EARNINGS MANAGEMENT, RISK AND CORPORATE GOVERNANCE IN US COMPANIES

Amira Neffati, Imène Ben Fred**, Christophe Schalck****

Abstract

The company directors seem to reconcile interests of shareholders and stakeholders before determining the published results. The aim of the paper is to analyse how the risk level could be affected by some governance mechanisms and if the risk is a motivation for earnings management. We identified three types of risk: overall risk, operational risk and financial risk. Our study focused on 222 U.S. firms and covers the 1994-2001 period. The results of an empirical study of U.S. companies indicated that earnings management is positively correlated with the risk, whatever its type, that means that good governance practices tend to decrease the risk. Nevertheless, good practices may differ according to the type of risk. We also found that good practices have a negative impact on earnings management while all types of risk have a positive impact on earnings management.

Keywords: earnings management, firm risk, corporate governance

** Teaching Assistant, ISG Tunis, mira.nef@hotmail.fr*
*** Teaching Assistant, ISG Tunis, imebf@yahoo.fr*
**** Associate Professor, ESG Management School, 25 rue Saint Ambroise 75011 Paris, France, cschalck@esg.fr*

1. Introduction

In a world characterised by uncertainty, a divergence of interests, a diversity of actors and implicit contracts, the concept of earnings management becomes increasingly important for companies. Earnings management reflects the idea that all measurable things can be rigorously managed. To reach the best compromise between shareholders and stakeholders, it is commonly accepted that some managerial discretion is necessary for earnings publication policy. The company directors seem to reconcile interests of various partners before determining the published results. This behaviour is called "earnings management" and depends on the relationships within the company. Schipper (1989) defined earnings management as *"a deliberate intervention in the process of financial information presentation in order to capture personal gain"*. Earnings management corresponds to a set of discretionary actions (Teoh, Welch and Wong, 1998).

To assess accounting manipulation, different models have been developed to calculate discretionary accruals, which are considered as a measure of the managerial discretion; these include the models developed by DeAngelo (1986), Healy (1985), Jones (1991), Dechow, Sloan and Sweeney (1995) and Teoh, Welh and Wong (1998). The discretionary accruals correspond to adjustments that can move from revenue accounting to accrual accounting. Thus, they correspond to the difference between net income and cash flows. However, these models imperfectly assess managerial discretion. They do not identify opportunist and altruistic behaviours of managers. An investigation into earnings management motivations enables corporate behaviour to be determined through the published accounts and, therefore, allows investors to make efficient decisions.

There are various motivations of earning management: capital markets pressures such as compliance with analysts' forecasts (Dechow, Richardson and Tuna, 2003) or an increase in the issue price of shares (Teoch, Welch and Rao, 1998), a reduction in the default probability of debt (Dechow and Skinner, 2000), an increase in managers' revenues (Holthausen, Laker and Sloan, 1995) and a decrease in political (Bartov, Gul and Tsui, 2000) and financing costs (DeAngelo, 1986). The relationship between corporate governance and earnings management has been emphasised by Carcello and Neal (2000) and Lobo and Zhou (2001). However, one of the most important motivations in earnings management is the desire to influence the financial market's perception of the firm risk. Indeed, an increase in level of risk could be associated with high earnings management. In

other words, any governance mechanism that reduces accounting manipulation practices is negatively correlated with the risk level. The contribution of this paper is therefore to identify relationships that may exist between governance, risk management and earnings management.

The paper is organised as follows. Section 2 analyses the theoretical relationship between earnings management, risk and governance. Section 3 presents the sample and the assessment of earnings management. Section 4 presents the empirical results, and the final section concludes.

2. Lessons from the literature

The interaction between financial and real aspects is crucial in the analysis of investment decisions and of the behaviours of financial market participants. The main models are based on a representation of the relationship between economic agents and firms that allow maximisation of production, consumption and investment decisions in an uncertain environment. However, financial decisions, such as the choice of the debt ratio and the dividend rate, must play an important role because they represent the utility maximisation of bondholders and shareholders. Moreover, these financial decisions differ according to the degree of risk aversion, which creates agency problems: bondholders seek protection of their investment strategies, while shareholders seek high dividend through investments in risky projects (Bajeux, Jordon and Portait, 2003). Agency problems can be solved by a system of governance that gives control to bondholders through the financial decisions and gives control to shareholders through operational decisions (Bernanke, Gertler and Gilchrist, 1996). In this context, the change in stock prices is an information signal for managers to change and adapt their investment strategies (Krainer, 1999).

