

Do Harmonized Accounting Standards lead to Harmonized Accounting Practices?: An empirical study of IAS 39 in some European Union countries

First Draft

Abstract

Since 2005, IASB standards became mandatory for publicly listed European companies in the consolidated financial statements (Rule 1606/2002 of European Union Commission). The adoption of a uniform accounting standards is expected to increase the comparability of the financial information. However, formal harmonization does not lead to a convergence in actual financial reporting practice, material harmonization, and there are some cultural, political, social and economic factors that can influence the preparation and presentation of financial statements. The objective of this paper is to investigate the level of harmonization of financial instruments reporting practice with IAS 39 (measurement of financial instruments) and to identify if different levels of harmonization are associated with firm specific factors. Based on Rahman *et al.* (2002) methodology, we used Jacquard Index in order to determine the level of harmonization between IAS 39 and financial reporting practice of a broad based sample of number of European listed firms in 2005. Based on these results, we also applied regression analysis to identify the firm specific characteristics that affect the level of convergence of financial instruments reporting practice. The results of this study permits to conclude that formal harmonization does not necessarily lead to material harmonization as previous studies have empirically showed.

Author Keywords: country-specific factors, international accounting standards, value relevance.

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1. Introduction

The globalisation of financial markets has given rise to the demand of internationally comparable external financial reporting. Harmonisation of accounting standards has been seen as an important instrument for achieving more transparent, consistent and comparable financial information at an international level. Therefore, the European Union (EU) Commission issued, in 2002, the rule 1606/2002 that requires publicly listed European companies to adopt International Accounting Standards Board (IASB) standards in the preparation and presentation of consolidated accounts for the periods beginning on or after 2005.

However, comparable financial information is unlikely to be achieved only by harmonized accounting standards.

First, most political and economic influences on financial reporting practices remain local (Ball, 2005). Capital markets are not perfectly integrated and economic and political integration are not yet fully complete (Ball, 2005). Therefore, some factors (like legal systems, financial systems, role of the accounting profession, tax alignment and extent of private versus public ownership of firms) that in the past justified differences between accounting systems remain different among European countries.

Second, the enforcement of financial reporting standards is considered to be an important factor in the promotion of comparable information (CESR, 2003). Without an effective worldwide enforcement mechanism, the local political and economic factors will continue to exert substantial influence on local financial reporting practice (Ball, 2005).

From all the standards issued by IASB, the accounting treatment of financial instruments is without any doubt one of the subjects that raise more controversy. At first, IASB requires the adoption of fair value for almost all financial instruments. There are many potential problems with fair value in practice, especially when liquid markets are not available. If liquid markets are not available, firms must estimate the fair value. This increases opportunities for manipulation and may introduce some “noise” due to imperfect estimation of variables or imperfect or inadequate use of valuation models.

Second, the enforcement of International Accounting Standard (IAS) 39 has been one of the most difficult processes due to political pressures. IAS 39 was first accepted by EU without including two paragraphs.

Third, IAS 39 is one of the most extensive standards and is periodical revised. Since its issue, IAS 39 has been revised several times.

Finally, the accounting treatment of financial instruments under IAS 39 is different from the accounting treatment under local accounting standards especially for code-law countries, like Portugal, France and Italy that use less the fair value valuation. For these reasons, it seems that the compliance with IAS 39 may be more difficult than the compliance with other standards.

The objective of this paper is to investigate the level of compliance of financial instruments reporting practice with IAS 39 (measurement of financial instruments) and to identify the determinants of the level of compliance. Our sample consists of 203 European listed firms that are included in PSI 20, CAC 40, MIB 30, DAX 30 and FTSE 100, in 2005.

First, we investigate the level of compliance of financial instruments reporting practice with IAS 39. Using a self-constructed compliance checklist, we measure the extent of publicly listed companies' compliance with IAS 39, in 2005. Data was collected, manually from the first annual reports under International Financial Reporting Standards (IFRS)/IAS. Then, based on Rahman *et al.* (2002) methodology, we calculate the Jacquard Index for each firm and for each country, in order to determine the level of harmonization between IAS 39 and financial reporting practice, by country. We find no significant differences in the level of compliance of financial reporting practice between the countries. We find that the *Jaccard* Indexes are between 0.68 and 0.93, which seems to suggest that the level of compliance of financial instruments reporting practice is not totally achieved by harmonized accounting standards.

Then, we investigate the determinants of the level of compliance. To accomplish this second objective, we apply a linear regression model to relate the dependent variable (Jacquard Index) with some explanatory variables (country, industry, auditor, size, leverage, profitability, listing status and year of IAS/IFRS adoption). We find that industry and year of adoption are the only explanatory variable whose estimated coefficient is statistically significant with a 5% significance level. This seems to suggest

that the level of compliance with IAS 39 is greater for financial institutions, as predicted. However, contrary to our predictions, we also find that the estimated coefficient of year of adoption is negative and statistically significant for 1% significance level which seems to suggest that first-time adopters tend to comply more with IAS 39 than firms that adopt IAS 39 in a previous period.

