

**The Effects of Mandatory IFRS Adoption and Conditional Conservatism on
European Bank Values**

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ABSTRACT

This study examines the relationship between the value relevance of accounting information and the conditional conservatism of the European banking sector. Using a bank data set from 15 European countries we study the value relevance of accounting information before and after mandatory IFRS adoption, as well as the extent to which conditional conservatism and value relevance coexist in this context. Our findings suggest that conditional conservatism is positively (negatively) related to value relevance prior to (post) mandatory IFRS adoption. This finding validates the IASB's objectives of higher value relevance and lower conservatism. Additional analyses provide evidence that country-specific features not only affect the potential increase in accounting quality, but also the relationship between value relevance and conditional conservatism.

Keywords: Value relevance; conditional conservatism; IFRS; banking sector; Europe

1. Introduction

According to International Accounting Standards Board (IASB), value relevance is a desirable qualitative feature of financial reporting that enhances accounting quality. However, the qualitative substance of conditional conservatism has been partly ignored. Although the IASB Conceptual Framework for Financial Reporting (IASB, 2010) de-emphasizes the importance of conservatism, previous research refers to conditional conservatism as an important qualitative characteristic that improves contracting processes and facilitates decision-making functions (Watts, 2003a).

Using a sample of listed banks from 15 European countries we gauge the level of value relevance before and after IFRS adoption, and examine its relationship to conditional conservatism. We then investigate how this relationship changed after mandatory IFRS adoption. If the IASB achieved its purpose, we expect higher value relevance and lower conservatism, i.e., an inverse relationship.

We analyze European credit institutions for two reasons. First, International Accounting Standard (IAS) 39 is alleged to have considerable influence on financial statements in the banking sector vis-à-vis in any other industry. The introduction of fair value measurement with specific rules for the measurement and recognition of financial instruments resulted in a mixed model that uses both fair and historical values. In this context, financial instruments are treated asymmetrically depending on their classification. Thus the measurement of price changes may harm the value relevance of accounting information.

Additionally, financial firms have been partly ignored from value relevance studies because of their sector-specific accounting procedures and their special supervisory treatment. More importantly, the impact of IFRS and/or conservatism on

value relevance in the financial sector largely remains under-researched. Prior studies demonstrate that financial firms may behave differently upon IFRS adoption when compared to other sectors (Barth, Landsman, Lang, & Williams, 2012; Gastón, García, Jarne, & Laínez Gadea, 2010; Nobes, 2013). Given the banking sector's pivotal role in financial markets, it is intriguing to explore how this industry reacted to IFRS adoption, and inevitably to the recent global financial crisis.

Our findings suggest that conditional conservatism is positively (negatively) related to value relevance prior to (post) mandatory IFRS adoption. We also show that conservative recognition should not be treated negatively by the IASB vis-à-vis other accounting quality properties, such as value relevance. Finally, we also provide evidence on the influence of contractual obligations on conditional conservatism.

The remainder of the paper is organized as follows. Section 2 analyses the extant literature. Section 3 provides the methodology, and section 4 presents the data. Section 5 reports and discusses the empirical results, and Section 6 includes additional analyses. Section 7 provides concluding remarks.

2. Literature Review

Value relevance of earnings is “the degree to which accounting earnings summarize information impounded in market prices” (Brown, He, & Teitel, 2006). Higher value relevance suggests greater decision usefulness to investors (Collins, Maydew, & Weiss, 1997; J. Francis & Schipper, 1999; Lev & Zarowin, 1999), since value relevance metrics presumably capture both relevance and reliability (Barth, Beaver, & Landsman, 2001). On the other hand, according to Basu (1997, p. 4), conservatism is interpreted as “capturing accountants’ tendency to require a higher degree of verification for recognizing good news than bad news in financial statements”. More timely recognition of ‘bad news’ in relation to ‘good news’ is a

sign of conservatism, and the corresponding model is based on this principle. This type of conservatism is known as conditional. In contrast, unconditional conservatism refers to a bias towards lower book values of equity and net assets in comparison to their market value. Beaver and Ryan (2005) provide a thorough analysis of the differences between these two forms of conservatism. Despite severe criticism (Dietrich, Muller, & Riedl, 2007; Gigler & Hemmer, 2001; Givoly, Hayn, & Natarajan, 2007; Pataoutkas & Thomas, 2011), the Basu model is still a well-recognized and widely-used measure of conditional conservatism (Ball, Kothari, & Nikolaev, 2013).

