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Summary

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**THE ROLE OF CORPORATE GOVERNANCE
IN FINANCIAL STATEMENT FRAUDS**

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INTRODUCTION

Following the definition provided by Albrecht *et al.* (2007), frauds and corruptions “are cancers that eat away at society’s productivity”, given that they reduce the effectiveness and efficiency of economies. Among all the frauds, financial statement frauds are the most costly, regarding both the amount deceived compared to other frauds and their consequences. In fact, the detection of a financial statement fraud implies the decline of the firm value on the market and the loss of revenues for the company itself. Moreover, the whole market will suffer the reaction of the investors who will start being less trustful towards the market and, as a consequence, the companies will have more difficulties in obtaining the financial resources needed to develop or can access to these financial resources only at a higher cost (Lev, 2003).

Aiming to find some ways to prevent frauds, researchers have started to analyse the factors that are related to them, in order to implement preventive actions and mechanisms to avoid, or at least reduce, the possibility of the fraud occurrence (Albrecht *et al.*, 2007; Bar-Gill and Bebchuck, 2003; Hemray, 2004; Lev, 2003; Rezaee, 2002). Specifically, a large part of the international literature has begun to focus the attention towards the relationship between some mechanisms of corporate governance and the fraud occurrence (Caplan, 1999; Beasley *et al.*, 2000; Young, 2001), considering the role of corporate governance mechanisms to solve governance problems and exercise a control function over the different actors of the firm (Dey, 2008).

Even though many corporate governance mechanisms were taken into consideration regarding their relation with financial statement frauds by different studies in literature over the past years, to our knowledge, no empirical studies considered the whole set of corporate governance mechanisms in relation with financial statement fraud (Corporate Governance Indexes including a numerous variety of governance features were build by some authors to test their impact on performance, see Gompers *et al.*, 2003; Brown and Caylor, 2004; Larcker *et al.*, 2007). Due to these reasons, the base line of this work is the relationship between financial statement frauds and corporate governance as a whole. This relation will be analyzed within the agency theory theoretical framework (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983a; Eisenhart, 1989; Demsky, 2003) and within the conflicts of interests problems, arising among different actors of the firms in those realities not characterized by the separation between owner and manager (evidence of different corporate governance systems); in both the two contexts some figures can benefit of information asymmetry to achieve their personal aims (La Porta *et al.*, 1999; Dennis and McConnell, 2003; Dey, 2008). We argue that the agency problems, when high and made worse by a weak corporate governance of the firm, as well as conflicts among the main

stakeholders of a firm, end up in fraudulent behaviour by those who can take advantage of information asymmetry and gain personal benefits from them. Thus, the financial statement fraud is the result of high agency problems and high conflicts of interests not solved by the company.

According to the previous considerations, this research is organized around three main research questions: is the relationship between Corporate Governance and Financial Statement Frauds influenced by different corporate governance systems? Which is the impact of the corporate governance on financial statement frauds? Do the different dimensions of corporate governance have different impact on financial statement frauds?

THEORETICAL BACKGROUND

The system of corporate governance adopted by the firms depends on different variables connected to the national, regional and cultural differences, the ownership structure, the industry and the market environment, the size and the structure of the firm, the CEO tenure, the attributes and background (Huse, 2005). Thus, on the international scenario, it is possible to find numerous kinds of corporate governance systems, but in our analysis, following the contribution of Barker (2009), only two different types of corporate governance systems will be considered, the “Shareholder Model” and the “Blockholder Model”. The first one is predominant in the Anglo-American countries, while the second one is the most diffused in Europe and Asia (Coffee, 2001).

The characteristics of the Shareholder Model rely on the dispersed ownership which makes the shareholders passive actors, with no active control over the management. Thus, in this context, the main corporate governance problem relies on the conflict of interests between managers and shareholders, reflecting the agency issues arising from dispersed company ownership, which is solved, through some mechanisms such as the managerial compensation system, the market for managers and the market for corporate control (Berle and Means, 1982; Fama and Jensen, 1983; Ricketts, 1987).

On the contrary, the characteristics of the Blockholder Model rely on the presence of a concentrated ownership, a limited role played by the stock market, and the low level of disclosure required by the law. The ownership and control are in the hand of cohesive groups of insiders that know each other and who have long-term stable relationships with the firm through investments, family interests, industrial concerns and so on; in this scenario, the insider groups control the management closely and the agency problem typical of the outsider systems is not evident here (La Porta *et al.*, 1999; Nestor and Thompson, 2000). Thus, the concentrated ownership seems to lead to an “equity agency conflict” between the dominant shareholders and the minority shareholders (La Porta *et al.*, 1998; Denis and McConnell, 2003), instead of a typical agency problem.

Companies accomplish these corporate governance systems rely more on the application of codes of good corporate governance and relationships with main stakeholders rather than external control mechanisms to solve their agency problems.

The analysis of the two types of corporate governance systems finds its reason in the consideration that the corporate governance structure should help in the mitigation of the agency conflicts (Dey, 2008). Following this idea, a significant part of the literature suggests the presence of a link between frauds occurrence and corporate governance. To investigate on it, it seems necessary the specification of the different forms, mechanisms, and instruments that take part in the whole corporate governance existing in the firm. For example, Beasley (1996) analyzes the relationship between financial frauds and the board composition, finding higher percentages of outside directors for no-fraud firms, compared to fraud ones. Similarly, Uzun *et al.* (2004) suggest that the board composition and the structure of a board's oversight committee are correlated with the fraud occurrence. Beasley *et al.* (2000) find a positive correlation between corporate governance mechanisms' differences and frauds in different industries.

Many other studies analyse fraud occurrence in relation with some mechanisms of corporate governance; for example, Faber (2005) links it with the board and the audit committee characteristics; Dechow *et al.* (1996) connect frauds with board features; Peng and Roell (2006), Erickson *et al.* (2006) associate the fraud occurrence with the executive compensation system.

