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Mandatory Adoption of IASB Standards: Value Relevance and Country-Specific Factors

The objective of this study is to investigate if the value relevance of European-listed companies increased after the mandatory application of International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS) and how the value relevance of accounting information prepared under IAS/IFRS is shaped by the specific factors of the country in which companies are domiciled. Results show that the value relevance of financial information during the period companies applied mandatory IAS/IFRS is higher than for the period during which they applied local accounting standards. We also found that countries where accounting and tax are clearly separated show more relevant accounting information. Finally, we found that companies from countries with more legal and public enforcement mechanisms disclose less relevant accounting information under IAS/IFRS.

The objective of this study is to investigate if the value relevance of European-listed companies' accounting information increased after the mandatory application of International Accounting Standards Board (IASB) standards, and to identify how the value relevance of accounting information prepared and presented under IASB standards is shaped by the specific factors of the country in which companies are domiciled.

Under rule 1606/2002 of the European Parliament and the Council, European-listed companies were required to follow International Accounting Standards (IAS)/International Financial Reporting Standards (IFRS) in the preparation and presentation of consolidated accounts for the periods beginning on or after 2005. However, before 2005, some companies decided to follow IAS/IFRS voluntarily. IAS/IFRS application is expected to have a particularly profound effect on companies' financial statements.

Some studies (Barth et al. 2008; Bartov et al. 2005) found evidence that companies which follow IAS/IFRS voluntarily supply higher quality accounting information than companies that apply local accounting standards. In fact, it might be expected that the application of uniformly high-quality standards would produce more relevant accounting information.

However, most political and economic influences on financial reporting practices remain local (Ball 2006) and different. Capital markets are not perfectly integrated, and economic and political integration are not yet fully complete (Ball 2006). Therefore, several factors (such as legal systems, financial systems, the role of the accounting profession, tax alignment and ownership concentration) that in the past justified differences between accounting systems have remained in force among European countries. As a result of the influence of a country's institutional setting on accounting information, the economic consequences of changing from local accounting standards to international accounting standards may vary across countries.

Investigations looked into whether there is a variation in the value relevance of accounting information due to the mandatory application of IAS/IFRS. Most previous studies investigated the value relevance of accounting

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doi: 10.1111/j.1835-2561.2009.00051.x

information for voluntarily IAS/IFRS followers (for example, Barth et al. 2008; Bartov et al. 2005).

To investigate the value relevance of accounting information, we used a sample of 29 032 company year observations for 6977 European-listed companies from 14 countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom (UK)) for which Worldscope Database data are available for all the variables for the period between 2000 and 2005. Following Lang et al. (2003, 2006), we regressed the market price of shares on the book value of equity per share and net income per share, deflated by the book value of equity per share, in order to estimate R^2 for the period during which companies followed local accounting standards (2000–2004), for the period when companies applied IAS/IFRS voluntarily (2000–2004) and for the period when companies followed mandatory IAS/IFRS (2005).

We also investigated how the value relevance of accounting information is shaped by the specific factors of the country in which companies are domiciled. We based our analysis on the premise that the country's financial system, the existence of legal and public enforcement mechanisms, the role of the auditing profession, the tax alignment, ownership concentration, and the divergence between local accounting standards and IAS/IFRS influence the value relevance of accounting numbers despite the fact that companies follow the same accounting standards (IAS/IFRS).

For all the companies included in our sample, we found that the R^2 value during the period companies followed mandatory IAS/IFRS is higher than that for the period during which they applied local accounting standards. We also found that the value relevance of accounting information during the period companies applied IASB standards voluntarily is lower than the value relevance of financial information under mandatory application of IASB standards. Finally, the results also show that the value relevance of accounting information prepared under mandatory IASB standards is different between countries. As predicted, we found that companies from countries where accounting and tax are clearly separated show more relevant accounting information than companies from countries where tax and accounting are closely related and companies from countries with strong public enforcement show less value relevance of accounting information under IAS/IFRS.

Our findings make three contributions to prior literature. First, our sample includes only companies from European Union (EU) countries. Most of the previous studies consider samples from different countries but, in general, EU countries have a small representation (for example, the Barth et al. study (2008) includes only 38% of EU companies in their broad-based sample). Considering a sample that only includes EU countries provides a more powerful setting in which to test the determinants and economic consequences of accounting quality (Schipper 2005).

Second, we investigate the value relevance of accounting information for the period when companies applied local accounting standards, for the period when IAS/IFRS were voluntary and the period during which IAS/IFRS were mandatory. Most previous studies investigated the value relevance of accounting information for a sample of companies that followed IAS/IFRS voluntarily. As Soderstrom and Sun (2007) pointed out, the inclusion of only voluntary adopters leads to a sample selection bias.

Finally, our study showed that differences in the political, economic and legal environments influence the value relevance of accounting information, even when companies apply the same accounting standards. The application of accounting standards is only one of the determinants of accounting quality since other determinants, such as political and legal systems, financial market development, capital structure, ownership concentration and tax systems will continue to differ across countries (Soderstrom and Sun 2007).

Literature review

Ball and Brown (1968) were the first to report that stock prices react to the information disclosed in financial statements. Since then, several studies have investigated the price/returns–earnings relation by using different variables.

This study is related to two main streams of investigation into the value relevance and the differences between accounting systems, these being (1) investigation of the value relevance of accounting information under IAS/IFRS; and (2) identification of the factors that have justified differences between accounting systems.

Studies on the value relevance of accounting information under IAS/IFRS found mixed results. On one hand, Bartov et al. (2005) found that IAS-based earnings are more value relevant than earnings produced under German Generally Accepted Accounting Principles (GAAP), based on a sample of German companies traded on the German stock exchanges. Barth et al. (2008) compared the value relevance of accounting amounts for companies that applied IASB standards and companies that did not. They found that companies which applied IAS revealed more value relevance of accounting amounts than companies which followed local accounting standards. On the other hand, Hung and Subramanyan (2007) compared the effects of using IAS to those using German GAAP for a sample of German companies that elected to apply IAS. They found that the adjustments to book value are generally value relevant, but the adjustments to net income are

generally not value relevant. Eccher and Healey (2003) compared the usefulness (in terms of the ability to predict future cash flows and the relation between accounting information and stock price performance) of IAS and Chinese GAAP. They found that information produced using IAS is no more useful than that prepared using Chinese standards. Joos and Lang (1994) investigated the financial statement effects of differences in accounting measurement in France, Germany and the UK, and found no evidence that the measurement practices in the UK resulted in accounting numbers with a higher association with share prices than in Germany. Similar to Joos and Lang (1994) and Harris et al. (1994) found the correlations between share returns and earnings in Germany and the US to be similar. They found that accounting amounts based on IAS are not more value relevant than those amounts based on local accounting standards. Niskanen et al. (2000) investigated the value relevance of Finnish accounting standards (FAS) and the voluntary reconciliations to the IAS. They found that foreign investors find significant information content especially in IAS earnings, while domestic investors are satisfied with FAS earnings. Finally, Auer (1996) investigated Swiss companies that changed from Swiss standards to European Community Directives or IAS, and they found that IAS-based earnings do not show statistically significant higher information content than European Community Directives.

