CORPORATE GOVERNANCE AND PERFORMANCE IN TURNAROUND: A SYNTHETIC INDEX

Giovanna Mariani*, Delio Panaro**

Abstract

In this work we carried out an empirical research on a panel of companies in turnaround SMEs, venture capital backed, with the objective of deepening the analysis: Firstly, if warning signs were submitted from firms in turnaround. Secondly, we tried to verify the role played by the Corporate Governance in restructuring, with the definition of an index of good Governance for SMEs (scG) and Performance ad hoc index (scP). Thirdly, the definition of a Synthetic Index (SI) aggregates the two kinds of information: Corporate Governance Quality and Performance. We conducted an analysis of the balance sheets of the companies in turnaround participated by a turnaround fund, in the years 2004 and 2009. In relation to the total number of firms involved in turnaround in the period in question, which were 26 in total; it was possible to reconstruct the historic trend only for 12 of them, for the others the balance sheets could not be found.In conclusion, it can be noted that the analysis of important aspects of management through the development of Z-score, and scG, scP, and SI can summarize complex concepts into a number and allows for comparisons between situations that are not readily comparable in terms of accounting. This study can suggest the definition of Corporate Governance Index for SME in critical situations. This study offers some ideas about the opportunity of stimulating the SME to introduce the Corporate Governance System spread to listed companies.

Keywords: Corporate Governance, Bankruptcy Prediction and Determinants, Corporate Finance, Venture Capital, Accounting, Auditing and Performance Evaluation, Governance Index

**Business Administration Department, University of Pisa, Pisa – Italy*
Email: gmariani@ec.unipi.it
***Applied Mathematics Department, University of Pisa, Pisa – Italy*
Email: delio.panaro@gmail.com

1. INTRODUCTION

In this evolving context a great deal of attention should be devoted to an early recognition by understanding the warning signs of decline, so that it will be transformed into crisis and to seek promptly options of turnaround.

In the context of turnaround management, increasing attention has been given to the study of systems and instruments that can be adopted in the prevention, diagnosis and rehabilitation of corporate crisis (Kane 2002, Lappalainen and Niskanen 2009). In literature on corporate finance there are numerous studies on problem analysis and forecasting crisis (Altman 1977, 2000, 2002, Altman and Hotchkiss 2006, Beaver 1966, 1968, D'Annunzio and Falavigna 2004, Friedman 1977, Hui And Jing-Jing, 2008, Lee and Yeh, 2004, Mumford 2003).

There is now an innovative view in relation to the past, where the attention was led only on liquidation of tangible assets for the recovery of claims, thus penalizing the portfolio of intangible assets. Now the turnaround objective is not only to recover the performance of the company in crisis, but to return to its previous performance and possibly to improve it by extolling the value of intangible assets (Bebchuk, Cohen and Ferrell 2009, Chen2008, Cook and Deakin1999). The entry of the turnaround fund operators has given new life, energy, of interest for such investigations. The turnaround fund purpose is now to create value! Its main aim is to restore economic and financial balance when there is decline or crisis. For this purpose the prediction crisis methods and the deepening of the possible causes which led to the crisis are very important to analyze and to resolve the critical situation (Elsubbaugh, Fildes and Rose Mary 2004). Among the many reasons that lead a company to the crisis we must highlight the problems related to Corporate Governance (Chen 2006, 2008). This work carried out an empirical research of which we show some preliminary results. We identified a panel of companies in turnaround (cluster), SMEs, venture capital backed, with the objective of deepening the analysis.

1. Firstly, if firms in turnaround showed warning signs with the Z-score, especially in working capital management and debt ratios.

2. 2- Secondly, we investigated the role played by the Corporate Governance in restructuring, this is done with the definition of an index of good governance for SMEs (scG).
3. 3- Thirdly, we completed the crossover study everything with the relief of the performance recorded by these firms in the post-restructuring period, proceeding also in this case the sintering of an ad hoc indicator (scP).
4. 4-the analysis is completed with the definition of a Syntetic Index (SI) that aggregate the two information: Corporate Governance Quality and Performance.

As a conclusion it can be noted that the possibility for analysis of important aspects of management, through the development of indexes Z-score, scG, scP, allows for comparisons between reality also not readily comparable in terms of accounting.