Extant literature considers both the value relevance of accounting information and conditional conservatism desirable features in financial reporting that enhance accounting quality. With respect to the value relevance of accounting figures, results are mixed. Several studies do not find higher value relevance under IFRS compared to local standards (Aubert & Grudnitski, 2011; Clarkson, Hanna, Richardson, & Thompson, 2011). However, other studies, such as Barth, et al. (2012), provide findings in the opposite direction. Aharony, et al. (2010) also detect increased value relevance when assessing three accounting items (i.e., goodwill, research and development expenses and asset revaluation) after IFRS adoption in Europe. Agostino, et al. (2011), the only European bank-related post-IFRS adoption study on value relevance so far, demonstrate an increase (decrease) in earnings (book value) after the compulsory adoption of IFRS.

On a country-specific level, results also are mixed. Gjerde, Knivsflå, and Sættem (2008) find limited evidence of increased value relevance following IFRS adoption in Norway, while Iatridis and Rouvolis (2010) report increased value relevance for both earnings and book value following IFRS adoption in Greece. Using

a sample of firms from five European countries for the period 2002-2007, Devalle et al. (2010) report increased (decreased) value relevance of earnings (book values).

However, when each country is analyzed separately, they report mixed evidence concluding that other factors related to national differences play a significant role.

The literature has provided several findings on conditional conservatism and its importance in the banking sector. Research in the US banking sector shows that publicly traded banks are associated with higher conditional conservatism compared to private banks (Nichols, Wahlen, & Wieland, 2009). More effective governance practices also are associated with higher levels of conditional conservatism (Leventis, Dimitropoulos, & Owusu-Ansah, 2013). In the European context, Gebhardt and Novotny-Farkas (2011) compare accounting quality prior to and post mandatory adoption of IFRS (years 2000-2007) based on the intuition that IAS 39 leads to the delayed recognition of loan losses. They find that the asymmetric timeliness of loan-loss provisioning was reduced after 2005. They suggest that this finding is consistent with the fact that IFRS restrict loan-loss provisioning by allowing only incurred losses, thus limiting banks' ability to timely recognize losses.

As for the relationship between conservatism and value relevance, studies from the UK and Korea demonstrate that the association between market values and accounting information is strengthened in the presence of timely loss recognition (Ball & Shivakumar, 2005; Choi, 2007). Other studies show that this may not necessarily be the case. Kousenidis, Ladas, and Negakis (2009) argue that very high or very low conservatism is connected to lower levels of value relevance, while medium conservatism is associated with higher value relevance in Greece. However, the above studies use different geographical, industrial and chronological settings, so their findings have no predictive value for the purposes of this study (i.e. the

influence of conservatism on value relevance). Accordingly, given the above literature, we pose one major research question: what are the effects of mandatory IFRS adoption and conditional conservatism on the valuation of the European banking sector?

3. Research Design

3.1. Measuring Conservatism

Khan and Watts (2009) gauge a firm-year specific conservatism measure (C-score) based on the Basu (1997) cross-sectional model on asymmetric timeliness. The simple Basu model is presented below:

$$EPS_{it}/P_{it-1} = \beta_1 + \beta_2 DR_i + \beta_3 Ret_{it} + \beta_4 DR_i * Ret_{it} + e_i \quad (1)$$

All variables are analytically described in Table 1. According to model (1), β_3 is the good news timeliness measure and β_4 is the incremental timeliness for bad news over good news, or conservatism¹.

In order to take into account both firm- and year-variation in conservatism, Khan and Watts (2009) incorporate firm-specific characteristics into model (1). To do so, they specify firm-year specific coefficients β_3 and β_4 as linear functions of three characteristics (i.e. size, market to book ratio and leverage) as follows:

$$G\text{-score} = \beta_3 = \mu_1 + \mu_2 SizeMV_i + \mu_3 M/B_i + \mu_4 Lever_i \quad (1a)$$

$$C\text{-score} = \beta_4 = \lambda_1 + \lambda_2 SizeMV_i + \lambda_3 M/B_i + \lambda_4 Lever_i \quad (1b)$$

Similar to the Basu model, the sum of G-score and C-score is the total bad news timeliness. G-score captures the timeliness of good news, thus allowing C-score to capture the incremental timeliness of bad news at a firm-year level. Replacing β_3 and β_4 in model (1) by equations (1a) and (1b), respectively, produces the following model:

¹ More timely recognition of ‘bad news’ in relation to ‘good news’ is a sign of conservatism and the corresponding model is based on this principle.

$$EPS_{it}/P_{it-1} = \beta_1 + \beta_2 DR_i + (\mu_1 + \mu_2 SizeMV_i + \mu_3 M/B_i + \mu_4 Lever_i) Ret_{it} + (\lambda_1 + \lambda_2 SizeMV_i + \lambda_3 M/B_i + \lambda_4 Lever_i) DR_i * Ret_{it} + (\delta_1 SizeMV_i + \delta_2 M/B_i + \delta_3 Lever_i + \delta_4 DR_i * SizeMV_i + \delta_5 DR_i * M/B_i + \delta_6 DR_i * Lever_i) + e_i \quad (1c)$$

To measure conservatism, we run annual cross-sectional regressions on model (1c) and get μ_i and λ_i estimators that are constant across banks, but vary over time. We then estimate the firm-year measure of conservatism, C-score, as the sum of the products of the estimators and the firm-year values of the instruments according to equation (1b). The resulting C-scores are used as additional independent variables on the models of value relevance below.

