9)**	**(3,6)**	**(0,8)**	**(14,9)**	**(1,6)**	**(53,4)**	**(1,0)**	**47,6**	**7,5**	**2,8**	**(5,5)**	**(0,6)**	**(2,0)**	**6,9**	**(0,4)**
Changes in shareholders' eq	7,9	(0,3)	(0,2)	(0,2)	0,2	2,1	2,9	1,5	15,5	0,1	27,6	4,3	0,0	0,0	0,0	(0,4)	(0,1)	(0,1)	(0,1)	0,0
Interest expenses	(3,7)	(4,9)	(5,5)	(6,2)	(6,3)	(0,2)	(0,5)	(0,6)	(0,5)	(1,3)	(7,5)	(8,5)	(8,5)	(4,8)	(1,5)	(1,5)	(1,3)	(2,0)	(2,6)	(2,3)
Cash Flow to debt	**17,6**	**7,6**	**0,1**	**2,0**	**(1,8)**	**(1,0)**	**(1,3)**	**0,1**	**0,1**	**(2,8)**	**(33,3)**	**(5,2)**	**39,2**	**2,7**	**1,3**	**(7,5)**	**(2,0)**	**(4,1)**	**4,2**	**(2,7)**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	669	853	790	544	521	48	32	50	53	1	633	226	89	79	59	172	153	162	124	128
DSO	75	71	67	64	65	130	156	136	666	97	143	201	41	50	52	97	84	99	75	79
DPO	82	98	103	90	111	150	126	149	426	123	199	202	143	139	124	89	85	100	120	134
Current ratio	2,0	1,9	1,4	1,4	1,2	0,4	0,7	0,6	0,7	0,7	1,5	1,1	0,5	0,3	0,2	0,9	0,7	0,7	0,5	0,4
Quick ratio	0,6	0,6	0,4	0,4	0,4	0,4	0,7	0,5	0,7	0,7	1,2	0,9	0,4	0,2	0,2	0,6	0,5	0,5	0,4	0,3
ROIC	-3,0%	-1,6%	-3,8%	-8,6%	-5,8%	-84,6%	-46,8%	-24,7%	-22,0%	-12,4%	5,0%	2,1%	-83,3%	-20,2%	-127,0%	-2,1%	0,9%	-5,7%	-198,5%	-27,3%
ROA	-2,1%	-1,1%	-2,6%	-5,7%	-3,7%	-43,2%	-27,5%	-14,6%	-12,6%	-6,7%	3,9%	1,6%	-31,4%	-7,3%	-18,5%	-1,2%	0,5%	-2,7%	-34,4%	-4,5%

	EEMS					IL SOLE 24 ORE					MAIRE TECNIMONT					MEDIACONTECH				
	0y: 2011		Technology			0y: 2016		Media			0y: 2012		Oil & Gas			0y: 2012		Media		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**133,5**	**190,3**	**173,4**	**67,6**	**30,2**	**323,3**	**334,7**	**288,3**	**234,6**	**221,3**	**2.535,6**	**2.616,7**	**2.158,5**	**1.634,8**	**1.579,0**	**133,4**	**118,0**	**123,2**	**90,2**	**109,5**
Var %		*42,5%*	*-8,9%*	*-61,0%*	*-55,3%*		*3,5%*	*-13,9%*	*-18,6%*	*-5,7%*		*3,2%*	*-17,5%*	*-24,3%*	*-3,4%*		*-11,6%*	*4,4%*	*-26,8%*	*21,4%*
EBITDA	**25,9**	**30,1**	**11,2**	**(12,3)**	**(5,8)**	**(6,9)**	**2,8**	**(14,7)**	**(25,3)**	**14,9**	**135,6**	**(321,2)**	**(125,0)**	**94,8**	**140,9**	**25,0**	**19,3**	**18,2**	**7,9**	**13,4**
EBITDA %	*19,4%*	*15,8%*	*6,4%*	*-18,2%*	*-19,3%*	*-2,1%*	*0,8%*	*-5,1%*	*-10,8%*	*6,7%*	*5,3%*	*-12,3%*	*-5,8%*	*5,8%*	*8,9%*	*18,7%*	*16,3%*	*14,8%*	*8,8%*	*12,2%*
EBIT	**(15,3)**	**(2,5)**	**(34,8)**	**(27,8)**	**(9,1)**	**(29,1)**	**(19,0)**	**(69,9)**	**(43,2)**	**(3,2)**	**103,8**	**(354,9)**	**(153,2)**	**68,6**	**117,4**	**11,1**	**(1,7)**	**(5,4)**	**(8,5)**	**(4,1)**