Our findings make three contributions to prior literature. First, we investigate the extent of IAS 39 compliance in jurisdictions where the adoption of IFRS/IAS is mandatory. Most previous IAS compliance studies use samples of firms that adopt voluntarily IAS/IFRS (Street *et al.*, 1999; Tower *et al.*, 1999; Street and Bryant, 2000; Street and Gray, 2001 and Glaum and Street, 2003). Second, we investigate the compliance with IFRS/IAS in the first period that firms must adopt those standards. As IFRS 1 states (IFRS 1, §1), it is important to assure that the first financial statements prepared and presented under IFRS contain high quality information that is transparent for users and comparable over all periods presented and provides a suitable starting point for accounting under IFRS. Finally, we investigate the compliance with IAS 39, one of the most controversial and complex standards.

The structure of the paper is as follows. Section 2 describes the main accounting policies for financial instrument under IAS 39 and reviews relevant literature. Section 3 provides a description of the hypotheses, variables and sample. Section 4 present empirical results. Finally, in section 5 we resume and conclude.

2. Background

2.1. Main accounting policies for financial instruments (IAS 39)

The objective of IAS 39 is to establish principles for recognising and measuring financial assets, financial liabilities and some contracts to buy or sell non-financial items. Requirements for presenting information about financial instruments and for disclosing information about financial instruments is in IAS 32 *Financial Instruments: Presentation* and in IFRS 7 *Financial Instruments: Disclosures*, respectively.

IAS 39 requires that a firm measures financial assets and financial liabilities recognised initially at its fair value plus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

For the purpose of measuring a financial asset after initial recognition, IAS 39 classifies financial assets into four categories: financial assets at fair value through profit or loss; held-to-maturity investments; loans and receivables; and available-for-sale financial assets.

Table 1 summarizes the initial and subsequent measurement of the four categories of financial assets.

TABLE 1 ABOUT HERE

For the purpose of measuring a financial liability after initial recognition, IAS 39 classifies financial liabilities into two categories: financial liabilities at fair value through profit or loss and other financial liabilities.

Table 2 summarizes the initial and subsequent measurement of the two categories of financial liabilities.

TABLE 2 ABOUT HERE

IAS 39 also identifies the accounting treatment of derivatives. Figure 1 summarizes the initial and subsequent measurement of the derivatives classified as hedge instruments and classified as at fair value through profit and loss.

FIGURE 1 ABOUT HERE

2.2 Previous studies

Our study is related to two main streams of investigation. First, our study is closely related to those studies that investigate compliance with IAS/IFRS. Second, our study is also related to those studies that investigate the level of disclosure of information about financial instruments.

Studies about the compliance with IAS/IFRS

Several studies investigate the level of compliance of firms' accounting practices with IAS/IFRS.

Street and Bryant (2000) investigate firms that make reference to the use of IASs, in 2000, and find that the overall level of disclosure is greater for firms with US listings. They also find that a higher level of disclosure is associated with an audit opinion that states the financial statements are in accordance with IASs and that International Standards of Auditing were followed when conducting the audit.

Street and Gray (2001) examine the financial statements and footnotes of a worldwide sample of firms referring to the use of IASs, to explore the extent of noncompliance, and to provide information about the factors associated with noncompliance. They find that there is a significant extent of noncompliance with IAS and that key factors associated with levels of compliance include listing status, being audited by a Big 5+2 firm, the manner of reference to IAS, and country of domicile. As regards compliance with IAS measurement and presentation standards, they find that compliance tends to be higher for firms that make exclusive reference to the use of IAS, are audited by a Big 5+2 firm, and that are domiciled in China. At the same time, compliance tends to be lower for firms domiciled in France or Africa.

Street *et al.* (1999) investigate the extent of compliance with the IASs, in terms of accounting policies and disclosures, in 1996. They find that the degree of compliance by firms is very mixed and selective and identify the most important areas of non-compliance. Since the study is based on 1996's information, it does not cover financial instruments' standards.

Al-Shammari *et al.* (2006) also investigate the extent of compliance with IASs by firms in the Gulf Co-Operation Council member states. They find that the level of compliance is lower than that observed in developed countries and that compliance varies across firms according to a number of attributes, such as industry, size, leverage and internationality.

Studies about the level of disclosure of financial instruments' information

Woods and Marginson (2004) evaluate the usefulness of disclosures under FRS 13 from a user's perspective based on the 1999 annual reports of UK banks. Their findings suggest that the narrative disclosures are generic in nature, the numerical data

incomplete and not always comparable, and that it is difficult for the user to combine both narrative and numerical information in order to assess the banks' risk profile.

Dunne *et al.* (2003) also investigate changes in the level of disclosure on derivatives and other financial instruments that followed the introduction of FRS 13. They find that the implementation of FRS 13 was associated with a large increase in derivatives related information available in annual reports.

