Are IFRS Value-Relevant for Separate Financial Statements? Evidence from the Italian Stock Market

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ABSTRACT
Using a sample of Italian firms, this paper investigates whether separate financial statements are useful to capital market investors, and whether International Financial Reporting Standards (IFRS) are more value-relevant than domestic generally accepted accounting principles (GAAP). These issues are key in evaluating the decision made by some states in the European Union to extend the use of IFRS to separate financial statements. The study provides evidence that separate financial statements are value-relevant, regardless of the accounting standard set. However, contrary to expectations, separate financial statements under IFRS do not have incremental information content beyond domestic GAAP. There is even some evidence that domestic GAAP financial statements are more value-relevant than IFRS. Finally, this paper documents the important role of model specification in value-relevance studies.

Keywords: Value-Relevance, Domestic GAAP, IFRS, separate financial statements, Regulation 1606/2002, non-linear regression model

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1. Introduction

Since 2005 all listed companies in the European Union (EU) have been required to prepare their financial statements in accordance with International Financial Reporting Standards (IFRS). IFRS were introduced in the EU by Regulation 1606/2002, which mandates IFRS for listed consolidated financial statements, with a member state option to apply IFRS to other reporting entities. A certain number of states have used this option to extend IFRS to separate financial statements. Table 1 shows the states in the EU and the European Economic Area (EEA) requiring or permitting IFRS for separate financial statements.

(Insert Table 1 about here)

IFRS adoption for separate financial statements has widely been questioned, especially in those countries where taxation rules are closely aligned to domestic generally accepted accounting principles (GAAP) (Choi and Mueller 1992, Lamb *et al.* 1998, Nobes 1998, Nobes 2003, Delvaille *et al*. 2005, Whittington 2005, Oliveras and Puig 2007, Macias and Muiño 2011). Many also have argued that IFRS are intended for consolidated accounts and for the needs of capital market investors, raising practical concerns about the relevance of IFRS for separate financial statements (European Financial Reporting Advisory Group (EFRAG) 2011). For these reasons, EFRAG recently launched a proactive project, *"Separate Financial Statements Prepared under IFRS"*, whose purpose is to determine whether IFRS are fit-for-purpose in satisfying the information needs of separate financial statement users.

The purpose of this research is therefore to investigate whether separate financial statements are useful to capital market investors and whether IFRS are more value-relevant than domestic GAAP. These are key issues both for EFRAG's proactive project and for those policy makers who might be interested in evaluating the adoption of IFRS for separate financial statements.

The empirical analysis focuses on the Italian context, where the mandatory extension of IFRS to separate financial statements for certain types of firms, such as listed companies,

has been called into question. One reason for this dispute is that, due to the enhanced dependency principle of tax base on net income statements, tax computation for listed companies partially differs from that of unlisted companies, thereby introducing disparities among firms. Moreover, it has been argued that the dependency principle applied to accounts prepared under IFRS raises too many interpretative doubts, allowing for too high a degree of discretion from tax inspectors (Mastellone 2011, Gavana *et al.* 2013). Despite its Italian context, this research can provide some insights relating to the potential effects of moving from domestic GAAP to IFRS for separate financial statements in other European countries.

Overall, the research findings suggest that separate financial statements provide investors with useful information, regardless of the accounting standard set. However, the study's results also indicate that adopting IFRS does not increase the value-relevance of separate financial statements, thus providing some empirical support for those who call for a return to domestic GAAP for separate financial statements.

This paper contributes to the literature in different ways. This paper is the first to investigate the value-relevance of separate financial statements and the effects of adopting IFRS. This study provides useful insights into the information needs of financial statement users by investigating the incremental information content of separate financial statements beyond consolidated data. Furthermore, this paper documents the effects of adopting IFRS for separate financial statements in terms of changes in the value-relevance of accounting numbers. Its findings therefore could interest those countries either requiring, permitting or considering the adoption of IFRS for separate financial statements. Finally, this paper contributes from a methodological perspective. Following Clarkson *et al.* (2011), it controls for possible model misspecification by introducing a cross-product term into the valuation model, equal to the product of book value and net income, which is intended to reflect possible nonlinearities in the relationship between share prices and accounting variables. This

improves model fit and leads to inferences that would not have been possible had the analysis been confined to the traditional linear pricing model.

The remainder of the paper is organized as follows. Section 2 presents the relevant literature on the topic, while Section 3 provides the research design. Section 4 describes data and provides descriptive statistics. Section 5 presents empirical results from a linear model, while Section 6 provides some additional analysis and a robustness check. Section 7 presents the conclusion.

2. Literature review

Evidence regarding the value-relevance of separate financial statements is rather limited both in absolute terms and in comparison to consolidated data largely due to US companies not disclosing parent accounts. Darrough and Harris (1991) examine the effects of consolidation in Japan and find little evidence of incremental information content in consolidated data. They conclude, however, that these results cannot be generalized due to the unique institutional environment and inter-firm ownership relations in Japan. Likewise, Harris et al. (1997) provide weak evidence that consolidation increases the value-relevance of accounting numbers for a sample of German firms, although findings are not consistent across the sample years, and the flexibility afforded in the application of domestic GAAP to consolidated accounts is claimed to influence the results. In turn, Alford et al. (1993) find that both unconsolidated and consolidated earnings are value-relevant for a set of non-US companies, with consolidated data being more value-relevant. These results are in line with Abad et al. (2000), who show that consolidated information dominates parent company information for a set of listed companies in Spain.

Many have argued that the lower value-relevance of separate financial statements may be due to their use for regulatory and taxation purposes (Choi and Mueller 1992, Lamb *et al.* 1998, Nobes 1998, Nobes 2003, Delvaille *et al.* 2005, Whittington 2005, Norberg 2007, Oliveras and Puig 2007, Macias and Muiño 2011). Indeed, unconsolidated accounts are the

starting point for tax computation, although the degree of connection between taxation and financial reporting varies across countries and time according to the differing purposes assigned to financial reporting by policy-makers (Haller 1992, Pfaff and Schröer 1996, Nobes 2003, Norberg 2007).

Conversely, IFRS are strongly oriented to the needs of investors, who are considered to have the most critical and immediate need for the information in financial reports (IASB 2010 BC 1.16). For this reason, empirical research has long investigated the effects of adopting IFRS on capital markets, with a focus on consolidated data.

The mandatory adoption of IFRS in the EU has represented an extraordinary opportunity for empirical studies. A certain number of studies have focused on the effects of making IFRS mandatory in different countries at the same time. Aubert and Grudnitski (2011) examine 13 countries in the EU and 20 industries, but fail to document a statistically significant increase in the value-relevance of accounting information after the adoption of IFRS. Daske et al. (2008) examine the mandatory adoption of IFRS not only in Europe, but worldwide, and find statistically significant, but economically modest capital market benefits around IFRS adoption. Such market benefits occurred, however, only in countries where firms had incentives to be transparent and where legal enforcement was strong. Byard et al. (2011), Barth et al. (2012) and Horton et al. (2012) also document the important role of enforcement regimes and firm-level reporting incentives in determining the impact of the mandatory adoption of IFRS.