3.2. Measuring Value Relevance

Next, we examine whether the value relevance of accounting information changed after the mandatory IFRS adoption. Relevant literature provides mixed results when using the price and return value-relevance models (K. Ahmed, Chalmers, & Khelif, 2013). Following Aharony, et al. (2010), we minimize bias in our study by employing both models:

$$\begin{aligned} \textbf{Price model: } MV_{it}/TA_{it} = & \alpha_0 + \alpha_1 BV_{it}/TA_{it} + \alpha_2 NI_{it}/TA_{it} + \alpha_3 DL_{it} + \alpha_4 DL_{it} * BV_{it}/TA_{it} + \\ & \alpha_5 DL_{it} * NI_{it}/TA_{it} + \alpha_6 IFRS_{it} + \alpha_7 IFRS * BV_{it}/TA_{it} + \alpha_8 IFRS * NI_{it}/TA_{it} + \alpha_9 IFRS * DL_{it} + \\ & \alpha_{10} IFRS * DL_{it} * BV_{it}/TA_{it} + \alpha_{11} IFRS * DL_{it} * NI_{it}/TA_{it} + C\text{-score}_{it} + IFRS * C\text{-score}_{it} + \\ & \beta Control_{it} + \gamma YearEff + \delta CountryEff + \varepsilon_{it} \end{aligned} \quad (2a)$$

$$\begin{aligned} \textbf{Return model: } Ret_{it} = & \alpha_0 + \alpha_1 EPS_{it}/P_{it-1} + \alpha_2 \Delta EPS_{it}/P_{it-1} + \alpha_3 DL_{it} + \alpha_4 DL_{it} * EPS_{it}/P_{it-1} + \\ & \alpha_5 DL_{it} * \Delta EPS_{it}/P_{it-1} + \alpha_6 IFRS_{it} + \alpha_7 IFRS * EPS_{it}/P_{it-1} + \alpha_8 IFRS * \Delta EPS_{it}/P_{it-1} + \alpha_9 IFRS * DL_{it} + \\ & \alpha_{10} IFRS * DL_{it} * EPS_{it}/P_{it-1} + \alpha_{11} IFRS * DL_{it} * \Delta EPS_{it}/P_{it-1} + C\text{-score}_{it} + IFRS * C\text{-score}_{it} + \\ & \beta Control_{it} + \gamma YearEff + \delta CountryEff + \varepsilon_{it} \end{aligned} \quad (2b)$$

All variables in models (2a) and (2b) are defined in Table 1. In the case of the return model both the current earnings level and the earnings changes level have

explanatory power on returns. Likewise, book value and net income contribute independently to the price model (Collins, Pincus, & Xie, 1999). To circumvent problems associated with scale effects, all variables (apart from the controlling ones) in model (2a) are deflated by the lagged total assets and those in model (2b) are deflated by the stock price taken three months after the end of the lagged fiscal year. As a sensitivity test, we also employ the lagged number of shares outstanding as a scaling factor in model (2a). We control for both year and country effects in all models. Further, we introduce a loss dummy (DL) and its interactions to address the possible non-linearity between profit and loss entities, because the latter tend to demonstrate lower informativeness than the former (Collins, et al., 1999; Hayn, 1995). The inclusion of this dummy strengthens the validity of our results, especially for the years after the outbreak of the global financial crisis.

We run each of the two value relevance models for the whole period under examination and derive their relevant coefficients. In all cases standard errors are adjusted to account for correlation within firm clusters, thus controlling for potential heteroskedasticity. Finally, we calculate and report the marginal effects of specific interaction variables and their statistical significance similar to Agostino, et al. (2011). Specifically, when *IFRS* equals one, the marginal effects equal the sum of the coefficients for both periods before and after IFRS adoption. In this way, we can estimate the actual statistical significance of each interaction term and directly perform comparisons between the two IFRS sub-periods.