Finally, Chalmers and Godfrey (2004) investigate managers' responses to derivative financial instruments disclosure requirements proposed by the Australian Accounting standards setting bodies and the Australian Society of Corporate Treasures (ASCT). They find that the legitimacy and institutional theories provide plausible explanations as to what impulse prompted managers' responses.

3. Hypotheses and research design

3.1. Hypotheses

IASB standards are developed in environments where accounting practices are especially directed to private sector, reporting rules are largely unaffected by taxation requirements and capital is traditionally raised in public markets. IASB standards are clearly influenced by common-law countries, like United States of America (USA) and the United Kingdom (UK). However, Portuguese, Spanish, French, Italian and Germany institutional and legal environments are different and these differences affect the accounting systems.

We expect that the level of compliance with IAS 39 will be higher for firms from common-law countries than for firms from code-law countries for two main reasons. First, IASB standards are more similar to accounting standards from common-law countries than from code-law countries. Therefore, it is easier for firms from common-law countries to comply with IASB standards. Second, LaPorta *et al.* (1998) show that the index of private and public enforcement is higher for UK than for other European countries. Additionally, LaPorta *et al.* (1998) also that the creditor rights and shareholders rights tend to be higher in UK than in other European countries.

This leads to our first hypothesis:

H1: Since common-law countries have more strong enforcement mechanisms, we expect that the level of compliance with IAS 39 will be higher for firms from common-law countries than for firms from code-law countries.

To capture the country effect, we use a binary variable that assumes the value 1 if the firm is from a common-law country and 0 otherwise (hereafter COUNTRY).

Financial institutions are more regulated entities than firms from other sectors. Therefore, financial institutions have more incentives to comply with IASB standards than non-financial firms. Additionally, it is expectable that entities in a given industry may comply more closely with a particular IAS that is more applicable to their activities. Consequently, financial institutions tend to comply more with IAS 39, since their activity is closely related to financial instruments.

This leads to our second hypothesis:

H2: Since financial institutions are more regulated, we expect that the level of compliance with IAS 39 is more likely to be higher in financial institutions than in the other sectors.

To capture the industry effect, we use a binary variable that assumes the value 1 if the firm is a financial institution and 0 otherwise (hereafter INDUSTRY).

Prior research provides some evidence that the level of compliance may be associated with the type of auditor. Auditing is considered to be an important enforcement mechanism. There is evidence that earnings of US firms with Big 4 are of higher quality and that the stock market values earnings surprises of Big 4 clients more highly than earnings surprises of firms with non-Big 4 auditors (Teoh and Wong, 1993; Krishnan, 2003). Additionally, Francis and Wang (2006) find that earnings quality increases for firms with Big 4 auditors, based on an international broad based sample. In fact, non-Big 4 auditors do not have the same incentives to enforce greater accounting information quality: non-Big 4 auditors have less to loose in accommodating clients and signing off on accounting information that is of lower quality.

We expect that firms that are audited by one of the Big 4 will have a higher level of compliance with IAS 39.

This leads to our third hypothesis:

H3: Since auditing is an important enforcement mechanism, we expect that the level of compliance with IAS 39 is more likely to be higher for firms audited by one of the BIG 4.

To capture the auditor, we use a binary variable that assumes the value 1 if the firm is audited by one of the BIG 4 and 0 otherwise (hereafter AUDITOR).

Larger firms are more likely to comply with IASB standards for three main reasons. First, larger firms are more visible and tend to act to protect their reputation. Second, larger firms tend to have more resources to comply with new accounting standards. Finally, larger firms tend to be less affected by the adjustments than smaller firms.

This leads to our fourth hypothesis:

H4: Since larger firms are more visible, have more resources and tend to be less affected by the adoption of a new accounting model, we expect that the level of compliance with IAS 39 is more likely to be higher in larger firms.

To capture firms' size, we use the market value of equity (hereafter MVE). We obtain the information from Worldscope Database and the amounts are expressed in thousands of Euros.

We also expect that firms that are listed in more than one market tend to have a higher level of compliance. Street and Bryant (2000), Street and Gray (2001) and Glaum and Street (2003) have shown that firms which are cross listed have higher levels of compliance.

This leads to our fifth hypothesis:

H5: We expect that the level of compliance with IAS 39 is more likely to be higher in firms listed in more than one market.

To capture the listing status, we use a binary variable that assumes the value 1 if the firm is listed in more than one market and 0 otherwise (hereafter INT).

Firms with higher leverage are expected to disclose more information in order to reduce agency costs. A greater level of disclosure can be expected to lead to more compliance with IASB standards.

This leads to our sixth hypothesis:

H6: Since higher leveraged firms are expected to disclose more information, we expect that the level of compliance with IAS 39 is more likely to be higher in firms with higher leverage.

To capture leverage, we use the ratio Total debt/Total assets (hereafter TDTA). We obtain the information from Worldscope Database and the amounts are expressed in thousands of Euros.

