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La relation entre la gestion des résultats comptables et l'endettement : Une étude de cas d'entreprises françaises

The relation between Financial Leverage and earning management: A case study of French companies

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Résumé :

L'article vise d'abord à détecter les activités de gestion des résultats comptables par les accruals au sein des sociétés françaises cotées utilisant les normes IAS/IFRS. Deuxièmement, il vise à examiner la relation entre l'endettement et les activités de gestion des résultats comptables par les accruals au sein des entreprises citées.

Cette étude utilise les accruals comme mesure de la gestion des résultats comptables calculés sur la base du modèle Jones modifié (1991), à partir d'un échantillon de 146 sociétés françaises cotées au CAC All-Tradable sur la période 2013-2016. Dans cette étude, nous utilisons des données panels pour afin d'analyser la relation entre l'endettement et la gestion des résultats comptables.

Les résultats de cette étude sont significatifs à la lumière des résultats précédents relatifs à la littérature sur la gestion des résultats comptables, car ils soutiennent également une relation négative entre les comportements opportunistes des gestionnaires et la gestion des résultats comptables.

Mots clés : Discrétion, accruals, gestion des résultats, endettement

Abstract:

The primary aim of this study is to examine the association between leverage and accrual based earning management activities. This study uses Accruals calculated based on the modified Jones model (1991) as a proxy for earning management. Using a sample of 146 French firms listed on CAC All-Tradable for the period of 2013-2016, we find a significant negative association between leverage and accrual based earning management. This supports the view that leverage limits the accrual based earning management activities.

Key words: Discretionary accruals Leverage, Earning management.

Introduction:

The Accounting scandals related to the international stock markets, such as the Enron affair in the United States, Vivendi-Universal in France and Nortel in Canada highlight the importance of earning management which has been a matter of research, discussion and even controversy, in several countries such as the U.S, Canada, the UK, Australia and France.

According to Degeorge, Patel and Zeckhauser (1999) earning management can be defined as the use of managerial discretion to manipulate the reported earnings of a company. In fact we have to distinguish between accrual-based earnings management and real earning management which is based on real cash flows. Earning management could be done not through accounting techniques using accruals (depreciation and provision) and through real activities which is called Real Earnings Management or Earnings Management through Real Activities Manipulation (Sales and production).

Previous researches highlighted the link between future stocks prices and the earning management using accounting practices: accruals, in so far firms accruals lead to abnormal returns which contradicts the efficient market hypothesis according to which. The most cited article cited is Sloan (1996): Do Stock Prices Fully Reflect Information in Accruals and Cash Flows?

Several studies have indicated that the accruals are related to whether stock prices, audit quality, leverage, etc. In our study we will study the effect of leverage on the earning management and especially the accrual based earning management.

In this study, we are interested in the credibility of the financial information in relation with the earning management through the discretionary elements. In fact, earning management consists of taking advantage of the flexibility provided by accounting principles in order to manipulate earnings according to the objectives of managers.

The financial theory shows that managers engage in opportunistic earning management mainly for several reasons. Some motivations relate to the Positive Accounting Theory (Watts and Zimmerman 1986), which highlighted some of the basic motivations, namely the restrictive clauses included in debt contracts (Defond and Jiambalvo 1994, Dichev And Skinner 2002), and political costs. Other motivations are related to the financial market and concern in particular share issues (Erickson and Wang 1999) and the satisfaction of financial analyst forecasts (Dechow Et al 2000). In this context, Healy and Wahlen (1999) have pointed out that earnings management is more likely to occur at times of major stock market transactions (e.g. capital increases).

Nevertheless, the results of previous studies related the effects of leverage on earning management are contradictory. On one hand, some studies have found that leverage has a positive influence on earning management in so far as firms want to avoid the breach of contract and increase their bargaining. On the other hand, other studies have found that leverage affects negatively earnings management confirming the idea that indebted companies are heavily controlled by creditors, making the use of earnings management activities difficult. For others the relationship between leverage and earnings management may vary depending on countries legal system. This lead to an important question: How does leverage affect accrual earning management?

