# The Effect of Earnings Management on Bid-Ask Spread and Market Liquidity

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**Abstract**

The earnings management is used by companies to smooth out fluctuations in earnings. But it take advantage of how accounting rules are applied and creates financial statements that inflate earnings. Thus, studying the earnings management proves to be essential for better governance. The main purpose of this paper is to argue the extent that earnings management lowers liquidity. It should increase information asymmetry and impair trading liquidity. Using a sample of French firms from 2008 to 2011, we find that firms that manage earnings have wider bid-ask spreads. Our results are robust for both of two well-established measures of market liquidity. Therefore, the empirical results indicate that firms that exhibit greater earnings management are associated with lower market liquidity. These findings are in line with adverse selection and shed light on the role corporate governance devices can play in the consideration of shareholder interest's protection, which leads to improved stock market liquidity levels.

**Keywords**: Earnings management, Bid-ask spreads, stock liquidity, discretionary accruals

## 1. Introduction

Healy & Palepu (2001) suggest that the cascade of financier and accountant scandals that marked the beginning of this decade has shed light on the role of transparent and clear information in maintaining a well operate financial market. The concept of Market liquidity is highly dependent on informational transparency. High liquidity allows companies to raise additional funds on favourable terms through low transaction costs and no time lag between economic agents (Stoll, 1978; Glosten & Milgrom, 1985). The presence of information asymmetry in the market may reduce liquidity (Jacoby *et al.* 2000).

Therefore, liquidity forms a very timely issue that is gaining a growing interest. This issue is correlated with an increased focus on the issue of quality of information. This focus presently dates back a number of years, but in recent years, and following multiple scandals (WorldCom , Enron , Vivendi, Parmalat ... ) the subject has become topical again. Since the resurgence of interest, several reform initiatives have been made (Sarbanes - Oxley in the United States, financial security law in France) and the adoption of IFRS which has been adjusted from 2005 accounting standards. These initiatives are part of the process of harmonizing financial reporting at the European level and choosing accounting convergence. The objective is to reduce accounting manipulations and earning management in favour of better financial transparency, which appears as a necessary objective to increase security for investors.

The present work falls within this context. Indeed, we try in this research to study the relationship between the quality of the information disclosed, and particularly the level of earnings management, and the liquidity of companies. The study of this relationship is of considerable interest because of its important implications for both companies and investors. For investors better quality of information allows them to make better choices for their portfolios. They would be reluctant to invest in a company showing a low quality of the result. This finding reveals a practical interest for managers who can take the opportunity to improve their policy disclosure in order to reduce information asymmetries in the market, increase investor confidence and increase the number of transactions for their company.

In theoretical terms, this relationship can be explained by two main hypotheses. The first concerns transactions. It states that the volume of transactions induced by greater transparency enhances liquidity. Indeed, the extent of disclosure attracts investors. They will be encouraged to carry out significant transactions due to a large volume of market orders which would result in lower transaction costs, and hence, better liquidity (Healy & Palepu, 2001). The second hypothesis concerns adverse selection, which states the existence of informational asymmetries in the market reflected by a widened spread. The Signaling through mechanisms of information has as a result a lower adverse selection component of the bid-ask spread and an increase in market liquidity (Glosten & Milgrom, 1985).

This article provides new empirical evidence on the French market in which there has emerged new

accounting practices adjusted to international standards. Indeed, our study period was marked by the adoption of IFRS. These standards aim to harmonize financial information for companies, to maintain confidence in the financial markets and to improve the quality of information disclosed. Thus, compliance with these standards could improve the liquidity.

## 2. Earnings management and liquidity: literature review

### 2.1. The phenomenon of earnings management

Earnings management is one of the management practices on financial statements that is the most used and the most studied by positive accounting theory. Schipper (1989) defines it as: "Purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain".