Other studies have investigated the mandatory adoption of IFRS in individual countries, with the important advantage of reducing the problem of omitting variables. Callao et al. (2007), for instance, focus on the adoption of IFRS in Spain and find that the value-relevance of financial reporting does not improve, whereas comparability even worsens for firms adopting IFRS. Horton and Serafeim (2010) examine the UK stock market reporting a decrease in forecast errors for firms mandatorily adopting IFRS. Christensen et al. (2007)

investigate a similar setting, but focus on the effect of adopting IFRS on debt contracting, documenting significant market reactions to IFRS reconciliation announcements. Gjerde *et al.* (2008) focus on IFRS restatements for firms listed on the Oslo Stock Exchange and find mixed results according to the research methodology employed, whereas Iatridis and Rouvolis (2010) examine the Greek context documenting higher value-relevance for IFRS-based financial statements.

Some researchers have suggested that these mixed results could be due to the differing levels of legal enforcement and firm incentives for adopting IFRS (e.g. Atanassova 2008, Daske et al. 2008, Beuselinck et al. 2010, Aharoni et al. 2010, Kvaal and Nobes 2010, Verriest et al. 2010, Byard et al. 2011, Barth et al. 2012 and Horton et al. 2012), whereas others have suggested that mixed results could be driven by methodological issues, such as the misspecification of regression models (Soderstrom and Sun 2007). In fact, prior research suggests that conservatism induces a downward bias in book value and earnings, which is a source of measurement error induced by accounting standards (e.g. Basu 1997, Beatty, Riffe and Thompson 1999). Ohlson (2009) also shows that the move within IFRS towards more fair value accounting is itself a source of measurement errors. Along the same line, Clarkson et al. (2011) report increased nonlinearity in the relation between share prices and accounting data subsequent to the adoption of IFRS. Viewed as a whole, this evidence suggests the use of nonlinear models for value-relevance tests.

3. Research hypotheses and methodology

This study belongs to the area of value-relevance research, which is consistent with the IASB's focus on the information needs of capital market investors. In the extant literature, an accounting amount is defined as value-relevant if it is significantly associated with share prices (Barth et al. 2001). Value-relevance is an empirical way of operationalizing the criteria of relevance and reliability, which are used by standard setters in order to choose among accounting alternatives.

This research focuses on the first year of IFRS adoption for separate financial statements. At that time, firms were required to prepare their financial statements according to both domestic standards and IFRS and provide investors with reconciliations to IFRS. This allows for the comparison of accounting numbers prepared under both domestic standards and IFRS for the same set of firms at the same date. As the economic reality is the same, this approach ensures that the differences observed between financial measures are exclusively due to differences in accounting standards. In fact, firm-related, country-related and other factors which might affect accounting value-relevance remain constant. Moreover, as IFRS adoption for separate financial statements is mandatory in Italy, this approach overcomes the problem of controlling for changes in firms' incentives to switch financial reporting standards. Lastly, at the date of IFRS adoption for separate financial statements in 2006 consolidated financial statements had already been drawn up according to IFRS since 2005; such a time discrepancy allows this study to disentangle the effects of the first-time adoption of IFRS on separate statements from those on consolidated financial statements.

The first purpose of this paper is to investigate whether separate financial statements provide incremental value-relevant information for capital market investors relative to consolidated data, regardless of the accounting standard set used for their preparation. As a result, the first research hypothesis can be stated as follows:

H1: *Separate financial statements are incrementally value-relevant relative to consolidated financial statements.*

As a consequence, the estimated coefficients on the reconciliation adjustments of book value and net income from consolidated to separate financial statements are expected to be significantly different from zero.

This research focuses on the book value of equity and net income as they are key drivers in firm valuation (Feltham and Ohlson 1995, 1996; Ohlson 1999, 2000). Following Ohlson (1995), the basic model for testing the first hypothesis is[1]:

$$PPS_{it\text{-}30,t+60} = \alpha_0 + + \alpha_1\,BVPS_{it\,CON} + \alpha_2\,NIPS_{it\,CON} + \alpha_3\,BVPS_{it\,SEP-CON} + \alpha_4\,NIPS_{it\,SEP-CON} + \varepsilon \quad (1)$$

where :

$PPS_{it\text{-}30,t+60}$ = price per share for firm i over a period which includes 30 days before the first adoption of IFRS in separate financial statements, at time t, and 60 days after;

$BVPS_{it\,CON}$ = consolidated book value of equity per share for firm i at time t;

$NIPS_{it\,CON}$ = consolidated net income per share for firm i at time t;

$BVPS_{it\,SEP-CON}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements for firm i at time t;

$NIPS_{it\,SEP-CON}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements for firm at time t.

To test the first hypothesis, model (1) is run separately for Italian GAAP and IFRS numbers. Given that financial statements report both separate and consolidated data, this model also includes consolidated book value and net income in order to control for the effects of reporting consolidated numbers on share prices. As firms started to draw up consolidated financial statements according to IFRS in 2005, consolidated data are under IFRS. All the variables are deflated by the number of shares outstanding (Barth and Kallapur 1996, Brown et al. 1999, Easton and Sommers 2003, Barth and Clinch 2009).

Price per share is computed as a simple average of price per shares from 30 days before the first IFRS separate financial statements to 60 days after. During this period, investors are expected to encompass the new information released in prices. The time period allowed for price reaction to new information covers 30 days prior to the disclosure of new data as some information can be anticipated on the market (Rees and Elgers 1997). Data on individual stock prices are obtained from the Sole24Ore database, which contains daily information on stock prices from the Italian Stock Exchange. The accounting data from both separate and consolidated financial statements are hand-collected from the financial statements of the sample firms.

If reconciliation adjustments of book value and net income from consolidated to separate financial statements are not value-relevant, this suggests that information in separate financial statements does not serve the needs of investors. If separate financial statements are instead incrementally value-relevant, the following step will be to investigate which accounting standard set – either Italian GAAP or IFRS - is more closely linked to share prices.

One of the purposes of European Regulation 1606/2002 for IFRS adoption in Europe is to ensure a higher level of transparency in financial statements, which is necessary to build an efficient and integrated capital market. IFRS are therefore expected to be more value-relevant than Italian GAAP, which leads to the second research hypothesis:

H2: The value-relevance of IFRS for separate financial statements is significantly higher than Italian GAAP.

This is evaluated by a higher adjusted R^2 in the regression of share price on consolidated book value, consolidated net income and reconciliation adjustments of book value and net income per share from consolidated to separate financial statements.

Table 2 reports the main differences between Italian GAAP and IFRS.