Prior research regarding the association between profitability and level of compliance found mixed results. Wallace *et al.* (1994) and Wallace and Naser (1995) research indicates a significant association. However, Al-Shammari *et al.* (2006) find that profitability is not a statistically significant variable. Due to the mixed findings from prior studies, we do not predict a sign for the estimated coefficient of profitability.

To capture profitability, we use the ratio net income (hereafter NI). We obtain the information from Worldscope Database and the amounts are expressed in thousands of Euros.

Finally, we expect that the number of years of IASB standards adoption is an important variable to explain the level of compliance. We expect that the knowledge and the correct adoption of IAS 39 increase with time.

This leads to our final hypothesis:

H7: We expect that the level of compliance with IAS 39 is more likely to be higher in firms that adopt IAS 39 before 2005 than for first time adopters.

To capture the number of years of IAS 39 adoption, we use a binary variable that assumes the value 1 if the firm adopted IASB standards before 2005 and 0 otherwise (hereafter PASTADOPT).

3.2. Sample

Our sample consists of 203 European listed firms that are included in PSI 20, CAC 40, MIB 40, DAX 30 and FTSE 100 in 2005 (Table 3). In this exploratory study, we exclude from our sample the firms that only present their financial reports based on USGAAP or UKGAAP, therefore firms that do not apply IASs.

TABLE 3 ABOUT HERE

Table 3, Panel A, shows descriptive statistics for our sample firms in terms of country representation. Most of the firms are from United Kingdom. Table 3, Panel B, shows representation by industry. The sample comprises a range of industries, with most firms in financial sector (24,6%), utilities (12,8%), construction (5,9%) and retailers (5,9%).

3.3. Methodology

The first objective of this study is to investigate the level of compliance of financial instruments reporting practice with IAS 39 (measurement of financial instruments). To accomplish this goal, we use a self-constructed compliance checklist in order to measure the extent of publicly listed firms' compliance with IAS 39, in 2005 (Appendix A). Data was collected, manually from the first annual reports under IFRS/IAS. Then, based on Rahman *et al.* (2002) methodology, we calculate the Jaccard Index for each firm in order to determine the level of harmonization between IAS 39 and financial reporting practice.

The option for similar measures is justified by Everitt and Rabe-Hesketh (1997, p. 15) and Krzanowski and Marriot (1995, p. 69). These authors suggest that in the cases where the variables in study are of binary type, the measures of similarity are traditionally used, rather than the measures of dissimilarity.

The information for accounting treatment was collected on a dichotomous classification "1" and "0". We assigned the value "1" when a firm used the accounting procedure and a "0" when a firm did not use the accounting procedure. In certain circumstances, we identified that a firm was not using an accounting procedure because the company was

not required to. In these situations, we assigned a blank and such cases were excluded from our analyses. Finally, when the firm did not disclose an accounting procedure but the firm was required to do it, a “0” was assigned.

Therefore, from the exhaustive application of procedures, we obtained a set of binary data to which applied measures of similarity for the analysis of compliance of financial instruments reporting practice with IAS 39.

The calculation of the above coefficients will be made by a 2*2 table, as follows:

		Firm		Total
		1	0	
IAS 39	1	<i>a</i>	<i>b</i>	<i>a+b</i>
	0	<i>c</i>	<i>d</i>	<i>c+d</i>
Total		<i>a+c</i>	<i>b+d</i>	<i>a+b+c+d</i>

Where:

a = Number of matches when the firm adopted the procedure required by IAS 39, (1,1);

b = Number of *mismatches*, (1,0);

c = Number of *mismatches*, (0,1);

d = Number of matches when both the, firm did not adopt the procedure and the procedure is not required by IAS, (0,0).

Two types of *Jaccard* coefficients were calculated. The first coefficient measures the extent of likeness between the practices that were adopted by the firm and the IAS 39, named *JACC*₁. The second coefficient measures the degree of likeness for accounting treatment that were not adopted in the two cases, the firm and the IAS 39, that we denominated *JACC*₂.

The expressions used for the coefficients, for each pair, are translated by the following expression:

$$JACC_1 = \frac{a}{a+b+c} \quad (1)$$

$$JACC_2 = \frac{d}{b+c+d} \quad (2)$$

The values of the indexes may vary between 0 and 1. The lower the value of the index the lower the degree of harmonisation between the procedures required by IAS 39 and the practices adopted by the firms, for the theme in question. On the contrary, the higher they are, the higher the degrees of harmonisation.

After estimating the coefficients by firm, we compute the average of *Jaccard* indexes by country and we also compute the average of *Jaccard* indexes for all the firms from the 5 countries included in our sample.