Again, we highlight that this work is a first step in the overall research, a work in progress: the study, in fact, is proceeding with an expansion of the sample, the introduction of a sample of more extensive comparison, an application with other prediction methods of crisis, and the test of indicators of other situations.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS

The corporate studies field has shown a lot of interest in corporate values under headings like shareholders value and every link between strategies, company behavior and performance (Beasley and Frigo 2007, Koller 1994). In this direction the effect of Corporate Governance, a strategic business behavior, on performance has received considerable attention in the recent literature (Acharya Hahn and Kehoe 2009, Bebchuk, Cohen and Ferrell 2009, Cescon 2002, Cook and Deakin 1999, Coles et al 2001, Gompers, Ishii and Metrick 2003, Mayer 1997, Ronday and Nielsen 2002, Weir and Laing 2000). We can consider the Corporate Governance as the mechanism of control and balanced system design, created to regulate activities of a company organized in a system where the business ownership and management are separated, to prevent illegal activities, such as fraud and achieve the objective of corporate social responsibility[10]. It is, also, the set of processes that provides an assurance to outside investors of a fair return on their investment (Bhagat, Bolton and Romano 2010).

Corporate Governance during the last two decades had a process of transformation and redefinition of rules which show the change experienced by financial markets. Before this only the entrepreneurs and managers of big companies devoted their attention to Corporate Governance, considering it a real problem to be addressed and not to be underestimated. This new interest is largely attributable to 3 events:

1. The homogenization of governance structures as a result of globalization of financial markets, which affected the public sector regarding the processes of privatization, liberalization and competition of private capital in public;
2. The issue of governance is seen to extend to SMEs. SMEs in Italy represent 99.9% of the economic system and they began to consider Corporate Governance an important asset.
3. These issues led Italian lawmaker to introduce new laws, involving more controls and the presence of external auditors.
4. But especially the occurrence of a series of crises, involving companies with public participation, in large part caused by ineffective and inefficient management systems and control.

The importance of Corporate Governance, indeed, became dramatically clear in recent years with the cases of strong corporate crises which have led to the collapse of some of the main financial and industrial giants of the world (Enron, WorldCom, AOL, Elan, Parmalat, Tyco, ecc). In many critical situations a series of corporate meltdowns arising from managerial fraud, misconduct, and negligence have been highlighted, causing a massive loss of shareholders wealth.

The scholars have employed a good deal of study to measure Corporate Governance quality but also the effect of it on performance. About this remarkable need to measure, over the years, researchers have developed a Corporate Governance series of indexes G (Gompers, Ishii and Metrick 2003), E, O (Bebchuk, Cohen and Ferrel 2009), ATI (Cremers, B. Vinay, 2005), Gov-Score Index (Brown and Caylor 2006), Corporate Governance Index (Bubbico, Giorgino and Monda 2012) that allow us to express a single synthetic value of the quality of firms' corporate governance, as well as firms wanting to signal governance quality to investors.

The contemporary attention, in fact, is directed at governance indexes, able to combine multiple governance dimensions into one number. In all likelihood, the more compelling reason for the success of indexes is the elegant simplicity of having only one number to capture the multiple dimensionality of governance that could be related in correlation with other parameters, such as, exactly, performance.

There are also innumerable studies examining the impact of board composition on performance (Baker and Anderson 2010, Bhagat and Black 1999, 2002, Bhagat, Black and Blear's 2004,

[10]The first definition of corporate governance is of Berle and Means in the Modern Corporation and Private Property, in the 1932. .

Baghat, Bolton and Romano 2010, Romano 1996, Shleifer and Vishny 1996, Todd 2010). These researches are carried out on panels of listed companies for which there are extensive regulations and information. For Italian companies there are similar studies in this direction (Bubbico, Giorgino and Monda 2012) but remember that our list contains a total of about 330 companies from a total of 4 million, where the bulk refers to small size companies.

The formulation of the first hypothesis of this study is based actual diatribe found in studies, if it is possible to "detect" a relationship between governance and performance in the firm, especially for SMEs.

Hypothesis 1: The corporate governance mechanism on corporate performance has not been able to consistently identify positive effects

In this work we study a particular kind of company, in turnaround process where the performance can express the firm survival. Many studies are carried out to analyze relationship between Corporate Governance and company performance also in critical situations where there is a "struggle for existence" (Lee and Yeh 2004, Hui and Jing-Jing 2008).

The current economic crisis, further, kicked off a strong debate above all fervent activities of operators of private equity on the theme of the management of companies in deep crisis, the turnaround management where the Corporate Governance is crucial (Alpaslan 2009, Chen 2008, Hui and Jing-Jing 2008, Lee and Yeh 2004, Munford 2003, Wang and Deng 2006).

According to research carried out in the USA, in 4 cases out of 5, the decline was due to cases of internal policies, while only 1 in 5 to external factors (Dhawan Jang-Ting 2001). We can therefore claim with a degree of certainty that there is a clear prevalence of cases in which internal causes provoke the decline of the company, even if in recent decades, beginning with the 1970s trend, the macro-economic, political and social phenomena have accentuated their weight around the world. However we must recognize that within the many causes that are generally identified as responsible for the crisis, financial imbalance/assets arise in particular, which in reality is more an effect than a cause in itself. It is often due to a combination of other factors, but, when considered by itself, it refers to causes linked and factors attributable to the company (risk of the sector, leverage against the banks) and the environment in which it operates (financial markets are not efficient).