(Insert Table 2 about here)

To test the second research hypothesis, a regression is performed on equation (1) using either Italian GAAP or IFRS numbers reported in the first separate financial statements issued under IFRS. As in prior studies (e.g. Hung and Subramanyam 2007, Gjerde et al. 2008), value-relevance is measured using the explanatory power of accounting measures for share prices, i.e. the accounting numbers with higher R^2 are considered to be more value-relevant. In accordance with prior research (e. g. Khurana and Kim 2003, Hung and Subramanyan 2007, Gjerde et al. 2008), the statistical significance of the differences in R^2 is tested using a test based on Vuong (1989)[2].

If findings show that IFRS are less value-relevant than Italian GAAP, it would be difficult to reject the claim of those who question IFRS adoption for separate financial

statements. In fact, if IFRS are primarily conceived for capital market investors, yet capital market investors do not consider them to be more useful than Italian GAAP, why should they then be adopted?

This paper also uses a supplementary approach based on an incremental test, which examines *per se* the value relevance of the adjustments introduced by IFRS to book value and net income (Amir et al. 1993, Hung and Subramanyam 2007, Gjerde et al. 2008)[3]. Italian GAAP is used as a base for looking at the marginal value-relevance of having access to IFRS. As a result, the third research hypothesis is as follows:

H3: Reconciliation adjustments of book value and net income from Italian GAAP to IFRS in the separate financial statements are incrementally value-relevant.

This is evaluated by the regression coefficients with share price, which are expected to be significantly different from zero.

To test the third research hypothesis, book value and net income under IFRS are subdivided as follows:

$$PPS_{it-30,t+60} = \beta_0 + \beta_1\, BVPS_{it\,CON} + \beta_2\, NIPS_{it\,CON} + \beta_3\, BVPS_{it\quad SEP-CON}^{IGAAP} + \beta_4\, NIPS_{it\quad SEP-CON}^{IGAAP}$$
$$+ \beta_5\, BVPS_{it\,SEP}^{IFRS-IGAAP} + \beta_6\, NIPS_{it\,SEP}^{IFRS-IGAAP} + \varepsilon \quad (2)$$

where :

$PPS_{it-30,t+60}$ = price per share for firm i over a period covering 30 days before the first adoption of IFRS in separate financial statements, at time t, and 60 days after;

$BVPS_{it\,CON}$ = consolidated book value of equity per share for firm i at time t;

$NIPS_{it\,CON}$ = consolidated net income per share for firm i at time t;

$BVPS_{it\quad SEP-CON}^{IGAAP}$ = reconciliation adjustment of the book value of equity per share from consolidated to separate financial statements under Italian GAAP for firm i at time t;

$NIPS_{it\quad SEP-CON}^{IGAAP}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements under Italian GAAP for firm at time t;

$BVPS_{it\,SEP}^{IFRS-IGAAP}$ = book value reconciliation adjustment per share for firm i from Italian GAAP to IFRS in separate financial statements at time t;

$NIPS_{it\,SEP}^{IFRS\text{-}IGAAP}$ = net income reconciliation adjustment per share for firm i from Italian GAAP to IFRS in separate financial statements at time t;

If the coefficients on reconciliation items are statistically significant, then IFRS provide incremental information content to investors beyond domestic GAAP.

4. Data and descriptive statistics

This research focuses on the separate financial statements of parent companies, i.e. companies with one or more subsidiaries. The sample is made of industrial firms listed on the Italian stock exchange at the date of the mandatory adoption of IFRS for separate financial statements. The Sole24Ore database is used in order to identify the sample firms. The number of firms included in this database at the date of IFRS adoption was 264. Following other studies (e.g. Hung and Subramanyan 2007), banks were excluded as well as insurance and financial investment companies, as their activities are very different from manufacturing and industrial services. This choice allows me to avoid introducing dummy variables for industries into the regressions, consistent with a principle of parsimony in selecting the regression model (Schwarz 1978, Jefferys and Berger 1992, Forster and Sober 1994). Firms for which data are not available are also omitted, as are firms that only prepare individual financial statements, which are the only information source available to capital market investors. Additionally, firms in temporary receivership are excluded for which insistent rumours about possible mergers or acquisitions, as well as other news that could influence prices more than the release of financial statements. Finally, firms were omitted that went public in the first year of IFRS adoption as they prepared financial statements directly according to IFRS. The final sample includes 173 firms. Table 3 reports the distribution of the sample firms by industry group.

(Insert Table 3 about here)

Table 4 documents changes precipitated by the adoption of IFRS on book value, net income and their adjustments in separate financial statements for the sample firms before the

winsorization of extreme observations in order to run regressions, while Table 5 displays descriptive statistics on some important key financial ratios. All numbers are in Euros.

(Insert Table 4 about here)

At the date of IFRS adoption, book value captures the cumulative effect of accounting differences, whereas net income captures the effects of accounting differences during the fiscal year. Table 4 shows that, at the time of the first adoption, 99% of the firms have positive book values in separate financial statements under both Italian GAAP and IFRS. Only one firm reports a negative book value (-24,119,771) under Italian GAAP, which remains negative (-26,811,279) under IFRS. 99% of the firms report book value adjustments. Only one firm does not report any adjustment either on the balance sheet or on the income statement. Book value adjustments are positive in 49% of cases and negative in 51%, but none of the book values change signs after the adoption of IFRS. Book value adjustments are included between – 69% and +112% of the amount under Italian GAAP. After the adoption of IFRS, the average book value in separate financial statements rises by 3.13% as a result of large adjustments made by a few firms, while the median slightly decreases by 0.51%. The standard deviation under IFRS is slightly higher (+4.09%) than under Italian GAAP, indicating that the adoption of IFRS magnified differences across firm book values.

Net income captures the effect of accounting differences during the fiscal year. Firms reporting net income adjustments in separate financial statements represent 99% of the sample; positive adjustments are at 45%, while negative adjustments are at 55%. Five firms have changed their net income from negative to positive and five from positive to negative. Net income adjustments are included between -1,054% and +2,567% of net income under Italian GAAP. Overall, after IFRS adoption, net income decreased by 8.62% on average and by 1.34% in median. Standard deviation also decreases by 3.37%, indicating that IFRS adoption has reduced net income cross-sectional variation.

(Insert Tables 5 about here)

Table 6 reports descriptive statistics for the variables included in the regressions. In order to limit the effect of possible outliers in the inferential analysis, one could adopt different rules. In this paper, extreme observations of each variable are winsorized: all data below the 5th percentile are set to the 5th percentile, and data above the 95th percentile are set to the 95th percentile. This avoids dropping observations from a sample that is already small. The analysis was replicated by eliminating observations with studentized residuals above two (Belsley et al. 1980), and the results (not reported) are qualitatively similar. According to Table 6, reconciliation adjustments of book value and net income from consolidated to separate financial statements are negative, consistent with consolidation surplus and consolidated financial statements including minority interests.