Stolowy & Breton (2003) define the management of financial statements as "the use by managers of the discretion given to them concerning accounting choices or the structuring of operations in view of generating a modification of the risk of wealth transfer of the enterprise". In such cases, the financial position and the results are not presented fairly, and this suggests that reported earnings do not show the long-term ability of the company to generate profits. This definition focuses on the negative consequences of earnings management.

Nelson *et al.* (2003) define three types of earning management, a) according to current accounting standards b) obscuring the most common accounting rules c) forgoing the use of the most common accounting principles.

Earnings management is a practice initiated and developed by mangers, born of opposing needs, opportunities that arise and relationships that cross between the different partners of the firm. An overview of the literature noted the diversity of reasons for wanting a manager to manipulate the results. Healy (1985) has divided these reasons into the following three aspects: motivations based on positive accounting theory, motivations related to the financial market and motivations related to tax regulations.

From there, earnings management can negatively influence the perceived quality of accounting and ultimately their usefulness as financial information, which is needed to reduce the information asymmetry in the market and improve liquidity.

### 2.2. Earnings management, information asymmetry and liquidity

Initially, the organizational problems were considered as the logical result of information asymmetry. Taking into account this assumption by researchers following the example of Ross (1977), it has been shown that some agents on the market possess private information, which is the origin of the theory of signals in the market. Similarly, the integration of this assumption in the analysis of the behaviour of actors in the business by Jensen and Meckling (1976) demonstrated the existence of a conflict of interest due to the opportunism of the agent he has an information advantage enabling him to achieve objectives that do not necessarily coincide with those of the Principal.

The theoretical hypothesis of adverse selection confirms the existence of informational asymmetries in the market. According to Copeland & Galai (1983), the costs of adverse selection result from the existence of informed agents whose gains are at the expense of uninformed agents.

The former are likely to widen bid-ask spreads to cover their losses when dealing with informed investors (Handa, Schwartz & Tiwari, 1998; Bhattacharya, Desai, & Venkataraman, 2010). The financial information aim is therefore to reduce the adverse selection component in the spread of emerging investment firms in the presence of asymmetric information.

This encourages modelling the component of the cost of information asymmetry in the spread (Glosten Milgrom, 1985). According to the theoretical contributions of Verrecchia (2001), the financial information reduces information asymmetries. Indeed, the uneven distribution of information between economic agents leads to an increase in the degree of adverse selection in the market and a widening of the price spread.

Diamond & Verrecchia (1991) showin the form of a theoretical mode that a high-quality disclosure reduces information asymmetries between informed and uninformed investors. This reduction then increases the confidence of investors and increases the number of transactions of the Company's securities. In the end, market liquidity increases.

Charoenwong *et al.* (2011) are among the few to have studied the effect of the quality of governance, transparency and accurate information on the adverse selection component in the context of Singapore. They found that among the governance mechanisms studied, the transparency of information has a significant and negative relationship with the component information asymmetry. They concluded that investors are interested in greater transparency as it allows them to reduce the cost of their investment by reducing component asymmetric information resulting from a lower spread. According to these authors, transparency contributes at 60% in the index of governance in reducing the cost of adverse selection.

Petersen & Plenborg (2006) show that good quality information reduces information asymmetries in the market, increasing investor confidence and hence, the number of the Company's securities.

On the German market, Leuz & Verrecchia (2000) examined 102 companies listed on the DAX 100 in 1998. They show that companies submitting to more stringent international accounting standards such as IFRS issued by the IASB or U.S. GAAP meet demand for greater transparency for investors through improved quality of information and know less information asymmetry than other German companies not subject to such rules. Leuz & Verrecchia (2001) are interested in companies that voluntarily apply IFRS.We study this effect in a context where the application of IFRS is mandatory, further improving the quality of information disclosed.

Bhattacharya *et al.* (2010) indicate that although earnings remain an important public disclosure, extant research does not provide a reasonable basis for inferring a reliable relation between earnings quality and information asymmetry. They note different reasons in arriving at this conclusion such as usage of inadequate or improper proxies to portray core measures, usage of smaller sample sizes and subset of firms.