The seriousness of the causes of decline is expressed by poor economic performance and often resulting in loss of value for the companies. The outlook of the company is not favorable and the degree of risk is ever increasing. Among the many reasons that lead a company to a crisis, there are the problems related to Corporate Governance (CG) as a bad "gubernum"(Mumford 2003, Wright 2000)The first activity of the turnaround strategy, in fact, is to change the current top management and improve corporate governance (Hofer 1980, Keasey et al 1999).

We define Turnaround strategies as a set of consequential, directive, long-term decisions and actions targeted at the reversal of a perceived crisis that threatens the firm's survival. Turnaround strategies have received systematic research attention in the management literature (Barker &Duhaime, 1997, Carter, Schawb 2008**,** Hofer, 1980, Lohrke and Bedeian1998,Lohrke, Bedeian and Palmer 2004, Schendel, Patton, and Riggs, 1976, Sudarsanam and Lai 2001, Zimmerman 1989); however, the accumulated empirical and conceptual studies have resulted in a rather fragmented understanding and in some important areas the empirical findings remained ambiguous, especially with regard to firm recovery (Nystrom and Starbuck 1984, Pearce and Robbins 1993). It is important to remark that under some conditions, turnaround may not be feasible.

According to the turnaround literature, top management develops and implements turnaround strategies that address an imminent organizational crisis. Top managers become the change agents to reverse organizational decline. Hofer (1980) claims that there is an almost universal need to change the current top management in a turnaround situation and the Corporate Governance must be reviewed. Research finds that incumbent managers are less motivated to engage in turnaround strategies(Ford 1985, Ford and Baucus 1987) especially if they are strongly committed to the firm's current strategy or attribute decline to external causes only (Barker and Barr 2002,D'Aveniand MacMillan 1990).In addition, changes of the top-management can provide important signals to outside stakeholders (lenders and creditors) that the firm is separating itself from "past failed strategies". Such signals can increase the willingness of outside stakeholders to support the struggling organization (Bernabeo2002). Thus, the turnaround literature supports top-management change for organizational turnaround in spite of potential disadvantages associated with organizational knowledge loss and transition frictions (Arogaswamy et al. 1995, Barker and Mone 1994, Lohrke, Bedeian and Palmer 2004).

The entry of the Turnaround operators has given new energy to such investigations. Several crisis forecasting models range from the use of classic comparative financial analysis, with the use of ratios, to the application of more sophisticated methods, such as econometric procedures, that are able to highlight the variables in more detail by classifying the companies concerned and determining the correct coefficient (Altman 1977, 2000, 2002, Altman and Hotchkiss 2006, Beaver 1966, 1968, D'Annunzio and Falavigna 2004, Friedman 1977, Hui And Jing-Jing, 2008, Lee and Yeh, 2004, Mumford 2003).

With regard to the operations of turnaround management we have to underline that the working capital and debt situation arethe factors of maximum critical and strategic importance both in the identification of the stages and of the gravity of the crisis and the management of an emergency phase at the beginning of the turnaround (Mariani 2007). We must also underline that any maneuvers of "distraction" made on the budget is particularly in the context of the elements of working capital and in particular the voice credits to customers, the inventory and amounts owed to suppliers. With regard to accounts receivable it is often that the balance carried in the budget is "inflated" including values in reality irrecoverable, as credits not yet collected, not for breach of the customers, but for management failure in the phase of payment. This may occur, for example, when the customer requires a procedure articulated to start the liquidation, as the transmission of documentation, for example, occurs in procurement. In times of crisis, in fact, it is common for the organization to fall into a process of "panic management" for which it fails to operate in a constant manner following certain procedures. Also the voice of amounts owed to suppliers may raise similar considerations. It is a common, in fact, that this voice tends to increase significantly as suppliers became aware of the crisis of the business customer and increase the days of collection until they became a real financier. The inventory represents, undoubtedly, the heading in which maneuvers of distraction can hide the true state of the management. The availability, in fact, may be subject to "revaluations" or devaluations in order to increase the value of that asset. The inventory may be, in reality, without realizable value because it is not corrected by outdated elements; at the same time it may be insufficient because the company in difficulty reduces purchases.

