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IFRS and value relevance: A comparison approach before and after IFRS conversion in European Countries

1. Introduction

Since 1990, the economic environment has been characterized by the globalization of financial markets, the rise of multinationals and the complexity of interfirm relationships. Therefore, the need for companies to have comparable and comprehensive accounting information is confronted with the diversity of accounting clusters and heterogeneous of accounting practices around the world. In addition, in the early 2000, accounting scandals, such as Enron and Worldcom, were reflected in the failing of existent accounting clusters (such as US GAAP) (Liu et al., 2014). In fact, the issue for international accounting harmonization was seen to be sufficient and practical. As a result, International Financial Reporting Standards (IFRS) take a great importance in the accounting standardization and several countries enabled their companies to voluntarily adopt international standards (Kim and Shi, 2012). In 2002, the European Union (EU) required that their listed companies prepare their consolidated financial statements accordingly for IFRS starting on the 1st of January 2005.

This paper examines whether the value relevance of the equity book value, earnings and changes in earnings improved after the transition to International Financial Reporting Standards (IFRSs). The quality of accounting information is one of the most fundamental elements that could affect the stakeholders' economic decision making (Deaconu et al., 2010). The information content of accounting numbers should reflect the true and fair view of the firm's financial situation (Chandrapala, 2013).

The value relevance of accounting information is a classical matter in the accounting literature. Beaver (1968) and Ball and Brown (1968) were the first to investigate the value relevance of accounting earnings. Over the last two decades, the globalization of financial markets and the emergence of multinational firms have enhance the necessity to have reliable, comparable and more relevant accounting information. Then, the International Accounting Standards Board (IASB) developed the IFRS with the aim of establishing a common accounting language across the world (Ball, 2006). New standards are intended to increase the investors' confidence in the financial markets. Since 1st January 2005, the European Community Regulation 1606/2002 required that Europeans listed companies adopt IFRS to prepare their consolidated accounts. The transition to IFRS sets the value relevance of

accounting information at the center of the debate about the legality, sincerity and regularity of financial statements.

Since the mandatory IFRS adoption in Europe, researchers' attention has focused on whether accounting information is more relevant under the domestic standards (DS) or under IFRS (Barth et al., 2008; Kim and Yoon, 2012; Tsalavoutas et al., 2012; Md Khokan et al., 2013; Elshandidy, 2014; Veith and Werner, 2014). Cordazzo (2013) argued that the requirement for IFRS by the European countries affected many areas of accounting practice through the introduction of fair value, revenue recognition, impairment tests, deferred taxes, leases, etc. The transition to IFRS ensures the comparability and the reliability of consolidated accounts.

Germany, France and Belgium represent a suitable context for research because of their distinctive accounting regimes. The accounting practice in these countries is a system that recognizes the probable losses or expenses and profits or revenues in these countries only when they are realized (Basu, 1997). On the other hand, in these countries, the accounting profession is old and the legal system is more conservative. Tsalavoutas et al. (2012) suggest that the accounting quality in common-law countries (e.g. The USA and the UK) is more value relevant than the one in code-law countries (e.g. Germany and France). IFRSs are shareholder-oriented regimes and prone to the Anglo-Saxon accounting practice. Furthermore, we choose a sample consisting of code-law countries, which requires that listed companies prepare their financial statements according to IFRS with the aim of observing the change in the value relevance of accounting information when sampled countries switch from domestic standards (DS) to the IFRS. The value relevance of accounting information is measured before and after the IFRS adoption by the price model (PM) of Ohlson (1995) and the returns model (RM) of Easton and Harris (1991). We conduct the data analysis based on a comparative study over the pre-IFRS period (from 2000 to 2004) and the post-IFRS period (from 2006 to 2011) through a sample of 106 firms listed at DAX 30 (Germany), SBF 120 (France) and BEL 20 (Belgium). The empirical analysis provided three levels of results. First, the findings showed that, in the pre-IFRS period, the voluntary IFRS adoption did not improve the value relevance of accounting information. Second, the results indicated that accounting information of non IFRS firms in the post-adoption period has higher quality than in the pre adoption period. It was found that, after the transition to IFRS, non IFRS-Firms showed a higher association between accounting information, stock prices and stock returns. Third, we compared the value relevance of accounting information for IFRS-Firms over the

pre-and post-adoption period. The results showed a higher association between accounting information, stock prices and stock returns over both periods, however, the difference in results is statistically not significant.

The remainder of the paper is organized as follows. In section 2, we present the theoretical background. Section 3 develops the literature review and the hypotheses and section 4 describes the research design. Section 5 presents the results and discussion and Section 6 offers conclusions and a summary.

2. Theoretical background

The strategic choice or decision (the European Community (EC) Regulation 1606/2002) of the European countries to adopt the IFRS can be justified by the contributions of environmental determinism theory and isomorphism theory.

2.1. Environmental determinism theory

According to this theory, accounting is the product of its environment. Before the IFRS mandatory adoption, on January 1, 2005 in Europe, the economic environment has been characterized by the pressure of multinationals. Moreover, financial globalization was seen as a process of integrating the various capital markets and the openness of all the national markets to the international one to achieve a single global capital market. Accounting in The EU suffers from the diversity of accounting clusters and the multitude of accounting policies and choices. This matter demands harmonization of accounting approaches and standards (Callao et al., 2009). In Germany, following the Metallgesellschaft scandal, the German parliament passed on 5 March, 1999, the law on transparency as in April 1998 (KonTraG and KapAEG). The approval of this law aims at the compliance of the German accounting system with the international accounting standards (Ferentinou et al., 2016). In France, the French Parliament ratified the law n° 98-261 on 6 April 1998 to establish the general and sectoral accounting requirements. In addition, following the financial scandal (Enron) in 2000, the French Parliament passed the financial security law in 2003. Likewise, in 2003, the Belgian state implemented the law of 22 May 2003 on the organization of budget and accounting of the Federal State. All these legal procedures to reform the accounting systems of these countries were not able to resist across the requirements of financial globalization. For this reason, all the publicly listed companies in the EU countries were required to prepare their financial statements in accordance with the IFRS. The IFRS adoption led to changes in the number of accounting choices and policies compared to the domestic standards (DS)

(Ferentinou et al., 2016). The scope of the International Accounting Standards Board (IASB) is to establish a common accounting language in the world. This radical accounting transition is a manifestation of environmental determinism theory as mentioned by Gernon and Wallace (1995) and Rodrigues and Craig (2007).

2.2. New institutional theory (Isomorphism)

DiMaggio and Powell (1983) are the pioneers of the new institutional theory. This theory attempts to explain the phenomenon of homogeneity in organizations and the influence of the institutional environment on these organizations. New institutionalism is based on the concept of isomorphism. DiMaggio and Powell (1983) described three forms of isomorphism. This concept can be used to clarify the process that led to the mandatory IFRS adoption by the European countries. The first form is the coercive isomorphism, which is manifested in the political pressure of the European Community that required that all publicly listed firms prepare their financial statements according to both the international and legitimate the IASB standards. The second form is the mimetic isomorphism. Rodriguez and Craig (2007) suggested that the mimetic isomorphism describes how organizations emulate the actions of similar organizations that are perceived as more legitimate or successful in the institutional environment. On this level, the IASB persuaded the European countries to adopt its standards. This assumption intensifies the competition between the FASB and the IASB in the perspective of international standardization. In the early 1990, the Securities and Exchange Commission required that firms register outside the United States and be listed on a U.S. primary market to reconcile their financial statements with the U.S. GAAP (Amir et al., 1993). In this study, the authors suggested that the reconciliation of accounting amounts with the U.S. GAAP are value relevant. Then, both institutions signed a consensus of convergence to reduce the differences between the US GAAP and IFRS. Hoarau (2003) called this imitation mutual recognition. This action between the FASB and the IASB is a manifestation of mimetic isomorphism. The third form is the normative isomorphism, which refers to the professionalism and funding. For instance, the Big Four had an impact on the process of developing international standards by the professional and financial resources.