EBIT %	*-11,5%*	*-1,3%*	*-20,1%*	*-41,2%*	*-30,1%*	*-9,0%*	*-5,7%*	*-24,2%*	*-18,4%*	*-1,5%*	*4,1%*	*-13,6%*	*-7,1%*	*4,2%*	*7,4%*	*8,3%*	*-1,5%*	*-4,4%*	*-9,4%*	*-3,7%*
Interest expenses	(5,8)	(6,1)	(2,4)	(2,0)	(1,6)	(2,6)	(3,6)	(5,2)	(5,5)	(3,0)	(17,6)	(23,7)	(49,5)	(43,9)	(45,9)	(4,0)	(3,5)	(4,3)	(2,2)	(1,8)
EBITDA/Int Expenses	*4,5*	*5,0*	*4,6*	*-6,2*	*-3,7*	*-2,6*	*0,8*	*-2,8*	*-4,6*	*4,9*	*7,7*	*-13,5*	*-2,5*	*2,2*	*3,1*	*6,2*	*5,5*	*4,2*	*3,7*	*7,4*
Net Income	**(20,2)**	**(2,8)**	**(36,5)**	**(94,3)**	**(10,7)**	**(9,3)**	**(24,1)**	**(91,9)**	**7,5**	**(6,0)**	**63,8**	**(346,3)**	**(207,7)**	**17,3**	**50,6**	**4,4**	**(6,4)**	**(13,5)**	**(20,2)**	**(10,3)**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	10,4	2,2	24,0	18,7	(2,0)	(54,9)	(45,5)	(43,8)	(42,4)	(35,5)	(271,5)	(406,8)	(453,4)	(88,7)	79,5	0,9	3,9	(15,5)	(24,6)	2,3
Fixed Assets	155,4	115,8	90,5	15,4	13,2	123,1	120,7	86,4	76,2	70,2	410,5	385,9	375,9	351,9	351,3	109,9	101,4	91,4	78,5	83,7
Other non-current assets	18,9	22,1	14,3	(7,6)	(7,4)	39,3	37,8	(5,0)	(16,4)	(17,1)	69,5	82,0	69,7	59,5	31,9	(9,5)	(15,7)	(6,8)	(4,1)	(12,6)
Invested Capital	**184,7**	**140,0**	**128,8**	**26,5**	**3,8**	**107,4**	**113,0**	**37,6**	**17,4**	**17,5**	**208,4**	**61,1**	**(7,8)**	**322,7**	**462,7**	**101,3**	**89,6**	**69,1**	**49,8**	**52,1**
Equity and minorities	**105,2**	**110,8**	**75,5**	**(19,9)**	**(24,6)**	**110,6**	**87,2**	**(11,7)**	**41,6**	**35,8**	**431,9**	**46,7**	**(120,7)**	**35,2**	**93,7**	**49,3**	**38,8**	**23,8**	**2,7**	**10,4**
Short-term NFP	77,8	29,5	53,6	46,7	28,5	(17,3)	11,8	45,6	(11,6)	0,9	(307,6)	(271,1)	275,1	(27,9)	315,4	13,5	8,1	33,1	37,6	3,1
Long-term NFP	1,8	0,0	0,0	0,0	0,0	15,0	15,0	6,2	5,6	0,0	173,0	341,3	1,0	362,8	75,3	37,9	41,6	12,9	5,8	38,9
Net Financial Position	**79,6**	**29,5**	**53,6**	**46,7**	**28,5**	**(2,2)**	**26,8**	**51,7**	**(6,0)**	**0,9**	**(134,6)**	**70,2**	**276,1**	**334,9**	**390,7**	**51,3**	**49,7**	**46,0**	**43,4**	**42,0**
NFP/EBITDA	*3,1x*	*1,0x*	*4,8x*	*-3,8x*	*-4,9x*	*0,3x*	*9,5x*	*-3,5x*	*0,2x*	*0,1x*	*-1,0x*	*-0,2x*	*-2,2x*	*3,5x*	*2,8x*	*2,1x*	*2,6x*	*2,5x*	*5,5x*	*3,1x*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**25,9**	**30,1**	**11,2**	**(12,3)**	**(5,8)**	**(6,9)**	**2,8**	**(14,7)**	**(25,3)**	**14,9**	**135,6**	**(321,2)**	**(125,0)**	**94,8**	**140,9**	**25,0**	**19,3**	**18,2**	**7,9**	**13,4**