Company directors manage earnings to reach a situation that satisfies bondholders and shareholders. Indeed, one of the motivations for earnings management is the desire to influence the financial market perception associated with the firm risk. The risk can be represented by three variables: the change in net income (overall risk), the change in total sales (operational risk) and the debt-to-equity ratio (financial risk). Generally, companies change the structure of their assets in their balance sheet in response to changes in asset prices (Stolowy and Breton, 2000). Financial decisions such as financial leverage and payout have opposite cycles: an increase in the debt ratio is associated with a decrease in the dividend payout when the firm takes conservative operational decisions (Fama and French, 1989). However, a decrease in financial leverage is associated with an increase in the payout when the company takes the risky investment decisions.

Economic theory distinguishes two groups of firms: small and medium firms engaged in speculative investment strategies financed by short-term credit and large firms engaged in conservative investment strategies financed by long-term loans (Harrison and Zhang, 1999). A positive shock in the economy reduces the aversion risk and leads investors to adjust their portfolios to include speculative small and medium firms. Then, investors demand a higher return in exchange for a higher risk according to portfolio theory.

Managing the interests of shareholders and bondholders involves a specific governance system (Krainer, 1999). Indeed, an active board of directors that is small and mostly composed of independent, external individuals tends to control risky managerial actions. Conversely, the presence of large shareholders on the board increases the probability of engaging in risky projects. These shareholders promote their own interests over those of other shareholders and bondholders. Moreover, a manager who is both a chairperson and CEO could easily choose risky investments. Finally, the growth of debt tends to increase the financial risk of the company to improve the financial leverage effect, which is why a low debt ratio is a means of resolving agency conflicts. Thus, any governance mechanism that reduces risk can therefore minimise the attempts of accounting manipulation (Klein, 2000).

The manager is motivated to manage earnings, seeking a balance between different types of risk-binding activities engaged in by the firm (Jensen, 2002). On the one hand, the more financial risk increases by contracting debt, the more the free cash flow increases, allowing more managerial discretion. On the other hand, a decrease in sales and, hence, market share leads to a decrease in earnings management because managers try to cover up their operational inefficiency. In this way, these managers maintain the company's image, highlight their managerial capabilities, attract new investors and regain investor confidence. Finally, a strong earnings fluctuation is associated with a high overall risk, which encourages managers to manipulate accounting numbers to smooth such fluctuations.

We have therefore highlighted the existence of relationships between risk, earnings management and governance. Based on what has been mentioned above, we can make the following assumptions:

- H_1: Good governance practices are negatively correlated with risk, in these different types of risk;
- H_2: An increase in risk has a positive impact on earnings management.

We tested the validity of these hypotheses through an empirical study on U.S. firms.

3. Data set and earnings management assessment

The empirical study focused on 222 U.S. firms from the Fortune 1000 list, excluding financial institutions and insurance companies, and covers the 1994-2001 period. Governance data, such as the characteristics of the board of directors and the audit committee, were collected from the www.edgarscan.com website. We also collected accounting and financial data, such as dividends. Market data, securities prices and trading volume came from specialised websites.

To calculate the discretionary accruals, which are a proxy of earnings management, we use of the modified Jones model. This model estimates the non-discretionary accruals during the period in which discretion is supposed to be effective:

$$NDA_t = \alpha_1 (1/A_{t-1}) + \alpha_2 (\Delta REV_t - \Delta REC_t/A_{t-1}) + \alpha_3 (PPE_t/A_{t-1}) \quad (1)$$

where NDA_t corresponds to the non-discretionary accrual in t, A_{t-1} corresponds to the total assets in the period $t-1$, ΔREV_t corresponds to the difference in revenue between t and $t-1$, PPE_t is the immobilisation in t, and ΔREC_t corresponds to the difference between the debt in t and that in $t-1$. From the estimated non-discretionary accruals, we can estimate the discretionary accruals as follows:

$$TA_{t-1}/A_{t-2} = NDA_t + DA_t \quad (2)$$

where TA_{t-1} corresponds to total accrual in $t-1$, and DA_t is a residual term that represents the share of discretionary accruals.