In this study we use panel method to calculate discretionary accruals in order to analyze the relationship between leverage and earning management, this methodology is different from that used in previous studies dealing with the same problem. In fact, previous studies have calculated discretionary accruals using the ordinary least squares method, taking into account time series data for each firm or cross-sectional data. In this article we attempt to test the role of leverage in determining the practice of earnings management through an analysis of panel data for the French context from 2013 to 2016.

The results of this study are significant in the light of the previous results related to earnings management literature, as it also supports a negative relationship between the opportunistic behavior of managers and earnings management. In fact, we find that the increase in leverage

decreases earning management and we therefore confirm the negative relationship between earnings management and leverage.

This paper is structured as follows. First, we present a review of the related literature and develop hypotheses on the associations between leverage and accruals based earnings management .This is followed by the research method and the results. Third, we draw conclusions.

1. Literature review:

1.1. Financial Accounting Theory:

Before starting this section we will situate the topic in its appropriate theoretical context, the financial accounting theory related to our topic is the positive accounting theory (PAT) and to understand its content the distinction between normative and positive accounting theories is of a paramount importance. Concerning the normative theory, it aims to prescribe it means recommending what should be done, whereas positive theories tend to explain and predict.

The positive accounting theory is one of the most important and popular positive theories in the accounting field and it was initiated by Watts and Zimmerman (1978) and the main objective was to discover the elements which influence management opinions on accounting standards and the lobbying management's behavior.

The positive accounting theory deals with the analysis of the accounting choices observed within companies, and aims to assess the informative content of the accounting figures. It tends to describe and explain the behavior of accounting information producers and users. The researches related to the positive accounting theory are divided into two groups (Cormier, 2002): First, there are studies which test the hypotheses of the politico-contractual approach (initiated by Watts and Zimmerman (1978)) and which are related to the organizational, economic and political determinants of the choices made by those who produce the company's accounting and financial data, and secondly there are studies related to the information contained in the accounting figures.

We will start with a review of the main researches linked to the positive accounting theory trying to explain the earning management. The most cited definition earning management was given by Schipper (1989) who defined it as: "…purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain". In fact this definition focuses only on motivations related to opportunism to explain the earning management regardless of other motivations. Moreover, the tools of earning management are not clearly explained in so far as the "external financial reporting" refers only to accounting options choices while there are other tools which could be used, for example the managers could structure transactions to influence the net result (investment schedule, methods of business financing, etc).

According to Scott (1997), there are four types of earning management:

1. Big bath accounting: this type of earning management is usually used in periods of losses or reorganization, in this context the manager prefers further decreasing the earnings as the company's results are already negative, this tool does not have a negative influence on the judgment of the financial statements users.

2. Income minimization: this type is similar to the previous but in a less extreme form; it is about minimizing the result but without making it negative. There are different motivations behind this type of earning management in addition to income tax motives. For example, the public and political visibility of the company, if the company reports high results, she will be expected to attract attention from its competitors (Stolowy and Breton, 2004).

3. Income maximization: this type consists in increasing reported results compared to their real level. It aims to make a positive influence on the judgment of the financial statements users (Hoogendoorn, 2004). One other motivation could be the bonus plans of management (Healy and Wahlen , 1999).

4. Income smoothing: This type is about choosing the rhythm of results growth: increasing results when they are relatively low and to decreasing earnings when they are relatively high (Bao and Bao, 2004).

A popular and more extensive definition has been given by Healy and Wahlen (1999):"earning management occurs when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about

the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers."

1.2. Earning management:

Searching a definition of earning management depends on the nature of the activities and to what extent could these activities be considered as earnings management. Earning management is therefore clearly integrated into the research in positive accounting theory.

The literature review is based on the theory that earning is composed of a cash flow component and an accrual component. Accruals are earned revenues and incurred expenses that have an overall impact on an income statement. They also affect the balance sheet, which represents liabilities and non-cash-based assets used in accrual-based accounting. These accounts include, among many others, accounts payable, accounts receivable, goodwill, future tax liability and future interest expense. This is to say, there are two types of earning management: Accrual based earning management and real earning management.