This article is also related to another stream of studies that investigates the country factors that shape the value relevance of accounting information. Previous studies showed that value relevance of financial information is affected by the auditor (Francis and Wang 2008), the country's financial system (Ball et al. 2008; Leuz et al. 2003; Ali and Hwang 2000), investor protection (Bushman and Piotroski 2006), the existence of legal and public enforcement mechanisms (Burgstahler et al. 2006; Leuz et al. 2003), legal origins (García Lara and Mora 2004; Ball et al. 2003; Ali and Hwang 2000; Ball et al. 2000; Giner and Rees 2001), the tax and accounting alignment (Guenther and Young 2000; Ali and Hwang 2000), and ownership concentration (Leuz et al. 2003).

Table 1 presents a summary of some of the important prior studies.

Hypotheses and research design

Hypotheses

We expect that the value relevance of accounting information will be higher after the mandatory application of IASB standards. The IASB standards are developed for the private sector, for markets where public capital is raised and reporting rules are largely unaffected by taxation requirements. Historically, IASB standards have been influenced by common law countries such as the United States (US) and the UK. Several studies show that IAS/IFRS adoption improves financial reporting quality (Barth et al. 2008), and the value relevance of IAS/IFRS earnings is higher than the value relevance of local accounting standards earnings (Bartov et al. 2005; Auer 1996; Niskanen et al. 2000). We test the following hypothesis:

H1: The value relevance of financial information is higher after the mandatory application of IAS/IFRS.

However, we expect that the value relevance of accounting information under IAS/IFRS will vary, depending on the specific factors of the country in which companies are domiciled. We based our analysis on the premise that a country's financial system, the existence of legal and public enforcement mechanisms, the market share of the 'Big 4' auditing companies, the relation between the tax system and the accounting system, ownership concentration and the differences between local accounting standards and IAS/IFRS standards influence the value relevance of accounting numbers after the mandatory application of IAS/IFRS.

Berglof (1990) suggested two types of financial systems: bank-oriented and market-oriented. Bank-oriented systems are characterised by the close link between companies and banks, which supply most of their capital needs. In bank-based systems, the most important user of accounting information is banks, which are the principal financing agent and also play an important role as shareholders. Since banks have direct access to companies' financial information, the demand for published financial information is lower. Ali and Hwang (2000) found that value relevance is lower for countries with bank-oriented financial systems as opposed to market-oriented financial systems. Ball et al. (2008) also found a significant relation between timely loss recognition and debt market size. They concluded that their results are consistent with the hypothesis that the demand for financial information by the debt market exerts a substantial influence on accounting reporting.

On the other hand, market-oriented systems are characterised by the existence of several investors that rely on financial accounting information to monitor management and to evaluate their investments. In market-based financial systems, shareholders are the most important user of accounting information, and financial reporting is determined largely by the demands of the equity markets that require timely recognition of all gains and losses. Alford et al. (1993) found that the association between earnings and stock returns is stronger in countries where capital is traditionally raised in capital markets and there are weaker links between financial and tax reporting. This leads to our second hypothesis:

Table 1 Previous studies

	Study	Objectives	Methodology	Conclusions
Studies on the value relevance of IASB standards	Barth et al. (2008)	Investigate if reporting under IFRS is associated with predictable differences in accounting quality and cost of capital	Three categories of measures: earnings management, timely loss recognition and value relevance. For value relevance, they regress price six months after year-end on book value per share and net income per share, and they regress net income divided by beginning of year stock price on 12-month stock return.	They found that IFRS adoption improves financial reporting quality. Companies that adopted IFRS show less evidence of earnings smoothing, less evidence of earnings management, more timely recognition of losses and a higher association with returns.
	Hung and Subramanyam (2007)	Compare the value relevance of German GAAP and IAS, for a sample of 80 German companies that elect to adopt IAS.	Regression of stock prices on book values and net income.	They found that differences in R^2 under the two standards are not significant. They also found that book values of equity have a higher coefficient under IAS, and net income has a higher coefficient under German GAAP.
	Bartov et al. (2005)	Compare the value relevance of German GAAP, IAS and US GAAP for companies traded on German stock exchanges.	Regression of return on earnings deflated by beginning market value (they omitted book value of equity in the regression).	They found that value relevance of US GAAP-based earnings is higher than of IAS-based earnings, which in turn is more relevant than earnings produced under German GAAP.
	Eccher and Healey (2003)	Investigate the usefulness of IAS and Chinese GAAP.	Two measures of usefulness: relevance of earnings and accruals for predicting future cash flows and their relation to contemporaneous stock price changes.	They found that information under IAS is no more useful than that under Chinese standards.
	Niskanen et al. (2000)	Investigate the value relevance of Finnish Accounting Standards earnings and their voluntarily disclosed reconciliations to the IAS.	Regression of stock returns on earnings levels and earnings changes for domestic and foreign investors, separately.	They found that foreign investors find significant information content especially in IAS earnings and supplementarily also in FAS earnings while domestic investors are satisfied with FAS earnings figures.
	Auer (1996)	Investigate Swiss companies that changed their method of reporting from Swiss standards to either European Community (EC) Directives or IAS.	Variance approach.	He found that both IAS and EC earnings provide more information to investors than Swiss data. However, he also found that for investors IAS-based earnings do not possess statistically significant higher information content than EC directives-based earnings.
	Joos and Lang (1994)	Investigate the financial statements effects of differences in accounting measurement practice in France, Germany and the UK.	Univariate analysis and returns regression and price regression.	They found no evidence that UK measurement practices result in accounting numbers more relevant than in Germany.
	Harris et al. (1994)	Investigate the correlations between share returns and earnings in Germany and the US.	Association between stock returns and accounting earnings.	They found that accounting numbers based on IAS are not more value relevant than amounts based on local accounting standards.

Table 1 Continued.

	Study	Objectives	Methodology	Conclusions
Studies on the differences between accounting systems	Francis and Wang (2008)	Investigate the association between a country's investor protection and the quality of reported earnings for a sample of companies from 42 countries.	Regression analysis	They found that earnings quality increases for companies with Big 4 auditors when a country's investor protection regimes give stronger protection to investors.
	Ball et al. (2008)	Investigate whether estimated gain and loss recognition timeliness are associated internationally with the relative sizes of countries' debt and equity market.	OLS cross-sectional regressions	They found that economies with stronger debt markets have more conservative financial reports. They found that the conservatism of a country is determined by the country's debt market size.
	Bushman and Piotroski (2006)	Investigate financial reporting incentives created by the institutional structure of the country in which companies are domiciled.	Regression models	They found that companies in countries with strong investor protections and high-quality judicial systems reflect bad news in reported earnings numbers in a more timely fashion than companies in countries with weak investor protections and low-quality judicial systems.
	Bursgstahler et al. (2006)	Examine how capital market pressures and institutional factors (quality of legal enforcement, financial accounting and tax alignment, differences in accrual accounting rules, securities regulation and minority-shareholder protection, and capital market structure) shape companies' incentives to report earnings that reflect economic performance.	Univariate and multivariate tests	They found that private companies exhibit higher levels of earnings management and companies from countries with strong legal systems exhibit less earnings management.
	García Lara and Mora (2004)	Investigate the level of accounting conservatism across eight European countries.	Ohlson's model (1995) and simple model of Basu (1997)	They found that there are both balance sheet and earnings conservatism practices in the eight countries. They also found that continental countries show greater balance sheet conservatism and the UK tends to show larger earning conservatism practices.

Table 1 Continued.