The second objective of this paper is to investigate the determinants of the level of compliance. To accomplish this second objective, we estimate the following linear regression model:

$$\begin{aligned} \text{Ln}(JACC_1) = & \alpha_0 + \alpha_1 \text{COUNTRY}_i + \alpha_2 \text{INDUSTRY}_i + \alpha_3 \text{AUDITOR}_i + \alpha_4 \text{MVE}_i + \\ & + \alpha_5 \text{INT}_i + \alpha_6 \text{TDTA}_i + \alpha_7 \text{NI}_i + \alpha_8 \text{PASTADOPT}_i + \varepsilon_i \end{aligned}$$

(1)

where $JACC_1$ is the coefficient that measures the extent of likeness between the practices that were adopted by the firm i and the IAS 39; COUNTRY_i assumes the value 1 if the firm i is from a common-law country and 0 otherwise; INDUSTRY_i assumes the value 1 if the firm i is a financial institution and 0 otherwise; AUDITOR_i assumes the value 1 if the firm i is audited by one of the BIG 4 and 0 otherwise; MVE_i is the market value of equity of firm i ; INT_i assumes the value 1 if the firm i is listed in more than one market and 0 otherwise; TDTA_i is the ratio total debt/total assets for firm i ; NI_i is net income for firm i ; and PASTADOPT_i assumes the value 1 if the firm adopted IASB standards before 2005 and 0 otherwise.

4. Results

In this section, we describe the main results of our investigation. The results must be interpreted within the characteristics of this work and must take into account the limitations that derive from the methodology adopted and/or data used.

The first objective of this study is to investigate the level of compliance of financial instruments reporting practice with IAS 39 (measurement of financial instruments). So, we start with the interpretation of the *Jaccard* coefficient, for all pairs in each country, for similarity in practices adopted ($JACC_1$). Smaller values of *Jaccard* coefficient suggest a lower level of harmonisation between financial instruments reporting practices and IAS 39. On the contrary, higher values of *Jaccard* coefficient suggest higher degrees of harmonisation.

TABLE 4 ABOUT HERE

As we can see from Table 4, and as we expected, United Kingdom presents the highest index and Germany the lowest. These results show that Germany firms tend to adopt less the accounting procedures required by IAS 39 than the other European listed firms. However, we can not forget that Germany firms represent only 10% of the firms included in our sample and UK firms 47%. The value of *Jaccard* coefficient is very similar between Portuguese and French firms although the number of firms included in the sample is different: 40 French firms and only 20 Portuguese firms.

A deeper analysis allows us to conclude that the diversity between financial instruments accounting practices and IAS 39 is due to the procedures adopted in initial measurement of financial instruments. We find that firms tend not to comply with the accounting procedure required, in IAS 39, in initial measurement, for the transaction costs of held to maturity investments, loans and receivables and available-for-sale financial assets.

We also find that, in general, firms comply with the accounting procedures required for subsequent measurement of all the financial assets and liabilities categories. In particular, we find a total harmonization in the case of derivatives, for which all the firms of the sample adopt the accounting treatment required by the IAS 39.

We have also computed separately the index with financial firms and without this type of industry, and we can conclude that in this industry the level of compliance is highest than the other industries.

If we analyse the results by country we can observe that in UK we find 10 (11%) firms with a $JACC_1$ lower than 0.6. On the other hand, in the others countries we find only one or two firms with an index lower than 0.6. In addition, for the cases with an index equal to 1, which means total harmonization, we have 8 (8%) UK firms, 8 (20%) French firms, 6 (21%) Italian firms and 4 (20%) Portuguese firms. In the case of Germany firms, any indexes equal to 1 have found and we have found 6 companies with $JACC$ lower than 0.6 (15%). These findings result from the fact that Germany firms do not disclose information about the initial measurement of financial instruments.

When we analyse the results from the *Jaccard* coefficient, for all pairs in each country, for accounting procedures not adopted in the two cases ($JACC_2$), we conclude that the level of harmonization is higher than the $JACC_1$ for all countries. This means that in the case of the procedures not required by the IAS 39 the level of harmonization between accounting practices and the accounting standard is higher than in the cases of the treatment adopted. In this case we can notice that, in general, the companies do not adopt forbidden treatments. Nevertheless, we have to be careful in the analysis of these results because it is very difficult to understand, from the annual reports, why a certain procedure is not adopted.

Our second objective of this paper is to investigate the determinants of the level of compliance. To accomplish this second objective, we estimate the linear regression. The results are shown in table 5.

TABLE 5 ABOUT HERE

As one can see, the estimated model is statistically significant and the explanatory power evaluated by the Adjusted R-squared is around 6%.

We find that *INDUSTRY* and *PASTADOPT* are the only explanatory variable whose estimated coefficient is statistically significant with a 5% significance level. This seems to suggest that the level of compliance with IAS 39 is greater for financial institutions, as predicted. However, we also find that the estimated coefficient of *PASTADOPT* is

negative and statistically significant for 1% significance level which seems to suggest that first-time adopters tend to comply more with IAS 39 than firms that adopt IAS 39 in a previous period. This finding may be justified for two reasons: first when we estimated the index, we attribute the value 0 to firms that did not disclose information about financial instruments. This may not mean that the firm did not comply with IAS 39 measurement policies but only that the firm did not disclose the information required. Second, IAS 39 is one of the standards that suffer more revisions, which may reduce the level of compliance.