For the real based earning management it impacts cash flows directly. Dechow and Skinner (2000), Healy and Wahlen (1999), and Fudenberg and Tirole (1995) identified some of these activities : reduction of R & D and general costs, activities related to of sales by offering promotions or offering more flexible payment terms and making a surplus production.

According to some researches (e.g. Jeanjean 2002), real earning management is difficult to detect. They assume that it is difficult to distinguish between an optimal management decision and a willingness to manipulate accounting figures (Schipper, 1989). Recently, some researches managed to model the real earning management based on qualitative research methods.

Eldenburg et al. (2007) reported that California's hospital manager's make real earning management whether to increase or decrease the results depending on the goals being considered during the year. They states that hospitals with slightly negative results reduce their expenditures for some inoperative activities such as general expenses, research costs and administrative expenses to avoid publication of losses, while hospitals with slightly positive results decrease the assets disposal.

Herrmann et al. (2003) demonstrated that Japanese firms increase their earnings based on sales when their operating results are not sufficient compared to management expectations and vice versa. Finally, in order to investigate the key factors that motivate US 'companies managers to make real earning management Graham et al. (2005 and 2006) conducted an inquiry with 401 financial managers and a detailed interview with 20 managers. They found that interviewers reveal their great willingness to make real management rather than accrual earning management.

For the accrual based earning management, Paul Healy was the first to consider the accruals as an indicator of earning management in his article published in 1985 in the Journal of Accounting and Economics where he clearly shows that there are two ways of earning management real earning management and accrual based earning management. The advantage of the accrual approach is that it allows capturing all accounting manipulations Cormier & Magnan (1996). The existence of accruals results from the requirements of the accounting standard-setting bodies. However, accounting standards leave a substantial discretionary space for manager (inventory valuation, depreciation methods, Provisions for contingencies, etc.).

Research on accrual based earning management has grown significantly , especially those related to the relation between accruals and firms performance, the most well-known papers are due to Jones (1991) and Sloan (1996). Among the papers that analyzed the relation between accruals and financial market by expressing accruals in terms of total assets: Erickson (1998) who showed that discretionary accruals represent 2% of the total assets during shares acquisition periods.

Among the studies analyzing the association between discretionary accruals and the firm's future performance, we can cite those of Subramanyam (1996) who tested the association between future results and the three components of earnings: operating cash flow, non-discretionary accruals and discretionary accruals. The Subramanyam study (1996) shows that discretionary accruals have informative value; Managers use discretionary accruals to communicate information about the firm's future performance.

Other papers focused on the relation between accruals and contractual motivations. Warfield, Wild and Wild (1995) have empirically analyzed the relationship between the proportion of capital held by managers and discretionary accruals. The tests were based on US data. The results indicate a negative relationship between the proportion of capital held by managers and the extent of discretionary accruals.

Some papers focused on the relation between discretionary accruals and audit quality of the company; according to the paper of Becker et al. (1998) Non-Big 6customers have discretionary accruals that are, on average, higher than those of Big 6 customers.

Another part of papers related to accruals take into account financial leverage; There are several important empirical studies in financial literature about the importance of leverage in aligning CEO interests with shareholders interests and in reducing agency costs caused by conflicts of interest and information asymmetry. According to Jensen and Meckling's (1976) the agency theory and Jensen's (1986) the free cash flow theory, debt policy plays a disciplinary role by controlling the discretionary activity of managers and imposing disciplinary restrictions by reducing their access to the cash flow of the company.

Indeed, leverage makes the firm use its free cash flow to repay equity and pay interest instead of making unprofitable investments. In addition, Jensen (1986, 1993), Stulz (1990) and Hart and Moore (1995) have argued that leverage limits the amount of available resources to CEOs and thus reduces free cash flow agency costs. By increasing the debt, the CEO then has a lower discretionary discretion to manipulate earning.

Harris and Raviv (1991) recommended using financial leverage as a disciplinary device. This is based on the perspective that CEO's want to pursue the business of the company, even if the shareholders resolve to liquidate the company. In the context of conflict between shareholders and CEO's, the researchers have shown that increasing leverage is a solution to this problem by giving creditors the possibility of forcing liquidation if cash flows are insufficient.

