The effect of the level of indebtedness on the earnings information content stemming from the mandatory IFRS adoption

Hela Turki *, Senda Wali, Younes Boujelbene

Department of Accounting, Sfax Faculty of Economics and Management (FSEGS), Tunisia
*Corresponding author E-mail: hela.turkii@yahoo.fr

Abstract

This paper examines the impact of IFRS / IAS (International Financial Reporting Standards / International Accounting Standards) mandatory adoption on the earning's information content apprehended by the level of information asymmetry and whether this impact differs from one company to another with regard to its level of indebtedness. The information asymmetry is measured by the properties of financial analysts' forecasts (error and dispersion).This study is conducted over 11 years from 2002 to 2012 by taking as a sample all the companies that belong to the CAC all tradable indexes. The results show a significant effect of these international's standards on financial analysts' forecasts, which stress informational content improvement. In addition, high level of indebtedness associated with IFRS adoption reduces forecast dispersion. By contrast, low level of indebtedness associated with IFRS adoption reduces forecast error.

Keywords: IFRS; Financial Analysts' Forecasts; Level of Indebtedness.

1. Introduction

Most countries adopt a set of accounting standards in preparing the financial statements. These standards are different from one country to another because they are generally dependent on its specific legal, economic and social context.

The divergence of accounting standards makes the comparison of financial statements of companies very difficult and even impossible in a context characterized by an increasing internationalization of markets and businesses. This highlights the need for international accounting harmonization. So, International accounting board developed and published accounting standards for the presentation of financial statements, as well as he promoted their utilization and generalization around the world.

These standards are produced and communicated in an international and intelligible language which enables investors, analysts, bankers, and partners to have rich financial information, accurate and regular to make comparisons over time.

The European Union has engaged in standardization of accounting standards by requiring its listed member states the application of international standards (IAS / IFRS) at the beginning of 2005.

According to Philippe Danjou, Chief of Accountant business in the AMF (Financial Markets Authority in France), the adoption of new accounting standards IFRS introduced a new estimation philosophy and upgrading business performance. They have a considerable impact on the companies' financial reporting, and they change the meaning and the significance of several indicators used by investors. This impact is in terms of quality and quantity of information disclosed. Dicko and Khemakhem, 2010 stipulates that the IFRS adoption has been certainly a source of increasing of the amount of information disclosed (in terms of frequency and number of published financial statements). But, even if the superiority of IFRS relating to the amount of information disclosed was undeniable, previous work showed two divergent reflections concerning the information disclosed quality. So, some researchers consider that IFRS improves the information content of accounting numbers because they lead companies to disclose more and better information and limit their discretionary accounting choices. However, others consider that IFRS adoption is likely to reduce the information content of accounting numbers because it limits the number of authorized accounting policies.

Indeed, the IFRS standards require high quality, transparent and comparable information in financial statements and other reports to help investors in all global markets and other users to make economic decisions (Epstein & Mirza 1999). Thus, they are based on an important principle: the fair value instead of historical cost.

The fair value facilitates investors' decision making who are always looking for latest information (Ball 2006). According to this author, the market value, because it synthesizes the latest expectations of various economic agents, is incomparably more informative than historical cost. This view is widely defended by (Mistral 2003) which states that the principle of fair value is certainly more useful and appropriate to measure assets and liabilities as historical cost.

This principle permits to provide relevant information about financial instruments because it allows to reflect company events and economic conditions timely and to provide a good basis for analysis and forecasting future cash flows. According to the IASB, it offers to users of the financial statements, the ability to appreciate the consequences of investments and funding strategies undertaken by a firm.

From then, the principle of fair value used in the preparation of financial statements is expected to increase the quality, and the relevance of the accounting numbers produced.

The adoption of the international accounting standards of an Anglo-Saxon origin has engendered several qualitative and quantitative changes that constitute a revolution in local and especially in continental accounting systems. (Ding et al. 2007) Show that France is one of the European countries whose local standards are most different from IFRS. So, the study of this context seems able to give a clear idea about the advantages and disadvantages of adopting IFRS, which constitute a matter of continuing debate.

This paper tends to examine the impact of IFRS mandatory adoption in the earnings' information content in the French context and whether this impact differs from one company to another depending on the level of indebtedness. The relevance of earnings is reflected by the level of information asymmetry which is measured in this study by the properties of analysts' forecasts (error and dispersion).

In fact, the principal role of the financial statement information is to facilitate contracting and investing decision making. So the reporting is of higher quality if it is more useful to decision makers. According to (Schipper 1991), the Analysts are the sophisticated users of financial statements and the intermediaries of financial markets that're why to examine the effect of IFRS mandatory adoption in the information content; we use the analysts' forecasts properties. Indeed, financial analysts use the financial statements to calculate forecasted earnings. The earnings represent one of the most important items used by analysts as reported by the company (Barker & Imam 2008). As a result, the accuracy and the dispersion of analysts' forecasts are used to reflect the relevance of earnings.

This paper is organized as follow. The first part discusses the relevant literature and develops hypotheses. The second part describes the research methodology adopted. The last part is devoted to the presentation and discussion of results obtained.