Study	Objectives	Methodology	Conclusions
Ball et al. (2003)	Investigate how accounting income incorporates economic income in four East Asian countries.	Linear regression	They found that the financial reporting quality of the four countries is not higher than under code law. Their results show that incentives appear to dominate accounting standards as a determinant of financial reporting.
Leuz et al. (2003)	Investigate earnings management across 31 countries.	Cluster analysis and multiple regression analysis	They found that companies in countries with developed equity markets, dispersed ownership structures, stronger investor rights and legal enforcement engage in less earnings management. Therefore, they conclude that there is a link between corporate governance and the quality of reported earnings.
Giner and Rees (2001)	Investigate the asymmetric recognition of good news and bad news in France, Germany and the UK.	Regression	They found that in the three countries the contemporaneous association between earnings and returns is stronger for bad news than for good news. However, the asymmetric recognition is generally stronger in the UK than in France or Germany.
Guenther and Young (2000)	Investigate cross-country differences in legal systems, differences in legal protection for external shareholders, and differences in the degree of tax conformity and their impact on the relation between accounting earnings and the real economic value-relevant events that underlie them.	Time series Pearson correlation coefficients of aggregate return on assets and the economic growth rate	They found that, because of differences in legal systems and the demand for accounting information, differences in legal protection for external shareholders, and in the degree of tax conformity in sample countries, accounting earnings in the UK and the US are more closely related to underlying economic activity than in France and Germany.
Ali and Hwang (2000)	Investigate the value relevance of financial accounting data of manufacturing companies from 16 countries and country-specific factors (type of financial systems, accounting clusters, financial–tax alignment, sources of GAAP and spending on auditing services).	Regression models	They found that value relevance is lower for countries with bank-oriented financial systems and for continental model countries. They also found that value relevance is lower for countries where private sector bodies are not involved in the standard-setting process and when tax rules significantly influence financial accounting measurements. Finally, they found that value relevance is higher for countries with higher amounts of external auditing services.
Ball et al. (2000)	Investigate the effects of international institutional factors on timeliness and conservatism.	Regression models	They found that common law accounting income exhibits significantly greater timeliness and conservatism than code law accounting income, due to income conservatism.

H2: The value relevance of financial information under mandatory application of IAS/IFRS is higher for countries where the financial system is market-based.

The enforcement of accounting standards and the quality of judicial systems affect accounting quality. La Porta et al. (1998) found that legal enforcement is higher in common law countries. Ali and Hwang (2000), Ball et al. (2000) and Leuz et al. (2003) found that accounting quality is higher in countries with common law origin and a higher protection of shareholders. Bushman and Piotroski (2006) also found that companies from countries with high-quality judicial systems and strong investor protections reflect bad news in reported earnings numbers in a more timely fashion than companies in countries with weak investor protections and low-quality judicial systems. This legal enforcement role may be particularly important for the value relevance of accounting information under IAS/IFRS. The application of IAS/IFRS will increase the need for managers' and auditors' judgements because of fair value accounting, especially in countries with illiquid markets (Ball 2006). This leads to our third hypothesis:

H3: The value relevance of financial information under mandatory application of IAS/IFRS is higher for countries with stronger legal enforcement mechanisms.

Auditing is considered to be an important enforcement mechanism. There is evidence that the earnings of US companies with Big 4 auditors are of higher quality and that the stock market values the earnings surprises of Big 4 clients more highly than the earnings surprises of companies with non-Big 4 auditors (Teoh and Wong 1993; Krishnan 2003). Additionally, Francis and Wang (2008) found that earnings quality increases for companies 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 lose in accommodating clients and signing off on accounting information that is of lower quality. Ali and Hwang (2000) also found that value relevance is higher when more is spent on external auditing services.

We expect a positive relation between the market share of the Big 4 and the value relevance of accounting information. This leads to our fourth hypothesis:

H4: The value relevance of accounting information prepared under mandatory application of IAS/IFRS is higher for countries where the market share of Big 4 auditing firms is higher.

Ball et al. (2000) hypothesised that the link between financial and tax accounting can play an important role in companies' reporting behaviour. In fact, a close link between accounting standards and tax laws tends to reduce the quality of accounting standards, since financial statements serve political purposes, such as collection of tax for the government, instead of reducing information asymmetry. The conformity between financial and tax reporting provides incentives to reduce taxes by reporting systematically lower earnings, thereby reducing the value relevance of accounting information (Choi and Mueller 1992; Joos and Lang 1994). Similarly, Burgstahler et al. (2006) found that European companies in high book tax alignment and high tax rate countries manage earnings better. Ali and Hwang (2000) also found that value relevance is lower when tax rules significantly influence financial accounting measurements. They concluded that this finding is consistent with tax laws being influenced by political, social and economic objectives rather than the information needs of investors. This leads to our fifth hypothesis:

H5: The value relevance of accounting information prepared under mandatory IAS/IFRS is lower for countries where tax and financial reporting are closely related than for countries where accounting and tax are clearly separated.

Concentrated ownership plays an important role in corporate governance, especially in countries with poor investor protection. Concentrated ownership tends to mitigate managerial expropriation. However, it may raise another problem: the potential expropriation of minority shareholders and other stakeholders (La Porta et al. 1998; Shleifer and Vishny 1997). In a highly diffused ownership structure, there is a great demand for high-quality accounting information. Therefore, standard-setters tend to respond to this high demand by publishing high-quality accounting standards. In contrast, companies with more concentrated ownership structures may be reluctant to provide more value relevant information, since the owners have alternative ways of getting information. This leads to our sixth hypothesis:

H6: The value relevance of accounting information prepared under mandatory IAS/IFRS is higher for countries where ownership is more diffused than countries where ownership is more concentrated.

IAS/IFRS have been influenced by common law countries such as the UK and the US. In contrast to the legalistic, conservative and tax-influenced standards of continental European countries, IASB standards are formulated to reflect the economic substance of transaction, to reflect not only the losses but also the gains in a timely fashion way, and to make financial information more useful. We expect that the value relevance of accounting information under IAS/IFRS will vary, depending on the differences between local accounting standards and IASB standards. We expect

that the value relevance of accounting information under IAS/IFRS will be higher for countries where local standards are more similar to IASB standards. Ding et al. (2007) investigated the determinants and effects of differences between local accounting standards and IAS. They found that countries like Germany, Italy, Austria, the UK, France and Ireland have more differences between local accounting standards and IAS. This leads to our final hypothesis:

H7: The value relevance of accounting information under mandatory IAS/IFRS is higher for countries where local accounting standards have less divergent and absent issues.

Sample

Our sample consists of 29 032 company year observations for 6977 European-listed companies, financial and non-financial, from Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the UK, for which Worldscope Database data was available for all the variables (accounting standards, price, book value of equity per share and net income per share) for the period between 2000 and 2005 (see Table 2). A first filter was applied and all the observations from companies that followed US GAAP and with negative book value of equity were excluded. Next, we estimate two regression models considering the BVEPS and TA per share as deflators.

According to Hocking (2003) the unusual observations, also named by influential points, can be divided into outliers and extreme values. An outlier occurs when the predictors' values are well within the range of data, but the dependent response seems to be too different. An extreme point is an observation whose predictor's values are far removed from the rest of the data. In order to exclude the influential points from our sample we adopted the following criteria: first, an outlier occurs when the absolute value of the studentised residual is greater than 4; second, the observation is an extreme case when the diagonal element of the Hat matrix exceeds two times the average of all the diagonal elements (Hoaglin and Welsch 1978).

Thus, the excluded observations from the original data sample meet at least one of these criteria in each one of the two estimated regressions.