4. Empirical validation of relationships

The aim of this section was to verify the relationship that exists between good governance practices and risk reduction and to verify the relationship between risk, governance and earnings management. We conducted a descriptive analysis that compared governance mechanisms for extreme classes in each type of risk. Then, we studied the impact of risk and governance on earnings management.

4.1. Types of risk and governance

To characterise governance, we used several governance mechanisms that we identified in the economics literature. The first mechanism of governance is the role of the board, which we studied based on its size (BS) expressed in number of directors, its composition (OUTB) expressed as the proportion of independent external members and its activity through the number of meetings (MB). The second mechanism of governance focused on the manager characteristics, namely the duality (DUA) of the manager position, which represents whether or not the manager is a chairperson or not (thus, it is a binary variable that takes the value 1 when the manager is a chairperson), and seniority as CEO (TENURE). The third studied governance mechanism was the ownership structure. This structure is captured by the share of equities held by internal shareholders (OWI) and those held by large shareholders (OWB). Finally, the last governance mechanism assessed was manager compensation (MC).

To study the relationship between governance on the different types of risk, the sample was split into two parts based on the value of risk (high risk or low risk). Operational risk is reflected by a change in sales, and the risk threshold was set to the median of our sample. The results corresponding to the association of governance variables at every level of business risk are presented in Table 1. Firms with high operational risk are characterised by the presence of large and internal shareholders. This characteristic can be explained by an important margin of flexibility for the manager to invest in risky projects, which generate sales fluctuations. Conversely, the least risky firms are characterised by a large size of the board of directors and substantial manager compensation. These firms are also characterised by a duality of the manager and a high number of independent members on the board because these members provide skills and expertise that prevent sales fluctuations: such boards can have tight control and therefore incite managers to choose low-risk projects. The seniority of the manager makes him more involved with the company, and he has less to prove in terms of managerial skills. Thus, he is more inclined to invest in less risky projects. Finally, a high compensation for the manager is a good incentive to ensure the continuity of the company and, thus, avoid sales fluctuations by investing in less risky projects.

As for the economic risk, the sample is split into two parts depending on the value of financial risk (debt ratio) based on the median of the sample. We used the same variables as before to characterise the governance, and the results are presented in Table 2. Firms with high financial risk are characterised by a senior manager with high compensation. A senior manager has the needed experience to contract more debt, as he is able to meet his

commitments. In addition, a manager with high compensation is more interested by the leverage effect of debt than the interests of bondholders. However, an active board, especially on that is large and dominated by external members, appears to reduce the financial risk. Indeed, these characteristics of the board constitute a managerial control that forces the manager to reduce debt levels. Concerning ownership variables (internal ownership and large shareholder ownership), they reduce the financial risk since they prefer to limit the probability of bankruptcy.

The sample was again split into two parts based on the value of overall risk, i.e., the change in net income (Table 3). Firms with high earnings fluctuations, reflecting high overall risk, are characterised by a higher compensation for managers and an active board with a high level of large shareholder ownership. Large shareholders and managers are interested in risky projects, which lead to high variance in earnings. The frequency of board meetings has a negative impact on financial risk because frequent meetings allow easier control of the evolution of the investments. The seniority of the manager also reduces the risk because the experience allows to earnings to be smoothed through good management. In the same way, external agents on a large board allow more expertise and managerial control. Finally, a manager that owns a large share of the capital is motivated to avoid earnings fluctuations related to risky projects since that manager's potential loss would be high. It should be noted that the manager duality appears to decrease all types of risk. The manager would preserve his reputation and thus would be cautious by choosing low-risk projects.

To sum up, it appears that some governance mechanisms tend to decrease risk, while others tend to increase it. For example, the ownership structure has opposite impacts on the economic risk and the financial risk. The validity of the H1 hypothesis, which stipulates that good governance practices are negatively correlated to risk, is therefore contingent on the type of risk. It would be interesting to examine whether different types of risk and governance variables have an impact on earnings management.

4.2. Influence of risk and governance on results management

We propose a model that links discretionary accruals, governance variables and proxy for different types of risk. The model is as follows:

$$AD_{it} = \alpha_0 + \alpha_i R_{it} + \alpha_i G_{it} + \varepsilon_{it} \quad (3)$$

where AD_{it} represents discretionary accruals of firm i in t, α_0 is a constant, R represents the vector of variables reflecting risk (change in sales, debt ratio and change in net income), G represents the vector of variables representing governance characteristics (ownership, holding, duality, seniority, part of the external in board, board size, number of board meetings, compensation), and ε_{it} is the error term.