In addition, previous studies have identified two main perspectives, which prospects which perceive earnings management differently: the opportunistic perspective and the informational perspective.

According to the opportunistic perspective, earnings management is considered an opportunistic process used by the manager to modulate results. His principal aim is to maximize its own utility function. The opportunistic approach has been discussed in the literature since the emergence of political and contractual accounting theory initiated in the late 1970s by two researchers, Ross Watts and Jerold Zimmerman, thus falling into the positive approach to accounting research. In search of answers to the issues of accounting policies observed during this period, the positive approach, also called positive accounting theory, attempts to explain and predict the behaviour of producers (managers) and users (stakeholders) of accounting information with an ultimate purpose: to illuminate the genesis of financial statements. To do this, this theory borrows its roots from the theories of agency (Jensen & Meckling, 1976) and regulation (Posner, 1974).

In this context, and taking accruals as a measure of earnings mnagement, Desai & Dharamapla (2009) found that earning management could create opacity, which reduces the ability of shareholders to assess the real performance of the firm. However, this relationship depends on the nature and components of the total accruals. In fact, non-discretionary accruals are associated with increased transparency to the extent that they reflect the underlying characteristics of the firm. But discretionary accruals are guided by managerial discretion, which can create opacity in the results. As evidenced by Lesmond (2005), investors will be reluctant to take action when they doubt the validity of the information available to them, which increases the price spread and costs of transactions.

Chung Chou & Wang (2007) state that recent accounting scandals show that earnings management creates serious losses for shareholders, and provides an important warning that managers use management to pursue their own private benefits. The rational response of liquidity providers is to protect expanding the price spread. Liquidity is reduced.

Recently Ascioglu *et al.* (2012) studied the impact of earning management on liquidity on a sample of listed companies in the United States between 1996 and 2001. They argue that the level of earnings management weakens the quality of earnings reports and disclosure in general, expected to result in a high information asymmetry. An increase in information asymmetry leads in turn to a decrease in liquidity. The authors predict that firms that have a high level of earnings management will decrease the liquidity of their shares. The analysis results show that firms with high values of abnormal accruals have a high liquidity level. Saeid *et al.* (2011) confirm this result on 81 listed companies in the Tehran stock exchange over the period of 2004-2009.

Lafond, Lang & Skaife (2007) examine the relationship between earnings management, governance and liquidity. The results suggest that better governance practices affected earnings management. They also show that discretionary earnings management has an effect on the capital market as reflected in the negative relationship between discretionary smoothness and liquidity measured by the frequency of days with zero return, the price spread and volume of transactions. They find that firms that overly smooth results face low liquidity and high transaction costs.

In contrast, the informational perspective assumes that managerial discretion is only a means to reveal to investors the private manager's forecasts about the future of the company. Starting from the base models, the theory of signal following the pioneering work of Ross (1977) and Leland & Pyle (1977) provides evidence confirming that managers of companies do not engage in opportunistic behaviour. On the contrary, they use accounting choices as a means to report private information such as the future performance of the company.

With the same general idea, Holthausen & Leftwich (1983), Holthausen (1990); Healy & Palepu (1995) argue that the practices of earnings management are designed to improve the financial reporting of the company. This design, sometimes paradoxical, finds its roots in the theories of the information economy that consider that mangers and stakeholders in the financial markets don't have the same level of information. In other words, the managers have better information than the stakeholders: they are able to predict future cash flows of the company and judge, thereafter, its financial health and its potential performance. In this context, it will be imperative to disclose information they have in order to improve, on the one hand, their own remuneration, and, on the other, to enable investors to properly assess the securities offered to them.

Ahmed & Zhou (2000) support the idea that managerial discretion can be used not only in an opportunistic approach, but also as an optical signal. Indeed, manipulated accounting numbers serve as a tool for signalling to the market, as they allow investors to better assess the value of the firm and optimize their portfolios.