Insert Table 1 About Here

3.3. Control Variables

We include a series of control variables in our value relevance models to determine if they affect dependent variables. Previous research suggests larger firms

are more value relevant because they are more closely followed by analysts and display higher level of information disclosure (Brimble & Hodgson, 2007). In contrast, earnings of small firms could be more informative because of lack of media exposure compared to larger firms (Beekes, Pope, & Young, 2004). Therefore, we use size (measured as the natural logarithm of total assets, i.e. *SizeTA*) as a control variable, but make no prediction on its effect. Furthermore, we expect highly leveraged banks to exhibit lower earnings informativeness (Billings, 1999) and rapidly growing banks to report higher earnings coefficients (Collins & Kothari, 1989; Hail, 2013; Kumar & Krishnan, 2008). Thus, we incorporate *Lever* and *Growth* in our models as measured by the financial leverage ratio and the change in loans, respectively.

4. Data and Descriptive Statistics

4.1. Sample Selection

We obtained our data from Thomson ONE Banker database. The initial sample included all financial companies listed in any of the EU-15 stock markets². Norway also was included in our sample since it is a member of the European Economic Area (EEA) with a particularly close affiliation with the EU³. To focus our attention on banks, we screened the sample by selecting firms with a primary two-digit SIC code of 60, which resulted in a total sample of 464 banks (both active and inactive). The examination period spans from 1998 to 2011, seven years before (1998-2004), and seven years after the mandatory IFRS adoption (2005-2011).

To complete the final dataset, we excluded firms with no full data for at least three years before and after the IFRS mandatory adoption, which eliminated 267

² We excluded Luxembourg from our analysis due to incomplete data. To avoid selection bias we examined whether the exclusion of data from Luxembourg affects our results. The results were qualitatively similar when testing for the total sample.

³ EEA member-states are bound to the EU Directives, including those relating to IFRS adoption. No other EEA members are included in our sample because of lack of data.

entities. Another seven firms were removed because their year-end was different from the 31st of December. From the remaining 190 banks, 12 were either early or late adopters. Pertinent literature has shown that voluntary IFRS adoption might be linked with particular firm behavior and characteristics. To achieve uniformity between our comparisons, our final unbalanced sample (178 banks with 2,223 firm-year observations) contains only those banks that mandatorily adopted IFRS in 2005. An entity's decision to voluntarily adopt IFRS might be the result of embedded characteristics that are similar among early IFRS adopters (Soderstrom & Sun, 2007). By not including voluntary IFRS adopters we avoid potential selection bias.

To retrieve each bank's actual IFRS adoption year, we used Worldscope's "Accounting Standards Followed". To minimize errors in the identification of the adoption year we cross-checked all bank's financial statements between 2004-2006 to verify which of them actually adopted IFRS in 2005, thus eliminating potential classification errors.

Table 2 reports the distribution of the final sample by country. Denmark (23.08%), Italy (15.79%) and France (13.63%) account for more than half of the sample of banks. To minimize the effects of outliers on our results, we winsorized all variables at a 2.5% level. This procedure was particularly important for 2008 and subsequent years, after the global financial crisis which adversely affected financial results. This procedure was performed for each year for consistency reasons.

Insert Table 2 About Here

4.2. Descriptive Statistics

Table 3 reports descriptive statistics for the whole sample period (Panel A), and for each sub-period (Panel B). All figures in Panel A are significantly different from zero. Most of the reported figures display deterioration in the post-IFRS period

compared to the pre-IFRS period. Specifically, market value to total assets (MV/TA), book value to total assets (BV/TA), returns, earnings to price (EPS/P) and change in earnings to price (Δ EPS/P) are lower, while the leverage ratio is higher. This can be attributed either to the IFRS adoption or to the 2008 financial crisis that adversely affected the financial sector. Early evidence on IFRS mandatory implementation shows that, during the period 2005-2007, accounting figures have been enhanced compared to the pre-IFRS period (Barth, Landsman, & Lang, 2008). Therefore, it is likely that the global financial crisis is responsible for the bad performance of banks in the post-IFRS period. Standard deviations also are increased in the post-IFRS period for all variables apart from the market to book ratio, an indication of higher volatility. Higher volatility of earnings and change in earnings can be associated with lower income smoothing and management discretion in accordance with the IASB's perspective. On the other hand, increased price volatility and price changes can be attributed to either a greater level of information incorporated into stock prices or to a larger market information asymmetry. Conservatism scores (C-scores) turn from positive to negative from period to period, implying a lack of conservatism in the post-IFRS era. Although the IASB deems conservatism as an undesirable property of financial reporting (and our preliminary statistics indicate that this purpose has been fulfilled), relevant literature suggests that conditional conservatism is an important characteristic of accounting quality.