(Insert Table 6 about here)

A correlation analysis (not reported) indicated a significant correlation between share price and consolidated book value and net income at the 5% level. Correlations between share price and book value as well as between share price and net income in separate financial statements are also significant at the 5% level under both Italian GAAP and IFRS. However, correlation coefficients are slightly higher under Italian GAAP, suggesting Italian GAAP are more informative than IFRS. When examining the book value and net income reconciliation items from Italian GAAP to IFRS, the correlation coefficients are not significant, implying that IFRS do not provide incremental information beyond Italian GAAP. Finally, the correlation between consolidated and separate book value and net income is also significantly high, although it is surprisingly higher for separate financial statements under Italian GAAP than under IFRS. In fact, given that consolidated accounts are prepared according to IFRS, a higher correlation with separate financial statements prepared according to IFRS was to be expected.

5. Findings from the linear model

In this section, I discuss findings from the linear model. Table 7 shows results from regression (1), while Table 8 reports results from regression (2). To evaluate the incremental value relevance of separate financial statements under the two accounting standard sets unconditionally, regression (1) is performed separately for Italian GAAP and IFRS numbers. A consolidated data-only version of regression (1) also was estimated, which allows assessment of the effect of adding separate financial statement numbers on the value relevance of accounting numbers. The statistical significance of the difference in R^2 between the model with consolidated data-only and the full model is tested with an F-test for nested models.

(Insert Table 7 about here)

In the regression with consolidated data only, all the coefficients are statistically significant at the 1% level and the R^2 is 66.9%. Results therefore indicate that consolidated data provide value-relevant information to investors, and explain the majority of the variation in share prices. When separate financial statement data are included in the model, the R^2 increases to 70.1% for Italian GAAP and to 69.2% for IFRS, suggesting a modest incremental contribution of separate financial statements in explaining share price variation. The difference in the R^2 between the reduced and full model is statistically significant at the 1% level for separate financial statements under Italian GAAP and at the 5% level for separate financial statements under IFRS.

The coefficients on the reconciliation adjustments of book value from consolidated to separate financial statements are positive and strongly significant at the 1% level under both Italian GAAP and IFRS, whereas the reconciliation adjustments of net income are positive and significant at the 5% level. Moreover, the coefficients of the reconciliation adjustments are higher under Italian GAAP than under IFRS, consistent with greater conservatism under domestic GAAP.

Taken as a whole, the evidence suggests that information conveyed by separate financial statements is value-relevant, i.e. useful, to capital market investors. This result holds regardless of the accounting standard set used to prepare separate financial statements, and provides support to the first research hypothesis that separate financial statements contain additional value-relevant information beyond consolidated data.

When comparing the explanatory power of regression (b) and (c), the findings document a lower value-relevance of accounting data under IFRS than under Italian GAAP, suggesting that accounting disclosure based on Italian GAAP is more informative than IFRS. These results are consistent with prior studies on consolidated accounts, which have interpreted the lower value-relevance of book value and net income under IFRS as an effect of greater noise (measurement error) in the IFRS numbers (Hung and Subramanyam 2007, Morais and Curto 2009, Jarva and Lantto 2012). According to the Vuong statistics, the difference in the explanatory power of regression (b) and (c) is significant at the 10% level. The relative value-relevance test therefore fails to provide support for the second research hypothesis.

Table 8 reports results from the incremental value-relevance test for IFRS. The adjusted R^2 of the regression is 69.8% and the estimated coefficients on book value and net income in consolidated financial statements, as well as the reconciliation adjustments from consolidated to separate accounts under Italian GAAP are positive and statistically significant. Conversely, both the estimated coefficients on book value and net income adjustments from Italian GAAP to IFRS in separate financial statements are not significant at the conventional level, indicating that investors with access to the Italian GAAP financial statements do not find valuable additional information in the book value and net income adjustments to IFRS.[4] Thus, findings from regression (2) fail to provide empirical support for the third research hypothesis that IFRS provide incremental value-relevant information beyond domestic GAAP.

6. Additional analyses and robustness tests

In this section, the sensitivity of results in the previous section are evaluated using alternative model specifications. Following Clarkson et al. (2011) the linear pricing model is extended by introducing a product term between book value and net income in order to reflect possible nonlinearities in the relationship between prices and accounting data. The following nonlinear pricing models (termed the "product models") are estimated:

$$PPS_{it\text{-}30,t+60} = \delta_0 + + \delta_1 BVPS_{it_{CON}} + \delta_2 NIPS_{it_{CON}} + \delta_3 BVPS_{it_{SEP-CON}} + \delta_4 NIPS_{it_{SEP-CON}}$$
$$+ \delta_5 BVPS_{it_{CON}} \times NIPS_{it_{CON}} + \delta_6 BVPS_{it_{SEP-CON}} \times NIPS_{it_{SEP-CON}} + \varepsilon \ (3)$$

and

$$PPS_{it\text{-}30,t+60} = \eta_0 + \eta_1 BVPS_{it_{CON}} + \eta_2 NIPS_{it_{CON}} + \eta_3 BVPS_{it}^{IGAAP}{}_{SEP-CON} + \eta_4 NIPS_{it}^{IGAAP}{}_{SEP-CON}$$
$$+ \eta_5 BVPS_{it\,SEP}^{IFRS\text{-}IGAAP} + \eta_6 NIPS_{it\,SEP}^{IFRS\text{-}IGAAP} + \eta_7 BVPS_{it_{CON}} \times NIPS_{it_{CON}} +$$
$$\eta_8 BVPS_{it}^{IGAAP}{}_{SEP-CON} \times NIPS_{it}^{IGAAP}{}_{SEP-CON} + \eta_9 BVPS_{it\,SEP}^{IFRS\text{-}IGAAP} \text{ x } NIPS_{it\,SEP}^{IFRS\text{-}IGAAP} + \varepsilon \qquad (4)$$

All of the variables are defined as in regressions (1) and (2) and results are provided in Tables 9 and 10, respectively. Regression (3) is performed separately with domestic GAAP and IFRS numbers.

Overall, results from regression (3) support the hypothesis that separate financial statements provide incremental value-relevant information relative to consolidated financial statements. Moreover, the adjusted R^2 of the nonlinear model is higher than that of the linear one, thus indicating a higher explanatory power of the nonlinear model for the relation between share prices and accounting data. Differences in the R^2 between the linear and product models are statistically significant at the 5% level.

After checking for nonlinearities, the coefficient on the reconciliation adjustment of book value from consolidated to separate financial statements is still strongly significant, whereas the adjustment of net income is positive under both the accounting standard sets,

although significant only for Italian GAAP. Regression (b) therefore suggests that under IFRS only book value in separate financial statements plays an important valuation role, consistent with the emphasis on the role of balance sheets under IFRS. As for the linear model, financial statements under Italian GAAP are more value-relevant than under IFRS, and the difference in R^2 is significant at the 10% level.