Arya *et al.* (2003) challenged the idea that earnings management reduces transparency and creates a severe information asymmetry. Indeed, in decentralized organizations, information is spread through people. Different people have different information, but nobody has any all of the information. In such an environment, a managed revenue stream can transmit more information than an unmanaged flow. Therefore, increasing the level of transparency improves liquidity. Based on theoretical assumptions and empirical results of different studies, we put forward the following hypothesis: There is a negative relationship between earnings management and market liquidity.

## 3. Sample and methodology
### 3.1. DATA
In this research, we focus exclusively on French listed companies. From the initial sample, we eliminated financial and real estate companies and insurance companies. The rules of accounting and the financial information published in these areas are very specific and quite different from other sectors. In addition, we excluded companies whose data are not available and those with outliers. The final sample regrouped 161 French companies over 4 years (2008-2011) whether 644 firm-year observations. Financial data related to stock prices, trading volumes and bid and ask prices were retrieved from the Datastream database. The accounting data were extracted from the Worldscope database. It is presented in Table (1) relative to the type of industry.

Table 1: Sample selection

| Sector | ICB [1] Industry code (Thomson Financial Reuters) | Number of companies |
|---|---|---|
| Basic Materials | 1000 | 18 |
| Industrials | 2000 | 25 |
| Consumer Goods | 3000 | 26 |
| Health care | 4000 | 23 |
| Consumer Service | 5000 | 24 |
| Telecommunication | 6000 | 8 |
| Utilities | 7000 | 12 |
| Technology | 9000 | 25 |
| **Total** | | **161** |

### 3.2. Definition and measures of variables
### 3.2.1. Stock market liquidity:
The bid-ask spread is a measure of liquidity of firms' securities that was proposed by Demsetz (1968). A practical measure of stock market liquidity combines all of its dimensions (volume, time and price). As bid-ask spread increases the market is likely to be less liquid. The bid-ask spread addresses the adverse selection problem that arises from transacting in firm shares in the presence of asymmetrically informed investors. Less information asymmetry implies less adverse selection, which implies in turn a smaller bid-ask spread and high liquidity (Handa, Schwartz & Tiwari, 1998). We choose quoted and effective spreads as two liquidity proxies. The quoted spreads are the posted costs of the market, while the effective spreads are used to capture the transaction costs (Callahan *et al.* 1997). Heflin *et al.* (2005) suggest that effective spreads are likely to be a better spread-based measure for the liquidity of stocks than either raw or relative spreads. In an order-driven market, ask is the best price associated with a selling limit order, whereas, bid is the price associated with a buying limit order.

$$Quoted \quad spreads \quad = \quad \frac{Ask_t - Bid_t}{\frac{Ask_t + Bid_t}{2}}$$

$$Effective \; Spread = 2 \frac{\left| \frac{Ask_t + Bid_t}{2} - P_t \right|}{\frac{Ask_t + Bid_t}{2}}$$

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[1] ICB (Industry Classification Benchmark) is a company classification system developed by Dow Jones and FTSE. It is used to segregate markets into sectors within the macroeconomy. The ICB uses a system of 10 industries, partitioned into 19 supersectors, which are further divided into 41 sectors, which then contain 114 subsectors.

With:

Bid$_t$: the bid price

Ask$_t$: asking price

We also measure stock market liquidity by trading volumes. This measure is a source of information for investors and a signal of new information release. Trading volumes are an increasing function of the stock market (Hamon & Jacquillat, 1992; Krigman *et al.* 1999).

*3.2.2. Earnings Management Measurement*

Earnings management as defined by Healy & Wahlen (1999) is…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 practices.

The aptitude of accrual models to isolate the discretionary component in accruals is essential to the joint hypothesis tests in studies of earnings management (Beneish, 1997). Indeed, research that uses accrual models to investigate whether earnings are managed is a growing industry but its foundations are in need of redefinition. Prior evaluations of methods for detecting earnings management typically reflect concerns about both the specification and power of the earnings management measures (Dechow *et al.*, 1995). However, the accruals model has come under criticism. DeAngelo *et al.* (1994), Dechow *et al.* (1995); Kothari *et al.* (2005) argued that when the incentive context studied is correlated with performance, the inferences from the studies are confused. The authors' results emphasize a lack of power among widely used measures of unexpected accruals, consistent with the view that methods based on the approach of Jones (1991) are primarily a response to researchers' concerns with type I errors, rather than what is characterized as practical concerns with type II errors.