Insert Table 3 About Here

5. Empirical Results

Table 4 presents the results from the price and the return models (Panels A and B, respectively). Both models include a dummy variable for those firm-years that report losses (DL), a dummy variable (IFRS) for the years of mandatory IFRS

adoption and a gamut of bank characteristics, including conservatism (C-score) among others, all acting as control variables. Those variables improve not only the overall unobserved heterogeneity, but also the explanatory power of the models (Gaio, 2010).

The empirical findings from the price model show a statistically significant increase in the earnings informativeness in the post-IFRS period. In contrast, the book value, which is positive and statistically significant before IFRS adoption, becomes insignificant (0.087) in the post-IFRS era, thus verifying A. S. Ahmed, Neel, and Wang (2013). Agostino, et al. (2011) also report similar findings when they use end-of-March prices (as in our analysis). Panel B shows that IFRS inversely affects the two main variables. Specifically, earnings' informativeness falls, while change in earnings' informativeness increases. However, both variables remain positive and statistically significant after IFRS adoption.

The interaction between earnings and the loss dummy is negative and significant in both models, consistent with Collins, et al. (1999) and Hayn (1995). The post-IFRS period negatively affected stock market performance for banks (both models report negative and significant *IFRS* intercepts). This is in contrast to Agostino, et al. (2011) who employ a narrower time period (2000-2006). One possible explanation is that other factors (perhaps the global financial crisis) adversely affected bank stock price performance after 2006.

Both models suggest that conservatism is positively related to the values of banks in the pre-IFRS period. However, this relationship is reversed after 2005; both models' *C-score*IFRS* coefficients display a negative and significant drop resulting in negative marginal effects (though this is significant only for the price model). This is consistent with the IASB's desire that financial reporting should be more value

relevant, but less conservative. One implication is that IFRS triggered the application of less conservative accounting practices by banks, which might have contributed to the ensuing global financial crisis. We performed further analyses to explore this issue (see sub-section 6.1.). Finally, the signs of the control variables are consistent between the two models, noting that *SizeTA* is significant only for the price model, and *Lever* and *Growth* are significant only for the return model. Our findings suggest that smaller, less-leveraged and growing banks are more value relevant compared to bigger, high-leveraged and non-growing banks.

Insert Table 4 About Here

6. Additional Analyses

6.1. Examination of Institutional Factors

Nobes (2013) points out the importance of the pre-IFRS practices and the institutional setting in general, as determinants of companies' post-IFRS policy choices. In this section, we investigate the relationship between value relevance and conditional conservatism while considering: a) the legal origin, b) the level of legal enforcement, and c) the divergence between local standards and IFRS. The importance of the legal origin in the IFRS adoption and implementation process has been stressed in a series of studies. Specifically, compared to code-law countries, common-law countries: a) apply methods that create more conditional conservatism (Ball, Kothari, & Robin, 2000; Lara & Mora, 2004; Watts, 2003b), and b) exhibit higher value relevance of financial reports (Ali & Hwang, 2000; Anandarajan, Francis, Hasan, & John, 2011). Furthermore, value relevance is found to increase after the mandatory IFRS adoption, but this increase depends on the enforcement strength of the adopting country (Landsman, Maydew, & Thornock, 2012). Moreover, Byard, Li, and Yu (2011) and Florou and Pope (2012) indicate that benefits resulting from

IFRS adoption are greater for countries that display large differences between local GAAP and IFRS.

Therefore, we conduct further (untabulated) analyses of the effect of institutional factors on the post-IFRS value relevance and its relationship with conservatism. To illustrate the effect of the above institutional factors we incorporate dummy variables in our existing models (2a) and (2b) for the four categories of legal origin (French, German, Scandinavian and English), and the three categories of enforcement and of IFRS divergence (high, medium and low).

When considering legal origin we find that a) IFRS does not improve the informativeness for the French-origin group, b) marginal effects of both German and Scandinavian groups show that IFRS have a positive effect on the informativeness of both earnings and book values and c) the English origin demonstrates stability or even deterioration in its value relevance. All these results are consistent with the extant literature (Devalle, et al., 2010; Gastón, et al., 2010; Hung & Subramanyam, 2007). Moreover, high-enforcement banks present much higher levels of value relevance after the adoption of IFRS compared to the rest of the enforcement partitions, while low-enforcement entities experience no or even negative value relevance shifts. In terms of IFRS divergence, the medium-differences partition reports the greatest performance. Contrary to our expectations, banks that operate in countries with high differences between local and international standards do not display a positive reaction to the value relevance after IFRS implementation, which could be attributed to the lack of familiarization with complex IFRS, such as those that deal with financial instruments (i.e. IAS 32 and 39).