2. Literature review and hypotheses development

2.1. IFRS and earning information quality

European Union imposed the application of IFRS in all listed companies from January 2005 as a result of unsuccessful attempts of harmonization. This decision is argued by the improvement of the financial information quality for better decision making.

The results found by researchers studying the impact of IFRS on the financial information quality are not similar. Several authors have confirmed the improvement of the explanatory power of the accounting numbers following the adoption of IFRS (Bartov et al. 2005, Jermakowicz et al. 2007, and Barth et al. 2008). By conducting a comparative study between companies that have been mandatory adopted the IFRS and those that maintain local standards, (Landsman et al. 2012), show that the information content of annual earning's increases after the mandatory adoption of IFRS. This result was attributed to the existence of additional information under IFRS. Similar results were found by (Iatridis 2010) by focusing on listed companies on the London Stock Exchange. Furthermore, (Escaffre & Sefsaf 2010) study the impact of additional informational relevance due to the adoption of IFRS in 2005 in several contexts. They test the relationship between stock returns and accounting numbers (earnings and equity) and find that the impact of adopting IFRS on the informational relevance of accounting numbers is different from one country to another. The informational quality of earnings and equity were improved in the French; Spanish and Italian markets after the transition to IFRS, but it has deteriorated in the UK and German markets. These authors concluded that the effect of adopting IFRS on the quality of accounting numbers depends on institutional factors in each country, which is confirmed by (Zogning 2013).

(Salameh 2013) aims to determine whether the financial reporting produced after IFRS applications are more relevant than those produced under French local standards. He proves the advantages of the IFRS adoption in the French listed SMEs in terms of relevance but in terms of comparability, it depends on the application of single accounting standards: IFRS or local. Recently, (Ahmed et al. 2013) have conducted a meta-analysis of studies that verify the impact of adopting IFRS on informational relevance and reported revenues transparency. Their result shows that the informational relevance of equity did not increase after the adoption, while the informational relevance of earnings generally increased when they valued using pricing models. They also suggest that discretionary accruals have not decreased after the adoption of IFRS. The authors controlled for factors such as legal system, accounting system and auditing and the difference between domestic GAAP and IFRS on the impact of IFRS and have not found any significant effect.

In addition, many studies have shown a similarity in the informational relevance of accounting data under IFRS and U.S. GAAP (Meulen et al. 2007, Leuz 2003). This result can be explained by the fact that IFRS are inspired mainly from American accounting standards. (Eccher & Healy 2000) Discuss the usefulness of the application of IFRS in the People's Republic of China. They concluded that the information produced under IFRS is not more useful than information prepared to use Chinese's standards. They attributed the IFRS failure to the lack of the effective control systems in China, to monitor additional information produced under international standards.

By conducting a comparative study between companies from 20 countries that have adopted IFRS in 2005 and companies from countries that have not adopted IFRS, (Ahmed et al. 2010) show the inexistence of significant differences between these two sets of firms in the informational quality of accounting data.

We contribute to this literature with a different approach that attempts to verify the impact of IFRS on the informational content of earnings through their impact on the properties of financial analysts' forecasts as a measure of asymmetric information.

2.2. IFRS and analysts' forecast properties

IFRS, the accounting language adopted by listed companies since 2005, gives more transparent, more rigorous and more detailed information. Therefore, it certainly had an impact on the financial analysis of companies.

(Marchal et al. 2007) seek the effect of adopting IFRS on financial analysis. They predict that these standards have made several methodological changes in the financial analysts work and find that the adoption of IFRS weakens the comparability and makes the financial analyst work more difficult.

(Ashbaugh & Pincus 2001) study the impact of differences between local standards and international standards in terms of disclosure requirements and evaluation effects on the accuracy of analysts' forecasts. By taking a sample of non-American companies from 13 countries, they show that a high level of difference between the local accounting system and IFRS is positively associated with the absolute value of the error of the financial analysts' forecasts. This indicates that the more local standards converge with IFRS, the more analysts' forecasts are accurate. So, they stipulate that the use of international standards informs analysts about the company economic and financial situation better than the local standards. This study is based on a sample of firms that have adopted the international standards between 1990 and 1993. During this period, firms could state that they adopt IFRS without applying them entirety, which skewed the relevance of the results found. To resolve this problem, (Cuijpers & Buijink 2005) focus only on the year 1999 from which firms are obliged under IAS 1, to comply with all IFRS, to declare that they use these standards. They find that the voluntary adoption of these standards leads to be higher level of dispersion of financial analysts' forecasts and consequently, to an increased uncertainty among analysts. (Hodgdon et al. 2008) Study the relationship between the fore-

casts' error of financial analysts and company compliance with IFRS. The results suggest that compliance with the disclosure requirements of IFRS reduces the information asymmetry and strengthens the ability of analysts to provide more accurate forecasts.