The product term is negative and statistically significant at the 1% level for consolidated data, consistent with Clarkson et al (2011), indicating measurement errors increasing with the value of the group of companies.[5] Building on Hung and Subramanyan (2007) and Clarkson et al. (2011), if one considers measurement errors as one dimension of financial reporting quality, it is possible to interpret these results as evidence that investors do not consider consolidated accounts prepared according to IFRS to be reliable enough and for this reason they make downward adjustments when pricing the parent company. This is not the case for separate financial statements, as the product term is not statistically significant under both the accounting standard sets.

Consistent with previous findings, Table 10 shows that the reconciliation amounts from domestic GAAP to IFRS are not statistically significant. After controlling for nonlinearities, the reconciliation adjustment of the book value from consolidated to separate financial statements under Italian GAAP is positive and significant at the 10% level, while the reconciliation adjustment of the net income under Italian GAAP is significant at the 5% level. Instead, the book value and net income reconciliation items from Italian GAAP to IFRS in separate financial statements are not significant, confirming that IFRS do not provide incremental information relative to domestic GAAP. The product term is negative and statistically significant at the 1% level for consolidated data, whereas it is negative but not significant for the reconciliation items from consolidated to separate financial statements under Italian GAAP. The product term of the reconciliation items from Italian GAAP to IFRS in separate financial statements is instead positive and statistically significant, in contrast with

findings provided by Table 9, thus suggesting positive nonlinearities in the relationship between share prices and separate financial statements subsequent to the adoption of IFRS. Taken as a whole, the results in Table 9 and Table 10 provide support for the first research hypothesis, while Table 9 does not support the second research hypothesis and Table 10 fails to provide support for the third research hypothesis.

(Insert Table 10 about here)

Finally, a pooled regression of price on the book value and net income per share was performed. This included an accounting standard dummy variable and its product with book value and net income in order to check the differential effect of reporting under IFRS on Italian GAAP (Bartov et al. 2005, Horton and Serafeim 2010). Results (not reported) were qualitatively similar to previous findings, as both the dummy variable and the interaction terms were not statistically significant, indicating that reporting under IFRS does not provide incremental value-relevance for accounting numbers.

In summary, the robustness check performed in this section increases confidence in the conclusion that separate financial statements convey value-relevant information to investors and that reporting under IFRS does not have incremental information content beyond domestic GAAP. Moreover, performing the product model improves the fit of the regression and allows some inferences, which would not have been possible had the analysis been confined to the traditional linear model. In particular, the product model shows nonlinearities in the relation between price and consolidated data, suggesting greater noise (i.e. measurement errors) in consolidated financial statements which investors correct when pricing the firm.

7. Conclusions

This paper investigates the value-relevance of separate financial statements and the implications of adopting IFRS. It focuses on the Italian context comparing information under both Italian GAAP and IFRS for the same set of firms at the same date. Overall, findings

suggest that separate financial statements are value-relevant, i.e. they provide information useful to capital market investors beyond consolidated numbers. One potential explanation for such evidence is that share prices are driven by expected dividends, and profit distribution by parent companies is governed, at least in Italy, by rules relying on separate financial statements.

Contrary to expectations, findings also indicate that reporting under IFRS does not have incremental information content, which suggests that IFRS do not add to Italian GAAP for separate financial reporting. There is even modest evidence that domestic GAAP are more value-relevant than IFRS. One explanation for such results could be that consolidated financial statements already provide all the relevant IFRS information, thus absorbing the expected positive effect of adopting IFRS for separate reporting.

For the present sample, these results also might be driven by the fact that rules governing dividend distribution rely on conservative criteria, which are heavily aligned to domestic GAAP. Investors could therefore consider Italian GAAP adequate for forecasting expected dividends. Furthermore, investments in subsidiaries that are not held for sale are usually a main item in separate financial statements[6]. According to Italian GAAP, such investments must be accounted for at their cost or with the equity method. According to International Accounting Standard (IAS) 27, such investments are accounted for either at cost or at fair value, but all the sample firms, except one, report such investments at cost. This could therefore provide an explanation for IFRS numbers not providing incremental information content beyond domestic GAAP.

Finally, this paper highlights the importance of model specification in empirical research. The nonlinear model increases the power of the regression in explaining variation in share price and documents some measurement errors in consolidated data, an inference that would not have been possible had the analysis been confined to the traditional linear model. One possible explanation for such a result could be that, at the first-time adoption of IFRS for

consolidated financial statements, fair value was widely applied and many assets were revaluated, which may have induced investors to apply downward corrections when pricing the firm, consistent with the negative coefficient on the nonlinear term. On the contrary, all the sample firms report investments in subsidiaries that are not held for sale at cost. Separate financial statements under Italian GAAP are therefore widely based on the historical criterion, which could provide an explanation for the product term not being significant for separate financial statements under domestic GAAP. Evidence for separate financial statements under IFRS is instead mixed and therefore inconclusive. Taken as whole, results from the product models are consistent with Clarkson et al. (2011) and suggest that the adoption of the product model is justified and should be considered by researchers when doing value-relevance research.

In conclusion, this research provides relevant insight into the potential consequences of adopting IFRS for separate financial statements. This study has several strengths. First, all of the non-financial Italian institutions adopting IFRS are studied, therefore avoiding potential problems related to sample selection. Second, this research considers the effects of the mandatory adoption of IFRS, thus side-stepping problems related to self-selection. Third, by examining the adoption of IFRS for the same set of firms, the economic reality is the same: differences observed between financial measures are exclusively attributable to differences in accounting standards. In fact, firm-related factors which might affect accounting value-relevance remain constant. Finally, this study focuses on the Italian context, which has the important advantage of reducing the problem of omitting country-related variables. However, if this choice limits possible confounding effects due to a wide range of country-related factors, it also requires caution when generalizing results. In fact, as documented by previous research (e.g. Ball et al. 2000), results might not apply to countries with different enforcement rules. Thus, the findings should be interpreted as suggestive and subject to specific regulatory context.

References

Abad, C., Laffarga, J., Garcia-Borbolla, A., Larran, M., Piñero, J.M., & Garrod, N. (2000). *Journal of International Financial Management and Accounting, 11(3)*, 156-177.

Aharony, J., Barniv, R., & Falk, H. (2010). The impact of mandatory IFRS adoption on equity valuation of accounting numbers for security investors in the EU. *The European Accounting Review, 19(3)*, 535-578.

Alford, A., Jones, J., Leftwitch, R., & Zmijeski, M. (1993). The relative informativeness of accounting disclosure in different countries. *Journal of Accounting Research, 31*(Supplement), 183-223.

Amir, E., Harris, T.S., & Venuti, E.K. (1993). A Comparison of the Value-Relevance of U.S. Versus Non-U.S. GAAP Accounting Measures Using Form 20-F Reconciliations. *Journal of Accounting Research, 31*(Supplement), 230-264.

Atanassova, A. (2008). IFRS-adoption in Bulgarian banks: non-numerical disclosure evidence. INTACCT Working paper. University of Economics, Varna.