Even though many corporate governance mechanisms were taken into consideration regarding their relation with financial statement frauds, to our knowledge, no empirical studies considered the whole set of corporate governance mechanisms in relation with financial statement fraud. In other words, even if a quite developed analysis on a numerous variety of governance features has been already conducted in the last years, the main significant applications of it are addressed to explain the impact on firm's performance. According to this aim, in fact, some authors built some useful indexes representative of the level of the corporate governance of the firm (Gompers *et al.*, 2003; Larcker *et al.*, 2007).

Due to these considerations, the first aim of this work is to understand if a particular type of governance model can be connected mostly to a fraud occurrence; the second aim of this dissertation relies on the exploitation of the Corporate Governance construct in order to analyse the relationship with financial statement frauds. Finally, the third aim is to investigate on the impact of the different governance mechanisms considering all of them simultaneously, to take into account the possible correlation among them.

Specifically, these goals have been studied through the lens of the agency theory theoretical framework (Jensen and Meckling, 1976; Fama, 1980; Fama and Jensen, 1983a; Eisenhart, 1989;

Demsky, 2003) and within the conflicts of interests' problems, arising among different actors of the firms not characterized by the separation between the ownership and the management.

RESEARCH HYPOTHESES

The first analysis of this dissertation relies on the relation between the type of governance system adopted by the firm and the financial statement fraud. Specifically, we posit that the information asymmetry and the excess of power, detained by controlling shareholders, "allow" these subjects to easily elude controls and achieve personal gains, committing frauds in the worst cases. Thus, we argue that the likelihood of committing a fraud and the magnitude of the occurred fraud will be higher for companies belonging to the Blockholder corporate governance models, due to the fact that the conflict of interests arising in these contexts can lead to higher level of fraudulent behaviours committed by those who can benefit of information asymmetry. This leads to the following hypothesis:

HP1: Compared to Shareholder models, Blockholder corporate governance models lead to a higher level of likelihood of occurrence and to a higher level of magnitude of financial statement fraud.

We expect a positive relation between the Blockholder corporate governance system and the financial statement fraud.

Further, this work wants to investigate the role of the whole corporate governance on both the occurrence and the level of the fraud. Specifically, we consider the overall corporate governance structure that a firm has in order to understand whether there is a link with the financial statement fraud occurrence or not, and, if there is, which is the impact of governance on fraud magnitude.

Considering the function that corporate governance should have on solving the agency problems, especially controlling for the executive bodies of the company (Dey, 2008), we posit that a good level of governance of the firm, should lead to better behaviour of those actors who could take advantage of the information asymmetry and gain personal benefit at the expense of those who have no direct control and management power in the firm. If the opportunistic behaviour of the manager or of the controlling shareholder have the chance to take place and this leads to a fraud occurrence, we argue that the level of the fraud will be higher when the governance system of the firms is weak, due to the fact that the fraudulent behaviours can be implemented more easily in absence of adequate governance mechanisms and procedure controlling for them. This leads to the following hypothesis:

HP2: The lower the corporate governance quality of a firm, the higher the financial statement fraud occurrence and level will be.

We expect a negative relation between the corporate governance as a whole, measured through the Corporate Governance Index built as “good”, and the likelihood of fraud occurrence and also the level of financial statement frauds. In other words, if the Corporate Governance Index is low, the likelihood of fraud will be higher; as well, if the Corporate Governance Index is low, the magnitude of fraud will be higher. Thus, we expect that the overall corporate governance has a positive impact on financial statement fraud, reducing its level.

As previously mentioned, the impact of various mechanisms of governance on the fraud occurrence has been studied in many researches over the years, but, to our knowledge, no research has focused its attention on the impact of the governance mechanisms on the level of the frauds. We argue that the corporate governance mechanisms cannot be analyzed singularly. Some mechanisms, that are apparently unrelated, can be connected, directly or indirectly and, on our opinion, they can impact differently on the fraud occurrence and on the fraud level. Thus, we argue a deeper and more complex study on how the different corporate governance mechanisms interact is needed, in order to analyse the factors that determine more frequently the fraud occurrence and its magnitude, and, consequently, understand the eventual actions to implement to avoid or, at least, prevent frauds. Therefore, the third purpose of this work is to provide an analysis of the role of corporate governance mechanisms on financial statement fraud, considering simultaneously all the governance mechanisms particularly relevant according to the reviewed literature (Board of Directors features and rules, CEO and Executives characteristics, the compensation system for top management, the audit committee features, and the external auditors):

HP3: Different corporate governance mechanisms have different impacts on financial statement fraud occurrence and level.

Consistent with prior studies on corporate governance (Gompers et al., 2003; Dey, 2008; Larcker, 2007; Brown and Caylor, 2008), we have no expectations on the single governance mechanisms' impact on fraud. Testing this hypothesis, we will be able to understand the impact on the financial statement fraud occurrence and magnitude of each mechanism. It is necessary to specify one more time that these mechanisms are viewed not as atomistic elements, but as components of a more complex corporate governance construct.

DATA AND VARIABLES

To test the hypotheses, a longitudinal analysis, covering 14 years (1992-2005), is conducted on a sample of 214 listed fraud firms, constructed as a choice-based sample of 107 fraud and 107 no-fraud firms.

Specifically, the fraud firm sample includes financial statement fraud cases, occurred in US, France, Germany, Italy, Belgium, United Kingdom, Switzerland, Netherlands, Russia, Ireland, and Sweden. Concerning the US fraud firms, the data are taken from the database of fraud firms provided by the Authors of the “Fraudulent Financial Reporting: 1998-2007”, a research commissioned by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In this study instances of fraudulent financial reporting, alleged by the Securities and Exchange Commission (SEC) in the Accounting and Auditing Enforcement Releases (AAERs), were analyzed. As far as the European context is concerned, we built up our own database, collecting the information available on the “Loss and Litigation Report” published by GenRe in 2005, that examines the press articles on detected financial statement frauds and sums up the main information about the type of fraud specifying, in some cases, the amount deceived through the fraudulent behaviour. Moreover, to enrich our database, we looked also at some National Authorities in charge of the detection and the sanction of frauds. These Authorities, in fact, to give a report about their annual activities, publish some documents concerning fraudulent firms.