Extraordinary income	0,9	5,8	0,8	(64,5)	(0,0)	22,4	(1,5)	(16,9)	56,2	0,3	(22,4)	32,3	(5,0)	(7,4)	(20,9)	(2,6)	(1,1)	(3,8)	(9,5)	(4,4)
Gross cash flow	**26,9**	**35,9**	**12,0**	**(76,8)**	**(5,9)**	**15,5**	**1,4**	**(31,6)**	**31,0**	**15,2**	**113,2**	**(288,9)**	**(130,0)**	**87,4**	**120,0**	**22,4**	**18,1**	**14,5**	**(1,6)**	**9,0**
Increase (decrease) in WC	(9,5)	7,7	(21,8)	5,3	20,7	(12,0)	(13,6)	(5,3)	(3,3)	(8,2)	(39,2)	134,9	44,1	(367,6)	(169,3)	(1,5)	(3,3)	18,5	8,7	(27,9)
Cash flow from operations	**17,3**	**43,6**	**(9,9)**	**(71,5)**	**14,8**	**3,5**	**(12,3)**	**(36,8)**	**27,7**	**6,9**	**74,0**	**(154,0)**	**(85,9)**	**(280,2)**	**(49,3)**	**20,9**	**14,8**	**33,0**	**7,1**	**(18,9)**
Capital expenditures	(7,5)	7,5	(17,4)	59,7	(1,0)	70,9	(13,9)	(7,7)	(3,1)	(4,2)	(68,4)	(2,7)	(7,4)	3,6	(8,8)	(9,7)	(11,5)	(11,3)	2,7	(7,8)
Changes in op. non current a	(8,6)	3,7	5,6	20,7	6,0	(20,8)	0,8	24,9	(11,3)	(6,6)	(87,9)	(5,6)	(63,2)	111,3	48,5	2,2	4,9	(11,7)	(6,8)	(6,1)
Free cash flow	**1,2**	**54,8**	**(21,6)**	**8,9**	**19,7**	**53,6**	**(25,4)**	**(19,7)**	**13,3**	**(3,9)**	**(82,3)**	**(162,3)**	**(156,5)**	**(165,3)**	**(9,6)**	**13,4**	**8,2**	**10,0**	**2,9**	**(32,8)**
Changes in shareholders' eq	0,0	1,4	0,0	0,0	0,0	(0,2)	0,0	0,0	50,0	0,0	(9,3)	(18,7)	0,0	150,3	(0,2)	(4,2)	(3,1)	(1,9)	(2,1)	18,6
Interest expenses	(5,8)	(6,1)	(2,4)	(2,0)	(1,6)	(2,6)	(3,6)	(5,2)	(5,5)	(3,0)	(17,6)	(23,7)	(49,5)	(43,9)	(45,9)	(4,0)	(3,5)	(4,3)	(2,2)	(1,8)
Cash Flow to debt	**(4,6)**	**50,1**	**(24,1)**	**6,9**	**18,1**	**50,8**	**(29,0)**	**(24,9)**	**57,8**	**(6,9)**	**(109,2)**	**(204,8)**	**(206,0)**	**(58,8)**	**(55,7)**	**5,1**	**1,6**	**3,7**	**(1,3)**	**(16,0)**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	80	49	43	32	24	164	156	133	105	111	290	264	174	297	307	65	162	334	119	160
DSO	108	65	89	91	63	135	116	117	116	109	232	337	123	265	680	101	110	84	83	83
DPO	113	103	82	128	82	237	213	231	257	248	302	248	246	302	354	122	156	166	225	200
Current ratio	0,5	0,8	0,7	0,7	0,5	0,8	0,7	0,6	0,8	0,7	1,0	1,0	0,7	1,0	0,9	0,8	0,9	0,6	0,5	1,0
Quick ratio	0,4	0,6	0,6	0,6	0,5	0,8	0,7	0,6	0,8	0,7	0,7	0,6	0,6	0,7	0,5	0,8	0,9	0,5	0,5	1,0
ROIC	-8,3%	-1,8%	-27,0%	-105,1%	-237,5%	-27,1%	-16,8%	-185,6%	-248,2%	-18,5%	49,8%	-580,6%	1959,4%	21,3%	25,4%	10,9%	-1,9%	-7,8%	-17,1%	-7,8%
ROA	-6,3%	-1,1%	-19,0%	-39,4%	-21,7%	-7,7%	-5,3%	-26,1%	-17,1%	-1,5%	3,6%	-13,3%	-6,8%	3,7%	5,8%	6,4%	-1,1%	-3,4%	-6,1%	-4,7%

	MONTI ASCENSORI					PIERREL					PRELIOS					PREMUDA				