The impact of the mandatory adoption of IFRS on analysts' forecasts has been also studied by (Jiao et al. 2012) in the European context. The results show that the forecasts become more accurate and less dispersed after the adoption of the new accounting standards. These authors found that the adoption of IFRS improves the published results' quality. In the same context, (Jönsson et al. 2012), with a sample of five countries (Sweden, Netherlands, France, Germany and the UK) show that the mandatory adoption of IFRS has no significant effect on the accuracy of global forecasts of financial analysts. However, by comparing the IFRS impact between countries, they show an improvement in forecast accuracy in the UK, a country with local accounting standards more similar to IFRS, and no decrease in error forecasting in countries with previous accounting standards that differ from IFRS. They also show that, after adopting IFRS, the forecasts' dispersion seems to decrease in most countries. (Tan et al. 2011), by studying the impact of IFRS in 25 countries, show that the quality of the forecasts of financial analysts is improved only for foreign analysts attracted by the adoption of these standards.

The heterogeneity of the results found by previous research shows that the question of the impact of IFRS on financial analysts' forecasts requires more exploration. That is why; we analyze in this study this relationship in the French context over a period ranging from 2002 to 2012.

2.3. Hypotheses development

Financial analysts collect and analyze companies' financial information to form an opinion on them. These opinions are expressed in research notes, earnings forecasts and recommendations to purchase, sell or retention of shares. Indeed, these outputs are informative to investors because their publication led to a market reaction that results in the observation of abnormal returns on the publication day or on the following day (Francis & Soffer 1997, Elgers et al. 2001, Frankel et al. 2006). Moreover, the financial analyst is considered as a responsible of partial reduction of the asymmetry through his publication. According to (Barker & Imam 2008), data from the financial statements are an important source of information for financial analysts. Furthermore, and given the important role of financial analysts' forecasts in decision-making, these new standards are expected to improve forecasts of financial analysts. We predict that the mandatory adoption of IFRS in Europe is positively associated with analysts' earnings forecast accuracy. Therefore, our first hypothesis is:

H1: The forecasts analysts' accuracy will increase after the mandatory adoption of IFRS.

Through the earnings published after adoption of IFRS, companies should provide to different users of financial statements; especially the participants in the financial markets, information that enable them to assess the value of the firm.

According to (Lang & Lundholm 1996), the adoption of IFRS will reduce the weight of private information as the result of the improvement of the quality and quantity of public information. That's why, the standards would lead to increased consensus among analysts. We, therefore, suppose that the mandatory adoption of IFRS in Europe is negatively associated with the degree of disagreement among analysts. So, our second hypothesis is:

H2: The dispersion of the analysts' forecasts will decrease after the mandatory adoption of IFRS.

According to (Ball et al. 2003, Tendeloo & Vanstraelen 2005), improving the quality of accounting information cannot be achieved based only on the adoption of new IFRS. (Barth et al. 2001) suggest taking in account certain characteristics of the company that may influence the degree of relevance of accounting numbers. So, the application of these accounting standards is a necessary condition but insufficient to obtaining the relevant accounting numbers. Interactive analysis between the effect of the IFRS adoption and firm's characteristics is also necessary. We propose to test the impact of the level of indebtedness.

(Hodgson & Stevenson-Clarke 2000) state that the relevance of accounting numbers varies with regard to the level of indebtedness. They show that for highly indebted companies, cashes flows have relevant information content, while for those lowly indebted, the net result is more relevant than the cashes flow. (Salameh 2013) studied the effect of certain characteristics of the company on the relationship between IFRS adoption and informational content. Their results show that accounting numbers are more informative after application of IFRS in low indebted companies.

Indeed, the financial risk and bankruptcy of a company increases with increasing in debt levels. In a heavily indebted company, managers tend to manipulate accounting results that's why we attend a negative association between the debt level and the relevance of earnings after the mandatory adoption of IFRS. So in the third hypothesis, we expect that the relevance of earnings after the mandatory adoption of IFRS is higher in low indebted companies.

H3: The quality of Analysts' forecasts is higher in low indebted companies following the IFRS mandatory adoption.

3. The methodological options research

3.1. Models and variables of research

The study of the impact of the mandatory adoption of IFRS on properties of analysts' forecasts (error and dispersion), involves examining the evolution of this measure around the mandatory adoption of IFRS. So, to check this impact, we propose the following two models:

$$\text{Error}_{t,i}(EPS) = \beta_0 + \beta_1\,IFRS_t + \beta_2\,\text{Ln MktCap}_{t-1,i} + \beta_3\,LnN_{t-1,i} + \beta_4\,\Delta\,EPS_{t-1,i} + \beta_5\,Decline_{t-1,i} + \beta_6\,Loss_{t-1,i} + \beta_7 SDeps_{t-1,i} + \beta_8\,FP_{t-1,i} + \beta_9\,CS_{t,i} + \varepsilon \tag{1.1}$$

$$\text{Dispersion}_{t,i}(EPS) = \beta_0 + \beta_1\,IFRS_t + \beta_2\,\text{Ln MktCap}_{t-1,i} + \beta_3\,LnN_{t-1,i} + \beta_4\,\Delta\,EPS_{t-1,i} + \beta_5\,Decline_{t-1,i} + \beta_6\,Loss_{t-1,i} + \beta_7 SDeps_{t-1,i} + \beta_8\,FP_{t-1,i} + \beta_9\,CS_{t,i} + \varepsilon \tag{2.1}$$