3. Prior literature and hypothesis development

The value relevance represents the ability of accounting information to explain the firm's market value (Suadiye, 2012). Inder and Myung-Sun (2003) argue that the accounting information is value relevant if it ensures the investors' decision making and reflects the true

and fair view of the financial statements. Prior to the mandatory IFRS adoption in Europe, the value relevance literature was based on comparative studies between countries' legal origin (common-law versus code-law), the accounting systems (multitude of accounting clusters), the accounting conservatism, etc. However, after the mandatory IFRS adoption, the accounting literature declined to compare the value relevance of accounting information before and after the IFRS adoption and/or between the voluntary IFRS adoption and the mandatory IFRS adoption or between the countries that reported their financial statements in accordance with their domestic standards (DS) and others that prepared their consolidated accounts by referring to the IFRS.

With the aim of examining the effect of the IFRS adoption on the value relevance of accounting information, we compared the value relevance of the equity book value, the earnings and the change in earnings between the pre and the post-IFRS periods in Germany, France and Belgium. In this paper, we measure the value relevance through the price model (PM) of Ohlson (1995) and the returns model (RM) of Easton and Harris (1991). The PM explains the market value by the equity book value per share and the earnings per share, whereas the RM explains the stock returns by earnings and change in the earnings (Lang et al., 2003, 2006; Barth et al., 2012; Chua et al. 2012). The debate on the value relevance has been the subject of several studies in accounting literature before and after the IFRS adoption (Basu, 1997; Holthausen and Watts, 2001; Khurana and Kim, 2003; Graham et al., 2003; Lang et al., 2003; Francis et al., 2004; Barth et al. 2008, 2012; Kim and Yoon, 2012; Hamadi and Hamadeh, 2012; Tsalavoutas et al., 2012; Suadiye, 2012). In our study, we adopt a comparative approach of equity book value, earnings and change in earnings between voluntary and mandatory IFRS adoption in Germany, France and Belgium.

Voluntary IFRS adoption was a response of accounting environmental pressures in the late 1990s. In the EU, several countries (e.g. Germany (KonTraG and KapAEG) and France (law n° 98-261)) allowed their companies to prepare consolidated financial statements in accordance with the IFRS or the US GAAP (Van Tendeloo and Vanstraelen, 2005). Likewise, Harris and Muller (1999) used a comparative study related to the value relevance of earnings and book value between IAS and the US GAAP. The results showed that IAS information is more associated with price model than US-GAAP information, and that the US-GAAP information is more associated with the returns model than IAS information. Before 2005, findings issued from the voluntary IFRS adoption studies offered mixed results. In the German context, Bartov et al. (2005) conducted a study to compare the value relevance of the

IAS voluntary adoption with the German and US standards. Their results showed an increase in the value relevance of earnings on the IAS and US standards than on the domestic standards (German GAAP). This finding is inconsistent with those of Hung and Subramanyam (2007) which demonstrate that equity book value and earnings are not more value relevant under IAS than under the German GAAP. This difference was explained by Soderstrom and Sun (2007) by the use of two different samples. The sample used by Bartov et al (2005) is larger than the one used by Hung and Subramanyam (2007). Similarly, in the Chinese context, Liu et al., (2014) compared the value relevance of accounting information between A-shares (traded by Chinese Accounting Standards (CAS)) and B-shares, firms (traded by the International Accounting Standards (IAS)) belonging over the 1999/2005 period. This study found that the information contents of CAS and IAS are value-relevant to investors in the Chinese capital markets, but IAS amounts provided more useful information to investors. In this context line, Kinnunen et al. (2000) used a sample of the Helsinki Stock Exchange to test the value relevance of earnings between the local GAAP and IAS. They found that restating Finnish GAAP incomes, according to the IAS, are value relevant to foreign investors, but not for local shareholders. Using a sample of 327 companies that voluntarily adopted IAS over the 1994/2003 period, Barth et al. (2008) examined the value relevance of the book value and earnings and found that the Adj. R2 for the model significantly increased after the switch to IAS. The authors suggested that the value relevance of the book value and earnings was higher following the IAS voluntary adoption. Auer (1996) examined the information contents of earnings announcements for a sample of 35 Swiss companies that switched from the Swiss GAAP to the IAS standards and found a significant improvement of the variability of abnormal returns for the firms' sample. He also suggested that under the IAS standards, earnings have more information content than under the Swiss GAAP. Given the difference between the voluntary IFRS adoption and local standards, it is hypothesized that:

H1a. Voluntary IFRS adoption increases the value relevance of equity book value and earnings.

H1b. Voluntary IFRS adoption increases the value relevance of earnings and the change in earnings.

Paananen and Lin, (2009) showed that the earnings quality of companies listed in the German stock exchange became less relevant following the mandatory IFRS adoption. This result is consistent with the study of Tsalavoutas et al. (2012) on a sample of companies listed on the

Greek stock exchange. Similarly, Gjerde et al. (2008) in Norway and Callao et al. (2007) in Spain, indicated that the IFRS mandatory IFRS adoption had not increased the value relevance of accounting information in both countries. Nonetheless, Barth et al. (2008) conducted a comparative study between IFRS-firms and firms that prepared their financial statements according to domestic standards (DS). The authors found that firms applying the IFRS had more value relevance of accounting numbers than firms applying domestic standards. In addition, Suadiye (2012) study the value relevance of Turkey listed companies before and after IFRS that the transition to the IFRS increases the value relevance of accounting information. Indeed, Iatridis and Rouvolis (2010) found that the value relevance of earnings and net assets of companies listed on the Athens Stock Exchange became incrementally significant after the IFRS adoption. Tsalavoutas and Dionysiou (2014) found that the level of mandatory disclosure is value relevant and the net income of high-compliance companies has a significantly higher coefficient than that of low compliance companies.

Prior value relevance research discriminated between studies which indicated that the IFRS adoption improves the accounting quality (Barth et al., 2008; Iatridis and Rouvolis, 2010; Suadiye, 2012) and others that suggested the opposite (Gjerde et al. (2008); Callao et al. (2007); Paananen and Lin, (2009); Tsalavoutas et al., (2012)). It is hypothesized that:

H2a. The transition to the IFRS increases the value relevance of equity book value and earnings.

H2b. The transition to the IFRS increases the value relevance of earnings and the change in earnings.