For each fraud firm, the overstatement, as documented by the SEC (in the AAERs) or the overstatement as reported in the available public documents of the company, was considered, taking into account the magnitude of the fraud. Moreover, for the US companies included in the sample, corporate governance data were taken from the Institutional Shareholder Services (ISS) database, from the Standard and Poor’s COMPUSTAT database, and from the single corporate governance reports of the firms. For all the other companies of the sample, the governance data were taken from the Osiris database and from the Bloomberg website, or hand collected from each specific National Authority for the Stock Exchange Market. Where those data were not provided or insufficient for our analysis, the individual company documents and reports were analysed to complete the fulfilment of the data by hand collection.

Concerning the financial data, the DATASTREAM database was used to collect information for all the firms included in the sample of our analysis.

After the data collection, we conducted the statistical analysis to test the hypothesis of the work, where the dependent variable (FRAUD) is represented by the financial statement fraud.

Prior researches, testing the relationship between corporate governance mechanisms and financial frauds, used to consider the fraud as a dichotomous variable, equal to 1 when the fraud occurred, 0 otherwise (Beasley, 1996; Erickson *et al*, 2005). On our opinion, this method can be inappropriate

for our analysis due to the fact that different magnitude of the fraud can take place. The dimension of the fraud has to be captured, considering that a larger fraud has a greater negative impact on the market and causes higher damages to its “victims”. Including the dimension aspect in the variable FRAUD allows us to measure the impact of corporate governance at the different levels of the fraud, and highlights the governance mechanisms that affect most the largest frauds. Thus, in our analysis, the first step is connected to the calculation – for each firm – of the level of the fraud (LEVEL). This has been determined by the ratio between the amount deceived through the fraud and the total assets of the firm. This method seems to be appropriate to standardize the values of the variable and make them statistically significant and comparable.

After the standardization procedure, we create four ranges (No fraud, Low, Medium and High amount of fraud), representing four level of fraud occurrence. The ranges are expressed on a scale of numbers and each firm belongs to one of them, depending on the fraud level committed. In sum, the dependent variable FRAUD is equal to 0, 1, 2 or 3, as follows:

- No Fraud (equal to 0): all the firms of the matched sample which did not commit any fraud are coded as 0;
- Low Level of fraud (equal to 1): firms with a LEVEL between 0 (non included) and 5% included;
- Medium Level of fraud (equal to 2) firms with a LEVEL between 5 (not included) and 30% included;
- High Level of fraud (equal to 3), firms with a LEVEL higher than 30%.

A Corporate Governance Index (CGI) is constructed, after running a PCA analysis, in order to reduce the number of governance variables. The CGI represents the corporate governance as a whole and it is useful to test the incidence of the corporate governance of the firm on the fraud occurrence and level. The CGI has the aim to capture all the corporate governance aspects of a firm. Here we propose a new methodology to build the CGI. First, we classify the corporate governance variables, previously considered, into binary records, following the Browns and Caylor’s (2006) approach, we coded as 1 if the Institutional Shareholders Services (ISS) or the literature consider the firm’s governance variable minimally acceptable, 0 otherwise. Once this classification has been made, the next step consists in the codification of the governance dimensions coming from the PCA into binary records. Each dimension, if half or more of the individual governance factors included in it are coded as 1, is be coded as 1, meaning that it can be considered a dimension with a governance level minimally acceptable. If less than half of its individual governance factors are coded with 1, the dimension’s code is 0, indicating that

dimension does not support the minimally acceptable governance standard, indicated by the ISS or by the literature. The codes' sum of all the dimensions determines the CGI of the firm.

To test the hypotheses of research, we use a multinomial logistic regression model on a cross-sectional analysis. The model captures the effect of the independent variables on the likelihood of the fraud occurrence and on the level of the fraud itself, controlling for other variables and comparing the fraud firms with the no-fraud firms, through the presence of the matching sample. In this way, we can control for the no-fraud firms and the fraud firms at the same time, not affecting the results concerning the factors that contributed to generate the fraud.

All the independent variables are measured in the year before the year of the fraud occurrence to have reliable data not affected by the fraud situation.

RESULTS

The results of the applied model are divided in three different sections for each regression. Here, we give the main points of each regression.

HP1 RESULTS

The model, as a whole, is statistically significant (p-value for the chi-square equals to 0.0000). The Wald chi-square statistic is equal to 79.41.

The results, in every case of level of fraud, demonstrate that the presence of a Blockholder increases the likelihood of committing a fraud and also the level. Thus, the first hypothesis is verified at all levels of fraud. The control variables help in the analysis of the factors which act as enhancing factors or reducing factors of the fraud occurrence and magnitude. In all the three cases, the percentage of shares owned by the directors acts as a reducing factor on the dependent variable, confirming the previous results achieved by the literature (Jensen and Meckling, 1976).

Moreover, it seems that the most relevant and common factors which induce to commit frauds are the pressure of the market and the level of debt detained. The pressure of the market creates expectations on the firms, so the company, in order to accomplish the growth trend achieved in the past, tends to commit frauds to deceive its stakeholders. Thus we can conclude affirming that the higher is the growth rate, the higher the likelihood and level of the fraud occurrence. This is particularly true for the cases of low and high level of fraud. A firm with a great pressure from the market about its growth expectation will commit a low fraud if its situation is not perfectly in line with the expectations, probably hoping to refit the situation the following year. On the opposite, the

firm will be induced to commit a high fraud if the overall situation differs enormously from the expectation of the market, knowing that no other legal way could make the firm able to maintain its position on the market.