To identify the potential impact of indebtedness, we replace the IFRS variable with two binary variables (IFRS * HLI) and (IFRS * LLI):

$$\text{Error}_{t,i}(EPS) = \beta_0 + \beta_1\,[(IFRS_t * HLI_{t-1,i})\,(IFRS_t * LLI_{t-1,i})] + \beta_2\,\text{Ln MktCap}_{t-1,i} + \beta_3\,LnN_{t-1,i} + \beta_4\,\Delta\,EPS_{t-1,i} + \beta_5\,Decline_{t-1,i} + \beta_6\,Loss_{t-1,i} + \beta_7 SDeps_{t-1,i} + \beta_8\,FP_{t-1,i} + \beta_9\,CS_{t,i} + \varepsilon \tag{1.2}$$

$$\text{Dispersion}_{t,i}(EPS) = \beta_0 + \beta_1\,[(IFRS_t * HLI_{t-1,i})\,(IFRS_t * LLI_{t-1,i})] + \beta_2\,\text{Ln MktCap}_{t-1,i} + \beta_3\,LnN_{t-1,i} + \beta_4\,\Delta\,EPS_{t-1,i} + \beta_5\,Decline_{t-1,i} + \beta_6\,Loss_{t-1,i} + \beta_7 SDeps_{t-1,i} + \beta_8\,FP_{t-1,i} + \beta_9\,CS_{t,i} + \varepsilon \tag{2.2}$$

We summarize our variables in the following table:

Table 1: Definitions and Measures of Variables

Variables	Definitions and measures
Error	Error is the error of analyst forecasts for year t.
Dispersion	Dispersion is the dispersion of financial analysts' forecasts for year t.
IFRS	IFRS is dummy variable, which equal to 1 for years after 2005 and 0 otherwise.
HLI	HLI which is equal to 1 if the level of indebtedness is high and 0 otherwise
LLI	LLI that equals to 1 if the level of indebtedness is low and 0 otherwise
LnMktCap	This variable controls the effects of firm size and is measured by the natural logarithm of the total market capitalization at the end of t-1.
LnN	LnN is the natural logarithm of the number of estimates in the final consensus forecast for year t.
Δ EPS	Δ EPS is the absolute value of the change in EPS of firm i between t-1 and t.

Decline	Decline takes the value 1 if the result of year t is less than that of the year t-1, 0 otherwise.
Loss	Loss takes the value 1 if the result for the year t is negative, 0 otherwise.
SDeps	SDeps is the standard deviation of the actual EPS of firm i over the four years preceding the year t standardized to the stock price of the same firm in the same year.
FP	FP is a control variable for the volatility of firm performance. It is measured by the standard deviation of ROE based on the five years before year t.
CS	CS is a dummy variable reflecting the presence of the effect of the financial crisis that takes 1 for the years 2008, 2009 and 2010 and 0 otherwise.

Companies were ranked high level of indebtedness when this value is greater than or equal the median otherwise it is considered a low level of debt. The level of indebtedness is calculated as the ratio of total debt on total assets.

The forecasting error is the difference between the expected profit and profit released. So it is expressed:

$E (EPS)_t = EPS_{it} - \pi (EPS_{it})$

With EPS_{it} = the earnings per share of firm i on year t and $\pi (EPS_{it})$ = the average forecast of EPS for firm i in year t

The dispersion is determined for the absolute value of the difference between the highest forecasting and the lowest forecasting.

$D (EPS)_t = | forecast_{h, i, t} - forecast_{l, i, t} |$

To make comparability across firms, dispersion and error are normalized by the stock price of the company at t-1.

To calculate these variables, we use earnings forecasts submitted in 180 days starting 15 days after the beginning of the year. The choice of this period derives from the study's aim which is an assessment of the informational content of earnings published by forecast EPS of year t. This procedure ensures that when the analyst makes his prediction, he takes into account the accounting information published.

The variable of interest is the IFRS adoption which refers to the change in the accounting framework following the mandatory adoption of IFRS in Europe since 2005.

It has been shown that the quality of forecasts varies with firm size. More accurately, the size of the company is negatively associated with the error and dispersion of financial analysts' forecasts (Lang & Lundholm 1993, Jiao et al. 2012). Indeed, large companies may have access to more information more easily than small (Barron et al. 1998). Moreover, they are expected to have a high level of disclosure, which leads to greater precision and fewer dispersions in financial analysts' forecasts. Similarly to prior studies (Ashbaugh & Pincus 2001, Jiao et al. 2012), we define firm size as the natural log of a firm's market capitalization at the end of year t-1.

The number of analysts is another variable that may have an impact on the forecasts' quality (Lang & Lundholm 1996, Lys & Soo 1995, Byard et al. 2010, Jiao et al. 2012). It is determined by the number of analysts following the company and providing earnings forecast (Lang & Lundholm 1996). This variable is positively associated with forecast accuracy and negatively associated with the dispersion of financial analysts' forecasts. (Lys & Soo 1995) Argue that there is more competition among analysts when the number of analysts increases. These will be more incentives to forecast accurately. So, the firms followed by a high number of financial analysts will have more accurate forecasts and a higher level of forecasts' dispersion.