4. Research design

4.1. Sample and data

Data were collected from the database “Thomson one banker”. Our sample consists of data from Germany, France and Belgium listed companies for the period from 2000 to 2011. We exclude data from 2005, as this is the transition year to IFRS. We exclude banks, insurance companies, and other financial institutions because it has specificities in their accounting practices. We divided the sample into two subsamples (Pre-IFRS period from 2000 to 2004 and Post-IFRS period from 2006 to 2011).

The matching approach of selected countries (Germany, France and Belgium) is that the three countries are civil-law and tend to favour more conservative accounting treatments before

mandatory IFRS adoption. It's worth noting that German, French and Belgium companies could be IFRS early adopters. This is due to the implementation of *kapAEG* and *KonTRaG* in 1998 and n° 98-261 on 6 April 1998, respectively in Germany and France. In addition, selected firms belong to the most important stock market index, namely, DAX 30 in Germany, SBF 120 in France and BEL 20 in Belgium. IFRS was developed by an international body (IASB) that prone an Anglo-Saxon ideology. Consequently, the European countries, have tended to favour accounting practices based on shareholder-oriented regime, required that their listed companies use the IFRS in the preparation of consolidated accounts.

The first sub-sample consists of 25 companies that voluntary adopt IFRS, represent 23.58% of subsample1, and 81 companies that disclose their financial statements referred to domestic standards (DS), represent 76.42% of the sub-sample 1. For the period from 2000 to 2004 there are a 530 firm – year observations. In the second sub-sample, all companies disclosed their financial statements referred to IFRS and the firm – year observations are about 636. Full sample consists of 106 firms into 11 years belonging 3 countries (namely: France, Germany and Belgium) and 14 industries (N = 1166 firm-year observations). Panel A and panel B of **Table 1** present a summary of the sample selection.

[Insert Table 1 about here]

4.2. Models and variables

4.2.1. Price model (PM)

The model developed by Ohlson (1995) assumes the correlation of accounting information with the firm's market value (stock price). The dependent variable is the stock price (P), collected six months after the fiscal year. This variable is explained by the equity book value per share and earnings per share.

Pre-IFRS period (2000 - 2004)

This period is characterized by the preparation of financial statements in accordance with domestic standards, with the exception of a few companies that voluntarily adopt IFRS (23.58% of the subsample1). We introduce in the model the IFRS as a dummy variable that takes the value of "1" if the company voluntarily adopts IFRS and "0" otherwise. The model (1) is presented as follows:

$$P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 EPS_{it} + \beta_3 IFRS_{it} + \varepsilon_{it} \quad (1)$$

Where: P is the stock price for firm i at time t, measured six months after the firm's fiscal year-end; BVEPS: Book value of equity per share of firm i at time t, measured by divided the book value of equity by the number of shares outstanding; EPS: Earnings per share of firm i

at time t, measured by divided the net income by the number of shares outstanding ; IFRS: Dummy variable that takes the value of "1" if firm voluntarily adopts IFRS and "0", otherwise; ε_{it} : Error term.

Post-IFRS period (2006 - 2011)

During this period European listed companies develop, necessarily, their financial statements in accordance with IFRS. Therefore, the model (2) is presented as follows:

$$P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 EPS_{it} + \varepsilon_{it} \quad (2)$$

4.2.2. Returns model (RM)

Easton and Harris (1991) develop a model in which consider that the stock return of firms is explained by the earning and change in earnings. We estimate this model on the pre and post-IFRS periods.

Pre-IFRS period (2000 - 2004)

We measure the value relevance of accounting information referred to the Easton and Harris (1991) model. We introduce in the econometric model the IFRS, as a dummy variable, that takes the value of "1" if the firm voluntarily adopts the IFRS and "0" otherwise. The model (3) is presented as follows:

$$\text{Return}_{it} = \beta_0 + \beta_1 \text{EPS}_{it}/P_{i(t-1)} + \beta_2 \Delta\text{EPS}_{it}/P_{i(t-1)} + \beta_3 \text{IFRS}_{it} + \varepsilon_{it} \quad (3)$$

Where: Returns is the stock returns for firm i at time t, measured by the ratio $\frac{(P_{it}+D_{it})-P_{i(t-1)}}{P_{i(t-1)}}$;

ΔEPS : The annual change in earnings for firm i at time t, measured by the ratio $\frac{\text{EPS}_{it}-\text{EPS}_{i(t-1)}}{P_{i(t-1)}}$;

EPS: EPS: Earnings per share of firm i at time t, measured by divided the net income by the number of shares outstanding ; IFRS: Dummy variable that takes the value of "1" if firm voluntarily adopts IFRS and "0", otherwise; ε_{it} : Error term.

Post-IFRS period (2006 - 2011)

In this period European listed companies develop, necessarily, their financial statements in accordance with IFRS. Therefore, the model (4) is presented as follows:

$$\text{Return}_{it} = \beta_0 + \beta_1 \text{EPS}_{it}/P_{i(t-1)} + \beta_2 \Delta\text{EPS}_{it}/P_{i(t-1)} + \varepsilon_{it} \quad (4)$$

5. Results and discussion

5.1. Univariate analysis

In the univariate analysis, we identify the tendency of each variable. Then, two statistical tests will be performed: the mean comparison test (student test) and the variance comparison test (Fisher-Snedecor test). The aim of these tests is to check if there are significant changes in the characteristics of the sample after the transition to IFRS.

5.1.1. Price model

Table 2 summarizes the descriptive statistics for both models ((1) and (2)). The mean and median of P are in order of 34.718 and 27.069 during the pre-IFRS period (2000 - 2004) and in order of 43.261 and 37.256 in the post-IFRS period (2006 - 2011). The mean (median) of BVEPS increased from 21.201 (13.237) before IFRS adoption to 27.395 (19.232) after IFRS adoption. For the EPS, the mean and the median increased, respectively, from 2.236 to 2.972 and 1.247 to 2.215. Results find that the standard deviation of BVEPS increases from 25.482 in the pre-adoption period to 26.487 after IFRS adoption.

By applying the mean comparison test, we observe that P is significantly higher after IFRS adoption at the 5% threshold than before IFRS adoption (t-test = 1.965), but it is worth noting that the variance comparison test shows that P has not significantly changed in standard deviation value after IFRS adoption. Among the independent variables, the mean (standard deviation) of BVEPS increased from 21.20 (25.48) in the pre-adoption period to 27.39 (26.48) in the post-IFRS period. The mean and variance tests demonstrate that the mean value of BVEPS is significantly higher after the transition to IFRS at the 10% level compared to the pre-IFRS period (t-test = 1,735), but the standard deviation has not significantly changed. For EPS, the mean comparison test shows that the mean value of this variable has not significantly changed after IFRS adoption. However, the variance comparison test found that EPS has significantly changed after IFRS adoption compared to the pre-adoption period of IFRS.

[Insert Table 2 about here]

5.1.2. Returns model

Table 3 presents the descriptive statistics for both models (3) and (4). The mean and median of Return are in the order of 0.117 and 0.116 during the pre-IFRS period (2000 - 2004) to 0.092 and 0.078 in the post-IFRS period (2006 - 2011). For the EPS, the mean (median) increased from 0.037 (0.049) before the transition to IFRS to 0.65 (0.059) after IFRS adoption. For the Δ EPS, the mean and median decreased, respectively, from 0.035 and 0.004 to 0.009 and 0.003 between the two periods.