We also discern various patterns between conservatism and value relevance when considering the environment in which each bank operates. Specifically, in the

post-adoption era more conservative banks provide more value relevant information when situated in countries of English origin, high legal enforcement or low differentiation between domestic and international standards. These findings suggest that the conservatism-value relevance relationship can find fertile ground under the appropriate circumstances.

6.2. Other Robustness Checks

To control for potential cross-sectional dependence, following Pesaran (2006) and Kousenidis, et al. (2009), we estimate both the returns and the price models by incorporating the cross-sectional means of dependent and independent variables. The results (untabulated) of these regressions were qualitatively similar to those already reported.

Additionally, as a sensitivity test we run equation (2a) and deflate all variables by the number of shares outstanding (e.g. Barth & Clinch, 2009; Venter, et al., 2014) instead of total assets. Our findings remained unaltered despite this modification.

As documented by Hail (2013), events associated with market crises may affect value relevance both over time and cross-sectionally. Since our post-IFRS period mostly coincides with the outbreak of the global financial crisis, we perform further analyses. To address the question whether the financial crisis affected value relevance, we repeat our tests by including a dummy variable (*CRISIS*) that equals one for 2008 (the year that European banks were mostly inflicted by the crisis) and zero otherwise. Each model includes the new dummy variable and its interaction with the rest of independent variables. Results from the full sample show that all interactions are insignificant, apart from the interaction term *CRISIS***Inc/TA*, which is negative and statistically significant in all post-IFRS cases. This seems reasonable taking into account that credit institutions experienced remarkable decreases in their

income during that specific year. In a similar vein, we conduct another sensitivity test to identify whether the relationship between conservatism and value relevance is affected by the crisis. We split the post-IFRS period into two separate periods: the pre-crisis period spanning from 2005 to 2007, and the post-crisis period for the years 2008-2011. We run the same models by replacing the dummy variable *IFRS* by the dummy *CRISIS*. We find that the interaction between conservatism and the new dummy variable (*CRISIS**C-score) shows a statistically significant positive change. This incremental effect forms an inverse relationship between value relevance and conservatism compared to the one observed after IFRS adoption (*IFRS**C-score) in our main analysis. More specifically, in the post-crisis period conservatism exhibits more value relevance as suggested by both models. A possible explanation may be that after 2008 the banking supervising mechanism enforced more stringent and robust regulation on banks in order to improve the transparency of banking operations. At the same time, this finding emphasizes the substantial role of conservatism during crises as already demonstrated by accounting literature (B. Francis, Hasan, & Wu, 2013).

7. Concluding Remarks

This study examines the effect of mandatory IFRS adoption on the value relevance of accounting information within the European banking sector. We opt for investigating banks because of their significant role in the economy, their specific particularities, and the considerable impact of IAS 39 and fair valuation on this kind of business. We also explore the role of conditional conservatism in valuation. Although value relevance is an unquestionable quality characteristic of accounting, conditional conservatism can be either desirable, based on extant literature, or undesirable, based on the IASB (2010) which demands neutrality over prudence

(conservatism). Therefore, we investigate the role of conditional conservatism as an additional qualitative feature of accounting quality in the IFRS era.

We find an increase in the informativeness of earnings and a significant decrease in book value relevance after mandating IFRS (price model). In a similar vein, our return model depicts an increase (drop) in earnings (change of earnings) relevance in the post-IFRS period. Both models suggest that conservatism is positively related to the values of banks in the pre-IFRS period. However, this relationship is reversed after 2005 demonstrating that more conservatism is associated with less value relevance post-IFRS. Although, this finding is in line with IASB's will, we conjecture that the lower levels of conservatism were directly associated with the global financial crisis. When splitting the post-IFRS period into pre- and post-crisis, we find that conservatism has significantly increased and is positively associated with value relevance in the second period.

When examining institutional parameters we find evidence that the pre-IFRS practices and institutional settings play a significant role not only in the level of value relevance in the post IFRS period, but also in its relationship to conservatism. Notably, in the post-adoption era value relevance is associated with more conservatism in countries with strong legal enforcement or English-origin or whose accounting philosophy is closer to that of IFRS.

Our findings have implications at a regulatory level. For standard setters, conditional conservatism should be a preferable feature of financial reporting and companies should be encouraged to incorporate conservative practices as a way of improving value relevance and, consequently, accounting quality. Our findings also suggest that the conservatism-value relevance relationship is contingent on specific institutional characteristics. Additionally, the level of real harmonization is far from

satisfactory, even in a heavily-regulated sector like banking. Further measures should be taken by IASB for increasing the uniformity level with low-enforcement, code-law and high-IFRS-differences countries.