It is widely discussed in the literature that the change in the firm's result has an effect on financial analysts' forecasts (Capstaff et al. 1998, Easterwood & Nutt 1999, O'Brien & Bhushan 1990, Lang & Lundholm 1996, Marston 1997). So, forecasts for firms with more variable results are less accurate and the dispersion is higher. Furthermore, (Hope 2003) shows that the results variability makes the forecasting more problematic. So, more the change in result of two successive years is great, more difficult will be forecasting profits.

Because financial analysts are subject to conflicting interests and firms in difficulty tend to disclose little information to point out its difficulties, analysts anticipate imperfectly losses (Maghraoui &

Dumontier 2008). Forecast error and dispersion tend to be higher when the announced EPS is negative or significantly fall. Financial distress is approached through Decline and Loss.

Decline is a binary variable which designed whether the result of the year t has been increased or decreased compared to result of the year t-1. In addition Loss is a binary variable which designed whether the result of the year t is solvent or insolvent. These two variables are expected to be positively associated with the error and forecast dispersion. In fact, financial analysts are optimistic agents that tend to underestimate profit falls and losses. Indeed, (Coën & Desfleurs 2010) confirm that it is easier for analysts to forecast profits as losses and increases profits rather than decreases. The results of these authors suggest that the "type and variation of profit expected" is by far the effect that best explains the accuracy and dispersion of forecasts.

SDeps represents the standard deviation of EPS for firm i calculated over the four years preceding the year relative to estimated EPS (Maghraoui & Dumontier 2008). It is standardized by the stock price of the company concerned in t and it aims to assess the difficulty of forecasting. The dispersion and the error increase with the increasing of this value (Lang & Landholm 1996). In fact, more the benefits of the firm are fluctuating fewer forecasting profits is easy.

The financial performance of the company, as measured by the standard deviation of ROE based on the five years before year t, is positively associated with forecast error and forecast dispersion (Jiao et al. 2012). According to these authors, it is difficult to have accurate forecasts and less dispersed forecasts where the financial performance varies widely.

The last control variable is the financial crisis. Financial capitalism has entered a deep crisis in 2007. This crisis, at first banking and located in the American mortgage market, quickly became global and financial. It led to a heightened uncertainty in financial markets, which creates problems of asymmetric information and makes the collect of the necessary information more difficult which increases the difficulty of the work of the financial analysts. That's why, it is expected that crisis is positively associated with the error and dispersion of analysts' forecasts.

The effects of this crisis persist until now but the main effects can be limited to the three years 2008, 2009 and 2010.

The global impact of IFRS on financial analysts' forecasts and the effect of level of indebtedness are tested using panel data models and the STATA software.

3.2. Sample and data

To conduct our empirical study, we have taking as a sample all listed French companies in the CAC All Tradable Index. This index has replaced SBF 250 since 21 March 2011 and is the largest of the Paris Bourse. It represents the entire French economy and can indicate the overall evolution of the French equity market. According to (Cormier et al. 2010), this index reflects the diversity of the implementation of IFRS and it is the best type of sample that can draw conclusions on the application of international standards.

(Ding et al. 2007) show that France is one of the European countries where the accounting standards are most different from IFRS and subsequently the mandatory adoption of IFRS in 2005 has led to a profound change in the financial reporting.

Furthermore, the study of French context enables us to determine the effect of the adoption of IFRS and generalize the results to all companies of Europe because the adoption of IFRS is mandatory for all companies listed in Europe from January 2005.

The exam of the impact of IFRS taking as sample one country aims to eliminate any biases associated with the use of international samples and to avoid the effect of differences in institutional environments before adopting IFRS.

Firms in financial sectors identified by Global Industry Classification Standard, such as insurance companies, credit agencies and banks are excluded. This treatment is justified by the specific accounting and financial characteristics of these organisms. Accord-

ing to (Urquiza et al. 2012), these companies have special characteristics that might bias the results.

This study spreads over 11 years from 2002 to 2012, while eliminating the transition year. Several researchers consider the transition year, the first year of mandatory adoption of IFRS 2005 (Jones & Finley 2010, Jiao et al. 2012). Others consider the year of transition the year prior to the year of the mandatory adoption of IFRS 2004 (Saadi 2010). The third line of research has considered the two years 2004 and 2005 as transition years (Li, 2010).

According to (Saadi 2010), managers are more likely to manage their results during the year preceding the year of the mandatory adoption of IFRS to avoid large fluctuations in results and to keep them within a certain range at the time of mandatory adoption. The year 2004 was a year of comparative financial statements where many companies had practiced a double set of books. Indeed, the presence of two repositories on the same financial markets during the same period may bias the results. Based on this postulate, the year 2004 considered as a transition year is excluded. The choice of long-term study involves several interests. On one hand, the analysis of 10 years allows us to take into account changes in standards (from PCG to IFRS) and to stand back from each accounting standard (two PCG-year and eight-year IFRS). On the other hand, this choice allows us to limit the change period of Standards bias (2004) and bias related to the period of learning and understanding of IFRS, which can differentiate from one company to another (this is related to the familiarity degree of the leaders and the financial analysts to IFRS).