	0y: 2010		*Industrial Goods & Services*			0y: 2011		*Health Care*			0y: 2011		*Real Estate*			0y: 2013		*Industrial Goods & Services*		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**33,0**	**36,6**	**43,3**	**n.d.**	**n.d.**	**44,4**	**44,7**	**47,3**	**41,5**	**29,6**	**309,1**	**289,6**	**191,9**	**151,0**	**81,3**	**127,6**	**111,0**	**77,3**	**68,4**	**59,9**
Var %		*11,1%*	*18,3%*	*n.d.*	*n.d.*		*0,7%*	*5,7%*	*-12,1%*	*-28,7%*		*-6,3%*	*-33,8%*	*-21,3%*	*-46,2%*		*-13,0%*	*-30,3%*	*-11,6%*	*-12,3%*
EBITDA	**4,7**	**5,7**	**(1,6)**	**n.d.**	**n.d.**	**(4,6)**	**(1,5)**	**(0,4)**	**(1,9)**	**(8,7)**	**3,1**	**12,0**	**(9,7)**	**(14,8)**	**(17,4)**	**34,4**	**23,9**	**1,7**	**(0,8)**	**(1,2)**
EBITDA %	*14,1%*	*15,6%*	*-3,7%*	*n.d.*	*n.d.*	*-10,3%*	*-3,3%*	*-0,8%*	*-4,5%*	*-29,5%*	*1,0%*	*4,1%*	*-5,0%*	*-9,8%*	*-21,4%*	*27,0%*	*21,5%*	*2,2%*	*-1,2%*	*-2,0%*
EBIT	**1,7**	**2,3**	**(13,9)**	**n.d.**	**n.d.**	**(10,9)**	**(7,6)**	**(5,9)**	**(8,9)**	**(13,4)**	**(36,3)**	**(2,5)**	**(74,7)**	**(37,8)**	**(81,8)**	**3,5**	**(23,8)**	**(21,0)**	**(23,9)**	**(43,5)**
EBIT %	*5,1%*	*6,3%*	*-32,1%*	*n.d.*	*n.d.*	*-24,5%*	*-16,9%*	*-12,4%*	*-21,4%*	*-45,3%*	*-11,7%*	*-0,9%*	*-39,0%*	*-25,1%*	*-100,6%*	*2,7%*	*-21,5%*	*-27,2%*	*-34,9%*	*-72,5%*
Interest expenses	(1,3)	(1,6)	(1,5)	n.d.	n.d.	(2,0)	(2,6)	(2,8)	(2,2)	(2,6)	(48,8)	(31,3)	(124,3)	(194,2)	(124,2)	(9,0)	(23,8)	(13,2)	(12,5)	(12,8)
EBITDA/Int Expenses	*3,7*	*3,6*	*-1,1*	*n.d.*	*n.d.*	*-2,3*	*-0,6*	*-0,1*	*-0,8*	*-3,4*	*0,1*	*0,4*	*-0,1*	*-0,1*	*-0,1*	*3,8*	*1,0*	*0,1*	*-0,1*	*-0,1*
Net Income	**0,4**	**0,4**	**(12,6)**	**n.d.**	**n.d.**	**(12,8)**	**(7,7)**	**(10,0)**	**(11,2)**	**(15,7)**	**(104,8)**	**(94,5)**	**(291,5)**	**(241,0)**	**(333,9)**	**(4,7)**	**(47,9)**	**(32,7)**	**(41,8)**	**(81,4)**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	17,8	17,8	14,0	n.d.	n.d.	(3,3)	(3,1)	(4,3)	(7,7)	(7,0)	22,6	30,6	(17,5)	(19,5)	(14,1)	14,6	17,0	8,6	(0,1)	(3,2)
Fixed Assets	14,3	22,5	20,6	n.d.	n.d.	47,2	44,0	41,2	37,2	43,5	642,8	580,0	482,1	386,4	227,6	456,1	428,3	406,7	442,8	302,2
Other non-current assets	(0,3)	(0,3)	(1,4)	n.d.	n.d.	1,8	4,4	3,4	3,9	4,0	(23,6)	334,0	(11,9)	(14,8)	(36,0)	(4,0)	(4,0)	(16,4)	(10,9)	(15,0)
Invested Capital	**31,9**	**39,9**	**33,2**	**n.d.**	**n.d.**	**45,7**	**45,2**	**40,3**	**33,4**	**40,4**	**641,8**	**553,0**	**452,6**	**352,0**	**177,5**	**466,7**	**441,3**	**398,8**	**431,8**	**284,1**