The level of debt, as well, induces the firms to commit a fraud in order to show positive results or a better financial situation which can reflect an overall more positive situation to reassure the market and the investors. The level of debt seems to affect mostly the likelihood and level of fraud for low and medium voluntary misstatements, while for high level of fraud it does not appear a relevant indicator.

Another relevant element from the results is the profitability of the company which is shown as a deterrent to commit fraud. If the firm has a good profitability, the willing to commit a voluntary misstatement will be reduced. This is true for firms committing a medium level of fraud, but not in the other two cases. An explanation to this can be found in the fact that a high profitability does not reduce the willing in case the fraud is committed by the Blockholder to achieve high personal gains (high level of fraud) and that a high profitability is not the determinant factor to stop the Blockholders to commit fraud when other factors, like the market pressure and the level of debt, affect the company situation.

To summarize all the previously considerations about the first regression, a table is presented.

TABLE 14
Regression Results HP1

The effect of the Corporate Governance system on the fraud

$$\text{FRAUD}_t = \alpha + \beta_1 \text{BLOCK}_{t-1} + \beta_2 \text{MNGT OWN}_{t-1} + \beta_3 \text{RESTAT}_{t-1} + \beta_4 \text{ROE}_{t-1} + \beta_5 \text{FIN LEV}_{t-1} + \beta_6 \text{SALES}_{t-1} + \beta_7 \text{GROWTH}_{t-1} + \beta_8 \text{TIME}_{t-1} + \beta_9 \text{COUNTRY1}_{t-1} + \beta_{10} \text{COUNTRY2}_{t-1} + \varepsilon$$

FRAUD	Coef.	Robust Std. Err.	z	P> z		[95% Conf. Interval]	Predicted Relation
<i>1 - Low Level of Fraud (FRAUD = 1)</i>							
BLOCK	2.28651	.6053124	3.78	0.000	***	1.10012 3.472901	+
MNGT OWN	-2.762466	1.463106	-1.89	0.059	*	-5.630102 .1051699	-
RESTAT	.529004	.6614014	0.80	0.424		-.7673189 1.825327	+
ROE	-.0062205	.0113409	-0.55	0.583		-.0284482 .0160072	-
FIN LEV	.2094676	.1131973	1.85	0.064	*	-.012395 .4313302	+
SALES	-1.39e-09	1.57e-09	-0.88	0.376		-4.48e-09 1.69e-09	-
GROWTH	.2794954	.1437753	1.94	0.052	*	-.0022989 .5612898	+
TIME	1.419674	1.173625	1.21	0.226		-.8805885 3.719936	-
COUNTRY1	-.898715	1.341352	-0.67	0.503		-3.527717 1.730287	none
COUNTRY2	.6138075	.7271967	0.84	0.399		-.8114718 2.039087	none
_cons	-2.387395	.4498329	-5.31	0.000		-3.269052 -1.505739	
<i>2 - Medium Level of Fraud (FRAUD = 2)</i>							
BLOCK	1.495301	.4573552	3.27	0.001	**	.5989009 2.3917	+
MNGT OWN	-.6936721	.2932308	-2.37	0.018	**	-1.268394 -.1189503	-
RESTAT	.6697167	.6708025	1.00	0.318		-.6450321 1.984465	+
ROE	-.0275691	.0103514	-2.66	0.008	**	-.0478575 -.0072808	-
FIN LEV	.0227764	.0083013	2.74	0.006	**	.0065061 .0390467	+
SALES	-5.72e-10	7.76e-10	-0.74	0.461		-2.09e-09 9.48e-10	-
GROWTH	.1413409	.1342995	1.05	0.293		-.1218814 .4045631	+
TIME	-.0718984	.73897	-0.10	0.922		-1.520253 1.376456	-
COUNTRY1	-2.145638	.6482773	-3.31	0.001	**	-3.416238 -.8750374	none
COUNTRY2	-1.152613	.8739193	-1.32	0.187		-2.865464 .560237	none
_cons	-.7663473	.2676504	-2.86	0.004	**	-1.290932 -.2417621	
<i>3 - High Level of Fraud (FRAUD = 3)</i>							
BLOCK	1.523744	.4336249	3.51	0.000	***	.6738546 2.373633	+
MNGT OWN	-.7083276	.2325069	-3.05	0.002	**	-1.164033 -.2526224	-
RESTAT	.5930144	.5475498	1.08	0.279		-.4801634 1.666192	+
ROE	-.0019895	.009623	-0.21	0.836		-.0208502 .0168713	-
FIN LEV	.0777055	.0657983	1.18	0.238		-.0512568 .2066677	+
SALES	-1.20e-09	7.21e-10	-1.67	0.095	*	-.0285447 .530258	-
GROWTH	.2508566	.1425543	1.76	0.078	**	-.0285447 .530258	+
TIME	-.6913614	.7019543	-0.98	0.325		-2.067166 .6844437	-
COUNTRY1	.0044726	.6635315	0.01	0.995		-1.296025 1.30497	none
COUNTRY2	.0031269	.6103743	0.01	0.996		-1.193185 1.199439	none
_cons	-1.42678	.315166	-4.53	0.000	***	-2.044494 -.8090657	

(fraud=0 is the base outcome)

Pseudo R ²	0.1555
Chi square	0.0000
Number of observations	214

Statistically significance

*	low	0.1	0,05<x<=0.1
**	medium	0.05	0.001<x<=0.05
***	high	0.001	x<=0.001

HP2 RESULTS

The model multinomial logistic regression launched is statistically significant (p-value for the chi-square equals to 0.0000). The Wald chi-square statistic is equal to 96.26.

The results in every case of level of fraud demonstrate that a good corporate governance of the firm reduces the likelihood of fraud occurrence and its magnitude. Thus, the second hypothesis is verified at all levels of fraud. The control variables help in the analysis of the factors which act as enhancing factors or reducing factors of the fraud occurrence and magnitude. In all the three cases, the presence of a Blockholder increases the likelihood of fraud occurrence and its magnitude confirming the results of the first hypothesis. The percentage of shares owned by the directors acts as a reducing factor on the dependent variable, confirming the previous results achieved by the literature (Jensen and Meckling, 1976) and also confirming the results found with the first hypothesis.