The observations which data are missing or extreme are eliminated. Subsequently, our final sample for the error model consists of 620 observations and for the dispersion, model consists of 470 observations.

To collect data, we have taken the market data from the database Datastream, data from financial analysts' forecasts from I/B/E/S data and annual reports from Worldscope data.

4. Results and discussion

The univariate and multivariate analyzes were performed to determine the impact of IFRS on the financial analysts properties and the moderator effect of the level of indebtedness on this relationship.

4.1. The descriptive statistics

Descriptive Statistics are presented in table 2and table 3.

The Mean market Value for the firms in the forecast error (dispersion) sample is €8.5 billion.

For the dispersion, the observation characterized by a single financial analyst is eliminated. To test the dispersion of financial ana-

lysts' forecasts, the firm must be necessarily followed by at least two analysts. In both sample (forecast error and dispersion) analyst coverage ranges from 1 (2 for dispersion) to 16.

Table 2: Descriptive Statistics

Variable	Mean	Std Dev	Min	Max
Error	-0.436	1.312	-19.881	3.587
Dispersion	0.514	0.800	0	8.396
IFRS	0.8	0.400	0	1
MktCap	8565.873	17678.8	35.91	135980.6
N	3.197	2.334	1	16
N*	4.050	2.227	2	16
Δ EPS	0.036	0.061	0	0.935
Decline	0.357	0.479	0	1
Loss	0.147	0.354	0	1
SDeps	0.060	0.089	0	1.019
FP	3.727	8.513	0.061	94.683
CS	0.290	0.454	0	1

N*: The number of analyst forecast for the dispersion model

Table 3 shows clearly the change of the properties of the analysts' forecasts error and dispersion. The absolute average value of forecast errors after the adoption of IFRS (0,412) is lower than the absolute average value of forecast errors before IRFS adoption (0,520) , a drop of (0,108) and this trend is also confirmed with the dispersion of the financial analysts forecasts (drop is 0,5). These results are similar to those of (Jiao et al. 2012).

Table 3: Descriptive Statistics Pre and Post IFRS Adoption

Variable	Mean	Std Dev	Min	Max
Forecast Error				
Pre IFRS adoption	-0.520	0.593	-3.918	0.394
Post IFRS adoption	-0.412	1.473	-19.881	3.587
Dispersion				
Pre IFRS adoption	0.874	1.047	0	8.396
Post IFRS adoption	0.387	0.647	0	4.955

Table 4 and 5 present the simple correlation between variables. For the independent variable, size (LnMktCap) is positively associated with analyst coverage (LnN). Also, we find a positive correlation between IFRS and firm size and a negative correlation between IFRS and analyst coverage for the both samples.

In addition, Error is negatively associated with IFRS, positively associated with size, negatively associated with analyst coverage (Jiao et al. 2012) and positively associated with crisis. Furthermore, dispersion is negatively associated with IFRS and size and positively associated with analyst coverage, variation of EPS, decline, loss, standard deviation of EPS, financial Performance and crisis.

Table 4: Correlation Matrix of the Forecast Error

	Error	IFRS	LnMktCap	LnN	Δ EPS	Decline	Loss	SDeps	FP	CS
Error	1.0000									
IFRS	-0.296***	1.0000				/				
LnMktCap	0.278***	0.090**	1.0000							
LnN	-0.113***	-0.380***	0.469***	1.0000						
Δ EPS	0.080	-0.041	-0.029	-0.040	1.0000					
Decline	-0.002	-0.030	-0.018	-0.005	0.149***	1.0000				
Loss	0.016	-0.150***	-0.030	-0.090**	0.173***	0.104***	1.0000			
SDeps	-0.017	0.035	-0.012	-0.061	0.359***	0.194***	0.210***	1.0000		
FP	-0.0082**	-0.023	0.029	-0.059	0.251***	0.081**	0.187***	0.271***	1.0000	
CS	0.236***	0.326***	0.087**	-0.151***	0.030	0.102**	-0.008	0.076*	0.002	1.0000

*Significant at 10%; **significant at 5%; ***significant at 1%.

Table 5: Correlation Matrix of the Forecast Dispersion

	Dispersion	IFRS	LnMktCap	LnN	Δ EPS	Decline	Loss	SDeps	FP	CS
Dispersion	1.0000									
IFRS	-0.330***	1.0000								
LnMktCap	-0.239***	0.190***	1.0000							
LnN	0.226***	-0.346***	0.343***	1.0000						
Δ EPS	0.209***	-0.028	0.011	-0.015	1.0000					
Decline	0.138***	-0.017	-0.035	0.019	0.157***	1.0000				
Loss	0.145***	-0.154***	-0.007	-0.085*	0.124***	0.038	1.0000			
SDeps	0.301***	0.042	-0.019	-0.050	0.392***	0.200***	0.201***	1.0000		
FP	0.231***	-0.011	0.058	-0.080*	0.271***	0.103**	0.174***	0.280***	1.0000	
CS	0.089*	0.353***	0.154***	-0.165***	0.049	0.149***	-0.065	0.088*	0.010	1.0000

*Significant at 10%; **significant at 5%; ***significant at 1%.