In the first phase of screening the Working Capital turnover ratios can provide signals of criticality (Chen 2008). Similar considerations may be made in regard to the early stages of restructuring. The actions depend on the severity of the situation. The factors that make the decision between one and another action is the cash flow, salaries and accounts payable must be fast and incisive. In the emergency phase the company mission, in the short time, is its survival, this means mainly making cuts to stop bleeding cash. So for performance valuation in this kind of company we have to consider working capital and debt ratios; to define the "state of health" of the companies and to detect warning signs we decided to use a simplified approach but very useful and widespread in theory and practice, as the Z-score(Altman 2000, Altman, Haldemanand Narayanan 1977, Platt and Platt 2002). We highlight that if *Z-score* is less of 1.8, the probability of corporate failure is high, and if *Z* is between 1.8 and 2.7 the company has a critical financial situation with a middle-high probability of failure.

Hypothesis 2 The Z-score can express premonitory signals also in turnaround firms, with "creatively adjusted" balance sheets

3. DATA AND METHODOLOGY

The current critical economic situation has brought to the fore the need to develop systems for planning and management control. For this purpose the prediction crisis methods are very important as well as the possible causes which ledto the crisis. The goal is to learn from past mistakes to avoid new ones.

In this paper we carried out an empirical study to show some preliminary results. We identified a panel of companies in turnaround (Cluster), venture capital backed, with the objective of deepening an analysis of four aspects.

1. 1-Firstly, if firms in turnaround (please note that enterprises are in crisis because of defined characteristics) warning signs could be detected. For this purpose we adopted a simplified approach, the Z-score.
2. 2-Forthe critical phase of the lifecycle of the company, we tried to verify the role played by the Corporate Governance in restructuring. Inline with more recent studies we tried to summarize the state of Corporate Governance in these units developing an index for SMEs (scG-small companies Governance) to seek information about the quality of firms' governance.
3. 3-Thirdly we completed the crossover study with the analysis of performance of these firms in the post-restructuring period, proceeding, also in this case, to sintering of an ad hoc index (scP-small companies Performance).
4. 4-Finally we introduced a Synthetic Indicator (SI) that aggregates the two parts of information: Corporate Governance Quality and Performance.

We chose a focused approach, by analyzing case studies, in this first step, so we could draw an accurate profile of the situation, to detect the quantitative but also qualitative aspects, such us the behaviors and the omissions: the choices are not always the result of a mere process of regression! Again, we highlight that this work is a part of an overall research, a work in progress: the study, in fact, is proceeding with an expansion of the sample, the introduction of a sample of more extensive comparison, an application with other prediction methods, and the test of indicators to other situations.

To analyze the importance of the diagnostic management, an analysis of the balance sheets of the companies in turnaround, participated by turnaround financing fund, was carried out in the years 2004 and 2009. We can only examine this period because the turnaround operations were aggregated with other private equity operators before (PEM). In relation to the total number of firms involved in turnaround in the period in question, which were 26 in total, it was possible to reconstruct the historic trend only for12 of them (the cluster); for the others of it was not possible to find the balance sheets, because they are subject to bankruptcy, or because companies subjected to operation of restructuring were a branch of a greater one, whose specific budget was unavailable (table. 1).

Table 1. The cluster's characteristics

Company Cluster	Sector of Activity	Year	Current Situation	Lead Investor
Coin	Clothing store	2005	Active company	Pai partners
Comital-Saiag	Semi-finished production in aluminium	2006	Active company	Management & Capital
Crisci	Production of shoes	2007	In liquidation	Camelot
Delverde	Pulp production	2006	Active company	Interbanca gestione investimenti Sgr Spa
Di Zio Costruzioni	Mechanical constructions	2005	Active company	Interbanca gestione investimenti Sgr Spa
Ginori	Production of ceramic ware	2006	Active company	Starfin
Giostyle	Production of plastic articles	2006	Active company	Atlantis capital
Jal spa	Production of clothing	2005	Active company	Goldman Sachs capital partner e coinvestor Bank of america capital partner europe
Magli	Production and marketing of shoes	2007	Active company	Fortelus capital
Sutor-Mantellasi	Production of shoes	2007	In liquidation	Camelot
Selecta	Shipping enterprice	2008	Active company	Atlantis capital
Gruppo Favini	Paper production	2008	In liquidation	Orlando

Some of companies' balance sheets are detected by Central enterprise Department (Chamber of Commerce), while other have been sent directly by the turnaround operators or by the companies. For some operations we have had other information from the turnaround funds.

At first we analyzed the economic situation of each company in the cluster and then cross-checked it with some line financial of business that we summarized in Z-score for each of them and for the relative sectors of activity (Mediobanca). An important observation of the study, as expected, is that the companies of the cluster are SMEs, not listed, and characterized with an economic critical situation in the two years before the turnaround operation. With the Z-score analysis, in fact, we can observe that every company has a score in the critical area, *Z-score value*less than1.8, so with a high probability of bankruptcy (table. 2).