By applying the mean and the variance comparison tests, we observe on a univariate level that the standard deviation of Return is significantly higher after IFRS adoption at the 1% level. Whereas, the standard deviation of EPS and Δ EPS is significantly lower in the second reporting period at the 1% threshold. Among the mean comparison test, results show that there is no significant change in the mean of all variables. This is consistent with prior

studies that confirm that the introduction of IFRS generally improves the quality of earnings.

[Insert Table 3 about here]

5.2. Bivariate analysis

5.2.1. Price model

Panel A of **Table 4** reports the correlation matrix for the pre-IFRS period. Panel B reports the correlation matrix for the post-IFRS period. Results show the existence of a positive and significant correlation between the P and BVEPS at the 1% level in all panels. Indeed, P and EPS are positively related and the correlation is not significant in the pre-IFRS period, however, in the post-IFRS period these variables are positively related and the correlation is significant at the 1% threshold. BVEPS and EPS are positively related in both periods, but it is worth noting that the correlation is not significant in the pre-IFRS period and significant at the 1% level in the post-IFRS period.

[Insert Table 4 (panel A and B) about here]

5.2.2. Returns model

Panel A of **Table 5** reports the correlation matrix for the pre-IFRS period. Panel B reports the correlation matrix for the post-IFRS period. We observe that the Return is positively and not significantly related to EPS and Δ EPS in all panels. EPS and Δ EPS are positively and significantly related at the 1% level in both periods.

[Insert Table 5 (panel A and B) about here]

5.3. Multivariate analysis and discussions

In this section, we aim to test the hypotheses related, on the one hand, to the effect of voluntary IFRS adoption on the value relevance of book value, earnings and change in earnings in the first reporting period (2000 to 2004). On the other hand, related to the effect of the transition to IFRS on the value relevance of accounting information. In order to validate our findings, we use an additional regression model (robustness checks) that is running on the full sample by using interaction variables.

5.3.1. A comparative approach between voluntary IFRS adoption and domestic standards

We examine the effect of voluntary IFRS adoption on the value relevance of book value, earnings and change in earnings across the firm-year observations. Firms applying IFRS and local GAAP could show differences in value relevance in the preadoption period. We compare the value relevance of the two groups of firms in the preadoption period. We use an

econometric tools to compare the relative value relevance of firms that voluntarily adopt IFRS and firms that remain their local GAAP.

5.3.1.1. Value relevance based on price model

In order to test the existence of specific effects, we apply the homogeneity test to model (1). The result of this test confirms the existence of specific effects (F -statistic = 4.38 and p -value = 0.000). To specify the types of retained effects (are fixed or random effects), we run the Hausman test. This test displays a $Chi-2$ value equal to 21.87 and a p -value equal to 0.000. This result suggests that the model (1) is a fixed effect model.

Table 6 compares the value relevance of accounting information between voluntarily adopt and non-adopt firms of IFRS in the pre-IFRS period based on the price model. During the first reporting period, our multiple regressions want to investigate the effects of voluntary IFRS adoption on the value relevance of the equity book value and earnings. Using the WLS method to estimate the model (1) in the pre-IFRS period, results show that Adj. R^2 is in the order of 0.0754. This matter stipulating that the explanatory variables contributed to the explanation of the stock price at the proportion of 7.54% and the model is globally significant (F -statistic = 12.31; p -value = 0.000). Indeed, we observe that the regression coefficient of the BVEPS, is positive and statistically significant at the 1% level ($\beta_1 = 0.372$; p -value = 0.000). This matter stipulating that a one-unit increase in the company's book value of equity means an increase in the stock price of 0.372 units. EPS has a positive and not significant coefficient ($\beta_2 = 0.041$; p -value = 0.341). Indeed, IFRS is significant with a negative coefficient of -12.201 and a p -value of 0.065. A tentative explanation for such a result is that the voluntary IFRS adoption affects the value relevance of accounting information for firms in the pre-adoption period. In addition, a negative coefficient on IFRS indicates a decrease in the value relevance of earnings and book value of equity. Our findings are different from the study of Landsman et al. (2012). In this study, the authors demonstrate that voluntary IFRS adoption increases the information content of earnings. Therefore, our first sub-hypothesis (H1a), which predicts that voluntary IFRS adoption increases the value relevance of book value and earnings, is rejected.

5.3.1.2. Value relevance based on return model

The homogeneity test applied to the model (3) demonstrates the existence of the specific effect. By applying the Hausman test, we obtain a random effect model ($Chi-2 = 3.66$ and a p -value = 0.3001).

Table 7 compares the value relevance of earnings and change in earnings between adopters and non-adopters firms of IFRS in the pre-IFRS period based on the return model. During the first reporting period, our multiple regressions want to investigate the effects of voluntary IFRS adoption on the value relevance of earnings and change in earnings. Following the estimation of the model (3) in the pre-IFRS period, results show that Adj. R^2 is in the order of 0.0258. This topic stipulating that the explanatory variables contributed to the explanation of the stock price at the proportion of 2.58% and the model is globally significant (F -statistic = 15.14; p -value = 0.000). Indeed, we observe that the regression coefficient of the EPS, is positive and statistically significant at the 1% level ($\beta_1 = 0.125$; p -value = 0.000). This matter stipulating that a one-unit increase in the company's earnings means an increase of the stock return of 0.125 units. Δ EPS has a positive and not significant coefficient ($\beta_2 = 0.014$; p -value = 0.801). Indeed, IFRS is not significant with a negative coefficient of -0.033 and a p -value of 0.331. This finding shows that the voluntary IFRS adoption doesn't affect the value relevance of earnings and change in earnings for firms in the pre-adoption period. Findings stipulate the rejection of the sub-hypothesis (H1b), which predicts that voluntary IFRS adoption increases the value relevance of earnings and change in earnings.

The results issue from the regression of both models (1) and (3) reveal the rejection of our first hypothesis (H1). This finding stipulates that the value relevance of accounting information doesn't improve via voluntary IFRS adoption. We conclude that the voluntary IFRS adoption is a manifestation of mimetic isomorphism and an important event in the Anglo-Saxon accounting history (IASB advocates Anglo-Saxon principles of accounting practice). Voluntary IFRS adoption can be viewed as a costly firm's strategic choice that facilitates the transition of European's companies to mandatory IFRS adoption.

5.3.2. *A comparative approach between mandatory IFRS adoption and domestic standards*

5.3.2.1. *Value relevance based on price model*

In order to test the existence of specific effects, we apply the homogeneity test for the model (2) in the pre and post adoption IFRS period. For the model in the pre-IFRS period, the result confirms the existence of specific effects (F -value = 4.38 and p -value = 0.000). Similarly, following the run of this test to the model in the post-IFRS period, we obtain a F -value equal to 5.71 and p -value of 0.000. Results show the existence of specific effects for both periods. To specify the types of retained effects (are fixed or random effects) we compute the Hausman test. This test applied to model (2), in the first reporting period, displays a $Chi-2$ value equal to 21.87 and a p -value equal to 0.000. This result suggests that is a fixed effect

model. The same test is applied to the parameters of the model, in the second reporting period, shows a value of *Chi-2* equal to 4.78 and a *p*-value equal to 0.0915. This result finds that is a random effect model. Results indicate that, for the pre-adoption period, the estimation method is the “Within regression” and for the post-adoption period, we use the “GLS regression” method. The Breusch-Pagan test suggests the presence of heteroscedasticity problem for both models. To correct this problem, we use the method *robust*.