4.2. The empirical results

This study is based on a sample of panel data. Given that, it is necessary to verify the specification of a homogeneous or heterogeneous of data. The Hausman specification test is used to discriminate between fixed and random effects.

The results of this test shows for the first model a chi 2 = 66.28 with prob> chi2 = 0.0000 and for the second model a chi 2 = 35.24 with prob> chi2 = 0.0001, which leads us to retain the fixed-effect model to estimate our models.

For the first model, the empirical results show that 13.87% of the variation of forecasts' error is explained by the mandatory adoption of IFRS and the control variables. Fisher which is equal to (9.39) confirms the good quality of the model to a level of less than 1% significance. Thus, we reject the null hypothesis and states that the regression is significant as a whole. We can conclude that the first model is statistically significant and is explanatory of the phenomenon.

For the second model, the empirical results show that 29.96% of the variation of forecasts' dispersion is explained by the mandatory adoption of IFRS and the control variables. Fisher which is equal to (18.16) confirms the good quality of the model to a level of less than 1% significance. Thus, we reject the null hypothesis and states that the regression is significant as a whole. We can conclude that the second model is statistically significant and is explanatory of the phenomenon also.

Table 6 and 7 present the result of the global IFRS impact.

Table 6: Regression Results of the Forecast Error

Variable	Coef	Std Err	Z	P>|Z|
IFRS	-0.305	0.138	-2.21	0.027**
LnMktCap	2.050	0.255	8.02	0.000***
LnN	-0.551	0.227	-2.43	0.015**
Δ EPS	1.534	1.123	1.37	0.173
Decline	0.003	0.101	0.03	0.974
Loss	0.121	0.181	0.67	0.501
SDeps	3.073	0.823	3.73	0.000***
FP	-0.001	0.007	-0.16	0.870
CS	0.132	0.112	1.17	0.243
Cons	-7.426	0.902	-8.23	0.000***
R-sq = 0.1387				
F(9)=9.39, Prob>F=0.0000				

*Significant at 10%; **significant at 5%; ***significant at 1%.

Table 7: Regression Results of the Forecast Dispersion

Variable	Coef	Std Err	Z	P>|Z|
IFRS	-0.162	0.074	-2.18	0.030**
LnMktCap	-1.467	0.144	-10.18	0.000***
LnN	0.691	0.166	4.16	0.000***
Δ EPS	0.577	0.621	0.93	0.353
Decline	0.027	0.057	0.48	0.628
Loss	0.190	0.111	1.71	0.089*
SDeps	-1.211	0.540	-2.24	0.026**
FP	0.088	0.004	2.08	0.039**
CS	0.057	0.067	0.86	0.391
Cons	5.654	0.536	10.55	0.000***
R-sq = 0.2996				
F(9)=18.16, Prob>F=0.0000				

*Significant at 10%; **significant at 5%; ***significant at 1%.

Our research question is to analyze the impact of the mandatory adoption of IFRS on the financial analysts' forecasts. Statistical tests show that IFRS adoption is negatively associated with the properties of analysts' forecasts namely error and dispersion.

Indeed, an examination of causal relations shows that the coefficient associated with the link between the adoption of IFRS, and the error of analysts' forecasts is negative (-0, 305) and statistically significant (P value> is 0.027). Therefore, the first hypothesis is confirmed. In addition, the results show that the coefficient associated with the link between the adoption of IFRS, and the dispersion of analysts' forecasts is negative (-0, 162) and statistically significant (0.30), which also confirms our second hypothesis research.

These results show that the mandatory adoption of IFRS in 2005 produces an improvement in the quality of financial analysts' forecasts. Indeed, the forecasts are more accurate and less dispersed after the adoption of IFRS which corroborates the results found by (Jiao et al. 2012).

The financial analysts' forecasts were used in our study as a measure of information asymmetry level of a given company. Furthermore, the reduction in error and forecast dispersion reflects a reduction in information asymmetry. This result highlights the informational contribution of the adoption of this new international standard which allows to conclude that the mandatory adoption of IFRS represents a source of improving the information content of accounting earnings.

The results of the regression of the two models highlight the existence of several significant relationships between the dependent variables (error and dispersion) and the control variables.

The forecast error is significantly and positively associated with firm size, the standard deviation of EPS and negatively associated with the number of financial analysts. In addition, the forecast dispersion is significantly and positively associated with the number of financial analysts who follow the company, the loss and the financial performance and negatively associated with the size of the company and the standard deviation of EPS.

The positive association found between the error and the size of the company is opposite to that found by (Jiao et al. 2012) and to our expectations and similar the result of (Maghraoui & Dumontier 2008). According to these last authors, this result can be explained by the complex assets and activities of large companies. In these companies, the traditional communication tools such as accounting numbers are unable to give a clear idea about their real situation. There are companies whose economic reality is hard to grasp. On the contrary, the size is negatively associated to the forecast dispersion which can be explained by the higher possibility of large companies to access to further information.