Equity and minorities	**17,6**	**17,5**	**5,0**	**n.d.**	**n.d.**	**18,5**	**10,7**	**1,8**	**(9,2)**	**9,3**	**663,1**	**589,6**	**326,2**	**80,4**	**(66,3)**	**213,5**	**164,5**	**126,0**	**98,0**	**27,3**
Short-term NFP	0,6	8,4	19,9	n.d.	n.d.	2,7	11,2	17,1	23,3	17,8	25,2	(10,1)	(1,8)	84,2	(83,2)	(5,5)	24,2	296,5	352,4	317,5
Long-term NFP	14,0	14,6	8,7	n.d.	n.d.	24,7	23,3	21,3	10,3	8,2	357,2	303,8	328,8	263,6	465,1	313,6	275,4	0,0	2,5	2,8
Net Financial Position	**14,6**	**23,0**	**28,6**	**n.d.**	**n.d.**	**27,4**	**34,5**	**38,5**	**33,6**	**25,9**	**382,4**	**293,7**	**326,9**	**347,8**	**381,9**	**308,1**	**299,6**	**296,5**	**354,9**	**320,3**
NFP/EBITDA	*3,1x*	*4,0x*	*-17,8x*	*n.d.*	*n.d.*	*-6,0x*	*-23,8x*	*-100,7x*	*-17,9x*	*-3,0x*	*121,7x*	*24,6x*	*-33,8x*	*-23,5x*	*-22,0x*	*8,9x*	*12,5x*	*171,2x*	*-422,5x*	*-273,3x*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**4,7**	**5,7**	**(1,6)**	**n.d.**	**n.d.**	**(4,6)**	**(1,5)**	**(0,4)**	**(1,9)**	**(8,7)**	**3,1**	**12,0**	**(9,7)**	**(14,8)**	**(17,4)**	**34,4**	**23,9**	**1,7**	**(0,8)**	**(1,2)**
Extraordinary income	(0,0)	(0,3)	2,8	n.d.	n.d.	0,0	2,4	(1,3)	(0,1)	0,4	(19,8)	(60,7)	(92,5)	(9,0)	(127,9)	0,8	(0,3)	1,5	(5,4)	(25,2)
Gross cash flow	**4,6**	**5,4**	**1,2**	**n.d.**	**n.d.**	**(4,5)**	**1,0**	**(1,7)**	**(2,0)**	**(8,4)**	**(16,6)**	**(48,7)**	**(102,2)**	**(23,8)**	**(145,2)**	**35,3**	**23,6**	**3,2**	**(6,2)**	**(26,4)**
Increase (decrease) in WC	(1,9)	(0,1)	(2,0)	n.d.	n.d.	5,0	(0,6)	0,8	2,6	(1,2)	(31,0)	(8,0)	(7,4)	(8,6)	(35,1)	2,0	(2,4)	8,4	8,6	3,1
Cash flow from operations	**2,7**	**5,3**	**(0,9)**	**n.d.**	**n.d.**	**0,4**	**0,4**	**(0,8)**	**0,6**	**(9,6)**	**(47,6)**	**(56,7)**	**(109,6)**	**(32,4)**	**(180,4)**	**37,3**	**21,3**	**11,6**	**2,4**	**(23,2)**
Capital expenditures	(8,9)	(11,4)	(2,1)	n.d.	n.d.	(3,5)	(2,1)	(2,3)	(0,5)	(10,2)	(112,7)	50,7	92,7	87,9	145,9	(64,5)	(19,9)	(1,1)	(59,2)	98,3
Changes in op. non current a	(0,0)	(0,4)	(1,0)	n.d.	n.d.	(1,0)	(2,8)	0,8	(1,4)	7,6	(191,3)	(265,7)	499,6	117,8	(60,4)	(11,3)	31,0	5,8	10,9	(27,7)
Free cash flow	**(6,2)**	**(6,6)**	**(4,0)**	**n.d.**	**n.d.**	**(4,0)**	**(4,6)**	**(2,3)**	**(1,4)**	**(12,2)**	**(351,7)**	**(271,7)**	**482,7**	**173,3**	**(94,9)**	**(38,6)**	**32,4**	**16,3**	**(45,9)**	**47,4**
Changes in shareholders' eq	(0,2)	(0,3)	(0,1)	n.d.	n.d.	2,4	0,0	1,2	0,0	25,7	399,3	0,0	0,0	0,0	185,0	0,0	0,0	0,0	0,0	0,0