Table 8 compares the value relevance of accounting information between the pre- and the post-IFRS periods. Following the estimation of the model (2) in the pre-IFRS period, results show that Adj. R^2 is in the order of 0.0696. This matter stipulating that the explanatory variables contributed to the explanation of the stock price at the proportion of 6.96% and the model is globally significant (F -statistic = 16.67; p -value = 0.000). In the post-IFRS period, the Adj. R^2 of the regression of the stock price by the equity book value and earnings is about 47.11%. The difference in the Adj. R^2 between the two periods is statistically significant (F -statistic = 17,785) at the 1% level using the Fisher signification test¹ (Jaccard et Turrisi, (2003); Hardy, (1993)). Findings show that the information content of earnings and book value of equity disclosed in accordance with IFRS better explain the firms’ stock price than domestic standards (DS). These results imply that the mandatory IFRS adoption increases the value relevance of accounting information based on the Ohlson’s price model. Indeed, we observe that the regression coefficient of the BVEPS, is positive and statistically significant at the 1% level ($\beta_1 = 0.381$; p -value = 0.000) in the pre-IFRS period. Similarly, in the post-IFRS period, this variable has a positive and statistically significant coefficient at the 1% level ($\beta_1 = 0.528$; p -value = 0.000). The difference in the coefficients is statistically significant. For the variable EPS, it has a positive and not significant coefficient ($\beta_2 = 0.041$; p -value = 0.341) in the pre-IFRS period. Compared to the first reporting period, this variable is positively and significantly related to the stock price in the post-IFRS period ($\beta_2 = 1.114$; p -value = 0.000). A tentative explanation for such a result is that the voluntary IFRS adoption decreases the value relevance of accounting information for firms in the pre-adoption period. Comparing the results over the two periods, it appears that earnings and equity book value are associated with higher value relevance following the mandatory IFRS adoption. The findings are in line with our expectations that the adoption of higher quality standards (IFRS) leads to increase the value relevance of both book value of equity and earnings. We find that our sub-

¹ Fisher statistic test : $F = \frac{(R_1^2 - R_0^2)/q}{(1 - R_1^2)/(n - p - 1)}$

hypothesis (H2a) related to the price based model is confirmed. Such results are in line with prior studies of Barth et al. (2008), Suadiye (2012).

5.3.2.2. Value relevance based on returns model

In order to test the existence of specific effects, we apply the homogeneity test for the model (4) in both periods. In the pre-IFRS period, the result confirms the existence of specific effects (F -value = 1.42 and p -value = 0.008). Then, the use of the Hausman test for this model found that the retained effect is random ($Chi-2 = 3.66$; p -value = 0.3001). This issue stipulates that the estimation method in the pre-adoption period is the “GLS regression”. The Breusch-Pagan test suggests the presence of heteroscedasticity problem for the model. To correct this problem, we use the method *robust*. In the post-IFRS period, the homogeneity test shows that there is no specific effect, therefore, the estimation method is the “OLS regression”.

We estimate the model (4), respectively, for the pre- and post-IFRS periods. **Table 9** reports the results related to the GLS and the OLS regressions using Return as a dependent variable for both reporting periods. The purpose is to examine whether the value relevance of earnings and change in earnings increase or not after the mandatory IFRS adoption. Moreover, we aim to test if the coefficients of variables EPS and Δ EPS are significantly different between the two periods. For both periods, results indicate that the Adj. R^2 value is in order of 2.58% for the pre-IFRS period and in order of 3.46% for the post-IFRS period. Findings suggest that the explanatory power of the model in the post-adoption is higher than this of the model in the pre-adoption period. Results show that the mandatory IFRS adoption increases the value relevance of accounting information based on the Easton and Harris’s returns model. Among the coefficients of the independent variables, it is worth noting that the variable EPS has a positive and statistically significant coefficient at the 1% level ($\beta_1 = 0.124$; p -value = 0.005) in the pre-IFRS period. Nonetheless, we note that the coefficient of this variable is negative and not significant in the post-IFRS period ($\beta_1 = -0.139$; p -value = 0.374). Indeed, the coefficient of Δ EPS is positive and not significant in the first reporting period, but it is significant at the 1% threshold ($\beta_2 = 0.448$; p -value = 0.001) in the second reporting period. Comparing the results into the two periods, it appears that earnings (EPS) better explain the stock return of firms in the pre-IFRS period than in the post-IFRS period. Nonetheless, the change in earnings (Δ EPS) is more value relevant following the mandatory IFRS adoption. The findings are not in line with our expectations that the transition to IFRS **leads** to increase the value relevance of both earnings and earnings change. We find an important association between stock return and earnings change in the post-IFRS period,

however, earnings have not effect on the stock return following the mandatory IFRS adoption. Mandatory IFRS adoption in the sample selection countries can be viewed as a manifestation of coercive isomorphism (EC Regulation 1606/2002) and environmental determinism theories imposed by institutional and environmental factors. We find that our sub-hypothesis (H2b) related to the return based model is partially confirmed.

5.3.3. *A comparative approach between IFRS-Firms into the pre- and post-adoption periods*

We compare the value relevance of accounting information for IFRS-Firms in the pre and post-adoption periods. The aim of this analysis is to validate the differences in value relevance between IFRS and NIFRS firms in the post reporting period. Based **on** the price model for both periods, findings show that the Adj. R^2 progress from 0.5205 in the pre-adoption period to 0.5296 in the post-adoption period. This matter stipulates that the explanatory power in the second reporting period is higher than in the first reporting period, but statistically not significant. Among the coefficients of the independent variables, it is worth noting that the variable BVEPS has a positive and statistically significant coefficient at the 1% level in the pre-IFRS period. Similarly, we note that the coefficient of this variable is positive and significant at the 1% threshold. Indeed, the coefficient of EPS is positive and significant in both reporting periods. Comparing the results into the two periods, it appears that earnings and equity book value are associated with higher stock prices.

Referred to the return model, in the pre-IFRS period, results show that Adj. R^2 is in the order of 0.0182. This matter stipulating that the explanatory variables contributed to the explanation of the stock return at the proportion of 1.82%. In the post-IFRS period, the Adj. R^2 of the regression of stock return by earnings and change in earnings is about 0.022. The difference in the Adj. R^2 between the two periods is statistically significant. Indeed, we observe that the regression coefficient of the EPS is positive and statistically significant at the 10% level in the pre-IFRS period. But, in the post-IFRS period, this variable has a negative and statistically not significant coefficient. For the variable Δ EPS, it has a negative and not significant coefficient in the pre-IFRS period. In contrary, in the second reporting period, this variable is positively and significantly related to the stock return at 10% threshold. Comparing the results into the two periods, it appears that earnings and change in earnings are associated with lower value relevance.

Overall results are shown in **Table 10** and imply that the mandatory IFRS adoption hasn't effect on the value relevance of accounting information for firms that **voluntarily** adopt IFRS (IFRS-Firms) before the transition year.