Aubert, F., & Grudnitski, G. (2011). The impact and importance of mandatory adoption of International Financial Reporting Standards in Europe. *Journal of International Financial Management and Accounting, 22(1)*, 1-26.

Ball, R., Kothari, S.P., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics, 29(1)*, 1-51.

Barth, M., & Kallapur, S. (1996). The effects of cross-sectional scale differences on regression results in empirical accounting research. *Contemporary Accounting Research, 13(2)*, 527-567.

Barth, M.E., Beaver, W.H., & Landsman, W.R. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics, 31(1-3)*, 77-104.

Barth, M.E., & Clinch, G. (2009). Scale effects in capital markets-based accounting research. *Journal of Business Finance & Accounting, 36(3-4)*, 253-288.

Barth, M., Landsman, W., Lang, M., & Williams, C. (2012). Are IFRS based and US GAAP-based accounting amounts comparable? *Journal of Accounting and Economics, 54(1)*, 68-93.

Bartov, E., Goldberg, S.R., & Kim, M.-S. (2005). Comparative value relevance among German, U.S. and International Accounting Standards: a German stock market perspective. *Journal of Accounting, Auditing & Finance, 20(2)*, 95-119.

Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics, 24(1)*, 3-37.

Beatty, R.P., Riffe, S.M., & Thompson, R. (1999). The Method of Comparables and Tax Court Valuations of Private Firms: An Empirical Investigation. *Accounting Horizon, 13(3),* 177-199.

Belsley, D.A., Kuh, E., & Welsch, R.E. (1980). Regression diagnostics: identifying influential data and sources of collinearity. Wiley series in probability and statistics.

Beuselinck, C., Joos, P., Khurana, I., & Van der Meulen, S. (2010). Mandatory IFRS reporting and stock price informativeness. Working paper. Tilburg University and University of Missouri at Columbia.

Biddle, G.C., Seow, G.S., & Siegel, A.F. (1995) Relative versus incremental information content. *Contemporary Accounting Research, 12(1)*, 1-23.

Brown, S., Lo, K., & Lys, T. (1999). Use of R^2 in accounting research: measuring changes in value relevance over the last four decades. *Journal of Accounting and Economics, 28(2)*, 83-115.

Byard, D., Li, Y., & Yu, Y. (2011). The effect of mandatory IFRS adoption on financial analysts' information environment. *Journal of Accounting Research, 49(1)*, 69–96.

Callao, S., Jarne, J.I., & Lainez, J.A. (2007). Adoption of IFRS in Spain: effect on the comparability and relevance of financial reporting. *Journal of International Accounting, Auditing and Taxation, 16(2)*, 148-178.

Choi, F.D.S., & Mueller, G.G. (1992). International accounting. Englewood Cliffs, N.J.: Prentice-Hall.

Christensen, H.B., Lee, E., & Walker, M. (2007). Cross-sectional variation in the economic consequences of international accounting harmonization: The case of mandatory IFRS adoption in the UK. *International Journal of Accounting, 42(4)*, 341–379.

Clarkson, P., Hanna, J.D., Richardson, G.D., & Thompson, R. (2011). The impact of IFRS adoption on the value relevance of book value and earnings. *Journal of Contemporary Accounting and Economics, 7(1)*, 1-17.

Collins, D., Maydew, E., & Weiss, I. (1997). Changes in the value-relevance of earnings and book value over the past forty years. *Journal of Accounting and Economics, 24(1)*, 39-67.

Darrough, M.N., & Harris, T.S. (1991). Do management forecasts of earnings affect stock prices in Japan? in *Japanese Financial Markets Research*, W.T. Ziemba, W. Bailey and Y. Hamao, eds. Amsterdam North Holland, 197-229.

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2008). Mandatory IFRS reporting around the world: early evidence on the economic consequences. *Journal of Accounting Research, 46(5)*, 1085-1142.

Delvaille, P., Ebbers G., & Saccon, C. (2005). International Financial Reporting convergence: evidence from three continental European countries. *Accounting in Europe, 2(1)*, 137-164.

Easton, P., & Sommers, G. (2003). Scale and the scale effect in market-based accounting research. *Journal of Business, Finance and Accounting, 30(1-2)*, 25-55.

EFRAG, 2011, Proactive Project on Separate Financial Statements, http://www.efrag.org/Front/p228-1-272/Proactive---Separate-Financial-Statements-prepared-under-IFRS.aspx

Feltham, G.A., & Ohlson, J.A. (1995). Valuation and clean surplus accounting for operating and financial activities. *Contemporary Accounting Research, 11(2)*, 689-732.

Feltham, G.A., & Ohlson, J.A. (1996). Uncertainty resolution and the theory of depreciation measurement. *Journal of Accounting Research, 34(2)*, 209-234.

Forster, M.R., & Sober E. (1994). How to tell when simpler, more unified, or less ad hoc theories will provide more accurate predictions. *British Journal for the Philosophy of Science, 45(1)*, 1-35.

Garrod, N., & Rees, W. (1998). International diversification and firm value. *Journal of Business Finance and Accounting, 25(9-10)*, 1255-1281.

Gavana, G., Guggiola, G., & Marenzi, A. (2013). Evolving connections between tax and financial reporting in Italy. *Accounting in Europe, 10(1)*, 43-70.

Gjerde, O., Knivsfla, K.H., & Saettan, F. (2008). The value relevance of adopting IFRS: evidence from 145 NGAAP restatements. *Journal of International Accounting, Auditing and Taxation, 17*, 92-112.

Greene, W.H. (2008). *Econometric Analysis.* Pearson Prentice Hall. Edimburgh. Sixth Edition.

Haller, A. (1992). The relationship of financial and tax accounting in Germany: a major reason for accounting disharmony in Europe. *International Journal of Accounting*, 27, 310-323.

Harris, T., Lang, M.H., & Moller, H.P. (1997). *Unconsolidated versus consolidated accounting measures: empirical evidence from listed German companies*. 20th Annual Congress of the European Accounting Association.

Horton, J., & Serafeim, G. (2010). Market reaction to and valuation of IFRS reconciliation adjustments: first evidence from the UK. *Review of Accounting Studies, 15(4)*, 725-751.

Horton, J., Serafeim, G., & Serafeim, I. (2013). Does mandatory IFRS adoption improve the information environment? *Contemporary Accounting Research, 30 (1),* 388-423.

Hung, M., & Subramanyam, K.R. (2007). Financial statement effects of adopting International Accounting Standards: the case of Germany. *Review of Accounting Studies, 12(4)*, 623-657.

Iatridis, G., & Rouvolis, S. (2010). The post-adoption effects of the implementation of International Financial Reporting Standard in Greece. *Journal of International Accounting, Auditing and Taxation, 19(1)*, 55-65.

Jarva, H., & Lantto, A.-M. (2012). Information content of IFRS versus Domestic Accounting Standards: evidence from Finland. *The Finnish Journal of Business Economics, 2*, 141-177.