Table 2. The Z-score values 2 years before and after the turnaround

Z-score values	2 years before turnaround		1 year after turnaround	
	Companies	Sector of activity	Companies	Sector of activity
Coin	1,3	2,05	1,57	2,2
Comital-Saiag	1,7	1,89	1,5	1,6
Crisci	0,3	2,53	0,64	2,63
Delverde	0,81	2,1	1,3	2,2
Di Zio Costruzioni	1,67	2,58	2,03	2,9
Ginori	0,65	0,96	0,9	1,6
Giostyle	1,25	1,64	1,59	1,9
Jal spa	1,94	2,29	2,67	2,18
Magli	-0,25	2,41	0,48	2,63
Sutor-Mantellasi	-1,24	2,3	2,68	2,53
Selecta	1,52	1,76	1,51	1,57
Gruppo Favini	0,94	1,44	n.d.	n.d.

We can point out that the *Z-score* for the relative sector of activity is better than the single firms. The value is, almost always, in the grey area (1.8-2.7). It is important to underline that the sector's scores aren't elevated, this means that the cluster's companies have amplified the negative effects of a critical economic period that invaded all the sector, which is not exactly in good health. It should be mentioned, for example, that production of shoes and clothing sectors report extremely critical values. These sectors have had, for some time, the worst performance of the national average. It is significant to detect the relevance of the Z-score in the year following the restructuring. We must consider that the turnaround management is a restructuring exercise, which must "bear fruit" within 18 months, generating cash flows. It may be noted that the market data shows a notable improvement so it is a trend towards a favorable habitat for recovery. Please remember, in fact, that companies in turnaround are those in which the business environment is in crisis but not the market where they operate; otherwise faster recovery operations would not be conceivable. The turnaround process aim, in fact, is to return to the performance of the previous period and possibly improve extolling the value of intangible assets. Companies that are worth mentioning even reported a value of Z-score better than the sector (Jal and Sutor Mantellassi).

The second part of the empirical research targeted to define a good governance index of the small Italian business. In the other part of this paper we examined the different Corporate Governance indexes that are currently in use by academics and practitioners.

In this regard we tried to adapt the complex problem of synthesizing a Corporate Governance index for SMEs that we called scG (small companies Governance) that was able to come out the peculiarities of small companies, of the Italian law and of the turnaround management.

The first survey was conducted to test the applicability of this index to the sample that – as ready indicated – is very particular in view of the fact that the enterprises are, in some way, in a critical phase. This analysis had to overcome some difficulties, the main impediment being the retrieval of data on the sample under study since the companies did not to answer certain questions. Please note that the selected sample is represented by Italian manufacturers and SMEs subject to turnaround, with turnaround financing funds, between 2004 and 2009. A short questionnaire, containing 3 main themes, was submitted to these companies. Such themes were: a. the composition of the corporate structure (in particular who is entrusted with the management); b. the structure of the government (information regarding both the administrative and control structure) and c. the role of the turnaround fund (e.g. if it has a leadership or support role).Based on data collected through the questionnaire we tried to synthesize an index able to define the goodness of Governance in the sample of selected companies. For the construction of this index (small companies Governance-scG) we based on the training mode of governance indexes produced in literature, even if we made some changes. In addition to using evaluates 0 and 1, 2 was also introduced to reflect an improvement in the corresponding corporate governance. It is also necessary to underline the fact that our indicator should be seen as a first approach and we must add empirical tests to compare, to enrich, or to change the methodology. The index was constructed by summarizing the values obtained from the questionnaire; all elements with a positive contribution to governance have been assigned a score equal to 1 (or 2 if there is no need to calibrate). These include the presence of private equity, membership of a group, not family-controlled management, the existence of an appropriate traditional administration, of independent directors, the amendments made to the Board of Directors and Corporate Governance during the turnaround process, the appointment of directors and auditors, the presence of the Selected Committee, the independent auditors, documents of governance, lack of corporate agreement and / or veto by the Private Equity. The valuation range goes from 0 to 17 (Table 3).The index scG takes values within the range of 8and 12, none of the companies still has a Governance status with the "highest score", so the level of Corporate Governance can still improve. There are few businesses that retained a limited level of Corporate Governance: they are those for which the data is even more difficult to find because they are still in a critical situation.