Interest expenses	(1,3)	(1,6)	(1,5)	n.d.	n.d.	(2,0)	(2,6)	(2,8)	(2,2)	(2,6)	(48,8)	(31,3)	(124,3)	(194,2)	(124,2)	(9,0)	(23,8)	(13,2)	(12,5)	(12,8)
Cash Flow to debt	**(7,7)**	**(8,4)**	**(5,6)**	**n.d.**	**n.d.**	**(3,6)**	**(7,2)**	**(3,9)**	**(3,6)**	**10,9**	**(1,2)**	**(302,9)**	**358,4**	**(20,9)**	**(34,1)**	**(47,6)**	**8,5**	**3,1**	**(58,4)**	**34,6**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	613	752	407	n.d.	n.d.	267	298	367	352	610	1.085	372	584	4.262	2.820	123	84	79	137	117
DSO	290	268	211	n.d.	n.d.	87	73	75	88	80	76	58	66	47	63	72	77	88	59	42
DPO	175	157	147	n.d.	n.d.	141	187	202	245	214	191	132	189	185	290	72	46	64	56	82
Current ratio	1,6	1,3	0,9	n.d.	n.d.	0,8	0,6	0,5	0,4	0,5	1,0	1,8	1,0	0,7	1,4	1,5	0,9	0,1	0,1	0,1
Quick ratio	1,3	0,9	0,6	n.d.	n.d.	0,7	0,5	0,4	0,3	0,3	0,7	1,4	0,8	0,5	1,1	1,4	0,8	0,1	0,1	0,1
ROIC	5,3%	5,7%	-41,9%	n.d.	n.d.	-23,8%	-16,8%	-14,6%	-26,6%	-33,2%	-5,7%	-0,5%	-16,5%	-10,7%	-46,1%	0,7%	-5,4%	-5,3%	-5,5%	-15,3%
ROA	2,9%	3,4%	-20,9%	n.d.	n.d.	-14,5%	-10,5%	-8,3%	-13,7%	-18,8%	-2,5%	-0,2%	-6,9%	-4,4%	-13,4%	0,6%	-4,6%	-4,5%	-4,8%	-10,6%

	RCS MEDIAGROUP					RDB					SCREEN SERVICE					SEAT PG				
	0y: 2012		Media			0y: 2011		Construction & Materials			0y: 2012		Technology			0y: 2011		Media		
Income statement (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Revenues	**2.310,6**	**2.125,4**	**1.644,7**	**1.337,8**	**1.297,4**	**273,0**	**204,2**	**149,8**	**n.d.**	**n.d.**	**60,9**	**61,5**	**46,4**	**20,1**	**n.d.**	**1.214,5**	**1.115,5**	**961,8**	**281,2**	**507,9**
Var %		*-8,0%*	*-22,6%*	*-18,7%*	*-3,0%*		*-25,2%*	*-26,6%*	*n.d.*	*n.d.*		*0,9%*	*-24,6%*	*-56,6%*	*n.d.*		*-8,1%*	*-13,8%*	*-70,8%*	*80,6%*
EBITDA	**237,6**	**203,0**	**36,7**	**(52,7)**	**52,0**	**1,3**	**0,6**	**(32,9)**	**n.d.**	**n.d.**	**20,3**	**15,9**	**6,0**	**(13,1)**	**n.d.**	**585,7**	**521,7**	**409,2**	**97,7**	**131,2**
EBITDA %	*10,3%*	*9,6%*	*2,2%*	*-3,9%*	*4,0%*	*0,5%*	*0,3%*	*-21,9%*	*n.d.*	*n.d.*	*33,2%*	*25,9%*	*13,0%*	*-65,1%*	*n.d.*	*48,2%*	*46,8%*	*42,5%*	*34,7%*	*25,8%*
EBIT	**69,8**	**(283,8)**	**(524,9)**	**(209,8)**	**(65,3)**	**(10,5)**	**(3,2)**	**(250,7)**	**n.d.**	**n.d.**	**17,2**	**12,4**	**(17,3)**	**(82,7)**	**n.d.**	**275,5**	**(267,2)**	**(390,6)**	**(1.829,8)**	**(188,4)**
EBIT %	*3,0%*	*-13,4%*	*-31,9%*	*-15,7%*	*-5,0%*	*-3,9%*	*-1,6%*	*-167,3%*	*n.d.*	*n.d.*	*28,2%*	*20,2%*	*-37,3%*	*-410,7%*	*n.d.*	*22,7%*	*-24,0%*	*-40,6%*	*-650,7%*	*-37,1%*