Moreover, it seems that the most relevant and common factors which induce to commit frauds are almost the same found testing the first hypothesis. In fact, the pressure of the market impacts mostly on the firms' behaviour in cases of low and high level of fraud; the level of debt seems to affect mostly the firms' behaviour in case of low and medium voluntary misstatements, while for high level of fraud it does not appear a relevant indicator.

As well, the profitability of the company acts as a deterrent to commit fraud in case of medium level of fraud, but not in the other two cases, as in the first hypothesis results.

Thus we can conclude that adding the variable corporate governance enhances the analysis on the fraud, because it represents another variable, not correlated with the other variables already included in the model, which explains another factor. In other words, through this analysis, we found another element with a direct impact on the fraud occurrence and level.

To summarize all the previously considerations about the first regression, a table is presented.

TABLE 18
Regression Results HP2

The effect of the Corporate Governance on the fraud likelihood and magnitude

$$FRAUD_t = \alpha + \beta_1 CGI_{t-1} + \beta_2 BLOCK_{t-1} + \beta_3 MNGT\ OWN_{t-1} + \beta_4 RESTAT_{t-1} + \beta_5 ROE_{t-1} + \beta_6 FIN\ LEV_{t-1} + \beta_7 SALES_{t-1} + \beta_8 GROWTH_{t-1} + \beta_9 TIME_{t-1} + \beta_{10} COUNTRY1_{t-1} + \beta_{11} COUNTRY2_{t-1} + \varepsilon$$

FRAUD	Coef.	Robust Std. Err.	z	P> z		[95% Conf. Interval]	Predicted Relation	
<i>1 - low Level of Fraud (FRAUD = 1)</i>								
CGI	-.4616854	.214396	-2.15	0.031	**	-.8818938 - .041477	-	
BLOCK	2.461442	.6108266	4.03	0.000	***	1.264244 3.65864	+	
MNGT OWN	-2.814011	1.517923	-1.85	0.064	*	-5.789086 .1610632	-	
RESTAT	.4668858	.7103791	0.66	0.511		-.9254316 1.859203	+	
ROE	-.0068855	.0107472	-0.64	0.522		-.0279495 .0141786	-	
FIN LEV	.2283281	.1114475	2.05	0.040	**	.009895 .4467612	+	
SALES	-1.60e-09	2.37e-09	-0.68	0.498		-6.24e-09 3.03e-09	-	
GROWTH	.2954124	.1542263	1.92	0.055	*	-.0068655 .5976904	+	
TIME	1.145353	1.285481	0.89	0.373		-1.374143 3.664849	-	
COUNTRY1	-.8447193	1.399102	-0.60	0.546		-3.586908 1.8974	none	
COUNTRY2	.4612127	.7013815	0.66	0.511		-.9134697 1.835895	none	
_cons	-.3401406	1.099204	-0.31	0.757		-2.494541 1.81426		

<i>2 - Medium Level of Fraud (FRAUD = 2)</i>								
CGI	-.6674772	.171425	-3.89	0.000	***	-1.003464 -.3314903	-	
BLOCK	1.789057	.4717136	3.79	0.000	***	.8645151 2.713599	+	
MNGT OWN	-.6527979	.2824173	-2.31	0.021	**	-1.206326 -.0992701	-	
RESTAT	.5631513	.7161831	0.79	0.432		-.8405418 1.966844	+	
ROE	-.0307515	.0113662	-2.71	0.007	**	-.0530289 -.0084742	-	
FIN LEV	.0243218	.0088565	2.75	0.006	**	.0069635 .0416801	+	
SALES	-4.72e-10	8.75e-10	-0.54	0.590		-2.19e-09 1.24e-09	-	
GROWTH	.1441895	.1439395	1.00	0.316		-.1379268 .4263058	+	
TIME	-.4203173	.766229	-0.55	0.583		-1.922099 1.081464	-	
COUNTRY1	-2.249354	.7042263	-3.19	0.001	**	-3.629612 -.8690959	none	
COUNTRY2	-1.471958	.9201863	-1.60	0.110		-3.27549 .3315744	none	
_cons	2.139642	.8053742	2.66	0.008	**	.5611374 3.718146		

<i>3 - High Level of Fraud (FRAUD = 3)</i>								
CGI	-.6892808	.1946503	-3.54	0.000	***	-1.070788 -.3077732	-	
BLOCK	1.827674	.4534438	4.03	0.000	***	.9389406 2.716408	+	
MNGT OWN	-.7151164	.2415463	-2.96	0.003	**	-1.188538 -.2416944	-	
RESTAT	.4248202	.5731221	0.74	0.459		-.6984786 1.548119	+	
ROE	-.0025404	.0094135	-0.27	0.787		-.0209906 .0159098	-	
FIN LEV	.1040493	.0715404	1.45	0.146		-.0361673 .2442659	+	
SALES	-1.20e-09	7.40e-10	-1.63	0.104		-2.65e-09 2.46e-10	-	
GROWTH	.2682859	.1529532	1.75	0.079	**	-.031497 .5680687	+	
TIME	-1.286336	.7958334	-1.62	0.106		-2.846141 .2734684	-	
COUNTRY1	.1665213	.7512167	0.22	0.825		-1.305836 1.638879	none	
COUNTRY2	-.3077283	.5607489	-0.55	0.583		-1.406776 .7913194	none	
_cons	1.52464	.849501	1.79	0.073	**	-.1403512 3.189631		

(fraud=0 is the base outcome)

Pseudo R ²	0.1976
Chi square	0.0000
Number of observations	214

Statistically significance

*	low	0.1	0,05<=x<=0.1
**	medium	0.05	0.001<=x<=0.05
***	high	0.001	x<=0.001

HP3 RESULTS

The model, as a whole, is statistically significant (p-value for the chi-square equals to 0.0000). The Wald chi-square statistic is equal to 166.34. We remind that in this model the governance mechanisms have been transformed in artificial variables, called “Dimensions” through the PCA analysis.