Table 2, panels A and B, shows descriptive statistics for our sample companies in terms of country representation. The greatest representation is from the UK (40% of the number of companies and 38% of the number of observations), France (14% of the number of companies and observations) and Germany (14% of the number of companies and 13% of the number of observations). Table 2, Panel C, reports representation, by number, of observations of local accounting standards followers, IAS/IFRS voluntary followers and IAS/IFRS mandatory followers. Companies that applied IAS/IFRS before 2005 are considered to be IAS/IFRS voluntary followers. Except for Austria, the majority of observations are from local accounting standards followers.

Methodology

The first objective of this study is to investigate if the value relevance of accounting information of European-listed companies increased after the mandatory application of IAS/IFRS; that is, if the value relevance of accounting information under IAS/IFRS in the mandatory period (2005) is higher than the value relevance of accounting information under the local accounting standards period (2000–2004). We also investigated the value relevance of accounting information under IAS/IFRS in the voluntary period (2000–2004).

Researchers in the past have used either price or returns for examining value relevance issues. We have chosen a price specification because it is economically better specified than the returns specification (Kothari and Zimmerman 1995) and it is possible to examine the value relevance of both the stock (book value) and flow (earnings) variables (Hung and Subramanyam 2007). However, Kothari and Zimmerman (1995) pointed out that the major disadvantage of the price specification is that it is prone to econometric problems, arising from heteroskedasticity and scale bias. In order to avoid these problems, we use the book value of equity per share and earnings per share deflated by the book value of equity per share (Easton 1998). We also deflated the price, the book value of equity per share and the net income per share by total assets per share in order to investigate if the results remain valid.

We regress the market price of shares at the year end (hereafter PRICE) on the book value of equity per share (hereafter BVEPS) and net income per share (hereafter NIPS) in order to estimate R^2 for the period that companies followed local accounting standards and for the period that companies applied IAS/IFRS, mandatorily and voluntarily:

$$PRICE_{it} = \alpha_0 + \alpha_1 BVEPS_{it} + \alpha_2 NIPS_{it} + \varepsilon_{it} \quad (1)$$

However, as the R^2 value can be influenced by scale effects, as documented by Brown et al. (1999), we estimate a deflated version of equation (1) using the book value of equity per share as a proxy for scale:

$$\frac{PRICE_{it}}{BVEPS_{it}} = \beta_0 + \beta_1 \frac{1}{BVEPS_{it}} + \beta_2 \frac{NIPS_{it}}{BVEPS_{it}} + \nu_{it} \quad (2)$$

As heteroskedasticity is a common situation in these kinds of models, we adopted the White procedure to

Table 2 Companies included in the sample

Panel A: Number of companies included in the sample

Country	Number of companies	%
Austria	120	2%
Belgium	160	2%
Denmark	210	3%
Finland	153	2%
France	954	14%
Germany	973	14%
Greece	339	5%
Ireland	89	1%
Italy	318	5%
Netherlands	227	3%
Portugal	71	1%
Spain	174	2%
Sweden	378	5%
UK	2 811	40%
Total	**6 977**	**100%**

Panel B: Number of company year observations included in the sample

Country	Number of company year observations	Missing information	US GAAP	Negative BVEPS	Influential observations	Number of company year observations	%
Austria	1 224	642	32	23	45	482	2
Belgium	2 058	1 256	27	21	60	694	2
Denmark	1 992	938	0	11	43	1 000	3
Finland	1 422	614	0	13	35	760	3
France	10 056	5 528	50	215	119	4 144	14
Germany	9 360	4 794	585	145	71	3 765	13
Greece	2 448	767	67	36	80	1 498	5
Ireland	954	534	16	9	43	352	1
Italy	3 204	1 596	4	23	164	1 417	5
Netherlands	2 460	1 202	152	22	40	1 044	4
Portugal	876	517	0	11	32	316	1
Spain	1 944	1 044	5	9	71	815	3
Sweden	3 742	1 927	5	15	107	1 688	6
UK	27 828	15 677	49	725	320	11 057	38
Total	**69 568**	**37 036**	**992**	**1 278**	**1 230**	**29 032**	**100**

Panel C: Number of observations of local accounting standards followers, IAS/IFRS voluntary followers and IAS/IFRS mandatory followers

Country	Local standards	%	IAS voluntary	%	IAS mandatory	%
Austria	196	41	219	45	67	14
Belgium	546	79	49	7	99	14
Denmark	842	84	50	5	108	11
Finland	618	81	22	3	120	16
France	3 670	89	33	1	441	11
Germany	2 203	59	1 040	28	522	14
Greece	1 224	82	22	1	252	17
Ireland	322	91	0	0	30	9
Italy	1 191	84	4	0	222	16
Netherlands	852	82	58	6	134	13
Portugal	267	84	7	2	42	13
Spain	694	85	6	1	115	14
Sweden	1 418	84	19	1	251	15
UK	10 595	96	50	0	412	4
Total	**24 638**	**85%**	**1 579**	**5**	**2 815**	**10**

Table 3 Variables measurement

Variables	Measurement technique	Source
Independent variables		
Mandatory IAS versus local accounting standard (MAND)	Dummy variable to code (1 = period that companies followed mandatory IAS; 0 = period that companies followed local accounting standards).	Worldscope Database
Market capitalisation per gross domestic product (MCGDP)	Market capitalisation deflated by gross domestic product for 2005 and the mean for the period between 2000–2004.	World Bank
Legal enforcement (LEGAL)	Arithmetic mean of three institutional variables: efficiency of the judicial system, rule of law and corruption index.	La Porta et al. (1998)
BIG 4 market share (MSBIG4)	Market share of Delloite, Ernst & Young, KPMG and Price Waterhouse Coopers.	Francis and Wang (2008)
Tax alignment (TAX)	Dummy variable to code (1 = countries where tax accounting and financial reporting are highly aligned; 0 = other countries).	Alford et al. (1993) and Burgstahler et al. (2006)
Ownership concentration (OC)	Median percentage of common shares owned by the largest three shareholders in the ten largest privately owned non-financial firms.	La Porta et al. (1998)
Divergence (DIV)	Measures the differences between local accounting standards and IAS as the extent to which the rules regarding the same accounting issue differs in local standards and IAS.	Ding et al. (2007)
Absence (ABS)	Measures the differences between local accounting standards and IAS as the extent to which the rules regarding certain accounting issues are missing in local standards while covered in IAS.	Ding et al. (2007)
Public enforcement (PUBLIC)	Arithmetic mean of supervisor characteristic index, investigative power index, orders index and criminal index.	La Porta et al. (2006)
Dependent variable		
R^2 of mandatory application	Adjusted R^2 for each country during the period IAS/IFRS are mandatory and during the period companies followed local accounting standards.	Determined from equation (2)

obtain consistent estimators for the standard errors of OLS estimators.

The second objective is to investigate how value relevance of accounting information is shaped by the specific factors of the country in which companies are domiciled. In order to arrive at a conclusion about the differences between the countries included in our sample, we estimated the following linear regression model.

$$R^2 = \alpha_0 + \alpha_1 MAND_i + \alpha_2 MCGDP_i + \alpha_3 LEGAL_i + \alpha_4 MSBIG4_i + \alpha_5 TAX_i + \alpha_6 OC_i + \alpha_7 DIV_i + \alpha_8 ABS_i + \alpha_9 PUBLIC_i + \varepsilon_i \quad (3)$$

where R^2 is the adjusted R^2 for each country during the period IAS/IFRS are mandatory and during the period companies followed local accounting standards; MAND assumes the value 1 for the mandatory IAS/IFRS period and 0 for local accounting standards period (Worldscope Database); MCGDP is the market capitalisation deflated by gross domestic product (World Bank); LEGAL is the arithmetic mean of three institutional variables: efficiency of the judicial system, rule of law and corruption index (La Porta et al. 1998); MSBIG4 is the market share of Delloite, Ernst & Young, KPMG, and Price Waterhouse Coopers (Francis and Wang 2008); TAX assumes the value 1 if the tax accounting and financial reporting are highly aligned and 0 otherwise (Alford et al. 1993; Burgstahler et al. 2006); OC is the median percentage of common shares owned by the largest three shareholders (La Porta et al. 1998); DIV measures the differences between local accounting standards and IAS as the extent to which the rules regarding the same accounting issue differs in local standards and IAS (Ding et al. 2007); ABS measures the differences between local accounting standards and IAS as the extent of which the rules regarding certain accounting issues are missing in local standards while covered in IAS (Ding et al. 2007). We included also public enforcement (PUBLIC) as a control variable. PUBLIC is the arithmetic mean of the supervisor characteristic index, investigative power index, orders index and criminal index (La Porta et al. 2006).