5. Conclusions

Our exploratory study provides empirical evidence of the level of harmonization between accounting standards and accounting practices in what concern IAS 39.

Based on a sample of 203 European listed companies, we investigate the level of compliance of financial instruments reporting practice with IAS 39 (measurement of financial instruments).

We find that the *Jaccard* Indexes are between 0.68 and 0.93, which seems to suggest that the level of compliance of financial instruments reporting practice is not totally achieved by harmonized accounting standards. We also find that industry and the year of IAS/IFRS adoption are the only explanatory variable whose estimated coefficient is statistically significant with a 5% significance level. This seems to suggest that firms that the level of compliance with IAS 39 is greater for financial institutions, as predicted. However, we also find that the estimated coefficient of year of IAS/IFRS adoption is negative and statistically significant for 1% significance level which seems to suggest that first-time adopters tend to comply more with IAS 39 than firms that adopt IAS 39 in a previous period.

Our findings make three contributions to prior literature. First, we investigate the extent of IAS 39 compliance in jurisdictions where the adoption of IFRS/IAS is mandatory. Most previous IAS compliance studies use samples of firms that adopt voluntarily. Second, we investigate the compliance with IFRS/IAS in the first period that firms must adopt those standards. Finally, we investigate the compliance with IAS 39, one of the most controversial and complex standard.

We intend to improve this investigation in two additional ways. First, we will include other European countries. Second, we will extend the checklist to include also disclosure items and not only measurement policies.

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Appendix A – Compliance checklist

Items	IAS 39	Companies
1. Financial assets at fair value through profit and loss		
1.1 Initial measurement		
1.1.1. Fair value plus transaction costs	0	(1 or 0)
1.1.2. Fair value	1	(1 or 0)
1.2. Subsequent measurement		
1.2.1. Cost	0	(1 or 0)
1.2.2. Amortized cost	0	(1 or 0)
1.2.3. Fair value in profit and loss	1	(1 or 0)
1.2.4. Fair value in equity	0	(1 or 0)
1.2.5. Impairment	0	(1 or 0)
2. Held to maturity investments		
2.1. Initial measurement		
2.1.1. Fair value plus transaction costs	1	(1 or 0)
2.1.2. Fair value	0	(1 or 0)
2.2. Subsequent measurement		
2.2.1. Cost	0	(1 or 0)
2.2.2. Amortized cost	1	(1 or 0)
2.2.3. Fair value in profit and loss	0	(1 or 0)
2.2.4. Fair value in equity	0	(1 or 0)
2.2.5. Impairment	1	(1 or 0)
3. Loans and receivables		
3.1. Initial measurement		
3.1.1. Fair value plus transaction costs	1	(1 or 0)
3.1.2. Fair value	0	(1 or 0)
3.2. Subsequent measurement		
3.2.1. Cost	0	(1 or 0)
3.2.2. Amortized cost	1	(1 or 0)
3.2.3. Fair value in profit and loss	0	(1 or 0)
3.2.4. Fair value in equity	0	(1 or 0)
3.2.5. Impairment	1	(1 or 0)
4. Available-for-sale financial assets		
4.1. Initial measurement		
4.1.1. Fair value plus transaction costs	1	(1 or 0)
4.1.2. Fair value	0	(1 or 0)
4.2. Subsequent measurement		
4.2.1. Cost	1	(1 or 0)
4.2.2. Amortized cost	0	(1 or 0)
4.2.3. Fair value in profit and loss	0	(1 or 0)
4.2.4. Fair value in equity	1	(1 or 0)
4.2.5. Impairment	1	(1 or 0)
5. Financial liabilities at fair value through profit and loss		
5.1. Initial measurement		
5.1.1. Fair value plus transaction costs	0	(1 or 0)

5.1.2. Fair value	1	(1 or 0)
5.2. Subsequent measurement		
5.2.1. Cost	0	(1 or 0)
5.2.2. Amortized cost	0	(1 or 0)
5.2.3. Fair value in profit and loss	1	(1 or 0)
5.2.4. Fair value in equity	0	(1 or 0)
5.2.5. Impairment	0	(1 or 0)
6. Other financial liabilities		
6.1. Initial measurement		
6.1.1. Fair value plus transaction costs	1	(1 or 0)
6.1.2. Fair value	0	(1 or 0)
6.2. Subsequent measurement		
6.2.1. Cost	0	(1 or 0)
6.2.2. Amortized cost	1	(1 or 0)
6.2.3. Fair value in profit and loss	0	(1 or 0)
6.2.4. Fair value in equity	0	(1 or 0)
6.2.5. Impairment	0	(1 or 0)
7. Derivatives		
7.1. Fair value hedge		
7.1.1. Profit and loss	1	(1 or 0)
7.1.2. Equity	0	(1 or 0)
7.1.3. Defferal	0	(1 or 0)
7.2. Cash flow hedge		
7.2.1. Profit and loss	0	(1 or 0)
7.2.2. Equity	1	(1 or 0)
7.2.3. Defferal	0	(1 or 0)
7.3. Hedge of a net investment in a foreign operation		
7.3.1. Profit and loss	0	(1 or 0)
7.3.2. Equity	1	(1 or 0)
7.3.3. Defferal	0	(1 or 0)
7.4. Financial assets or liabilities at fair value through profit and loss		
7.4.1. Profit and loss	1	(1 or 0)
7.4.2. Equity	0	(1 or 0)
7.4.3. Defferal	0	(1 or 0)