The results of the panel regression by ordinary least squares methodology with fixed effects are presented in Table 4. The results show that the proportion of external members on the board, ownership by internal members and large shareholders, high compensation and the seniority of the manager have a negative impact on earnings management. Indeed, the presence of external and large shareholders on the board has a more stringent control than internal shareholders and reduces managerial discretion. In addition, high compensation and internal ownership are associated with a less earnings management due to the manger's fear of losing his position and pecuniary penalty. A senior manager is less encouraged to manipulate results because he is more confident and has the know-how to shorten the duration of poor business performance.

The results also show that the size of the board, intense board activity and the duality of the manager positively affect discretionary accruals. In other words, chairperson-related factors dominate when several points of views exist in a large board. Also, being CEO at the same time, the manager would have the needed margin of flexibility to present satisfactory earnings. Moreover, the board could meet frequently to ratify decisions already taken by the manager and then adjust the earnings. Finally, all types of risk seem to have a positive impact on earnings management. The more the risk increases, the more the manager would be motivated to manage earnings. With a high level of risk, the manager wants to show his skills by satisfying various views and attracting new investors. A high risk also results in a pressure on the manager, forcing him to manage the results as expected.

5. Conclusion

Company directors could use earning management reconcile interests of shareholders and stakeholders. This strategy comes from accounting manipulations. The paper analysed how the risk level could be affected by some governance mechanisms and if the risk is a motivation for earnings management. The results of an empirical study of U.S. companies indicated that earnings

management is positively correlated with the risk, whatever its type (operational risk, financial risk and overall risk). However, good governance practices appear to have a negative impact on limiting the share of risky projects, even though these practices may differ according to the type of risk. Therefore, the firms that are risky are characterised by a high earnings management and poor governance practices. Nevertheless, this study could have been improved by taking other governance variables into account, such as audit committee factors, firm size, opportunities growth and sector.

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Table 1. Governance mechanisms and operational risk

	High operational risk, N=518		Low operational risk, N=518	
	Average	Stand. deviation	Average	Stand. deviation
BS	10.79	2.64	11.01	2.57
OUTB	8.65	2.84	8.84	2.87
MB	6.82	2.27	6.95	2.43
DUA	0.83	0.38	0.84	0.36
TENURE	7.56	2.36	8.51	2.44
OI	0.12	0.08	0.11	0.07
OW	0.18	0.07	0.17	0.08
MC	1 634	1 506	1 984	1 566

Table 2. Governance mechanisms and financial risk

	High financial risk, N=518		Low financial risk, N=518	
	Average	Stand. deviation	Average	Stand. deviation
BS	10.61	2.63	10.81	2.74
OUTB	8.43	2.87	8.63	2.86
MB	6.55	2.34	6.88	2.35
DUA	0.82	0.39	0.83	0.37
TENURE	8.74	3.23	8.04	2.47
OI	0.11	0.06	0.13	0.09
OW	0.17	0.07	0.19	0.08
MC	3 479	2 300	1 623	1 085

Table 3. Governance mechanisms and overall risk

	High overall risk, N=518		Low overall risk, N=518	
	Average	Stand. deviation	Average	Stand. deviation
BS	10.93	2.64	11.19	2.76
OUTB	8.82	2.67	9.03	2.92
MB	7.04	2.21	6.91	2.35
DUA	0.84	0.37	0.85	0.36
TENURE	7.64	2.52	8.11	2.66
OI	0.12	0.07	0.13	0.09
OW	0.19	0.08	0.16	0.07
MC	3 407	2 300	2074	1 254

Table 4. Results

Dependent Variable: Discretionary accruals	
Variable	Coefficient
Constant	1.198890 (13.64990)
Change in sales	0.000774 (3.342477)
Debt ratio	0.115231 (3.532460)
Change in net income	0.025003 (3.069160)
MC	-0.147048 (-3.792757)
OI	-0.005540 (-4.44547)
OW	-0.410835 (-3.08336)
DUA	0.189665 (17.75608
TENURE	-0.035098 (-7.821784)
OUTB	-0.855967 (-3.028436)
BS	0.891964 (3.229840)
MS	0.290002 (8.41531)
R^2 = 0.71956 DW Stat = 1.73072 F-Stat = 2.495809	

t-Student in brackets