Table 3 summarises the measurement of each variable.

Results

Descriptive statistics are summarised in Table 4.

Table 4 shows that, on average, during the period of mandatory adoption of IAS/IFRS, European companies have higher amounts of NIPS/BVEPS than for the period during which companies adopted local accounting standards, except for companies from Greece. Table 4 also indicates that, for the companies included in the

Table 4 Descriptive statistics of variables

		PRICE/BVEPS			1/BVEPS			NIPS/BVEPS		
Country	N	Mean	Median	Std dev.	Mean	Median	Std dev.	Mean	Median	Std dev.
Austria										
Local standards	196	1.4271	0.9546	1.7414	0.1327	0.0586	0.1875	0.0446	0.0582	0.1810
IAS mandatory	67	2.0647	1.6014	1.6010	0.1453	0.0752	0.1694	0.1087	0.1134	0.1373
IAS voluntary	219	1.7795	1.2943	2.1856	0.1610	0.1035	0.1710	0.0436	0.0762	0.1650
All companies	482	1.6759	1.2354	1.9487	0.1473	0.0813	0.1778	0.0531	0.0757	0.1694
Belgium										
Local standards	546	1.5794	1.1828	1.1273	0.0891	0.0510	0.1271	0.0467	0.0837	0.3000
IAS mandatory	99	1.8596	1.5262	1.2721	0.1057	0.0535	0.1518	0.0859	0.1020	0.2157
IAS voluntary	49	2.1201	1.8833	1.5042	0.1576	0.1117	0.1628	0.0320	0.1070	0.3763
All companies	694	1.6575	1.2654	1.1877	0.0963	0.0548	1.3459	0.0512	0.0882	0.2956
Denmark										
Local standards	842	1.7009	1.1433	2.4780	0.0409	0.0084	0.1250	0.0529	0.0895	0.2521
IAS mandatory	108	2.6995	1.8193	3.2950	0.0535	0.0086	0.1725	0.1010	0.1261	0.2292
IAS voluntary	50	2.2755	1.3004	2.5644	0.0192	0.0116	0.0207	−0.0136	0.0530	0.3256
All companies	1000	1.8375	1.2150	2.5520	0.0412	0.0085	0.1280	0.0548	0.0917	0.2546
Finland										
Local standards	618	1.9767	1.4971	1.6116	0.8750	0.3153	2.7025	0.0676	0.0978	0.2002
IAS mandatory	120	2.5177	2.0876	1.4818	0.9595	0.3282	2.7195	0.1148	0.1394	0.2076
IAS voluntary	22	2.1449	1.2551	2.3504	0.1821	0.1258	0.1655	0.1095	0.1152	0.0994
All companies	760	2.0670	1.5778	1.6271	0.8682	0.3103	2.667	0.0762	0.1040	0.1998
France										
Local standards	3670	2.7066	1.6248	4.1674	0.3285	0.0937	0.8815	−0.0324	0.0833	0.7259
IAS mandatory	441	2.6860	1.9749	2.9264	0.2955	0.0734	0.8277	0.0642	0.1080	0.6392
IAS voluntary adopters	33	1.8005	1.4837	0.9827	0.3349	0.0826	0.8064	0.0390	0.0904	0.1886
All companies	4144	2.6972	1.6466	4.038	0.3250	0.0912	0.8753	−0.0216	0.0856	0.7150
Germany										
Local standards	2203	2.8497	1.7236	3.6409	0.4046	0.1275	1.3288	−0.0812	0.0618	0.8760
IAS mandatory	522	2.5661	1.8319	2.8148	0.5150	0.1774	1.391	−0.0600	0.0782	1.0428
IAS voluntary	1040	2.0367	1.398	2.0872	0.3593	0.1680	1.1195	−0.1863	0.0403	1.0447
All companies	3765	2.5858	1.6569	3.1903	0.4074	0.1441	1.2842	−0.1073	0.0585	0.9503
Greece										
Local standards	1224	2.3913	1.5532	2.9958	0.7565	0.5637	0.7531	0.0641	0.0553	0.1458
IAS mandatory	252	1.7206	1.1183	1.7594	0.8004	0.5166	0.9877	0.0625	0.0518	0.1511
IAS voluntary	22	3.6670	1.5710	5.7945	0.5365	0.2420	0.5345	0.2001	0.0830	0.2543
All companies	1498	2.2972	1.4648	2.9005	0.7606	0.5542	0.7949	0.0657	0.0553	0.1496
Ireland										
Local standards	322	2.6100	1.8937	2.6242	5.1045	1.1347	13.7887	−0.0461	0.0808	0.6583
IAS mandatory	30	4.9440	2.8266	7.4833	3.9446	1.0950	12.0702	0.1051	0.1714	0.4347
IAS voluntary	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
All companies	352	2.8087	1.9864	3.3691	5.006	1.1154	13.6389	−0.0332	0.0876	0.6432
Italy										
Local standards	1191	1.9428	1.4664	1.5579	0.7509	0.4556	1.004	0.0194	0.0585	0.2332
IAS mandatory	222	2.1555	1.7669	1.3430	0.8963	0.3908	1.5416	0.0430	0.0949	0.2288
IAS voluntary	4	3.9024	3.8463	1.3520	2.8196	1.3055	3.3029	0.2140	0.2229	0.0233
All companies	1417	1.9816	1.5238	1.5302	0.7795	0.4462	1.1208	0.0236	0.0616	0.2325
Netherlands										
Local standards	852	2.1855	1.3316	3.0546	0.2924	0.1210	0.8248	0.0739	0.1013	0.5543
IAS mandatory	134	2.7618	2.2404	2.0310	0.4098	0.1504	1.1533	0.0948	0.1520	0.3300
IAS voluntary	58	2.4234	1.5717	2.6907	0.7432	0.1537	1.3687	−0.1679	0.0507	0.8430
All companies	1044	2.2740	1.4576	2.9256	0.3335	0.1285	0.9154	0.0623	0.1044	0.5538
Portugal										
Local standards	267	1.7188	1.3276	1.4472	0.8376	0.5165	1.0528	0.0121	0.0742	0.3923
IAS mandatory	42	2.1622	1.9148	1.5250	0.8493	0.6921	0.8268	0.1269	0.1194	0.1875
IAS voluntary	7	2.1483	2.2464	1.0560	0.7539	0.5855	0.5630	0.1101	0.0796	0.1190
All companies	316	1.7872	1.4077	1.4554	0.8373	0.5629	1.0154	0.0295	0.0773	0.3694
Spain										
Local standards	694	2.1783	1.6757	1.9449	0.4912	0.2321	1.0903	0.1148	0.1189	0.1165
IAS mandatory	115	3.0107	2.2933	2.2475	0.5340	0.2256	1.1745	0.1566	0.1520	0.1279
IAS voluntary	6	3.6515	3.8905	2.0301	0.5937	0.7024	0.4148	0.1783	0.2216	0.0923
All companies	815	2.3070	1.7823	2.0126	0.4980	0.2309	1.0984	0.1212	0.1241	0.1189

Table 4 Continued.