Interest expenses	(33,4)	(49,1)	(68,3)	(59,7)	(44,1)	(5,4)	(4,9)	(6,1)	n.d.	n.d.	(1,4)	(2,3)	(2,4)	(3,0)	n.d.	(225,0)	(259,6)	(273,9)	(45,9)	(132,9)
EBITDA/Int Expenses	*7,1*	*4,1*	*0,5*	*-0,9*	*1,2*	*0,2*	*0,1*	*-5,4*	*n.d.*	*n.d.*	*14,0*	*6,9*	*2,5*	*-4,4*	*n.d.*	*2,6*	*2,0*	*1,5*	*2,13*	*0,99*
Net Income	**2,4**	**(334,6)**	**(513,0)**	**(219,2)**	**(110,4)**	**(19,7)**	**(8,4)**	**(260,7)**	**n.d.**	**n.d.**	**10,2**	**5,3**	**(17,9)**	**(88,9)**	**n.d.**	**(35,4)**	**(666,0)**	**(789,0)**	**(1.039,9)**	**(347,8)**
Balance Sheet (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
Net Working Capital	47,1	24,9	(41,2)	42,7	15,4	45,2	46,6	(19,7)	n.d.	n.d.	45,8	36,5	31,5	(2,3)	n.d.	288,2	290,7	82,5	(20,9)	16,4
Fixed Assets	1.954,8	1.529,3	939,9	679,3	652,4	218,2	215,8	3,0	n.d.	n.d.	75,3	82,4	72,3	9,1	n.d.	3.526,0	2.817,1	2.103,5	484,5	170,4
Other non-current assets	(134,2)	(47,4)	(29,4)	(13,8)	11,6	(32,7)	(26,8)	(26,9)	n.d.	n.d.	(4,9)	(6,4)	(7,3)	(4,0)	n.d.	(43,1)	(45,9)	(32,8)	(101,8)	(48,3)
Invested Capital	**1.867,7**	**1.506,8**	**869,3**	**708,2**	**679,4**	**230,8**	**235,5**	**(43,5)**	**n.d.**	**n.d.**	**116,2**	**112,4**	**96,5**	**2,9**	**n.d.**	**3.771,1**	**3.061,9**	**2.153,2**	**361,8**	**138,4**
Equity and minorities	**1.067,4**	**702,7**	**179,0**	**350,8**	**273,0**	**142,6**	**134,1**	**(110,9)**	**n.d.**	**n.d.**	**75,7**	**78,2**	**59,0**	**(31,9)**	**n.d.**	**1.034,1**	**374,7**	**(555,1)**	**(968,2)**	**(1.323,4)**
Short-term NFP	149,3	41,0	706,2	44,9	84,0	38,7	71,2	74,4	n.d.	n.d.	18,3	15,5	36,1	33,9	n.d.	306,0	67,1	(155,0)	2,0	1.426,8
Long-term NFP	860,8	946,3	157,7	446,2	410,3	68,6	53,5	0,0	n.d.	n.d.	23,2	18,8	1,3	0,9	n.d.	1.126,0	1.327,2	1.493,9	1.328,3	35,2
Net Financial Position	**1.010,1**	**987,3**	**863,9**	**491,1**	**494,3**	**107,3**	**124,7**	**74,4**	**n.d.**	**n.d.**	**41,5**	**34,4**	**37,5**	**34,8**	**n.d.**	**1.431,9**	**1.394,3**	**1.338,9**	**1.330,3**	**1.462,0**
NFP/EBITDA	*4,3x*	*4,9x*	*23,5x*	*-9,3x*	*9,5x*	*85,6x*	*223,5x*	*-2,3x*	*n.d.*	*n.d.*	*2,0x*	*2,2x*	*6,2x*	*-2,7x*	*n.d.*	*2,4x*	*2,7x*	*3,3x*	*13,6*	*11,1*
Cash flow stat. (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
EBITDA	**237,6**	**203,0**	**36,7**	**(52,7)**	**52,0**	**1,3**	**0,6**	**(32,9)**	**n.d.**	**n.d.**	**20,3**	**15,9**	**6,0**	**(13,1)**	**n.d.**	**585,7**	**521,7**	**409,2**	**97,7**	**131,2**
Extraordinary income	(34,0)	(1,7)	80,2	50,3	(1,0)	(3,8)	(0,3)	(3,9)	n.d.	n.d.	(5,5)	(4,8)	1,8	(3,2)	n.d.	(85,9)	(139,2)	(124,5)	835,8	(26,5)