With the objective of surmounting the gaps of Jones (1991), Beneish (1997, 1999) estimates a probit model of earnings manipulation using a variety of financial statement variables. The model (also known as the M-score) uses both total accruals and specific accruals to detect earnings management for firms. The author uses a sample of firms that were identified as manipulators by the US authority. Beneish (1997) found that the M-Score is appropriate for studying the relation between earnings management and the corporate governance mechanism. He also notes that his model is cost effective relative to the modified Jones model.

In an evaluation of a more comprehensive set of discretionary models of Dechow (1995); Kothari (2005), Jones *et al.* (2008) test a different range of accruals models. Performance-matched discretionary accruals, accrual estimation errors, and the Beneish (1997) model (also known as the M-score) that uses both total accruals and specific accruals to detect earnings management for firms with large discretionary accruals relative to other models. The authors find that Beneish's unweighted and weighted probabilities of earnings manipulation are significantly associated with the existence of a fraudulent event as well as the magnitude of the fraud. These results confirm the Beneish (1997) findings and legitimate our choice to select this model in this paper as the measure of earnings management. Beneish (1999) calibrate the M-score model based on a comparison of firms subject to SEC Accounting and Auditing Enforcement Releases (AAERs) identifying earnings overstatements and a set of control firms:

$$\text{M-Score} = -6,065 + 0,823 \text{ DSRI} + 0,906 \text{ GMI} + 0,593 \text{ AQI} + 0,717 \text{ SGI} + 0,107 \text{ DEPI} - 0,172 \text{ SGAI} - 0,327 \text{ LVGI} + 4,679 \text{ TATA} \quad (1)$$

The unavailability of some data for several firms of the sample urges us to adopt the version relieved by the model (2); this last one is based on five aggregates:

$$\text{M -Score} = -6.065 + .823 \text{ DSRI} + .906 \text{ GMI} + .593 \text{ AQI} + .717 \text{ SGI} + .107 \text{ DEPI} \quad (2)$$

Where,

**DSRI**: Days' sales in receivable index

**GMI**: Gross margin index

**AQI**: Asset quality index

**SGI**: Sales growth index

**DEPI**: Depreciation index

**SGAI**: Sales and general and administrative expenses index

**LVGI**: Leverage index

**TATA**: Total accruals to total assets

Once calculated, the eight variables are joined together to determine the M-Score for the company of the sample. An M-Score of less than -2.22 suggests that the company will not be a manipulator. An M-score of greater than -2.22 signals that the company is likely to be a manipulator.

To test the hypothesis, I estimate a logistic regression model where the measure of the M-score is a dependent variable, and with governance measures and control variables as independent variables. The M-score is coded 1 when it's less than -2.22 and 0 when it's greater than -2.22.

*3.2.3. Control variables*

Theoretical and empirical studies suggest numerous determinants of stock market liquidity beyond ownership

structure. These factors rise from the empirical models of the bid-ask spread components. According to the market microstructure literature, a bid-ask spread includes three components. Demsetz (1968); Tinic (1972) identify the order-processing costs incurred by the providers of liquidity and proxied by trading volumes. Stoll (1978); Amihud & Mendelson (1980) highlight the inventory holding costs measured by trading volumes and volatility. Copeland & Galai (1983); Glosten & Milgrom (1985) focus on the information asymmetry costs faced by liquidity suppliers trading with informed investors. Several measures of adverse selection costs have been used in the literature. The bid-ask spread should increase with volatility, while it should decrease with the size of the firm and trading volume.

From the bid-ask spread components above-mentioned, the extant literature put forward the determinants of bid-ask spread, namely: trading volume, price volatility, share price and firm size.