Our study is subject to some caveats. A survivorship bias might exist since we require six years of data surrounding IFRS adoption for inclusion in our sample. More importantly, the post-IFRS period coincides with the burst of global financial crisis, which may have severely affected this bias. Furthermore, the C-score methodology has been developed in a US-oriented context. The validity of this measure might be compromised in countries with other institutional settings, such as weak legal enforcement of high level of IFRS divergence. Finally, although we have attempted to control for various factors that might affect value relevance, other factors could be considered in our price and return models.

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Table 1
Definitions of Model Variables

Variable	Operational Definition	Model
Ret_{it}	Logarithmic stock return of firm i at year t as measured 3 months after fiscal year-end	(1c), (2a)
DR_{it}	Dummy variable that equals 1 if market return of firm i for year t is negative and 0 otherwise	(1c)
EPS_{it}/P_{it-1}	Earnings per share before extraordinary items of firm i at year t scaled by the price taken 3 months after the end of fiscal year t-1	(1c), (2a)
$\Delta EPS_{it}/P_{it-1}$	Change in earnings per share before extraordinary items of firm i at year t scaled by the price taken 3 months after the end of fiscal year t-1	(2a)
MV_{it}/TA_{it}	Market value of firm i 3 months after the end of fiscal year t, scaled by the total assets of the year t-1	(2b)
BV_{it}/TA_{it}	Book value of firm's i equity for the year t, scaled by the total assets of the year t-1	(2b)
NI_{it}/TA_{it}	Net income before extraordinary items of firm i for the year t, scaled by the total assets of the year t-1	(2b)
DL_{it}	Dummy variable taking the value 1 for firms reporting losses for year t and 0 otherwise	(2a), (2b)
$IFRS_{it}$	Dummy variable taking the value 1 for the years after the mandatory IFRS adoption and 0 otherwise	(2a), (2b)
C-score	Conservatism score as estimated with the model of Khan and Watts (2009)	(2a), (2b)
SizeMV	Natural logarithm of the market value of equity	(1c)
M/B	Market-to-book ratio	(1c)
SizeTA	Natural logarithm of total assets	(2a), (2b)
Growth	Annual growth in loans estimated as total net loans for the year t divided by the total net loans in year t-1	(2a), (2b)
Lever	Financial leverage estimated as the ratio of total debt to market value of equity	(1c), (2a), (2b)

Note: The column (Model) regards the model(s) where each of the above variables makes its presence (signified by the corresponding number of each equation in the text).

Table 2
Sample Composition and Country Distribution

Country	Number of Firm-Year Observations (%)	Number of Firms (%)
Austria	66 (2.97%)	5 (2.81%)
Belgium	42 (1.89%)	3 (1.69%)
Denmark	513 (23.08%)	39 (21.91%)
Finland	28 (1.26%)	2 (1.12%)
France	303 (13.63%)	25 (14.04%)
Germany	112 (5.04%)	10 (5.62%)
Greece	145 (6.52%)	11 (6.18%)
Ireland	32 (1.44%)	3 (1.69%)
Italy	351 (15.79%)	31 (17.42%)
Netherlands	22 (0.99%)	2 (1.12%)
Norway	202 (9.09%)	15 (8.43%)
Portugal	67 (3.01%)	5 (2.81%)
Spain	171 (7.69%)	14 (7.87%)
Sweden	56 (2.52%)	4 (2.25%)
UK	113 (5.08%)	9 (5.06%)
Total	2,223 (100%)	178 (100%)

Table 3
Descriptive Statistics for Value Relevance Variables

Variables	Total sample			Pre-IFRS period			Post-IFRS period			Pre- & Post- IFRS t-test
	Mean	Median	St.dev	Mean	Median	St.dev	Mean	Median	St.dev	
C-score	-0.857***	0.029	4.176	0.163***	0.035	1.358	-1.948***	-0.005	5.641	12.28***
Ret	-0.013***	0.013	0.179	0.028***	0.032	0.121	-0.058***	-0.023	0.217	11.74***
EPS/P	0.068***	0.077	0.129	0.090***	0.083	0.062	0.045***	0.073	0.171	8.27***
ΔEPS/P	-0.005*	0.004	0.115	0.008**	0.006	0.047	-0.018***	0.001	0.157	5.33***
MV/TA	0.112***	0.088	0.087	0.122***	0.101	0.080	0.101***	0.071	0.094	5.70***
BV/TA	0.082***	0.070	0.045	0.085***	0.072	0.045	0.080***	0.069	0.045	2.58***
NI/TA	0.008***	0.007	0.009	0.009***	0.008	0.006	0.006**	0.006	0.010	9.66***
Size(TA)	13.906***	13.610	1.926	13.724***	13.395	1.908	14.103***	13.829	1.927	-4.72***
Growth	0.089***	0.086	0.125	0.093***	0.086	0.123	0.084***	0.086	0.126	1.77**
Lever	7.015***	4.298	8.853	4.951***	3.353	5.012	9.262***	5.541	11.258	-11.89***

Notes

The first set of columns refers to the descriptive statistics of the whole sample (*, ** and *** denote one sample t-test differences from zero at the 0.10, 0.05 and 0.01 level respectively). The rest of the columns illustrate descriptives between the pre and post-IFRS period. *, ** and *** denote two sample t-test differences at the 0.10, 0.05 and 0.01 level respectively.