Appendix B –Variables, variables definitions and estimated sign

1) Dependent variables

JACC1	<i>Jaccard</i> coefficient	Measures the extent of likeness between the practices that were adopted by the firm and the IAS 39
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2) Independent variables

Variable	Description	Estimated sign
COUNTRY	Assumes the value 1 if the firm is from UK and 0 otherwise.	+
INDUSTRY	Assumes the value 1 if firm is a financial institution and 0 otherwise.	+
AUDITOR	Assumes the value 1 if firm is audited by one of the BIG 4 and 0 otherwise.	+
MVE	Market value of equity.	+
INT	Assumes the value 1 if the firm is listed in more than one market and 0 otherwise.	+
TDTA	Ratio total debt/total assets for firm.	?
NI	Net income.	+
PASTADOPT	Assumes the value 1 if the firm adopted IASB standards before 2005 and 0 otherwise.	+

Figure 1
Accounting for derivatives

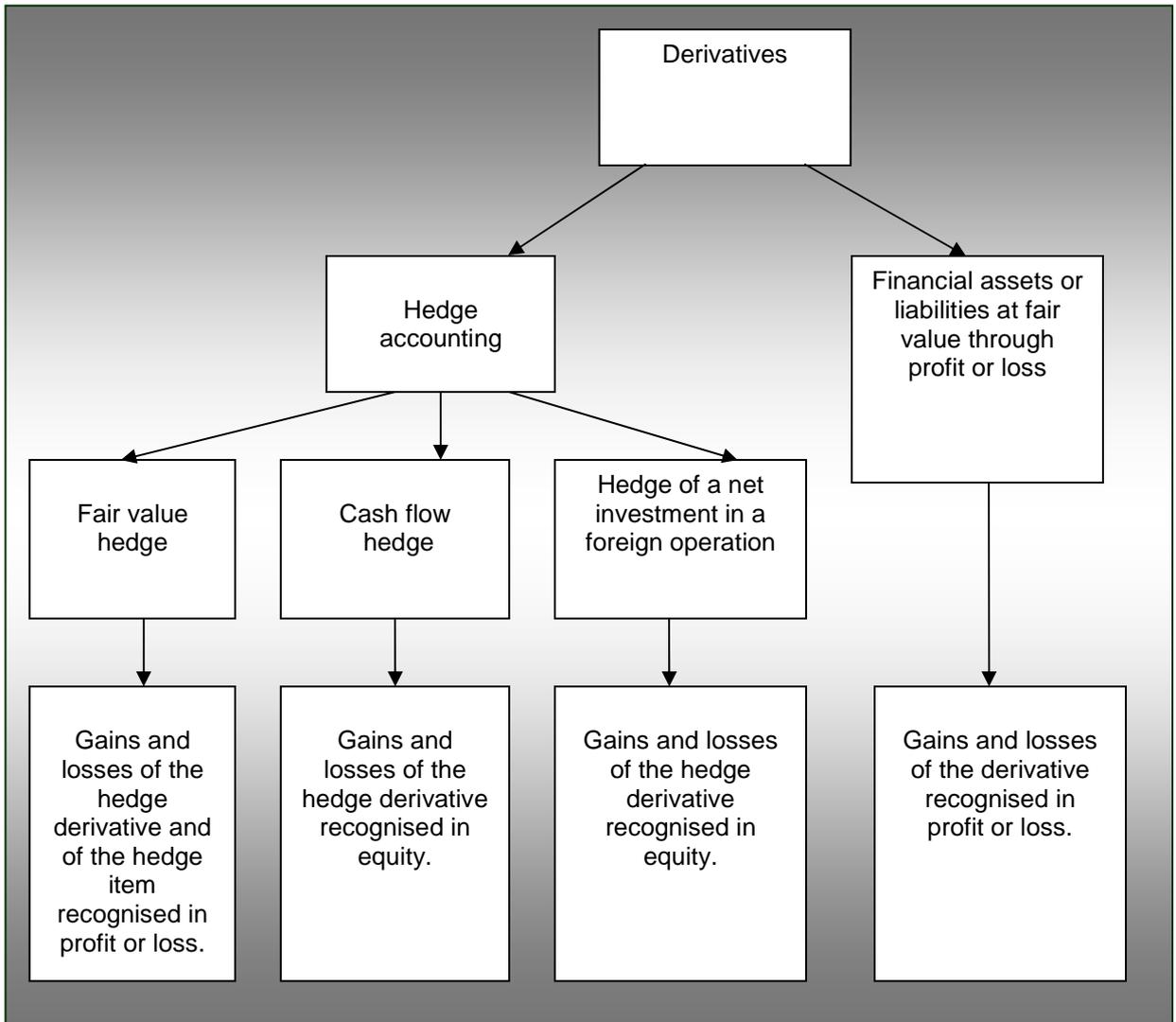


Table 1
Initial and Subsequent measurement of financial assets

Financial Assets	Initial Measurement	Subsequent Measurement	Impairment
Financial assets at fair value through profit or loss	Fair value.	Fair value, with gains and losses recognised in profit or loss.	No impairment loss recognised.
Held-to-maturity investments	Fair value plus transaction costs.	Amortised cost using the effective interest method.	Impairment loss recognised, if there is any objective evidence that a financial asset or group of financial assets is impaired.
Loans and receivables	Fair value plus transaction costs.	Amortised cost using the effective interest method.	Impairment loss recognised, if there is any objective evidence that a financial asset or group of financial assets is impaired.
Available-for-sale financial assets	Fair value plus transaction costs.	Fair value, with gains and losses recognised in equity.	Impairment loss recognised, if there is any objective evidence that a financial asset or group of financial assets is impaired.

Table 2
Initial and Subsequent measurement of financial liabilities

Financial Assets	Initial Measurement	Subsequent Measurement	Impairment
Financial liabilities at fair value through profit or loss	Fair value.	Fair value, with gains or losses recognised in profit or loss.	No impairment loss recognised.