		PRICE/BVEPS			1/BVEPS			NIPS/BVEPS		
Country	N	Mean	Median	Std dev.	Mean	Median	Std dev.	Mean	Median	Std dev.
Sweden										
Local standards	1418	2.4819	1.8052	2.2754	0.1862	0.0622	0.3548	−0.1526	0.0627	0.6327
IAS mandatory	251	3.2990	2.5051	3.2117	0.1934	0.0537	0.4117	0.0334	0.1340	0.5125
IAS voluntary	19	2.3217	1.5641	1.7925	0.1257	0.0423	0.2169	−0.0094	0.0811	0.5375
All companies	1688	2.6016	1.8983	2.4489	0.1866	0.0601	0.3625	−0.1234	0.0785	0.6187
United Kingdom										
Local standards	10595	2.7060	1.3091	5.7331	5.7194	1.4164	14.0592	−0.1239	0.0261	0.8675
IAS mandatory	412	3.9236	2.3207	7.2415	5.2323	1.2034	13.7221	0.1032	0.1334	0.6150
IAS voluntary	50	2.4249	1.3820	2.5696	7.1410	2.2405	14.9113	−0.2641	0.0124	1.0252
All companies	11057	2.7502	1.3443	5.7888	5.7061	1.4124	14.0466	−0.1160	0.0282	0.8611
All companies										
Local standards	24638	2.5209	1.4499	4.4434	2.7553	0.4399	9.7480	−0.0598	0.0572	0.7261
IAS mandatory	2815	2.7539	1.9294	3.7270	1.2133	0.2200	5.7585	0.0543	0.1084	0.6065
IAS voluntary	1579	2.0718	1.4095	2.2234	0.5491	0.1507	3.0491	−0.1239	0.0520	0.8975
All companies	29032	2.5192	1.4968	4.2874	2.4857	0.3795	9.2067	−0.0522	0.0623	0.7268

Local standards companies include European-listed companies that apply local GAAP. IAS voluntary companies include European-listed companies that apply voluntary IAS/IFRS during the period 2000–2004. IAS mandatory companies include European-listed companies that applied mandatory IAS/IFRS in 2005. PRICE is market price of shares at the year-end. BVEPS is the book value of equity per share and NIPS is net income per share. All variables are expressed in €.

sample, the book value of equity per share for companies that followed IAS/IFRS is higher than for companies that applied local accounting standards.

The first objective of this article is to investigate if the value relevance of accounting information increased with the mandatory application of IAS/IFRS. We predict that accounting information produced under IAS/IFRS is more value relevant than accounting information produced under local accounting standards. To test this hypothesis, we regress the market price of shares at the end of the year and deflated by the book value of equity per share on 1/book value of equity per share and net income per share deflated by the book value of equity per share in order to compute the R^2 for companies that followed IAS/IFRS, voluntarily and mandatory, and companies that applied local accounting standards.[1]

The results are shown in Table 5.

As can be seen, the R^2 value for all the companies that applied mandatory IAS/IFRS is higher than that for companies that followed IAS/IFRS voluntarily, except for Austria, Denmark, Finland, Greece and the Netherlands. This seems to suggest that the mandatory application of IAS/IFRS increased the value relevance of accounting information.

From Table 5, we can also see that the R^2 value for companies that applied mandatory IAS/IFRS is higher than that for companies that followed local accounting standards for all the countries included in our sample, except for Austria, Ireland, the Netherlands and Sweden. The decrease in the value relevance of financial information under IAS/IFRS can be explained by the differences between local accounting standards and IAS (Ding et al. 2007) (for example, for Austria) and the size of the sample for some countries (for example, in the sample we have only 30 Irish companies that followed mandatory IAS/IFRS).

We performed the same test excluding financial entities and we reached similar results (untabulated results). We found that the R^2 value for all non-financial companies that applied mandatory IAS/IFRS is higher (0,1238) than that for non-financial companies that followed local accounting standards (0,0636).

Although, in general, the value relevance of accounting information increased with the mandatory adoption of IAS/IFRS, we can see from Table 5 that the value relevance of accounting information under IAS/IFRS is different between countries. This leads to the second objective of this article.

The second objective of this study is to investigate how the value relevance of accounting information is shaped by the specific factors of the country in which companies are domiciled. We based our analysis on the premise that the country's financial system, the existence of legal and public enforcement mechanisms, the role of the auditing profession, the tax alignment, the ownership concentration and the divergence between local accounting standards and IAS/IFRS influence the value relevance of accounting numbers despite the fact that companies follow the same accounting standards. The results of the estimated linear regression model are presented in Table 6.

As one can see, the estimated model is statistically significant and the explanatory power evaluated by the *Adjusted* R^2 is around 26%.

We found that TAX is an explanatory variable whose estimated coefficient is statistically significant, with a 5%

Table 5 R^2 one-tail comparison tests

Country	N	Intercept	1/BVEPS	NIPS/BVEPS	Adjusted R^2
Austria					
Local standards	196	0.9599***	2.7677***	2.2413***	0.1440
IAS voluntary	219	0.2435	8.7302***	2.9998***	0.4035
IAS mandatory	67	1.3845***	3.3536***	1.7739	0.1223
Belgium					
Local standards	546	1.1488***	4.1448***	1.3167***	0.2466
IAS voluntary	49	1.1005***	6.3325***	0.6818	0.4722
IAS mandatory	99	1.006***	5.7491***	2.8640***	0.4782
Denmark					
Local standards	842	1.3479***	5.3339***	2.5485***	0.1046
IAS voluntary	50	0.9603**	70.6325***	2.9514***	0.3458
IAS mandatory	108	1.2962***	9.8175***	8.6944***	0.2596
Finland					
Local standards	618	1.5150***	0.2969***	2.9879***	0.2141
IAS voluntary	22	−0.9384	8.0241***	14.8106***	0.4478
IAS mandatory	120	1.8845***	0.1685***	4.1086***	0.2724
France					
Local standards	3670	2.0647***	1.9732***	0.1939**	0.1651
IAS voluntary	33	1.6701***	0.1177	2.3304**	0.1150
IAS mandatory	441	2.3396***	1.3816***	−0.9630***	0.1945
Germany					
Local standards	2203	2.4601***	0.9676***	0.0236	0.1231
IAS voluntary	1040	1.8745***	0.4953***	0.0844	0.0666
IAS mandatory	522	2.0234***	0.9894***	−0.5521***	0.3917
Greece					
Local standards	1224	0.6823***	1.5905***	7.9032***	0.3131
IAS voluntary	22	−0.3541	3.4231	10.9165**	0.4439
IAS mandatory	252	0.7789***	0.7579***	5.3657***	0.3232
Ireland					
Local standards	322	2.1958***	0.0787***	−0.2603	0.1855
IAS voluntary	0	NA	NA	NA	NA
IAS mandatory	30	4.5391***	0.0915	0.4205	0.0210
Italy					
Local standards	1191	1.7931***	0.1891***	0.3916**	0.0129
IAS voluntary	4	NA	NA	NA	NA
IAS mandatory	222	1.8600***	0.2552***	1.5532***	0.0884
Netherlands					
Local standards	852	1.7078***	1.3460***	1.1383***	0.1376
IAS voluntary	58	1.9034***	0.8604***	0.7110*	0.1448
IAS mandatory	134	2.4664***	0.5971***	0.5345	0.1051
Portugal					
Local standards	267	1.4880***	0.2787***	−0.2220	0.0440
IAS voluntary	7	NA	NA	NA	NA
IAS mandatory	42	1.4022***	0.1833	4.7623***	0.3328
Spain					
Local standards	694	0.9157***	0.8096***	7.5349***	0.3838
IAS voluntary	6	NA	NA	NA	NA
IAS mandatory	115	1.1919***	0.7147***	9.1756***	0.4299
Sweden					
Local standards	1418	2.3024***	1.1214***	0.1919*	0.0261
IAS voluntary	19	2.2823***	0.2278	−1.1481	0.0091
IAS mandatory	251	3.0710***	1.2189**	−0.2312	0.0234
UK					
Local standards	10595	2.0172***	0.1132***	−0.3349***	0.0866
IAS voluntary	50	2.0873***	0.0577**	0.2810	0.0775
IAS mandatory	412	2.0388***	0.2147***	7.3763***	0.4744
All companies					
Local standards	24638	2.1915***	0.1134***	−0.2818***	0.0692
IAS voluntary	1579	2.0209***	0.1081***	0.0687	0.0208
IAS mandatory	2815	2.4991***	0.1922***	0.3964***	0.0878