1.3. Leverage: motivation of earning management:

Richardson (1998) argued that debt contracts are considered as motivations for earning management activities in order to avoid non-compliance with contract clauses. Thus, when information asymmetry is high, CEO's seek to make earning management .Several researches related to earning management predict a positive relationship between leverage and earning management and this is due to the existence of restrictive covenants related to debt contracts (DeAngelo et al (1994), Dichev and Skinner (2002) and others).

In this context, Defond and Jiambalvo (1994) have proved the existence of earning management for a sample of firms that violated debt clauses, one year before his violation. They have shown that agreements signed in debt contracts are one of the main motivations of earning management. In fact, the higher the level of debt, the more the clauses of the contracts seem to be respected. This leads to a positive relationship between the level of debt and earning management.

Similarly, Sweeney (1994) found that firms that have violated debt clauses have tend to use earning management to avoid violations of agreements.

DeAngelo et al. (1994) found that firms in case of breach of contract manage to decrease their earnings. They explained this earning management by the desire to dramatize the situation in order to obtain advantageous terms from debt contract renegotiations. Similarly, El-Mahdy (2010) suggested that the existence of restrictive covenants motivates managers to manipulate results.

In addition, Iatridis and Kadorinis (2009) have shown that firms with high leverage are likely to use earning management. They found that companies, which are in need of equity and debt and are close to breach of covenants, also appear to be more inclined to use earning management.

In this context, Kim et al. (2010) examined the relationship between restrictive covenants related to debt contracts and earning management. They found that earning management's

level is higher when the covenants are strict. In other words, when there are strict conditions in the covenants, then the earning management is higher.

Similarly, Dyreng et al. (2011) and Chamberlain et al. (2014) demonstrated that executives engage in performance management practices to avoid debt covenants breach.

Zagers-Mamedova (2009) showed that earning management in the companies with increasing leverage is positively correlated with the level of indebtedness. He found that companies having increased their long-term debt are more likely to manipulate their results. In fact, the results of his study showed that, in companies with increasing debt, the leverage effect leads earning management in order to have an impact on cash flows.

Gombola et al. (2015) showed that leverage is positively and significantly related to the practice of earning management. They found that highly leveraged firms are more likely to practice earning management engage in the case of increased leverage.

In summary, previous research has found that shareholders and CEO's incur significant costs when they violate covenants. Since restrictive covenants are often written in terms of accounting figures, these violations costs motivate CEO's to practice earning management to avoid these violations.

1.4. Leverage: obstacle of earning management:

Most previous studies found that leverage has a positive effect on earning management. However, some studies have suggested that debt restricts the discretionary accruals produced by managers accounting practices because of the existence of financial commitments related to the firm (Jensen 1986, Harris and Raviv 1991).

Some studies have shown a negative and significant relationship between leverage and earning management (Chung et al., 2005), Lee et al., 2007, Zhong et al. (2007). This suggests that companies with high leverage levels face the supervision of bankers and creditors, thus limiting the use of discretionary accruals.

Indeed, Jelinek (2007) argued that increasing leverage reduces opportunistic earning management. In fact, he found that leverage required debt repayment, thus reducing available cash to management Jensen (1986)). Moreover, when a company is leveraged, it is subject to creditor control and is often subject to expenditure limits induced by the lender (Jensen (1986)).

Fung and Goodwin (2013) found a positive and significant relation between short-term debt and the absolute value of discretionary accruals. However, when they focused on the most creditworthy firms, they found a negative relationship between short-term debt and earning management. They also found that the relationship between short-term debt and discretionary accruals was stronger for the more creditworthy firms than for the less solvent firms, consistent with Myers (1977).

Alsharairi and Salama (2011) found that earning management and debt have a significantly negative relationship. Their results are consistent with the idea that creditors play a crucial role in improving corporate governance, which would increase the credibility the financial statements and limit the use of earning management.

Similarly, Wasimullah et al. (2010) found that the increase in leverage reduces earning management and thus confirm the negative relationship between earning management and leverage.

Zamri et al. (2013) examined the association between leverage and earning management activities. They analyzed how the debt policy is able to reduce earning management. They found a negative and significant association between debt and earning management. Their result reveals that the indebted companies have lower levels of earning management. This corroborates the notion that leverage limits earning management activities.