Table 3. The small companies Governance index values (smG)

	Current presence of Private equity	Group membership	Family control	Typical administration	Indipendent directors	Changes of the board After the deal	Appoint the board of directors	Selected committee	Changes of regular auditors After the deal	Appoint the regular auditor	Auditing company	Governance documents	Changes of management	Imposition of corporate Agreement or veto	Control of board director	Control of regular auditor	Summary index of good governance
Coin	0	1	1	1	1	0	F	0	0	F	1	2	1	1	0	0	9
Comital-Saiag	0	1	1	1	1	1	P	0	0	P	1	1	0	2	0	0	9
Crisci	1	1	1	1	1	0	P	0	0	P	1	0	1	0	1	1	9
Delverde	0	1	1	1	0	2	P	0	0	P	1	2	1	2	0	0	11
Di Zio Costruzioni	1	1	1	1	0	1	F	1	0	F	1	1	1	2	0	0	11
Ginori	0	1	1	1	1	2	P	1	2	P	1	0	0	2	0	0	12
Giostyle	1	0	1	1	1	0	F	0	0	F	1	2	1	2	0	0	10
Jal spa	1	1	0	1	0	0	F	0	0	F	1	1	0	0	0	0	5
Magli	1	1	1	1	0	1	F	0	1	F	1	0	0	1	0	0	8
Sutor-Mantellasi	1	0	1	1	1	2	P	0	0	P	1	0	1	2	1	1	12
Selecta	1	1	1	1	0	0	F	0	0	F	1	2	0	1	0	0	8
Gruppo Favini	1	0	1	1	1	1	F	0	0	F	1	1	1	0	0	0	8

The sample shows that 75% of the analyzed firms have sufficiently structured governance with a significant improvement by limiting the management of the property, sometimes in the hands of a family, to promote the role of professionals. Further improvements would have been possible if the firms have used appropriate alternative governance systems; the absence of selected committees and the presence of independent directors would allow a better organization and an independent judgment. Moreover, in the long run the presence of the PE who clearly holds a supremacy position, may drive the firm into a new critical situation, when he sells his shares to the other shareholders without passing his management methodology. Finally, the lack of data prior to the deal doesn't let us understand if the cause of the difficulties comes from prior bad management.

Another negative element that is highlighted is the imposition by the shareholder or investor shareholders' veto rights that restrict the activities of several government bodies.

It can be seen that then try of PE has marked out for the companies an important stimulus for the management of Governance.

With regard the performances, about debt and working capital management, the sample improved their business performance as indicated by the scP index: we can see a reduction in borrowing costs and a decrease in short to medium to longer than that. As anticipated to briefly analyze the company's performance we constructed an index that measures modifications in debt ratios (stockholders' equity/total assets, long term debts/total assets, Financial debts/total debts, short term financial debt/financial debt, annual interest expense/Total debt service, annual interest expense/EBIT,) and working capital of each company (annual sales/capital employed, inventory turnover ratio, days inventory, average collection period, average payment period, cash conversion cycle).

Table 4. The small companies Performance index values (smP)

	Debt Ratios						Working Capital Ratios					
	Stockholders' equity/ total assets	Long term debts/ total assets	Financial debts/ Total debts	Short term financial debt/ Financial debt	Annual interest expence / Total debt service	Annual interest expence/ EBIT	Annual sales/ Capital employed	Inventory turnover ratio	Days inventory	Average collection period-supplier	Average payment period-customers	Cash conversion cycle
Coin		+	-		+	-	+	-	+			+
Comital		+					-			-		
Crisci	-	+		+								
DelVerde	+	-	-	+			+			-		
Di Zio		+				-						
Favini	-	-										
Ginori						+		+	-	+		-
Giostyle												
Jal	+	-	-			-						
Magli	+	-	-								+	+
Selecta	-		+							-	+	
Sutor							-				+	

A + (-) sign means an increase (reduction) of corresponding ratio while a blanks cell indicates a not (statistically) significant change in the corresponding index.

In the comparative fundamental financial analysis we chose two particular groups of ratios that are able, in our opinion, to show a distressed situation. With regard to debt ratio, first of all, it's necessary to clarify their meaning. First of all we must observe that *Annual interest expense/EBIT* can't be possible, sometimes, to calculate for the same companies because the EBIT was negative in some exercises; for which the ratios would not meaning. For this reason, in calculating the average we eliminated the values of this element of income statement, when these were negative. A final methodological clarification must be done on *Annual interest expense/Total debt service*: in the evaluation we eliminated the cases in which this value was not real data for the current market, for example with values more than 15%. After these premises of method we can observe, for the cluster, a particular critical situation for *Stockholders' equity/total assets* and *Annual interest expense/EBIT.*

From the analysis of the budgets we tried to define a short indicator of performance, about debt and working capital management, which we called scP (small companies Performance), to determine the modification before and after intervention and in recent years (2008 -2010).In this way we can also verify the different contribution of debt and working capital to performance.

For our panel of unlisted companies it isn't possible using the Q-Tobin (Thomsen. 2004) as a proxy of enterprise value: so we decided to define a traditional fundamental portfolio to evaluate the performance. It's important to highlight that the companies of the panel are in a critical situation so it can be more expressive to evaluate performance with analysis of critical fundamentals.