5.3.4. Robustness checks

5.3.4.1. Voluntary IFRS adoption and value relevance (price model)

To confirm the rejection of (H1a) in the pre-IFRS period, we run the regression of P on BVEPS and EPS only. The adj. R^2 of this regression is 0.0696. We add the IFRS as a dummy variable that takes '1' if a company voluntarily adopts IFRS and '0' otherwise and run regression again. Results show that the adj. R^2 ranging from 0.0696 to 0.0754 and IFRS is negative and statistically significant at the level of 10%. Then, we add the interactions of BVEPS and EPS with the variable IFRS. The regression model noted (5) is computed as follows:

$$P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 EPS_{it} + \beta_3 IFRS_{it} + \beta_4 BVEPS * IFRS_{it} + \beta_5 EPS * IFRS_{it} + \varepsilon_{it} \quad (5)$$

The interactions aim to measure the incremental effects of the tested variables. IFRS*BVEPS has a positive and significant at the 5% level effect on the stock price (P). The coefficient of IFRS*BVEPS is 0.744 and p -value = 0.026. However, IFRS*EPS is negative with a coefficient of -2.313 and significant at the 1% level (p -value = 0.000). The incremental effect of earnings associated with voluntary IFRS adoption decreases the value relevance of accounting information.

Overall results presented in **Table 6** show that the adj. R^2 of the model (5) increases compared to those of the model (1), nonetheless, the coefficients of IFRS and IFRS*EPS are negative and statistically significant. These findings indicate that voluntary IFRS adoption decreases the value relevance of accounting information. During the pre-IFRS period, it is worth noting the effect of accounting scandals (Enron, Parmalat, etc.) on the credibility and the relevance of accounting information. This environmental factor (environmental determinism) provides an explanation of the negative relationship between accounting information and the market value (Kouki, 2015). Results validate the rejection of our first hypothesis (H1) in which we posit that voluntary IFRS adoption increases the value relevance of accounting information.

[Insert Table 6 about here]

5.3.4.2. Voluntary IFRS adoption and value relevance (return model)

To confirm the rejection of (H1b) in the pre-IFRS period, we run the regression of $Return$ on EPS and ΔEPS only. The adj. R^2 of this regression is 0.0248. We add the IFRS as a dummy variable that takes '1' if a company voluntarily adopts IFRS and '0' otherwise and run regression again. Results show that the adj. R^2 ranging from 0.0248 to 0.0258 and IFRS is

negative and statistically not significant. In fact, we observe that our sub-hypothesis H1b is rejected and it's not necessary to run the regression of the model (6) with interactions of BVEPS and EPS with the variable IFRS (Table 7). The regression model noted (6) is computed as follows:

$$Return_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 \Delta EPS_{it} + \beta_3 IFRS_{it} + \beta_4 EPS * IFRS_{it} + \beta_5 \Delta EPS * IFRS_{it} + \varepsilon_{it} \quad (6)$$

[Insert Table 7 about here]

5.3.4.3. A comparative approach between mandatory IFRS adoption and local GAAP

In order to validate our main hypothesis (H2), we use an additional regression model. This regression is run on the full sample (2000 to 2011, except 2005), using interaction variables.

Price model (H2a)

To confirm the sub-hypothesis (H2a) based on price model, we use an additional regression of model (2) on the full sample. In the first step, we run the regression of P on BVEPS and EPS only. The Adj. R² of this regression is 0.3694. Then, we introduce POST as a dummy variable that assumes a value of “1” for the post-IFRS period and “0” otherwise and run the regression again of the model (7).

$$P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 EPS_{it} + \beta_3 POST_{it} + \varepsilon_{it} \quad (7)$$

Results show that the Adj. R² increases from about 0.3694 to about 0.3728 and POST is positive with a coefficient of 4.183 and statistically significant at the 1% level (*p*-value = 0.001). These findings indicate that mandatory IFRS adoption contributes to the improvement of accounting quality of firms. In the last step, we add the interactions of BVEPS and EPS with POST. The regression model noted (8) is computed as follows:

$$P_{it} = \beta_0 + \beta_1 BVEPS_{it} + \beta_2 EPS_{it} + \beta_3 POST_{it} + \beta_4 BVEPS * POST_{it} + \beta_5 EPS * POST_{it} + \varepsilon_{it} \quad (8)$$

Where: β_1 and β_2 measure the value relevance of book value of equity and earnings in the pre-IFRS period and β_4 and β_5 capture their incremental effects in the post-IFRS period.

For testing our first sub-hypothesis, we should examine the significance of β_4 and β_5 . BVEPS*POST is negative with a coefficient of -0.080 and statistically not significant. However, EPS*POST is positive with the coefficient of 1.230 and statistically significant at the 1% threshold (*p*-value = 0.000). The Adj. R² of the model (8) increases from about 0.3728 to about 0.3928. We interpret these results by the way that the transition to IFRS increases the value relevance of accounting information. This improvement can be related to mandatory requirements for fair value measurement in several standards such as IAS 39 and IFRS 2.

Indeed, others standards offer to firms the possibility to the optional use of FVA like IAS 16, IAS 36 and IFRS 3. The results of the additional regression model, validate our sub-hypothesis (H2a). **Table 8** reports the results of the regression models (2), (7) and (8).

[Insert Table 8 about here]

Returns model (H2b)

To confirm the sub-hypothesis (H2b) based on returns model, we use an additional regression model (4). In the first step, we run the regression of Return on EPS and Δ EPS only. Then, we introduce POST as a dummy variable that assumes a value of “1” for the post-IFRS period and “0” otherwise and run the regression again of the model (9).

$$Return_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 \Delta EPS_{it} + \beta_3 POST_{it} + \varepsilon_{it} \quad (9)$$

Results show that the Adj. R^2 increases from about 0.0155 to about 0.0157 and POST is positive with a coefficient of 0.257 and statistically significant at the 10% level (p -value = 0.097). These findings indicate that mandatory IFRS adoption contributes to the improvement of accounting quality of firms. In the last step, we add the interactions of EPS and Δ EPS with POST. The regression model noted (10) is computed as follows:

$$Return_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 \Delta EPS_{it} + \beta_3 POST_{it} + \beta_4 EPS * POST_{it} + \beta_5 \Delta EPS * POST_{it} + \varepsilon_{it} \quad (10)$$

Where: β_1 and β_2 measure the value relevance of earnings and change in earnings in the pre-IFRS period and β_4 and β_5 capture their incremental effects in the post-IFRS period.

For testing our second sub-hypothesis, we should examine the significance of B_4 and B_5 . $EPS * POST$ is negative with a coefficient of -0.257 and statistically not significant. However, $\Delta EPS * POST$ is positive with the coefficient of 0.425 and statistically significant at the 1% threshold (p -value = 0.000). The Adj. R^2 of the model (10) increases from about 0.0157 to about 0.0225. Findings show that the explanatory power of earnings and change in earnings is low, but we conclude that the transition to IFRS is significantly improved the value relevance (Adj. R^2) of accounting information. The results of the additional regression model, validate our sub-hypothesis (H2b). **Table 9** summarizes the results of the regression models (4), (9) and (10).