Furthermore, Esadinia et al. (2014) studied the relationship between leverage and earning management in companies listed on the Tehran stock exchange. The results of their study show that there is a significant inverse relationship between leverage and outcome management.

In this context, Vakilifard and Mortazavi (2016) showed that leverage has a negative and significant impact on earning management. They found that increased debt, strict auditor control and restrictive covenants limit earning management activities.

2. Hypothesis development:

As cited above, the impact of leverage on earnings management has two different views. First, previous studies stated that levered companies are more interested in earning management and others suggested a negative relationship between leverage and accrual earnings management. According to literature review the hypotheses is developed as follows:

H1: Financial Leverage has a significant impact on accrual earning management.

3. Data and Methodology:

3.1. Sample selection and Data collection:

The sample covers French companies listed on CAC All-Tradable: the Cac All-Tradable has replaced the SBF 250 index since Since 21 March 2011, which includes the 250 largest companies. The sample covers only industry and commercial companies, financial and insurance firms are excluded because their financial statements are different from other sectors. To collect the data we used Data Stream Thompson Reuters, the sample covers 146 companies during the period 2013-2016.

3.2. Measurement of variables:

3.2.1. Measurement of dependent variable: Discretionary accruals:

The earning is composed of two main components:

Net income= Cash earnings + Non-cash Earnings

- Cash flow from operating is a measure of cash earnings;
- Non-cash earning is a measure of ''Accruals''.

Accruals are considered as the part of earning that is easy to manipulate in so far as they improve earnings by managing business activities rather than the components of cash flows.

There are two types of accruals: discretionary accruals and non-discretionary accruals. Non-discretionary accruals cannot be manipulated by managers because of some obstacles (e.g. regulations) whereas discretionary accruals can be manipulated. , hence they will be used as a proxy of accrual based earning management and to detect them we will use a model that is designed to this.

The distinction between those two types of accruals is made through the model of Jones (1991) and its modified version (Dechow et al., 1995).

The Jones model (1991), widely used by accounting researchers, has the advantage of taking into account factors that are beyond the control of managers but affect the company's accruals. This model introduces two factors of control: sales and total assets .The sales allows to take into account various factors of the economic environment that have an impact on accruals. Total assets are used to take into account the non-discretionary portion related to depreciation expense. The model of Jones (1991) thus is expressed as follows:

$$TA_{it} / A_{it-1} = \alpha_I (1/A_{it-1}) + \beta_{1i} (\Delta REV_{it} / A_{it-1}) + \beta_{2i} (PPE_{it} / A_{it-1}) + \varepsilon_{it}$$

Where :

TA_{it} : Total accrual for firm i in year t ;

ΔREV_{it} : Sales in year t less sales in year t-1 for firm i ;

PPE_{it} : Gross property, plant, and equipment in year t-1 for firm i ;

A_{it-1} : Total assets in year t-1 for firm i ;

ε_{it} : Error term in year t for firm I which capture discretionary accruals in year t.

All variables of the model are standardized by the total assets (t-1) to reduce the problem of heteroskedasticity.

According to this equation, gross property and change in sales are used to control for changes in nondiscretionary accruals caused by changing conditions. Total accruals are composed of

changes in working capital accounts (accounts receivable, inventory and accounts payable) that are related to changes in sales, if the working capital is proportional to sales then the change in the working capital is proportional to the change in sales. Change in sales is used to control for the economic environment of the firm in so far as it is a measure before managers' manipulations. Gross property, plant, and equipment are used to control for the portion of total accruals related to depreciation expense.

An implicit assumption of the Jones model is that the change in sales is not discretionary (Dechow, Sloan & Sweeney, 1995): any change in sales changes the level of the non discretionary accruals captured by the model and thus its discretionary accruals. if a company increases its sales by the grant of more generous payment terms. As a result, the normal accruals captured by the model increase and the discretionary accruals decrease. This model predicts a decline in earnings management which is in contrast with the reality. This limit led to the formulation of another version of this model, where the change in sales is adjusted by changes in receivable accounts (Dechow, Sloan and Sweeney, 1995).