Jefferys, W., & Berger, J. (1992). Ockham's razor and bayesian analysis. *American Scientist, 80*, 64-72.

Khurana, I.K., & Kim, M.S. (2003). Relative Value Relevance of Historical Cost vs Fair Value: Evidence From Bank Holding Companies. *Journal of Accounting and Public Policy, 22,*19-42.

Kvaal, E., & Nobes, C. (2010). International differences in IFRS policy choice: a research note. *Accounting and Business Research, 40(2)*, 173-187.

Lamb, M., Nobes, C., & Roberts, A. (1998). International variations in the connections between tax and financial reporting. *Accounting and Business Research, 28(3)*, 173-188.

Macias, M., & Muiño, F. (2011). Examining dual accounting systems in Europe. *The International Journal of Accounting, 46(1)*, 51-78.

Marquardt, D.W. (1970) Generalized Inverses, Ridge Regression, Biased Linear Estimation, and Nonlinear Estimation. *Technometrics, 12(3),* 605–07.

Mastellone, P. (2011). Corporate tax and international accounting standards: recent developments in Italy. *Tax Analysts*, Special reports, 17 January, 241-251.

Morais, A.I., & Curto, J.-D. (2009). Mandatory adoption of IASB standards : value relevance and country-specific factors. *Australian Accounting Review, 49(19)*, 128-143.

Nobes, C.W. (1998). Towards a general model of the reasons for international differences in financial reporting. *Abacus, 34(2)*, 162-187.

Nobes, C. (2003). A conceptual framework for the taxable income of businesses, and how to apply it under IFRS. Certified Accountants Educational Trust, London.

Norberg, C. (2007). Accounting and taxation. Kari Tikka memorial lecture, in EATPL Congress, June, Helsinki.

Ohlson, J. (1995). Earnings, book values and dividends in equity valuation. *Contemporary Accounting Research, 11 (2)*, 661-687.

Ohlson, J. (1999). On transitory earnings. *Review of Accounting Studies, 4(3-4)*, 145-162.

Ohlson, J. (2000). Residual income valuation: the problems. Working paper. New York University.

Ohlson, J. (2009). Accounting data and value: the basic results. *Contemporary Accounting Research, 26(1)*, 231-259.

Oliveras, E., & Puig, X. (2007). The changing relationship between tax and financial reporting in Spain. *Accounting in Europe, 2(1)*, 195-207.

Pfaff, D., & Schroer, T. (1996). The relationship between financial and tax accounting in Germany – the authoritativeness and reverse authoritativeness principle. *European Accounting Review, 5(1)*, 963-979.

Rees, L., & Elgers, P. (1997). The market's valuation of non reported accounting measures: retrospective reconciliations of non-U.S. and U.S. GAAP. *Journal of Accounting Research, 35(1)*, 115-127.

Rees, W. (1997). The impact of dividends, debt and investment on valuation models. *Journal of Business, Finance and Accounting, 24(7-8)*, 1111-1140.

Schwarz, G. (1978). Estimating the dimension of a model. *Annals of Statistics, 6(2)*, 461-465.

Soderstrom, N.S., & Sun, K.J. (2007). IFRS adoption and accounting quality: a review. *European Accounting Review, 16(4)*, 675-702.

Verriest, A., Gaeremynck, A., & Thornton, D. (2010). Corporate governance and properties of IFRS adoption. INTACCT Working paper. Tilburg University.

Vuong, Q. (1989). Likelihood ratio tests for model selection and non-nested hypotheses. *Econometrica, 57*, 307-333.

Whittington, G. (2005). The adoption of international standards in the European Union. *European Accounting Review, 14(1)*, 127-153.

[1] When research is oriented to reflect the firm value over a specific period of time, research design usually consists in examining the association between the market value of equity, or share price, and accounting data (Barth et al. 2001). Since primary research interest of this study is to assess whether and to what extent accounting numbers are reflected in stock prices, rather than their timeliness, this approach is followed. This approach has certain advantages over traditional return models (Collins et al. 1997, Rees 1997, Garrod and Rees 1998, Barth et al. 2001).

[2] In this paper the universe of available observations of Italian, non-financial institutions adopting IFRS are studied, therefore all differences are significant in principle, and no tests are needed. However, tests for differences in R^2 are performed in order to draw more general conclusions. The Vuong (1989) test is a likelihood-ratio test of non-nested differences in explanatory power between two models, under the null hypothesis that either model is ''true.''

[3] Value-relevance tests can be classified into relative association and incremental association tests. Relative association tests compare the association between stock market values (or changes in values) and alternative accounting measures. This kind of test focuses on differences in the R^2 of regressions. The accounting numbers with the highest R^2 are described as being more value-relevant. Incremental association tests, rather, investigate whether the accounting number is helpful in explaining stock market values (or returns) given other specified variables. That accounting number is deemed to be value-relevant if its estimated regression coefficient is significantly different from zero. Biddle et al. (1995) show that relative value relevance and incremental value relevance are conceptually distinct. It is possible that two measures are incrementally value-relevant with respect to each other even though there are no differences in relative value relevance.

[4] A potential criticism when some variables are highly correlated is that multicollinearity reduces the statistical significance of the coefficients, making it harder to reject the null hypothesis that the independent variable has no effect on the dependent variable. One measure for collinearity is the Variance Inflation Factor (VIF), although there is no specific level of VIF that highlights the presence of multicollinearity problems. For instance, Marquardt (1970) adopts a conservative approach, which considers a variance inflation factor of five as a limit. Instead, Besley, Kuh and Welsch (1980), Greene (2008) point out that a level over 20 is indicative of a problem. Variance inflation factors indicate that there are no severe problems of multicollinearity among the variables included in any specification of the models used in this research. With particular regard to regression in Table 8, the book value and the net income reconciliation items, which are not statistically significant, have a variance inflation factor of 1.09 and 1.15 respectively.

[5] Despite a VIF equal to 10.36, the coefficient on the product term of consolidated data is strongly significant so the null hypothesis can be rejected. In the case of the product term of the reconciliation adjustments from separate to consolidated financial statements the coefficient is not significant, but its VIF is low (2.29).

[6] In the present sample, investments in subsidiaries, jointly-controlled entities and associates account, on average, for 48% of the total assets under Italian GAAP and for 36% under IFRS.