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

Local standards include European-listed companies that follow local GAAP. IAS voluntary include European-listed companies that follow voluntary IAS/IFRS during the period 2000–2004. IAS mandatory include European-listed companies that follow mandatory IAS/IFRS in 2005. BVEPS is the book value of equity per share and NIPS is net income per share.

Table 6 Regression results

$$R^2 = \alpha_0 + \alpha_1 MAND_i + \alpha_2 MCGDP_i + \alpha_3 LEGAL_i + \alpha_4 MSBIG4_i + \alpha_5 TAX_i + \alpha_6 OC_i + \alpha_1 DIV_i + \alpha_7 PUBLIC_i + \varepsilon_i$$

	Estimated sign	Coefficient	*t*-statistic
C		1.618	**1.985***
MAND	+	0.098	**2.120****
MCGDP	+	0.002	1.659
LEGAL	+	−0.096	**−2.236****
MSBIG4	+	−0.248	−1.522
TAX	−	−0.177	**−2.311****
OC	−	−1.518	**−1.820***
DIV	+	0.004	0.793
ABS	+	0.016	**2.928*****
PUBLIC	?	−0.662	**−1.950****
N	28		
Adjusted R^2	0.264		
F statistic	**2.075***		

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

R^2 is the adjusted R^2 for each country during the period IAS/IFRS are mandatory and during the period companies adopted local accounting standards. MAND assumes the value 1 for the mandatory IAS/IFRS period and 0 for local accounting standards period. MCGDP is the market capitalisation deflated by gross domestic product (World Bank 2005). LEGAL is the arithmetic mean of three institutional variables: efficiency of the judicial system, rule of law and corruption index (La Porta et al. 1998). MSBIG4 is the market share of Delloite, Ernst & Young, KPMG and Price Waterhouse Coopers (Francis and Wang 2008). TAX assumes the value 1 if the tax accounting and financial reporting are highly aligned and 0 otherwise (Alford et al. 1993). OC is the median percentage of common shares owned by the largest three shareholders in the ten largest privately owned non-financial firms (La Porta et al. 1998). DIV measures the differences between local accounting standards and IAS as the extent to which the rules regarding the same accounting issue differs in local standards and IAS (Ding et al. 2007). ABS measures the differences between local accounting standards and IAS as the extent of which the rules regarding certain accounting issues are missing in local standards while covered in IAS (Ding et al. 2007). PUBLIC is the arithmetic mean of the supervisor characteristic index, investigative power index, orders index and criminal index (La Porta et al. 2006).

level of significance. This seems to suggest that the value relevance of accounting information under IAS/IFRS is higher for companies from countries where accounting and tax are less closely related.

The value relevance of accounting information is also higher for companies from countries where there were more absent accounting issues under local accounting standards. We found that the estimated coefficient of ABS is positive and statistically significant, with a 1% level of significance. Consistent with Bushman and Piotroski (2006), we found that the value relevance is lower for countries with stronger public enforcement mechanisms. Finally, contrary to our predictions, we found that accounting information under IAS/IFRS is less value relevant for countries with more legal enforcement mechanisms. This surprising finding may indicate the need for a worldwide effective enforcement mechanism instead of local enforcement mechanisms.

We performed the same test excluding financial entities and we found similar results, except for the variables OC and ABS, which became statistically insignificant (untabulated results).

Summary and conclusions

The objective of this study is to investigate if the value relevance of European-listed companies increased after the mandatory application of IASB standards. We also investigate how the value relevance of accounting information prepared and presented under IASB standards is shaped by the specific factors of the country in which companies are domiciled.

Based on a sample of 29 032 company year observations for 6977 European-listed companies from 14 different countries (Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, Spain, Sweden and the United Kingdom), we found that the R^2 value for companies that applied IAS/IFRS is higher than that for companies that followed local accounting standards for all the countries included in our sample, except for Austria, Ireland, the Netherlands and Sweden. This seems to suggest that the mandatory adoption of IAS/IFRS increased the value relevance of accounting information.

We also investigated how the value relevance of accounting information is shaped by the specific factors of the country in which companies are domiciled. The relation between tax and accounting influences the value relevance of accounting information, even when companies applied the same accounting standards. The value relevance of accounting information tends to be higher for companies from countries where the tax system and the accounting system are less aligned. Also, the value relevance of accounting information under IAS/IFRS is higher for companies from countries where there were more absent accounting issues under local accounting standards. Finally, contrary to our predictions, the value relevance of accounting information under IAS/IFRS tends to be higher for companies from countries with weaker legal enforcement mechanisms.

Although we included research design features to mitigate the effects of incentives and the economic environment, we cannot be sure that our findings are attributable to the change of accounting standards rather to changes in companies' incentives and the economic environment. Additionally, our study includes a small number of observations for some countries, in particular, for companies that voluntarily followed IAS/IFRS. Finally, our study is limited to a short time

period of mandatory adoption of IAS/IFRS (2005). Future research can explore if the effects documented in this study are sustained in a longer period.

Ana Isabel Morais and José Dias Curto are in the ISCTE Business School, Lisbon, Portugal. The authors would like to thank the editor and the referees whose thoughtful comments led to substantial improvements in this article. The authors gratefully acknowledge comments and suggestions from seminar participants at the 2007 European Accounting Association Congress in Lisbon.

Notes

1 We also regressed the market price of shares six months after and we found similar results (results not tabulated).
2 Some explanatory variables (tax alignment, ownership concentration and public enforcement) do not refer to the period of our study (2000–2005). Tax alignment refers to 1992 and ownership concentration and public enforcement to the period 1996–2000. However, we believe that is reasonable to use those variables because they are related to judicial, fiscal and legal systems, and those systems tend not to change significantly from one period to another.
3 We included PUBLIC as a control variable.

References

Alford, A., Jones, J., Leftwich, R. and Zmijewski, M. 1993, 'The Relative Informativeness of Accounting Disclosure in Different Countries', *Journal of Accounting Research*, 31 (supplement): 183–223.