Only the increase in sales with no immediate effect on accounts receivable is explained by non-discretionary accruals. The effect of a possible manipulation of payment deadline to increase sales (and therefore the earning) is thus neutralized.

The modified version of the Jones model takes into account the change in accounts receivable and it is expressed as follows:

$$TA_{it} / A_{it-1} = \alpha_I (1/A_{it-1}) + \beta_{1i} (\Delta REV_{it} - \Delta REC_{it} / A_{it-1}) + \beta_{2i} (PPE_{it} / A_{it-1}) + \varepsilon_{it}$$

Where:

ΔREC_{it}: change in receivable accounts of firm i.

3.2.2. Measurement for Independent Variable:

There are some arguments on the positive association between leverage and accrual based earning management and others on the negative association between them. Nevertheless, it is important to highlight the negative association between leverage and accrual based earning management

Leverage is measured as follows: Total debt / Total assets.

3.2.3. Measurement of Control Variables:

According to a literature review, this study includes some of the control variables: Return on Assets (ROA); net interest expense (INTEXP); firm size (SIZE).

ROA:

This variable represents the economic profitability of a company. It expresses the return on invested capital and expresses the capacity of this capital to create a certain level of operating profits.

In fact, discretionary accruals may result from past performance or from a company's current performance (Dechow et al., 2003). Thus, according to Kothari et al. (2005) and Wasimullah et al. (2010), we used asset profitability to control the effect of current performance on the creation of discretionary accruals.

This measure of the profitability of the company's assets is calculated as follows:

ROA = Net income / Total assets.

INTEXP

We used the company's net interest payment to measure the effect of interest expense. To control this, we used the ratio of financial expenses, which is calculated as follows:

INTEXP = Net interest / Total Debt .

SIZE:

Size affects discretionary accruals .However there are mixed arguments on the direction of its association. On one hand some researchers argued that there is a negative association between size and discretionary accruals. On the other hand others claim that there is a negative association between size and discretionary accruals. We will use the logarithm of sales to calculate this variable according to previous articles.

3.3. Estimation Model:

The hypothesis predicts that Leverage has a significant impact on earning management. Thus, the test of hypothesis is based on the coefficient of LEV, β1, in the equation below. In supporting hypothesis, it is expected that β1 is whether negative or positive. The estimation model is presented as follows:

$$DA_{it} = \beta 0 + \beta 1\ LEV_{it} + \beta 2\ INTEXP_{it} + \beta 3\ ROA_{i,t-1} + \beta_4\ SIZE_{it} + \varepsilon_{it}$$

Where:

LEV_{it} :total debts scaled by total assets for firm i in year t;

$INTEXP_{it}$: net interest expense on total debt)for firm i in year t;

$ROA_{i,t-1}$:prior-year net income on total assets of firm i in year t-1;

SIZE : logarithm of assets of firm i in year t;

εit : residual term of the model.

4. Empirical results:

4.1. Descriptive analysis:

The descriptive analysis is a step that allows us to describe the characteristics of our sample and our variables; Table 1 shows the descriptive statistics for the full sample of observations.

Table 1: Descriptive statistics

	SIZE	LEV	INTEXP	ROA	DA
Min	1.60205	0	-0.05422	-9.94444	0.00008
Max	8.4471	153.48	23.55	62.2486	12.72
Mean	5.6726	1.0117	0.24256	0.26673	0.1343
Standard deviations	1.4515	7.7061	1.4398	3.5028	0.77715

Source : the author

The average value of leverage is between 0 and 153.48, which shows that the leverage among French companies in our sample is high.

As for the ROA, which measures the performance of the company, we find that on average the companies in our sample have an ROA average of 26.67%

Furthermore the statistics show that French companies have interest expenses of 24.25% of the total debt.

The absolute value of discretionary accruals is on average positive and different from 0.

4.2. Regression results:

In order to realize the regressions, it is essential to study the correlations between the different variables of the model and to test the problem of multicollinearity. In fact, a major problem that could bias the results of our model lies in the multicollinearity between variables. Thus, it seems essential to ensure their independence.