[Insert Table 9 about here]

The overall results may be explained by the greater use of fair value in the valuation of assets and liabilities following the transition to IFRS. Fair value accounting (FVA) leads to greater value relevance of the equity book value, earnings, and earnings change in explaining stock price and stock return. IFRSs contribute to the improvement of the association between

accounting information and market value. Following the comparison of the results issue from the regression of the price model and the return model, we note that the transition to IFRS increases the value relevance of the book value of equity, earnings and earnings change.

[Insert Table 10 about here]

6. Summary and concluding remarks

In this study, we compare the value relevance of accounting information for three groups of firms over two periods. First, we compare the value relevance of equity book value, earnings and change in earnings of IFRS-Firms (voluntary IFRS adoption) and non IFRS-Firms (domestic standards) in the pre-adoption period. On a second level, we compare the value relevance of non IFRS-Firms over the pre-and post-adoption periods. Finally, we compare the value relevance of IFRS-Firms over the pre- and post-adoption periods.

Our findings show that the voluntary IFRS adoption in the pre-IFRS period has not improved the value relevance of the equity book value, earnings, and change in earnings. The results suggest that the voluntary IFRS adoption negatively affects the value relevance of the equity book value and earnings for firms in the pre-adoption period. Our findings are different from the study of Landsman et al. (2012) which demonstrated that voluntary the IFRS adoption increases the information content of the earnings. Therefore, our first sub-hypothesis (H1a), which predicts that voluntary IFRS adoption increases the value relevance of the equity book value and earnings, is rejected. In addition, after testing the sub-hypothesis (H1b), the result shows that the voluntary IFRS adoption doesn't affect the value relevance of earnings and change in earnings for firms in the pre-adoption period. This result stipulates the rejection of H1b, which predicts that voluntary IFRS adoption increases the value relevance of the earnings and change in earnings.

On another level, our results indicate that the accounting information of non IFRS firms in the post-adoption period is of higher quality than in the pre-adoption period. Then, we compare the value relevance of accounting information of IFRS-Firms over the pre- and post-adoption period. Our results show a higher association between, on the one hand, the equity book value and the earnings with stock prices and, on the other hand, between earnings and change in earnings with stock returns over both periods. However, we conclude that the difference in the results is statistically not significant. Comparing the results about both periods, it appears that equity book value and change in the earnings are highly associated, respectively, with stock price and stock return following the mandatory IFRS adoption. On

the other hand, the earnings do not have an effect on the stock returns. These findings are in line with our expectations that the adoption of higher quality standards (IFRS) leads to the increase of the value relevance of both the equity book value and the earnings. This finding stipulates that our sub-hypothesis (H2a) related to the price based model is confirmed. Such results are in line with prior studies of Barth et al. (2008), Suadiye (2012). Moreover, We found an important association between the stock return and change in earnings during the post-IFRS period, however, the earnings do not have an effect on the stock return following the mandatory IFRS adoption. These findings are not in line with our expectations that the transition to IFRS leads to the increase of the value relevance of both earnings and change in earnings. The mandatory IFRS adoption in the selected sample countries can be viewed as a manifestation of coercive isomorphism (EC Regulation 1606/2002) and environmental determinism theories imposed by institutional and environmental factors. We also found that our sub-hypothesis (H2b) related to the return based model is partially confirmed.

This study contributes to the existing literature in three ways. First, its use of a sample of three code-law origin countries, namely Germany, France and Belgium that switched from a debt-oriented system to shareholder-oriented regime and that earlier adopt IFRS. Second, its use of a comparative approach in the value relevance of accounting information, on the one hand, during the pre-adoption period between IFRS-Firms and Non-IFRS-Firms and, on the other hand, over the pre- and post-adoption periods between IFRS and NIFRS Firms. In contrast, prior research focused on the comparison between IFRS and NIFRS firms during the pre-adoption period only or the post-adoption period only. Innovativeness is based on the selection of these countries, as there are not so many studies that have investigated the value relevance in the European countries over the IFRS transition. Finally, our study provides an opportunity for investors to have more confidence to the information content of the financial statements disclosed in accordance with the IFRS, but they should be careful about the volatility of the stock prices and the rise of financial crises that can threaten the performance of the financial markets. Some limitations arise from this study. First, the sample size is slightly reduced, which may bias the results. Second, we did not introduce any control variable in relation to the economic environment and the cultural specificities of the selected countries, which may affect the results.

The results of our study could be of some implications for standards setters, firms and practitioners. For the standards setters, we suggest that the transition to the IFRS has succeeded in solving the problems of diversity of the accounting systems and the multitude of

accounting practice in countries with different accounting specificities and diverse institutional conditions (capital market structure, Taxation systems). Similarly, firms have the opportunity to examine the degree of the IFRS effect on the relevance of their accounting information and compare their results after a period of earlier IFRS adoption. Moreover, for practitioners, the mandatory IFRS adoption is at the origin of the major changes in the business and organizational models of firms' accounting practices, which led accountants to improve their educational setting and training programs.

Future research may deal with the analysis of the opportunity of developing the markets (the accounting practices which refer to the local standards) to adopt the IFRS standards. This analysis will be based on the critical study of the accounting systems compared to the international clusters and present the involvement of the IFRS in the governance systems of firms in the developing countries as well as on the taxation system, the legal, institutional and cultural factors. The study of Manganaris et al. (2016) is a recent research that focuses on the institutional factors, the IFRS and the value-relevance in the Europeans banks.

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Table 1 Firms sample description

Panel A Subsample 1: Pre-IFRS period (2000 to 2004)							
Country	Germany (DAX30)		France (SBF120)		Belgium (BEL20)		%
	Firms	Firm - year observations	Firms	Firm - year observations	Firms	Firm - year observations	
Voluntary IFRS adoption	15	75	5	25	5	25	23.58
Domestic standards (DS)	10	50	61	305	10	50	76.42
N	25	125	66	330	15	75	530
%	23.59		62.26		14.15		100.0
Panel B Subsample 2: Post-IFRS period (2006 to 2011)							
Mandatory IFRS adoption	25	150	66	396	15	90	636
Panel C Industry: Full sample (2000 to 2004 and 2006 to 2011)							
Industry	Firms		Firm - year observations		Firm - year observations		%
	N	%	N	%	N	%	
Retail	5	4.71	55	4.71	55	4.71	4.71
Manufacturing	16	15.10	176	15.10	176	15.10	15.10
Biotechnology	5	4.71	55	4.71	55	4.71	4.71
Construction	11	10.38	121	10.38	121	10.38	10.38
Consumer goods and services	13	12.26	143	12.26	143	12.26	12.26
Real state	5	4.71	55	4.71	55	4.71	4.71
Personal and household products	4	3.78	44	3.78	44	3.78	3.78
Business services	6	5.67	66	5.67	66	5.67	5.67
Aerospace and defense	3	2.84	33	2.84	33	2.84	2.84
Oil and gas	2	1.89	22	1.89	22	1.89	1.89
Utilities	9	8.49	99	8.49	99	8.49	8.49
Iron and steel	5	4.71	55	4.71	55	4.71	4.71
Healthcare	5	4.71	55	4.71	55	4.71	4.71
Technology	17	16.04	187	16.04	187	16.04	16.04
	106	100.0	1166	100.0	1166	100.0	100.0

Table 2 Descriptive statistics and parametric tests related to (1) and (2)

Variables	n	Mean (DS)	<i>t-test</i>	Mean (IFRS)	Std. dev (DS)	<i>F-test</i>	Std. dev (IFRS)	Median (DS)	Median (IFRS)
P	106	34.71	1,965**	43.26	33.41	1,260	29.76	27.069	37.25
BVEPS	106	21.20	1,735*	27.39	25.48	0,925	26.48	13.23	19.23
EPS	106	2.23	0,300	2.97	24.67	23,277***	5.114	1.24	2.21

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1.