The results in every case of level of fraud demonstrate that there are some aspects of corporate governance particularly relevant for the fraud occurrence and also for the fraud magnitude. The results suggest taking into account mostly the independence of the Board, element which reduces the likelihood and the level of the fraud. These results are in line with previous findings, given by the literature (Beasley, 1996; Uzun *et al.*, 1994; Kaplan and Minton, 1994; Hermalin and Weishbach, 2002). Moreover, also concerning the Board independence, but referring specifically to the Audit Committee, the presence of a financial expert seems to help at reducing the fraud phenomena, result aligned with previous researches (Jensen, 1993; Agrawal and Chada, 2005).

Moreover, Board decisions on CEO compensation type and amount seems to affect, as well, the fraud occurrence and level. The results in the three cases we analysed suggest that these kinds of decisions should be taken considering that a high level of variable compensation and a high level of stock options do not lead the CEO to perform better, but induce him/her to have fraudulent behaviour and gain from them personal benefits. These findings are aligned with the studies of Erickson *et al.* (2006), Bruner, McKee and Santore (2005), and Peng and Roell (2006).

The CEO duality, as demonstrated by previous researches, negatively affects the amount of fraud and the likelihood of fraud occurrence (Yermack, 1996; Sharma, 2004). Thus, the results in three cases confirm the previous findings of the literature.

The fact that the Board size and ID are both positively correlated confirms previous studies: the higher is the number of Board members, the lower the efficiency of the Board (Lipton and Lorsch, 1992; Jensen, 1993; Yermack, 1996). At the same time, the higher is the number of interlocking directorships in the Board, the higher the likelihood of fraud and its level, an evidence of corporate governance underlined by the Institutional Shareholders Service, which considers the presence of numerous ID within a Board as a negative element of corporate governance. Thus, the results empirically confirm the theory on the topic.

In sum, also the third hypothesis is verified at all levels of the fraud. The control variables help in the analysis of the factors which act as enhancing factors or reducing factors of the fraud occurrence and magnitude. In all the three cases, as in the previous two hypotheses' results, the presence of a Blockholder increases the likelihood of fraud occurrence and its magnitude, confirming the results of the first and second hypotheses. The percentage of shares owned by the directors acts as a

reducing factor on the dependent variable, confirming the previous results achieved by the literature (Jensen and Meckling, 1976). The level of debt affects as well the likelihood and magnitude of fraud, increasing them, at all the levels of the fraud, low, medium and high.

As found in the other results relative to the first and the second hypothesis, the profitability of the company acts as a deterrent to commit fraud in case of medium level of fraud, but not in the other two cases.

The two new results, achieved testing the third hypothesis, are relative to the TIME and RESTAT control variables, which seem to have a role on the fraud, respectively a decreasing effect and an increasing effect. Thus, first we can conclude that the reforms actuated after the major financial scandals actually have a positive effect at reducing fraud occurrence and magnitude in case of medium and high level of fraud. Moreover, we suggest taking into account, during the fraud detection process, the presence of a restatement, because, considering the achieved results, restatements could be considered as a red flag in fraud detection.

Analysing more in depth the principal aspect of corporate governance allows us to understand which factors should be taken particularly into account in order to avoid the fraud occurrence and in case the occurrence is not avoided at least obstacle the amount of fraud that could be deceived.

To summarize all the previously considerations about the first regression, a table is presented.

TABLE 22								
Regression Results HP3								
The effect of Corporate Governance Dimensions on fraud								
$\text{FRAUD}_t = \alpha + \beta_1\text{DIM1}_{t-1} + \beta_2\text{DIM2}_{t-1} + \beta_3\text{DIM3}_{t-1} + \beta_4\text{DIM4}_{t-1} + \beta_5\text{DIM5}_{t-1} + \beta_6\text{DIM6}_{t-1} + \beta_7\text{DIM7}_{t-1} + \beta_8\text{BLOCK}_{t-1} + \beta_9\text{MNGT OWN}_{t-1} + \beta_{10}\text{RESTAT}_{t-1} + \beta_{11}\text{ROE}_{t-1} + \beta_{12}\text{FIN LEV}_{t-1} + \beta_{13}\text{SALES}_{t-1} + \beta_{14}\text{GROWTH}_{t-1} + \beta_{15}\text{TIME}_{t-1} + \beta_{16}\text{COUNTRY1}_{t-1} + \beta_{17}\text{COUNTRY2}_{t-1} + \varepsilon$								
FRAUD	Coef.	Robust Std. Err.	z	P> z 		[95% Conf. Interval]		Predicted Relation
<i>1 - low Level of Fraud (FRAUD = 1)</i>								
DIM1	-1.222772	.2526516	-4.84	0.000	***	-1.717961 - .7275844		-
DIM2	-.3152572	.3032299	-1.04	0.298		-.9095768 .2790624		-
DIM3	.9045984	.4520253	2.00	0.045	**	.0186451 1.790552		+
DIM4	.7012997	.3445182	2.04	0.042	**	.0260564 1.376543		+
DIM5	.8308868	.303894	2.73	0.006	**	.2352656 1.426508		+
DIM6	-.2856668	.3529778	-0.81	0.418		-.9774906 .4061569		+
DIM7	-.5509121	.3925402	-1.40	0.160		-1.320277 .2184526		-
BLOCK	2.530054	.8629104	2.93	0.003	**	.8387803 4.221327		+
MNGT OWN	-1.655488	.9277085	-1.78	0.074	*	-3.473763 .1627872		-
RESTAT	.2482153	.678569	0.37	0.715		-1.081756 1.578186		+
ROE	.0019507	.0121622	0.16	0.873		-.0218868 .0257882		-
FIN LEV	.2233059	.1260758	1.77	0.077	*	-.0237982 .4704099		+
SALES	-1.24e-09	1.20e-09	-1.03	0.302		-3.58e-09 1.11e-09		-
GROWTH	.1780905	.1051353	1.69	0.090	*	-.027971 .3841519		+
TIME	1.273454	1.319938	0.96	0.335		-1.313576 3.860485		-
COUNTRY1	-2.017404	1.677035	-1.20	0.229		-5.304332 1.269524		none
COUNTRY2	.3893158	.7659069	0.51	0.611		-1.111834 1.890466		none
_cons	-2.193563	.6198733	-3.54	0.000	***	-3.408492 -.9786338		