Table 2 Correlation Matrix

	ROA	SIZE	LEV	INTEXP
ROA	1.0000	-0.067054	0.60374	-0.0011124
SIZE	-0.067054	1.0000	-0.097010	-0.083168
LEV	0.60374	-0.097010	1.0000	-0.012618
INTEXP	-0.0011124	-0.083168	-0.012618	1.0000

Source : the author

According to the correlation matrix there is low correlation between the independent variables of our model. In so far as all the correlation coefficients are less than 0.7, the limit drawn by Kervin (1992).

We estimate two regressions due to the complexity of the panel data regressions. We started by the estimation of the regression coefficients using fix effects method then using random effects method and then we compared the two methods using Hausman. The analysis is done using the software Oxmetrics.

Table 3 Regression result using within group estimation

Dependent variable: Accrual-based earning management Method : Panel method using Within group estimation Total observations: 584				
Variable	Coefficient	Std.Error	t-statistic	Prob
LEV	-0.0400935	0.004443	-9.02	0.000
INTEXP	0.000148295	0.01340	0.0111	0.991
ROA	0.216271	0.007612	28.4	0.000
SIZE	0.0276449	0.02403	1.15	0.251
R^2	0.6741			

Source : the author

Table 3 shows the results of the regression analyses for the hypothesized relationship between accrual earnings management and financial leverage according to fixed effect method. The p value is significant at the 1 per cent level and the leverage is negatively associated with accrual earning management (-0.0400935). With respect to the literature review this relationship may be due to the supervision of bankers and creditors in so far as creditors play a crucial role in improving corporate governance, which would increase the credibility of the financial statements and limit the use of earning management.

Table 4 Regression result using GLS

Dependent variable: Accrual-based earning management Method : Panel method using GLS (using within/between) Total observations: 584				
Variable	Coefficient	Std.Error	t-statistic	Prob
LEV	0.00445250	0.001988	2.24	0.025
INTEXP	-0.000153582	0.009834	-0.0156	0.988
ROA	0.192738	0.004777	40.3	0.000
SIZE	-0.0243413	0.007986	-3.05	0.002
Constant	0.216561	0.04702	4.61	0.000
R^2	0.8322			

Source : the author

Table 4 shows the results of the regression analyses for the hypothesized relationship between accrual earnings management and financial leverage according to random effect method. The p value is significant at the 5 per cent level and the leverage is positively associated with

accrual earning management (0.00445250). The results are consistent with previous research which show that the positive relationship is due to the existence of restrictive covenants related to debt contracts.

To decide which results are reliable we use the Hausman test in order to compare the efficiency between fix effects and random effects.

Table 5 Hausman test

	Fix effects	Random effects	FE-RE
LEV	-0.040094	0.0044525	-0.044546
INTEXP	0.00014830	-0.00015358	0.00030188
ROA	0.21627	0.19274	0.023533
SIZE	0.027645	-0.024341	0.051986
The statistic of the Hausman test: 144.766 (0)			

Source : the author

The result of Hausman test shows that there are small differences between the two methods, but the p value is 0 which mean that the fix effects method is better than the random effects method. Thus according to our sample (146 French firms) there is a significant negative effect of leverage on accrual based earnings management.

Conclusion:

This paper studied the impact of financial leverage on accrual-based earnings management using 146 firms listed in the CAC All-Tradable. The purpose of this research was to identify whether financial leverage has a significant effect on accrual based earning management and whether this impact is negative or positive. We used modified Jones model to calculate accruals and we used panel data to run the regression model to identify the impact of leverage on accrual-based earning management.

The results showed that financial leverage has a significant negative impact on accrual-based earnings management and this is consistent with the agency theory which states that leverage enables to control and limits managers' opportunistic behavior. Furthermore, other researchers showed that as creditors play a crucial role in improving corporate governance,

which would increase the credibility of the financial statements and limit the use of earning management.

This article focused only on accrual based earning management, in fact real earning management should be highlighted to detect if the impact of leverage on accrual based earning management lead to move to real earning management. Therefore, the causality of leverage leading to lower accrual based earning management requires further theoretical and empirical examination.

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