Table 3 Descriptive statistics and parametric tests related to (3) and (4)

Variables	n	Mean (DS)	<i>t-test</i>	Mean (IFRS)	Std. dev (DS)	<i>F-test</i>	Std. dev (IFRS)	Median (DS)	Median (IFRS)
Return	106	0.117	0,232	0.092	0.365	1,889***	0.397	0.116	0.078
EPS	106	0,037	0,597	0.065	0.465	11,052***	0.139	0.049	0.059
Δ EPS	106	0,035	0,556	0.009	0.440	7,273***	0.163	0.004	0.003

*** p < 0.01

Table 4 Correlations matrix for the price model

Panel A Correlation matrix before IFRS adoption

	P	BVEPS	EPS	IFRS
P	1.000			
BVEPS	0.546***	1.000		
EPS	0.111	0.120	1.000	
IFRS	-0.038	-0.052	0.087	1.000

*** p < 0.01

Panel B correlation matrix after IFRS adoption

	P	BVEPS	EPS
P	1.000		
BVEPS	0.650***	1.000	
EPS	0.486***	0.439***	1.000

*** p < 0.01

Table 5 Correlations matrix related to return based model

Panel A Correlation matrix before IFRS adoption

	Return	EPS	Δ EPS	IFRS
Return	1.000			
EPS	0.167	1.000		
Δ EPS	0.121	0.625***	1.000	
IFRS	-0.045	0.008	-0.033	1.000

*** p < 0.01

Panel B: Correlation matrix after IFRS adoption

	Return	EPS	Δ EPS
Return	1.000		
EPS	0.080	1.000	
Δ EPS	0.149	0.704***	1.000

*** p < 0.01

Table 6 Regression of models (1) and (5) related to voluntary IFRS adoption (price model)

Variables	Subsample (N = 530)	Subsample (N = 530)
	Pre-IFRS period	Pre-IFRS period
	Within regression	Within regression
	(1)	(5)
Intercept	29.293 ^{***} (12.86)	34.087 ^{***} (15.76)
BVEPS	0.372 ^{***} (5.44)	0.009 (0.13)
EPS	0.041 (0.95)	2.301 ^{***} (8.93)
IFRS	-12.201 [*] (-1.85)	-21.573 ^{**} (-2.51)
BVEPS*IFRS		0.744 ^{**} (2.23)
EPS*IFRS		-2.313 ^{***} (-8.87)
Adj. R ²	0.0754	0.2213
F-statistic	12.31 ^{***}	24.85 ^{***}

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1.

Table 7 Regression of models (3) and (4) related to voluntary IFRS adoption (return model)

Variables	Subsample (N = 530)	Subsample (N = 530)
	Pre-IFRS period	Pre-IFRS period
	GLS regression	GLS regression
	(4)	(3)
Intercept	0.112 ^{***} (6.23)	0.119 ^{***} (5.47)
EPS	0.124 ^{***} (2.85)	0.125 ^{***} (2.79)
Δ EPS	0.015 (0.34)	0.014 (0.25)
IFRS		-0.033 (-0.97)
EPS*IFRS		
Δ EPS*IFRS		
Adj. R ²	0.0248	0.0258
F-statistic	16.49 ^{***}	15.14 ^{***}

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1.

Tableau 8 Regression of models (2), (7) and (8) related to price model

Variables	Subsample1 (N = 530)	Subsample2 (N = 636)	Full sample (N = 1166)	
	Pre-IFRS period Model (2)	Post-IFRS period Model (2)	Model (7)	Model (8)
Intercept	26.535*** (15.39)	25.459*** (12.75)	22.724 (1.46)	20.363*** (11.31)
BVEPS	0.381*** (5.58)	0.529*** (7.44)	0.693*** (19.07)	0.673*** (15.14)
EPS	0.041 (0.95)	1.114*** (2.86)	0.084** (2.16)	0.038 (0.98)
POST			4.183*** (3.25)	4.183*** (3.25)
BVEPS*POST				-0.080 (-1.50)
EPS*POST				1.230*** (6.36)
Adj. R ²	0.0696	0.4711	0.3745	0.3928
F-statistic	16.67***	79.11***	424.75***	480.97***

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1

Values in parentheses are *t*-statistics.

Tableau 9 Regression of models (4), (9) and (10) related to return model

Variables	Subsample (N = 530)	Subsample (N = 636)	Full sample (N = 1166)	
	Pre-IFRS period Model (4)	Post-IFRS period Model (4)	Model (9)	Model (10)
Intercept	0.112*** (6.23)	0.097*** (5.36)	0.111 (6.72)	0.121*** (6.56)
EPS	0.124*** (2.85)	-0.139 (-0.89)	0.093** (2.15)	0.118*** (2.60)
ΔEPS	0.015 (0.34)	0.448*** (3.33)	0.076* (1.71)	0.022 (0.47)
POST			-0.025 (-1.13)	0.257* (1.66)
EPS*POST				-0.257 (-1.63)
ΔEPS*POST				0.425*** (3.08)
Adj. R ²	0.0248	0.4711	0.0157	0.0225
F-statistic	16.49***	79.11***	7.20***	6.35***

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1

Values in parentheses are *t*-statistics.

Tableau 10 Regression of models related to IFRS-Firms in the pre and post-IFRS period

Variables	Pre-IFRS period IFRS-Firms (N = 125)		Post-IFRS period IFRS-Firms (N = 150)		Full Sample (N = 275)	
	PM	RM	PM	RM	PM	RM
Intercept	8.305 ^{***} (2.75)	0.075 ^{***} (2.85)	31.352 ^{***} (6.56)	0.157 ^{***} (3.01)	9.121 ^{**} (2.44)	0.070 [*] (1.93)
BVEPS	1.195 ^{***} (7.48)		0.495 ^{***} (3.84)		9.121 ^{***} (9.83)	
EPS	1.195 ^{***} (2.57)	0.347 [*] (1.86)	0.697 ^{**} (2.14)	-0.440 (-0.76)	0.411 (0.93)	0.385 (1.06)
ΔEPS		-0.309 (-1.52)		0.824 [*] (1.70)		-0.356 (-1.34)
POST					10.692 ^{***} (3.38)	0.086 (1.43)
BVEPS*POST					0.395 ^{***} (3.16)	
EPS*POST					0.709 (1.06)	-0.797 -1.24
ΔEPS*POST						1.220 ^{**} (2.28)
Adj. R ²	0.5205	0.0182	0.5296	0.022	0.4498	0.0167
F-statistic	54.88 ^{***}	2.15	37.43 ^{***}	2.75 [*]	241.90 ^{***}	1.93 [*]

*** p < 0.01 ; ** p < 0.05 ; * p < 0.1

Values in parentheses are *t*-statistics.