C-score is the incremental timeliness of bad news as measured by the model of Khan and Watts (2009); Ret is annually compounded stock return beginning 9 months before and ending 3 months after fiscal year-end; EPS/P is earnings before extraordinary items per share scaled by beginning of period price taken 3 months after fiscal year-end; ΔEPS/P is annual change in earnings before extraordinary items per share scaled by beginning of period price taken 3 months after fiscal year-end; MV/TA is market capitalization 3 months after fiscal year-end scaled by total assets; BV/TA is fiscal year-end book value of equity scaled by total assets; NI/TA is fiscal year-end income before extraordinary items scaled by total assets; Size(TA) is the natural logarithm of the fiscal year-end total assets; Growth is the change in net loans between the current and the previous year ; Lever is the ratio of fiscal year-end total debt scaled by market value of equity.

Table 4
Results for Value Relevance Models

Panel A: Price model (2a)			Panel B: Return model (2b)		
Variables	Coefficients	Marginal Effects	Variables	Coefficients	Marginal Effects
IFRS	-0.034***		IFRS	-0.153***	
C-score	0.140**		C-score	0.352*	
C-score*IFRS	-0.374***	-0.234***	C-score*IFRS	-0.375**	-0.023
BV/TA	0.123**		EPS_P	0.643***	
NI/TA	5.989***		ΔEPS_P	0.030	
DL	-0.005		DL	-0.096*	
DL*BV/TA	0.235		DL*EPS_P	-0.829**	
DL*NI/TA	-7.203***		DL*ΔEPS_P	-0.294	
IFRS*BV/TA	-0.036	0.087	IFRS*EPS/P	-0.172*	0.471***
IFRS*NI/TA	2.133***	8.122***	IFRS*ΔEPS/P	0.198*	0.228***
DL*IFRS	0.032*		DL*IFRS	0.071	
DL*IFRS*BV/TA	-0.304		DL*IFRS*EPS/P	0.621*	
DL*IFRS*NI/TA	-0.919		DL*IFRS*ΔEPS/P	0.271	
SizeTA	-0.662***		SizeTA	-0.061	
Growth	0.009		Growth	0.057**	
Lever	-0.008		Lever	-0.058*	
Constant	0.124***		Constant	0.013	
Country effects	Yes		Country effects	Yes	
Year effects	Yes		Year effects	Yes	
Adj R-squared	62.69%		Adj R-squared	63.78%	
Number of observations	2,081		Number of observations	2,072	

Notes

Panel A refers to the results of the Price model. The dependent variable *MV/TA* is the market value of firm i 3 months after the end of fiscal year t scaled by total assets in year t-1. The independent variables are the following: *IFRS* is a dummy variable taking the value 1 for years after the mandatory IFRS adoption and 0 otherwise, *C-score* is the conservatism score calculated with the Khan and Watts (2009) model on a firm-year basis, *NI/TA* is the net income before extraordinary items of firm i for the year t scaled by total assets in year t-1, *BV/TA* is the book value of firm's i equity for the year t scaled by total assets in year t-1, *DL* is a dummy variable taking the value 1 for firms reporting losses for year t and 0 otherwise, *SizeTA* is the natural logarithm of total assets, *Lever* is the ratio of total liabilities to common equity and *Growth* is the change in net loans between years t-1 and t.

Panel B refers to the results of the Return model. The dependent variable *Ret* is the logarithmic stock return of firm i at year t as measured 3 months after fiscal year end. The independent variables are the following: *EPS/P* is earnings per share scaled by beginning of period price and *ΔEPS/P* is change in earnings per share scaled by beginning of period price. The rest of the variables are as described above. Both models' results refer to the whole sample (15 countries) during the period 1998-2011. All standard errors are adjusted to account for clustering on a firm level. Marginal effects are reported in separate columns for all variables interacting with the IFRS dummy variable. The statistical significance of the marginal effects is calculated similar to Agostino et al. (2011).

*, **, *** denote difference is significant at the 0.10, 0.05 and 0.01 level, respectively.