Gross cash flow	**203,6**	**201,3**	**116,9**	**(2,4)**	**51,0**	**(2,6)**	**0,3**	**(36,8)**	**n.d.**	**n.d.**	**14,8**	**11,1**	**7,9**	**(16,3)**	**n.d.**	**499,8**	**382,5**	**284,7**	**933,4**	**104,7**
Increase (decrease) in WC	18,0	(1,3)	47,4	(111,2)	8,7	19,0	(0,9)	40,0	n.d.	n.d.	(1,4)	8,9	(3,2)	28,3	n.d.	(102,1)	(38,1)	182,5	74,4	(78,8)
Cash flow from operations	**221,6**	**200,0**	**164,3**	**(113,6)**	**59,7**	**16,4**	**(0,7)**	**3,2**	**n.d.**	**n.d.**	**13,4**	**20,0**	**4,7**	**12,0**	**n.d.**	**397,7**	**344,4**	**467,1**	**1.007,8**	**25,9**
Capital expenditures	(86,8)	(25,8)	63,2	142,7	(56,6)	(11,1)	(2,4)	32,9	n.d.	n.d.	(32,8)	(10,1)	(5,1)	(0,9)	n.d.	(57,8)	(41,8)	(47,7)	(275,3)	36,3
Changes in op. non current a	(14,6)	(88,3)	(35,5)	(5,6)	(9,2)	6,4	(8,5)	5,6	n.d.	n.d.	1,0	2,6	(0,2)	(5,4)	n.d.	(33,6)	1,3	(88,1)	(678,1)	(52,3)
Free cash flow	**120,2**	**85,9**	**192,0**	**23,5**	**(6,1)**	**11,7**	**(11,6)**	**41,7**	**n.d.**	**n.d.**	**(18,5)**	**12,4**	**(0,7)**	**5,7**	**n.d.**	**306,3**	**304,0**	**331,4**	**54,5**	**9,9**
Changes in shareholders' eq	0,0	(14,0)	(0,3)	409,0	47,0	(0,1)	(1,0)	14,7	n.d.	n.d.	(5,1)	(3,0)	0,0	0,0	n.d.	190,2	(6,7)	(2,2)	0,0	(8,7)
Interest expenses	(33,4)	(49,1)	(68,3)	(59,7)	(44,1)	(5,4)	(4,9)	(6,1)	n.d.	n.d.	(1,4)	(2,3)	(2,4)	(3,0)	n.d.	(225,0)	(259,6)	(273,9)	(45,9)	(132,9)
Cash Flow to debt	**86,8**	**22,8**	**123,4**	**372,8**	**(3,2)**	**6,3**	**(17,5)**	**50,3**	**n.d.**	**n.d.**	**(25,1)**	**7,1**	**(3,1)**	**2,7**	**n.d.**	**271,5**	**37,7**	**55,3**	**8,6**	**(131,6)**
Ratios (M€)	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**	**-2y**	**-1y**	**0y**	**+1y**	**+2y**
DIOH	143	132	113	150	162	183	186	90	n.d.	n.d.	346	391	398	297	n.d.	134	189	126	379	72
DSO	97	104	89	98	101	137	195	165	n.d.	n.d.	193	143	189	195	n.d.	185	199	196	528	164
DPO	145	159	135	128	155	203	226	233	n.d.	n.d.	179	148	184	262	n.d.	227	222	161	971	165
Current ratio	0,9	1,0	0,5	1,0	0,9	1,1	1,0	0,5	n.d.	n.d.	1,7	1,5	0,9	0,4	n.d.	1,0	1,3	0,4	1,0	0,3
Quick ratio	0,8	0,8	0,4	0,8	0,8	0,8	0,7	0,4	n.d.	n.d.	1,1	0,9	0,6	0,2	n.d.	0,9	1,3	0,4	1,0	0,3
ROIC	3,7%	-18,8%	-60,4%	-29,6%	-9,6%	-4,6%	-1,4%	576,4%	n.d.	n.d.	14,8%	11,1%	-17,9%	#######	n.d.	7,3%	-8,7%	-18,1%	-505,7%	-136,1%
ROA	2,1%	-9,9%	-26,9%	-13,0%	-4,3%	-2,3%	-0,7%	-227,8%	n.d.	n.d.	11,9%	8,4%	-13,7%	-230,2%	n.d.	6,0%	-7,0%	-13,3%	-157,5%	-22,4%

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