**Trading volume**s: Liquidity is an increasing function of trading volumes and a decreasing function of bid-ask spreads (Demsetz, 1968; Tinic, 1972; Stoll, 1978). This variable is measured by the natural logarithm of the average of the annual quantity of equities exchanged. We anticipate a negative relation between trading volumes and bid-ask spread.

**Price volatility:** Barnea & Logue (1975), Hamilton (1978); Stoll (1978) show that volatility affects inventory holding costs and risk of stock management. It is positively associated with bid-ask spreads. Heflin & Shaw (2000); Dennis & Weston (2001) prove a negative relationship between liquidity and the volatility of prices. Volatility is measured by the annual average of the standard deviation of equity returns. We expect the relationship between bid-ask spreads and volatility to be positive.

**Share price:** According to Tinic (1972), Tinic & West (1972); Benston & Hargerman (1974), share price is positively associated with spreads. It is measured by the average of daily closing prices of each year. We expect a negative relationship between share price and bid-ask spreads.

**Firm size:** Firm size is considered as a proxy of information asymmetry and agency costs. Demsetz (1986) suggests that small companies incur high levels of information asymmetry. Moreover, equities firms with weak market capitalization are less liquid (Chiang & Venkatesh, 1988; Laux, 1993). Consequently, we anticipate a positive association between firm size and bid-ask spreads. It is measured by the natural logarithm of year-end market capitalization.

### 3.3. Methodology

Our methodology relies on linear regression using the method of ordinary least square (OLS). We apply a logistic transformation for financial variables (Quoted and Effective Relative Spread, trading volume, share price and volatility) to convert bounded variables to unbounded ones.

**Model 1:**

$$LnQBASP_i = C + \beta_1 MScore_i + \beta_2 LnPRICE_i + \beta_3 LnVOLAT_i + \beta_4 Size_i + \beta_5 LnVOLM_i$$

**Model 2:**

$$LnEBASP_i = C + \beta_1 MScore_i + \beta_2 LnPRICE_i + \beta_3 LnVOLAT_i + \beta_4 Size_i + \beta_5 LnVOLM_i$$

The variables we hypothesized to be related to earnings management are derived from prior research. Each variable, its measurement, and its expected relationship with the M-Score are described in the following tables (table 2 and table 3).

Table 2. Definition and variables' measurement

| Variable | Definition | Measurements |
|---|---|---|
| Dependent variables | | |
| **QBASP** | Quoted spread | The annual average of the difference between the daily bid price and ask price. |
| **EBASP** | Effective spread | The annual average of the difference between the daily trade price and the quote midpoint. |
| Independent variables | | |
| **M-Score** | Manipulation score | 1 if M-score < -2.22, 0 otherwise |
| **VOLM** | Trading volume | The annual average of daily trading volume. |
| **VOLAT** | Volatility | The annual average of the standard deviation of equity returns. |
| **PRICE** | Price | The average of the daily closing price of each year. |
| **Size** | Firm size | The natural logarithm of year end market capitalization. |

### 4. Empirical results

This section introduces a descriptive statics for the data and sample employed in this study, and reports the results of the hypothesis tests.

### 4.1. Descriptive analysis

Table 3 presents the main characteristics of some control variables that may affect the liquidity of the French stock market, namely the volume of transactions (VOLM), equity volatility (VOLAT), the price of securities (PRICE) and firm size (SIZE). For each type of business classified according to the breadth of its activities handled, we calculated the mean, median, maximum, minimum and standard deviation of each variable. First, we find that trading volume is weak (4.94) for companies that engage in manipulative activities compared to non-manipulative (6.44). However, both types of businesses have sudden variations in their market transactions (standard type and 0.84 respectively 0.90). Moreover, we note that companies that opt to manage their activities have a higher share price and are also characterized by a larger size.