3.1 Statistical analysis

In order to draw up an index which reflects the financial trend of each firm we built a matrix A_{mxn} where *m* is equal to 12 and represents the number of firms and *n* is equal to 12 and represents the number of financial statement indexes in the dataset: 6 debt ratios and 6 working capital ratios.

Each element $a_{i,j}$ of *A* can assume a value between $\{-1/n;1/n\}$ where $-1/n$ indicates a worsening of the related financial index while $1/n$ signals an improvement.

To evaluate the trend of financial statement indexes we use an ordinary least squares approach (Greene 2003). We regress the index time series against time and, if the estimated β is significantly greater (smaller) than zero, we assign a value of $1/n$ $(-1/n)$.

The row wise sum of first six columns of A_{mxn} gives us what we call "Small Companies Debt Ratios Index" (from now on scdI), while the row wise sum of the remaining six columns gives us the "Small Companies Working Capital Index" (from now on scwI). The sum of scdIand scwIallows us to obtain the "Small Companies Performance" (from now on scP).

As previously said, our main aim is to build a synthetic index taking account both corporate and performance indexes. For doing so we put scGand scP indexes in an *x, y* space and evaluate the distance of each point from the point *(-1,0)* as the square root of the sum of the squares of scGand *(1+scP).* This value, divided by $5^{1/2}$, permit us to obtain the "Small Companies Synthetic Index" (from now on SI) that can assume a value between *[0,1].* The firms with a SIcloser to *0* are those having a worse global performance, in Corporate Governance and about debt and working capital management, whereas a SI index closer to *1* indicates a better global performance.

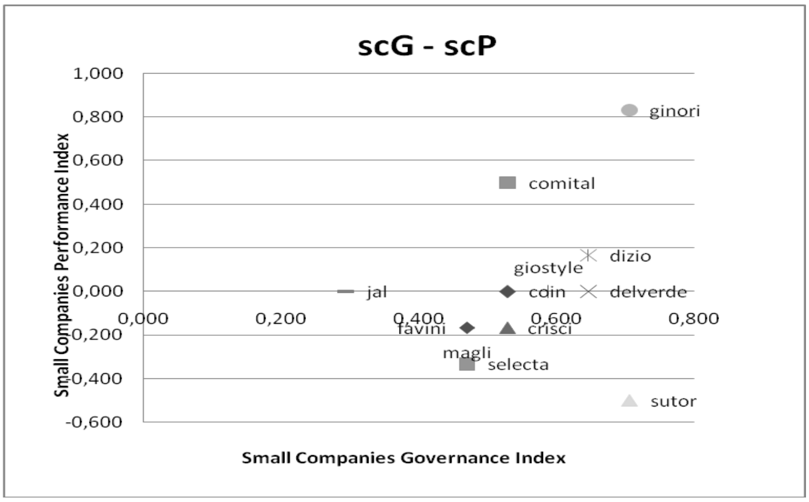
To verify the relation between the company performances, measured by scPindex, and Corporate Governance Quality, measured by scG, we rescale scG in a *[0,1]*space and define a synthetic index (SI). We report the results with a single graph (Graph. 1). The graph shows us the concentration of the data of scP in the intermediate level, e.g. there is an improvement trend of debt ratio and working capital indexes as regards the years of the deal; this improvement can be due to the current governance structure, which is sufficiently structured as indicated by the parameters used to measure it .

Table 5. The small companies Performance index values (smP) and Synthetic index values

	scG	**SCDI**	**SCWI**	**scP**	**SI**
Coin	0,53	0,00	0,000	0,000	0,506
Comital-Saiag	0,53	0,17	0,333	0,500	0,711
Crisci*	0,53	-0,167	0,000	-0,167	0,442
Delverde	0,64	0,000	0,000	0,000	0,533
Di Zio Costruzioni	0,65	0,167	0,000	0,167	0,597
Ginori	0,71	0,167	0,667	0,833	0,879
Giostyle	0,59	0,000	0,000	0,000	0,519
Jal spa*	0,47	-0,167	0,000	-0,167	0,428
Magli	0,29	0,000	0,000	0,000	0,466
Sutor-Mantellasi	0,47	0,167	-0,333	-0,167	0,428
Selecta	0,47	-0,333	0,000	-0,333	0,365
Gruppo Favini*	0,71	-0,167	-0,333	-0,500	0,387

*(SI) (*Companies in liquidation)*
scG = Small companies Governance index
SCDI= Small Companies Debt Ratios Index
SCWI =Small Companies Working Capital Index
scP= Small companies Performance index
SI = Synthetic Index

Graph 1. The ratio between scG and scP



4. SOME RESULTS AND DISCUSSION

It must be specified that the results referred to above must be considered a first summary of the whole research; there is, however, some very interesting ideas. It may be, in fact, that the Z-score would have fully revealed a critical situation of companies in the cluster. Thanks to its strong connotation of composite indicators, it allows an easy and immediate benchmark compared to other companies and to sectoral data.