2 - Medium Level of Fraud (FRAUD = 2)

DIM1	-1.295951	.2181528	-5.94	0.000	***	-1.723523	-.8683798	-
DIM2	.1539994	.2728747	0.56	0.573		-.3808252	.688824	-
DIM3	.9123902	.4426596	2.06	0.039	**	.0447933	1.779987	+
DIM4	1.171873	.38815	3.02	0.003	**	.4111133	1.932633	+
DIM5	.7466292	.2677725	2.79	0.005	**	.2218047	1.271454	+
DIM6	-.505626	.3367086	-1.50	0.133		-1.165563	.1543108	+
DIM7	.0288106	.3848808	0.07	0.940		-.7255419	.783163	-
BLOCK	1.845959	.5892508	3.13	0.002	**	.6910486	3.000869	+
MNGT OWN	-.5562197	.2943081	-1.89	0.059	**	-1.133053	.0206137	-
RESTAT	.935421	.7383925	1.27	0.205		-.5118017	2.382644	+
ROE	-.0256586	.0120426	-2.13	0.033	**	-.0492618	-.0020555	-
FIN LEV	.0529857	.0112776	4.70	0.000	***	.030882	.0750894	+
SALES	-1.97e-09	6.32e-09	-0.31	0.755		-1.44e-08	1.04e-08	-
GROWTH	.0383083	.118835	0.32	0.747		-.1946041	.2712207	+
TIME	-1.643967	.9986872	-1.65	0.100	*	-3.601358	.3134236	-
COUNTRY1	-2.443525	.852093	-2.87	0.004	**	-4.113597	-.7734539	none
COUNTRY2	-1.637088	1.216133	-1.35	0.178		-4.020665	.7464893	none
_cons	-.4646007	.3993055	-1.16	0.245		-1.247225	.3180237	

3 - High Level of Fraud (FRAUD = 3)

DIM1	-1.358728	.2267434	-5.99	0.000	***	-1.803137	-.9143191	-
DIM2	.1570821	.2130811	0.74	0.461		-.2605491	.5747133	-
DIM3	.7759135	.4429354	1.75	0.080	*	-.0922239	1.644051	+
DIM4	1.081278	.3236144	3.34	0.001	**	.447005	1.71555	+
DIM5	.7015164	.3024852	2.32	0.020	**	.1086564	1.294376	+
DIM6	-.3398046	.3287145	-1.03	0.301		-.9840731	.3044639	+
DIM7	-.4998664	.3611429	-1.38	0.166		-1.207693	.2079607	-
BLOCK	1.662972	.5976164	2.78	0.005	**	.4916652	2.834278	+
MNGT OWN	-.5826786	.242554	-2.40	0.016	**	-1.058076	-.1072814	-
RESTAT	1.013337	.5714033	1.77	0.076	*	-.1065925	2.133267	+
ROE	.0028037	.0103881	0.27	0.787		-.0175567	.023164	-
FIN LEV	.1284471	.0773989	1.66	0.097	*	-.0232519	.2801461	+
SALES	-1.27e-09	9.87e-10	-1.28	0.200		-3.20e-09	6.69e-10	-
GROWTH	.1529706	.1052105	1.45	0.146		-.0532382	.3591794	+
TIME	-1.773574	.9992282	-1.77	0.076	*	-3.732025	.1848775	-
COUNTRY1	-.6686325	.963893	-0.69	0.488		-2.557828	1.220563	none
COUNTRY2	-.9016163	.807832	-1.12	0.264		-2.484938	.6817054	none
_cons	-1.040758	.4247107	-2.45	0.014	**	-1.873175	-.2083401	

(fraud=0 is the base outcome)

Pseudo R² 0.3967

Chi square 0.0000

Number of observations 214

Statistically significance

*	low	0.1	0,05<x<=0.1
**	medium	0.05	0.001<x<=0.05
***	high	0.001	x<=0.001

CONCLUSIONS

The work we developed on the corporate governance of the firm, aimed to understand which factors mostly affect the fraud occurrence and magnitude.

The analysis provides us with some important results which enhance the literature on this topic and which have also managerial implications. In our opinion, the main contributions of this work rely on the findings about the corporate governance system and also about the main aspects of corporate governance which should be taken into account in managing the firm.

From the analysis it emerged that, as predicted in the first hypothesis, belonging to a Blockholder model system of corporate governance could increase the probabilities to face a fraud occurrence and its magnitude. We confirmed this hypothesis by also testing the other two hypotheses. Matter-of-factly, the presence of the Blockholder always played as an enhancing factor of the fraud. The originality of these findings relies on the fact that no previous works empirically tested this relation. Nevertheless, the obtained result needs some deeper and more accurate remarks: even if the Blockholder model is characterized by the presence of conflict of interests between the majority shareholder and the minority shareholders, belonging to this kind of corporate governance model does not necessarily imply a fraud occurrence. In fact, a lot of firms operate and experience successful growth in this type of context. However, the analysis we conducted suggests that, in order to improve the model, some preventing devices should be implemented to avoid, or at least reduce, the possibility of frauds occurrence. Beside the legislations of each specific country, the firms themselves could focus their attention on some aspects of the corporate governance that can help to increasing the probability of preventing frauds.