Other financial liabilities	Fair value less transaction costs.	Amortised cost using the effective interest method.	No impairment loss recognised.

Table 3
Firms included in the sample

Panel A: Number of firms included in the sample

Firms	France (CAC)	Italy (MIB)	UK (FTSE)	Germany (DAX)	Portugal (PSI)
Listed firms	40	30	100	30	20
USGAAP	-	(2)	(5)	(8)	-
Other	-	(1)		(1)	-
Total	40	27	95	21	20

Panel B: Industry analysis

Industry	N. of firms	%	France	Germany	Italy	Portugal	UK
Aerospace	2	1,0	0	0	0	0	2
Apparel	1	0,5	0	1	0	0	0
Automotive	5	2,5	2	2	1	0	0
Beverages and food	10	4,9	2	0	1	0	7
Chemicals	7	3,4	2	2	0	0	3
Construction	12	5,9	3	0	1	5	3
Drugs, cosm. and health	7	3,4	2	1	0	0	4
Electrical	3	1,5	3	0	0	0	0
Electronics	4	2,0	2	0	0	0	2
Financial	50	24,7	6	4	15	3	22
Machinery equipment	2	1,0	0	2	0	0	0
Metal producers and man.	10	4,9	2	0	0	0	8
Oil, gas and coal	8	3,9	1	0	1	1	5
Paper, print and publishing	7	3,4	1	0	0	3	3
Recreation	7	3,4	1	0	1	0	5
Retailers	12	5,9	2	1	0	2	7
Textiles	0	0	0	0	0	0	0
Tobacco	3	1,5	0	0	0	0	3
Transportation	4	2,0	0	2	0	0	2
Utilities	26	12,8	4	2	5	4	11
Services	9	4,5	1	2	1	0	5
Others	14	6,9	6	2	1	2	3
Total	203	100	40	21	27	20	95

Table 4
Jaccard coefficients Results by country

	JAAC1	JAAC2
Germany	0,680	0,819
France	0,839	0,904
Portugal	0,856	0,909
Italy	0,871	0,923
United Kingdom	0,887	0,932

Table 5
Regression results

	<i>Coefficient</i>	<i>t-statistic</i>
C	-0.190	-3.613***
COUNTRY	-0.031	-1.125
INDUSTRY	0.074	2.357**
AUDITOR	-0.057	-1.141
MVE	0.000	0.847
INT	-0.005	-0.176
TDTA	0.001	1.487
NI	0.000	-0.656
PASTADOPT	-0.119	-2.751***
<i>N</i>	203	
Adjusted R ²	0.056	
F statistic	2.478 (0.014)	

*, **, *** Significant at the 10%, 5% and 1% levels of significance, respectively.

Sample includes 203 European firms listed in PSI20, CAC40, DAX30, FTSE100 and MIB30. COUNTRY assumes the value 1 if the firms i is from UK and 0 otherwise; INDUSTRY assumes the value 1 if firm i is a financial institution and 0 otherwise; AUDITOR assumes the value 1 if firm i is audited by one of the BIG 4 and 0 otherwise; MVE is the market value of equity of firm i ; INT assumes the value 1 if the firm i is listed in more than one market and 0 otherwise; TDTA is the ratio total debt/total assets for firm i ; NI is net income for firm i ; and PASTADOPT assumes the value 1 if the firm adopted IASB standards before 2005 and 0 otherwise.