We must draw attention to the fact that, as we said above, in this critical situation any maneuvers of "distraction" on the balance sheet are frequent, especially on the working capital elements; so it is important to highlight that Z-score is able, all the same, to emphasize the crisis also *with "creatively adjusted" balance sheets*. We can support the Hypothesis 2.

Worthy of note is the fact that we can observe real improvement signals for the period following the turnaround, especially for Sutor, Magli, Jal, Del Verde e Di Zio. It is important to point out that in the cluster it isn't possible to register a correlation between Z-score trend, Corporate Governance and performance. Only Del Verde, Giostyle, Jal have reported a significant improvement in Z-scores and a good level of scG and in scP.

From analysis it is possible to reflect on some results. We can note thatSI is high for Ginori, Comital, Di Zio, where there is a correspondence between Corporate Governance of quality and positive performance indexes. We note the Del Verde, a company with a good scG index but without follow-up from turnaround strategies and performance. Another situation to point out is about Sutor where we can find a good Corporate Governance structure but with low performance, especially in working capital management. We can inform that Crisci, Sutor e Faviniare in liquidation: they have a lower SI value, especially for the bad debt management.

There isn't any correlation SI and Z score values for these companies. Sutor Mantellassi has been a good improvement in ex post situation, with a very critical Z-score ex ante value (-1,24).The separate analysis of the two indicators, Governance and Performance of companies, doesn't, however, always reveal a similar trend: for example the two companies Coin and Del Verde, show a positive position for the two cases, as with the Z-score. On the contrary the two companies, Ginori and Mantellassi, show a high level of scG but this result still has effects on the financial structure and management of working capital, although the Z-score shows major points of growth signals. In the research it wasn't possible to find a correlation between Corporate Governance and performance. This analysis supports the Hypothesis 1.

In this regard we should draw attention to the fact that, in such cases, there were significant improvements in the Corporate Governance, but only for a short time, and so they need to metabolize. From the above analysis we can see that the joint use of multiple indexes allows you to view some elements in an immediate trend. It is clear that the 3 indicators, scG and scP, with the SI, should assume an attitude of caution because, despite being inspired by a broad theoretical basis, they represent only an initial check and therefore the need for further study. Please note that in the case of SMEs, the difficulty in obtaining the information is high, even considering the fact that among these units international accounting standards are not common. For an in-depth analysis the removal of the information asymmetries is especially needed. In academic literature we can find research essentially on listed companies which allows the collection the data necessary for the synthesis of an indicator. However, in some markets, just like the Italian one the focus on public companies, lets out a huge business enterprise that is almost the entire GDP.

In conclusion, it can be noted that the analysis of important aspects of management through the development of indexes Z-score, scG, scP, and SI allows for comparisons between situations that are not readily comparable in terms of accounting. The ability to synthesize using an index, such as the Z-score, by now consolidated, allows an initial screening and monitoring of certain situations, which can then be further discussed with other diagnostic tools to more comprehensive end, above all from the inside out critical early warning signs become apparent. It's important to individualize the first stage of the crisis to limit the effects to the internal of the company. In an analysis of the external type it is not clear who plays a key role in the various and different financial reporting systems that cannot make the accounting information comparable.

To simplify the analysis, to obtain the first piece of information, it is very useful to define indexes that can summarize a complex concept into a single figure. Although it can be noted that this approach may be oversimplified and may sometimes be superficial, on several occasions, especially for practitioners, the use of the indicator is friendly, clear and an important communication driver. The diffusion of the Z-score, for example, is mainly due to its immediacy of expression.

It is clear that it is necessary to further the investigation in order to test the pool of indexes into a larger number of situations that may help recognize the significance test.

We can also underline that the little cluster represents an important limitation of the research;

the future steps of the analysis must expand the sample to reach a statistical expressive.

You must also check in business contexts not in crisis, although in this case they often impose decided and timely actions on Corporate Governance. It should be pointed out that primarily in unlisted companies the evaluation of Corporate Governance requires direct and measuring parameters not perfectly imposable to those Corporate Governance indexes available.

We want, also, to extend the study with the analysis of some case-studies to test the quantitative feed-back with a qualitative "point of view".

What should be noted is the degree of balance between the rights of shareholders and managers, but also the opening degree of management and control structures outwards, in essence "*to need to Access*"(Gubitta andGianecchini2011), especially towards institutional investors who would be willing to recognize a premium for companies well governed (McKinsey 2002).

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