Table 3. Descriptive statistics

| | | Manipulator Firms | | | | Non-Manipulator Firms | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Mean | SD | Min | Max | Mean | SD |
| **Financial Information** | **VOLM** | 3.83 | 7.80 | 4.94 | .84 | 3.98 | 8.29 | 6.44 | .90 |
| | **VOLAT** | 25 | 10000 | 2879.14 | 2.77E3 | 12 | 8544 | 2101.57 | 2.01E3 |
| | **PRICE** | 6.80 | 63579 | 1743.96 | 8.57E3 | 6.95 | 197376 | 1.48E4 | 3.05E4 |
| | **Size** | 1.55 | 44163 | 1227.96 | 5.95E3 | 5.36 | 172534 | 1.03E4 | 2.30E4 |

According to Gujarati (2004), a collinearity problem is detected when the partial correlation coefficients between the variables is greater than 0.6. According to Table 4, the Pearson correlation coefficients between the independent variables are not all less than 0.6. Indeed, equity volatility is positively correlated with respectively the volume of transactions (0.866) and the stock price (0.756). To deepen our conviction of the absence of a multicollinearity problem on all of our explanatory variables, we will exceed the simple bivariate correlation method (correlation matrix of Pearson) to examine multivariate correlations based on the method of variance inflation factors (VIF). The results of the application of this method are summarized in the last box of table 4. We note that all explanatory variables have a VIF value below the critical threshold of 5. These results argue that there is no collinearity problem.

Table 4. Correlation matrix

| | VOLM | VOLAT | PRICE | Size | VIF |
|---|---|---|---|---|---|
| **VOLM** | 1 | -0.165 | 0.023 | 0.153 | 1.154 |
| | | 0.027 | 0.756 | 0.041 | |
| **VOLAT** | | 1 | -0.39** | -0.39** | 1.499 |
| | | | 0.000 | 0.000 | |
| **PRICE** | | | 1 | 0.422** | 1.604 |
| | | | | 0.000 | |
| **Size** | | | | 1 | 1.831 |

### 4.2. Multivariate analysis

Table 5 has the results of the multiple regressions having the aim of determining the effect of the earnings management on market liquidity. We observe a positive impact of M Score on the spread. Recall that the M-score is coded 1 when it's less than -2.22 and 0 when it is greater than -2.22. This result allows us to establish the existence of a negative and statistically significant relationship at the level of 5% between the earnings management and the bid-ask spread. The above therefore shows that the quality of the results improves the liquidity of the securities in the French context. Indeed, companies that engage in earnings management activities have bid-ask spread higher than other companies. Besides, earnings management weakens the quality of the results disseminated to the financial market, which leads to a high level of information asymmetry and consequently a decrease in liquidity. This result is consistent with the study of Lafond, Lang & Skaife (2007), Saeid *et al.* (2011); Ascioglu *et al.* (2012). In term of managerial implications, investors react positively to the quality of the disclosed information. This confirms that the improvement of the information quality is a need for the French market, in order to improve its development in a general way and to support its liquidity.

This relationship can also be justified by the fact that since the accruals capture the reliability of information and this increases the accuracy of the results as an indicator of future cash flows, so a low level of accruals will make French investors' expectations more homogeneous, which will reduce the information asymmetry between investors. Therefore, the probability that the principal works with investors better informed than him, and he faces the problem of adverse selection, is low. In this context, the payer has no interest in expanding its have bid-ask spread relative as it may non-execution of his orders. This result has the support of Chung Chou & Wang (2007).

Easton *et al.* (1992); Habib *et al.* (2011) argue that the investors "buy the earnings." Indeed the institutional investors avoid the companies that record boom and bust results, which are perceived as risky. In other words, the institutional investors tend to prefer companies with steady earnings. Unlike the results of

Chung *et al.* (2009), who found that aggressive earnings management increases the information asymmetry and reduces liquidity, our results show that earnings management reduces agency costs and information asymmetry. Therefore, the liquidity providers incur lower costs, and the spread will be smaller and the market more liquid.