Moreover, from the empirical findings we highlight that the corporate governance as a whole has a role at reducing the fraud occurrence and magnitude (evidence provided by the hypothesis 2). After the most relevant financial crises (such as the Asian one of 1997-1998, the actual crisis started in 2007 and still continuing that has affected almost all countries in the world, and, in addition to those, the speculative bubble of 2000 which led many companies to bankruptcy), academics and practitioners have started to question the role of the corporate governance in the firm, doubting if a good corporate governance could impact positively at reducing the damages produced by the contingency situation. On the crest of the emotions generated by the recent crisis situation, some authors (Erkens, Hung and Matos, 2010) accused and pointed a finger towards the corporate

governance of the firms, sustaining that even good corporate governance did not produce any effect and did not lead the companies to perform or behave better. To support their ideas, these Authors presented some significant examples, such as the Lehman Brothers' one that, despite its commonly recognized good corporate governance, experienced one of the most relevant bankruptcies of the last decades. In spite of the empirical evidences, nowadays it seems reasonable to affirm that only with a good level of corporate governance the conflict of interests among the different actors of the firms can be reduced, assuring fairness and control of the management. In other words, a *good* governance is needed to monitor over the management behaviors, as claimed also by the reformers, such as Nell Minow, who states that the "need for corporate governance has never been clearer or more pressing" (The Economist, Oct. 2010).

Investigating more in depth the factors that mostly affect the fraud occurrence and its level, we evidenced the most relevant aspects of corporate governance useful to assure a wealthy management of the company (evidences provided by the hypothesis 3).

The results showed that a particular attention has to be addressed to the Board of Directors and its Committees, more specifically to some issues of the Board.

The independence of the Board seems to be a necessary condition to assure the effectiveness of this body, as pointed out also by previous literature. The problem emerges more and more in the common debate, conducted from both the theoretical and practitioners points of view. For example, recently, The Economist (Oct. 2010) states that companies need "independent directors to keep a watchful eye on managers", underling the importance of this board feature considering the financial scandals occurred in the last decades.

Also the composition of the Board, concerning the number of Board members and the presence of a financial expert in the audit committee, results relevant to have a good quality of corporate governance. In fact, a high number of members on the Board could have the only effect to lower the effectiveness of this body. At the same time, the presence of a financial expert can assure a better quality of the Board's work and a deeper control on the management's duties. These findings confirm previous studies, where the big size of the Board was pointed out as being a factor that reduces the Board's efficiency and, on the contrary, the presence of a financial expert has been seen as an enhancing factor of the quality of the Board's controls.

As far as the Board's decisions about the CEO compensation are concerned, the results highlight how these decisions should be taken considering that a high level of stock options and, more in general, a high portion of variable compensation negatively impact on the CEO behaviors, inducing

him/her to pursue personal benefits, committing, in the worst cases, frauds. This result is also aligned with the findings of previous literature on the same topic.

In conclusion, we can state that firms should pay attention to some specific aspects of the corporate governance in order to reduce the possibility of facing a fraud or, at least, to reduce the magnitude of the fraud. This statement is valid both for the companies operating in a Blockholder system and companies operating in a Shareholder system of corporate governance, even though firms belonging to a Blockholder model should pay more attention to the aforementioned aspects considering that their likelihood to commit a fraud is higher than the one of the companies belonging to a Shareholder model.

These findings can be considered as an important contribution to the literature on the topic, given the normative indications they provide for academic, who want to further investigate on these issues, and practitioners, who aim to improve the effectiveness of their businesses.

LIMITATIONS AND FURTHER RESEARCHES

The analysis we conducted can be considered as a first step for literature that investigates the role of corporate governance as a whole on financial statement fraud, because as previously said, to our knowledge, no preceding studies tested the relations we analyzed. Notwithstanding, even if the work presents some significant suggestions for the improvement of the analysis on the fraud occurrence and prevention, some limitations can be traced as a starting point of further researches.

A first limit this work presents relies on the fact that we did not consider the type of Blockholder. In other words, we did not investigate on the nature of the majority owners of the company (management, institutions, pension funds, etc.). Further researches could focus on this aspect to understand if the fraud can be associated with a particular type of Blockholder or not. Specifically, a particular attention should be paid to the situation in which the Blockholder is detained by the directors (that means that no other subject holds a higher portion of shares). This particular aspect should be analyzed more in depth in order to understand what portion of shares, detained by the directors, constitutes a deterrent to commit fraud, as demonstrated by our results, and, on the contrary, after what level it acts as an enhancing factor of the fraud. This consideration arises looking at the descriptive statistics: the fraud firms, in fact, show a median value of ownership detained by directors equal to 0.08, while the no-fraud firms have a median value of this variable equal to 0.10.

A second limit to our work is connected to the variety of the sample adopted, concerning the nationalities of the firms. In fact, the sample included companies belonging to 11 selected countries. This implies that 11 different cultural and institutional contexts were compared. The choice of these countries was determined by the will of taking into consideration the main realities that reflect the two types of corporate governance systems. Conscious of the numerous differences traceable among these countries, from various points of view, we controlled for the most relevant variables which could reflect these differences, but some aspects, such as the fraud detection policies and the specific legislation of each country, could not be monitored thoroughly. Thus, further researches could focus on single countries, in order to have results referring to a single specific cultural and institutional context. On the contrary, a broader analysis, considering more than 11 countries could be implemented to have a worldwide comparison of results.

A third limit this work presents relies on the fact that the sample on which we tested our hypotheses was composed by 107 fraud firms and 107 no-fraud matched firms, due to the difficulties in findings enough data on the financial statement frauds. Thus, further studies could conduct the analysis on a broader sample.

Finally, our analysis did not specify the techniques used to implement the fraud. So, further researches could analyze if particular kinds of frauds are associated with the presence of a Blockholder.

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