Ali, A. and Hwang, L. 2000, 'Country-specific Factors Related to Financial Reporting and the Value Relevance of Accounting Data', *Journal of Accounting Research*, 38: 1–21.

Auer, K. 1996, 'Capital Market Reactions to Earnings Announcements: Empirical Evidence on the Difference in the Information Content of IAS-based Earnings and EC Directive-based Earnings', *European Accounting Review*, 5 (4): 587–623.

Ball, R. 2006, 'International Financial Reporting Standards (IFRS): Pros and Cons for Investors', *Accounting and Business Research*, International Accounting Policy Forum: 5–27.

Ball, R., Kothari S. and Robin, A. 2000, 'The Effect of International Institutional Factors on Properties of Accounting Earnings', *Journal of Accounting and Economics*, 29: 1–51.

Ball, R. and Brown, P. 1968, 'An Empirical Evaluation of Accounting Income Numbers', *Journal of Accounting Research*, 6 (2): 159–78.

Ball, R., Robin, A. and Wu, J. 2003, 'Incentives Versus Standards: Properties of Accounting Income in Four East Asian Countries', *Journal of Accounting and Economics*, 36: 235–70.

Ball, R., Robin, A. and Sadka, G. 2008, 'Is Financial Reporting Shaped by Equity Markets or by Debt Markets? An International Study of Timeliness and Conservatism', *Review of Accounting Studies*, 13 (2–3): 168–205.

Barth, M., Landsman, W. and Lang, M. 2008, 'International Accounting Standards and Accounting Quality', *Journal of Accounting Research*, 46 (3): 467–98.

Bartov, E., Goldberg, S. and Kim, M. 2005, 'Comparative Value Relevance among German, U.S. and International Accounting Standards: A German Stock Market Perspective', *Journal of Accounting, Auditing and Finance*, 20 (2): 95–119.

Basu, S. 1997. 'The Conservatism Principle and the Asymmetric Timeliness of Earnings', *Journal of Accounting and Economics*, 24: 3–37.

Berglof, E. 1990, 'Capital Structure as a Mechanism of Control: A Comparison of Financial Systems', in M. Aoki, B. Gustafsson and O. Williamson (eds), *The Firm as a Nexus of Treaties*, Sage Publications, London.

Brown, S., Lo K. and Lys, T. 1999, 'Use of R2 in Accounting Research: Measuring Changes in Value Relevance over the Last Four Decades', *Journal of Accounting and Economics*, 28: 83–115.

Burgstahler, D., Hail, L. and Leuz, C. 2006, 'The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms', *The Accounting Review*, 81 (5): 983–1016.

Bushman, R.M. and Piotroski, J.D. 2006, 'Financial Reporting Incentives for Conservative Accounting: The Influence of Legal and Political Institutions', *Journal of Accounting and Economics*, 42: 107–48.

Choi, F. and Mueller, G. 1992, *International Accounting*, New Jersey, Prentice-Hall.

Ding, Y., Hope, O., Jeanjean T. and Stolowy, H. 2007, 'Differences between Domestic Accounting Standards and IAS: Measurement, Determinants and Implications', *Journal of Accounting and Public Policy*, 26: 1–38.

Easton, P. 1998, 'Discussion of Revalued Financial, Tangible and Intangible Assets: Association with Share Prices and Nonmarket-based Value Estimates', *Journal of Accounting Research*, 36 (supplement): 235–47.

Eccher, E. and Healey, P. 2003, 'The Role of International Accounting Standards in Transitional Economies: A Study of the People's Republic of China', Working Paper, Massachusetts Institute of Technology.

Francis, J. and Wang, D. 2008, 'The Joint Effect of Investor Protection and Big 4 Audits on Earnings Quality around the World', *Contemporary Accounting Research*, 25 (1): 157–91.

García Lara, J. and Mora, A. 2004, 'Balance Sheet Versus Earnings Conservatism in Europe', *European Accounting Review*, 13 (2): 261–92.

Giner, B. and Rees, W. 2001, 'On the Asymmetric Recognition of Good and Bad News in France, Germany and the United Kingdom', *Journal of Business Finance and Accounting*, 28 (9): 1285–331.

Guenther, D. and Young, D. 2000, 'The Association between Financial Accounting Measures and Real Economic Activity: A Multinational Study', *Journal of Accounting and Economics* 29 (1): 53–72.

Harris, T., Lang, M. and Moller, H. 1994, 'The Value Relevance of German Accounting Measures: An Empirical Analysis', *Journal of Accounting Research*, 32: 187–209.

Hoaglin, D. and Welsch, R. 1978, 'The Hat Matrix in Regression and ANOVA', *The American Statistician*, 32, 17–22.

Hocking, R. 2003, *Methods and Applications of Linear Models, Regression and the Analysis of Variance*, Second edition, John Wiley & Sons, Hoboken, NJ.

Hung, M. and Subramanyam, K.R. 2007, 'Financial Statement Effects of Adopting International Accounting Standards: The Case of Germany', *Review of Accounting Studies*, 12, 4: 623–57.

Joos, P. and Lang, M. 1994, 'The Effects of Accounting Diversity: Evidence from the European Union', *Journal of Accounting Research*, 32 (supplement): 141–68.

Kothari, S. and Zimmerman, J. 1995, 'Price and Return Models', *Journal of Accounting and Economics*, 20: 155–92.

Krishnan, G. 2003, 'Audit Quality and the Pricing of Discretionary Accruals', *Auditing: A Journal of Practice and Theory*, 22: 109–26.

La Porta, R., López-de-Silanes, F., Shleifer, A. and Vishny, R. 1998, 'Law and Finance', *Journal of Political Economy*, 106: 1113–150.

La Porta, R., López-de-Silanes, F. and Shleifer, A. 2006, 'What Works in Securities Laws?', *Journal of Finance*, 61 (1): 1–32.

Lang, M., Raedy, J. and Yetman, M. 2003, 'How Representative are Firms that are Cross-listed in the United States? An Analysis of Accounting Quality', *Journal of Accounting Research*, 41: 363–86.

Lang, M., Raedy, J. and Wilson, W. 2006, 'Earnings Management and Cross-listing: Are Reconciled Earnings Comparable to US Earnings?', *Journal of Accounting and Economics*, 42 (1–2): 255–83.

Leuz, C., Nanda, D. and Wysocki, P. 2003, 'Earnings Management and Investor Protection: An International Comparison', *Journal of Financial Economics*, 69: 505–27.

Niskanen, J., Kinnunen, J. and Kasanen, E. 2000, 'The Value Relevance of IAS Reconciliation Components: Empirical Evidence from Finland', *Journal of Accounting and Public Policy*, 19 (2): 119–37.

Ohlson, J. 1995. 'Earnings. Book Values and Dividends in Equity Valuation'. *Contemporary Accounting Research*, 11: 661–87.

Schipper, K. 2005, 'The Introduction of International Accounting Standards in Europe: Implications for International Convergence', *European Accounting Review*, 14 (1): 101–26.

Shleifer, A. and Vishny, R. 1997, 'A Survey of Corporate Governance', *Journal of Finance*, 52: 737–83.

Soderstrom, N.S. and Sun, K.J. 2007, 'IFRS Adoption and Accounting Quality: A Review', *European Accounting Review*, 16 (4): 675–702.

Teoh, S. and Wong, T. 1993, 'Perceived Auditor Quality and the Earnings Response Coefficient', *The Accounting Review*, 68: 346–66.

World Bank 2005, *World Development Indicators (WDI)*, World Bank, Washington, DC.