The relationship between trading volume and bid-ask spreadis negative and statistically significant at the level of 1%. This means that when the volume of transactions is greater, the cost of the equity and the cost of finding information are low, and the market is more liquid. The intensity of the activity, as measured by the volume of transactions, is normally reflected in the bid-ask spread, as it determines the level of risk assumed by investors about their inventory of securities. Indeed, the increased volume of transactions is often associated with an increased ability of operators to execute transactions that have little impact on prices. These transactions, in turn, allow for risk mitigation to maintain inventories and thus a narrowing of bid-ask spreads. This result joins the predictions of Chae (2005); Heflin *et al.* (2005).

Price volatility has a positive and significant impact on the bid-ask spread. When the volatility of the profitability of an asset increases, the likelihood of negotiating with an informed investor increases. Investors will thus tend to increase their sales prices and lower their bid prices. This has resulted in the widening of the bid-ask spread and reduced liquidity. This result is consistent with most previous studies, particularly those of Amihud & Mendelson (1980), Sarin, Shastri & Shastri (2000), Heflin & Shaw (2000), Chae (2005); Espinosa *et al.* (2008).

The "stock price" significantly and negatively influences the bid-ask spread variable. Heflin *et al.* (2005); Sharma (2005) also found this result.

Increasing the size of the company seems to decrease the bid-ask spread. Indeed, a significant but not negative relationship was recorded. This result converges with the idea that the shares of small capitalization companies are less liquid than the shares of large-cap companies. Heflin *et al.* (2005); Lafond, Lang & Skaife (2007) also demonstrated this result.

Table 5. Results of the regression model

|  | Model 1 : LnQBASP | | Model 2 : LnEBASP | |
|---|---|---|---|---|
| **Constant** | -1.622*** | (-2.91) | -1,66*** | (-2,82) |
| **M-Score** | 0.317** | (2.82) | 0,331** | (3,13) |
| **LnVOLM** | -0.314*** | (-5.51) | -0,327*** | (-6,46) |
| **LnVOLAT** | 0.205 | (1.31) | 0,192 | (1,51) |
| **LnPRICE** | -0.601*** | (-6.27) | -0,553*** | (-7,36) |
| **Size** | -0.039 | (-1.04) | -0,042 | (-0,49) |
| $R^2$ | 0.513 | | 0.524 | |
| **F-statistic** | 46.82 (0.000) | | 51.65 (0.000) | |

**5. Conclusion**

Rich informational environment is likely to enhance stock market liquidity and to reduce the firm's cost of capital (Botosan & Plumlee 2002; Hail 2002). This theoretical finding shows a practical interest to managers to regularly disclose financial information quality. The purpose of this paper is to combine corporate governance research with market microstructure research. It investigates the impact of information quality measured by accruals on the liquidity of the French market. Indeed, there is a debate in the literature on this relationship. The results obtained in international contexts and in the United States do not all converge because of the specific institutional settings.

Our results support the idea that the quality of information disclosed improves the liquidity of the securities in the French context. Indeed, companies that engage in earnings management activities have bid-ask spreadhigher than other companies. In fact, earnings management undermines the quality of the financial information disseminated to the financial market, which leads to a high level of information asymmetry, a low level of trust and credibility with investors and therefore a decrease in liquidity. Our research findings for both Quoted spread and Effective spread are substantial.

The liquidity is a precondition for the firms included, the investors and the operators on the market. Actually, the market liquidity, the strict rules of negotiation and the transparency as regards information are essential so that the system of corporate governance can act like an effective disciplinary device. This should encourage managers to consider disclosure as a means to prevent the illiquidity risk and to better assess security market' values. In this context, the adoption of IFRS, which contributes to establish a relation of confidence between the firm and the investors, reduce the phenomenon of earnings management, of attracting the new investors and of improving the liquidity.

This conclusion may have important implications in terms of the academic and managerial understanding toward the advantages of the information quality. While the results in this paper provide some evidence on liquidity determinants, there are still ample areas for future research such as social responsibility and its impact on the company's liquidity.

The results of our study are specific to the French context. Therefore, subsequent studies should analyze other financial markets to confirm our findings.

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