The standard deviation of EPS is a measure of the results instability which represents a source of forecast difficulties. So, the increase of instability generates a higher level of error and a low forecast accuracy. The negative effect of this variable on forecast dispersion may be explained by the analysis period. In fact, in times of crisis, financial markets are characterized by a high instability which led analysts to reconcile their forecasts to previous results.

The negative relationship between the forecast error and the number of financial analysts is explained by the competition among the analysts. When the number of analysts following the company

is higher, each analyst aims to forecast more accurately than other and consequently the forecast error decreases and the forecast dispersion increases.

The non-significant effect of the crisis on error and dispersion of financial analysts' forecasts can be explained by the analyst's reaction to this critical period. Faced with the risk of committing significant forecast errors, the analysts are forced to intensify their research. According to (Levasseur & Romon 2011), financial analysts, in times of crisis, most follow market movements to eliminate any estimate's errors.

Table 8 presents the effect of the level of indebtedness on the relationship between IFRS adoption and analyst's forecasts. So, the mandatory IFRS adoption reduces significantly the analysts' forecasts error in low indebted companies, contrary to the analysts' forecasts dispersion which reduces significantly in highly indebted companies. These results can be explained by the role of indebtedness in the financial literature. In fact, the indebtedness of the company is considered by shareholders and bankers as a one of the best control tools (Jensen & Meckling 1976, Jensen 1986).

According to (Jensen 1986), the increase of indebtedness reduces discretionary cash flow. It is an effective way to resolve conflicts of interest because it promotes the convergence of interests of different stakeholders. Furthermore, following the increase in indebtedness, there would be an increase of control over stakeholders who significantly reduces the information asymmetry between managers and different other actors. So, the information asymmetry is higher in lowly indebted companies than those highly indebted. Therefore, the adoption of IFRS will have a significant effect on the error of the financial analysts' forecast in low indebted companies characterized by high information asymmetry. By focusing on the dispersion of financial analysts' forecasts, the results show that the effect of IFRS adoption is more significant in highly indebted companies. Indeed, the increase in indebtedness enhances control reflected by the rise of the financial analysts' number which follow the companies which increases the level of dispersion of financial analysts' forecasts.

Table 8: The Effect of the Level of Indebtedness in the IFRS Adoption Impact

Variables	Forecasts error				Forecasts dispersion			
	Coef	Std dev	T	P>|t|	Coef	Std dev	T	P>|t|
HLI*IFRS	-0.231	0.161	-1.43	0.153	-0.205	0.089	-2.29	0.022**
LLI*IFRS	-0.379	0.161	-2.35	0.019**	-0.123	0.087	-1.41	0.160
Log CB	2.026	0.257	7.88	0.000***	-1.448	0.146	-9.91	0.000***
Log n	-0.540	0.227	-2.38	0.018**	0.678	0.166	4.07	0.000***
Δeps	1.449	1.128	1.28	0.199	0.612	0.623	0.98	0.327
Decline	0.001	0.101	0.02	0.986	0.027	0.057	0.48	0.631
Loss	0.110	0.181	0.61	0.542	0.197	0.112	1.77	0.078*
SDeps	3.032	0.824	3.68	0.000***	-1.165	0.543	-2.15	0.033**
FP	-0.001	0.007	-0.18	0.858	0.008	0.004	2.10	0.037**
CS	0.139	0.113	1.24	0.216	0.052	0.067	0.78	0.434
Const	-7.343	0.907	-8.09	0.000***	5.589	0.541	10.32	0.000***
	R-sq=14%				R-sq=30.1%,			
	F(10)= 8.53, prob>F= 0.000				F(10)= 16.4, prob>F= 0.000			

*Significant at 10%; **significant at 5%; ***significant at 1%.

5. Conclusion

This study uses all companies of the CAC all tradable to examine on one hand the impact of IFRS adoption on the quality of earnings and the effect of company level of indebtedness on this impact on the other hand. The relevance of earnings was reflected by the level of information asymmetry measured by the properties of financial analysts' forecasts.

The results show that the information content of earnings is improved after the mandatory adoption of IFRS and this improvement is reflected by a reduction of error and dispersion of financial analysts' forecasts that become more accurate and less dispersed. Results illustrate also the significant effect of the level of indebtedness on the relationship between IFRS adoption and informational content.

The originality of this study lies in analyzing the impact of mandatory IFRS on the information content of earnings through their impact on analysts' forecast properties, by taking a 10-year period from 2002 to 2012 as a period of study, which eliminates all bias due to the learning of these standards and in the examination of the effect of the firm level of indebtedness, one of the most financial indicators for stakeholders, on the impact of IFRS adoption.

The results provide evidence to the continue debate about the benefits of international accounting harmonization. Even if the adoption of IFRS is mandatory since 2005 for all listed European companies, the impact of these standards may be dependent on the specific institutional factors in each country. This study can be enriched by the inclusion of several European countries to clearly identify the impact of institutional environments.

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