Table 1
IFRS adoption for separate financial statements in the EU and EEA

Member States	Requiring IFRS in listed companies' separate financial statements	Requiring IFRS in other companies' separate financial statements	Permitting IFRS in separate financial statements
Austria	No	No	No
Belgium	Yes, for real estate investment companies.	No	No
Bulgaria	Yes	Yes, except for SMEs and entities in liquidation and insolvency.	Yes, for SMEs
Cyprus	Yes	Yes	No
Czech Rep.	Yes	No	No
Denmark	No	No	Yes, all types
Estonia	Yes	Yes, for credit institutions, insurance undertakings, financial holding companies, mixed financial holding companies, investment firms.	Yes, all other types
Finland	No	No	Yes, for companies which are audited by certified auditors except insurance companies.
France	No	No	No
Germany	No	No	Additionally to still required local GAAP.
Greece	Yes	Yes, for banks and other financial institutions.	Yes, for companies audited by certified auditors.
Hungary	No	No	Additionally to still required local GAAP.
Iceland	Yes	Yes. If the consolidated groups are permitted to use IFRS in their consolidated accounts.	Yes, for medium sized and big companies.
Ireland	No	No	Yes, for all bar companies not trading for gain.
Italy	Yes, except for insurance companies.	Yes, for supervised financial companies and companies with financial instruments widely distributed among the public.	Yes, all other types except for insurance and small enterprises.
Latvia	Yes	Yes, for banks, insurance commercial companies and other supervised financial institutions.	No
Liechtenstein	No	No	Yes, all types
Lithuania	Yes	Yes, for banks and other credit institutions.	Yes, except for banks and other credit institutions, insurance companies.
Luxemburg	No	No	Yes, all types
Malta	Yes	Yes, for banks, insurance companies, certain other supervised financial institutions and larger companies deemed significant in the local economy.	Yes, all other types
Netherlands	No	No	Yes, all types
Norway	No	No	Yes, all types
Poland	No	No	Yes, for companies having filed for admission to public trading or whose parent uses IFRS.
Portugal	No	No	Yes, for companies within the scope of consolidation of an entity who applies IAS/IFRS. Credit institutions and other financial institutions are excluded.
Romania	Yes, for credit institutions.	Yes, for credit institutions.	No, but for purposes of information only.
Slovakia	Yes, for companies of public interest.	Yes, for companies of public interest.	Yes, for those listed companies and merchants with securities except banks which are not those of public interest.
Slovenia	No	Yes, for banks and insurance companies.	Yes, for all other types, if so decided by the assembly of the company, but for the minimum period of 5 years.
Spain	No	No	No
Sweden	No	No	No
UK	No	No	Yes, except for the charity sector.

Table 2
Summary of the main differences between Italian GAAP and IFRS at the date of IFRS adoption according to the European Regulation 1606/2002

ITEMS	ITALIAN GAAP	IFRS
Research expenses, costs for extraordinary company transactions, costs for the start up or expansion of production activities	Alternatively capitalized or charged to operation when incurred.	Charged against profit and loss account
Development costs	Alternatively capitalized or charged to operation when incurred.	Capitalized only if some criteria are met.
Goodwill	Amortized.	Not amortized.
Inventory	Either LIFO or FIFO or weighted average cost permitted.	LIFO not permitted. Recorded net of advances received by customers.
Property, plant and equipment.	Revaluation not permitted.	Revaluation permitted.
Provisions and contingent liabilities	Prudence prevails on competence.	Provision is made only if there is a current obligation as a consequence of an occurred event.
Finance leases	Recognised in the income statement.	Recognised on the balance sheet as tangible assets with a financial obligation of equal value.
Tax assets and liabilities	Deferred tax assets must be posted only if it is reasonably certain that there will be sufficient taxable income to absorbe them. Deferred tax liabilities must be posted only if it is likely to be paid.	Tax assets must be recorded when it is probable that there will be sufficient taxable income to absorbe them.
Employee benefits	Recorded at nominal value and calculated as required by the Italian law.	Determined on actuarial assumptions and discounted.
Financial instruments	Lower of cost or market values.	Fair value for certain types of investments.
Investment property	Revaluation not permitted.	Revaluation permitted
Investment in subsidiaries, jointly controlled entities and associates in separate financial statement	Recorded at cost or under equity method.	Recorded at cost or fair value.

Table 3
Distribution of sample firms by industry
(N = 173 firms)

Industry Group	%
Areospace and Defence	1%
Automobiles	4%
Chemicals	2%
Consumers (durable and non durables)	16%
Diversified Manifacturing and Capital Goods	20%
Energy	4%
Food, Beverage, Restaurants	3%
Healthcare	1%
Housebuildings, Building Materials and Constructions	8%
Media and Entertainment	9%
Natural Resources	1%
Real Estate	4%
Technology	8%
Telecommunications and Cable	3%
Transportation	4%
Utilities	13%
Total	100%

Table 4
Book value, net income and reconciliation amounts at the first time IFRS adoption of separate financial statements

	BV_{SEP}^{IGAAP}	BV_{SEP}^{IFRS}	$BV_{SEP}^{IFRS-IGAAP}$	NI_{SEP}^{IGAAP}	NI_{SEP}^{IFRS}	$NI_{SEP}^{IFRS-IGAAP}$
Mean	848,718,798	875,299,204	26,580,407	112,670,103	102,958,827	-5,840,206
First quartile	55,995,500	55,232,250	-4,704,071	437,250	535,933	-1,138,000
Median	131,941,000	131,263,000	38,000	6,609,500	6,521,000	65,470
Third quartile	458,497,467	456,311,615	5,181,306	38,550,500	40,281,500	1,471,500
Standard deviation	2,899,789,425	3,018,370,149	205,499,819	549,542,198	531,019,849	194,115,306
Minimum	-24,119,771	-26,811,279	-515,443,699	-257,352,000	-259,348,000	-2,051,000,000
Maximum	25,440,000,000	26,872,000,000	1,829,394,000	5,288,000,000	6,042,000,000	894,000,000
Kurtosis	48.4	48.9	46.8	60.5	94.8	76.7
Asymmetry	6.6	6.7	6	7.5	9.1	-6.3
Negative	1%	1%	49%	22%	22%	45%
Positive	99%	99%	51%	78%	78%	55%
Non-zero	100%	100%	99%	100%	100%	99%
Number of observations	173	173	173	173	173	173

BV_{SEP}^{IGAAP} = book value of equity in separate financial statements under Italian GAAP; BV_{SEP}^{IFRS} = book value of equity in separate financial statements under IFRS; $BV_{SEP}^{IFRS-IGAAP}$ = book value reconciliation from Italian GAAP to IFRS in separate financial statements; NI_{SEP}^{IGAAP} = net income in separate financial statements under Italian GAAP; NI_{SEP}^{IFRS} = net income in separate financial statements under IFRS; $NI_{SEP}^{IFRS-IGAAP}$ = net income reconciliation from Italian GAAP to IFRS in separate financial statements.

Table 5
Key financial ratios at the first time IFRS adoption for separate financial statements

	Price to book value IGAAP(*)	Price to book value IFRS	Price to earnings IGAAP	Price to earnings IFRS	ROE (**) % IGAAP	ROE(**) % IFRS	ROA(***) % IGAAP	ROA(***) % IFRS	Total assets/book value IGAAP	Total assets/book value IFRS
Mean	2.99	3.02	46.45	34.74	2.45%	0.05%	2.53%	1.88%	2.44	2.43
Standard deviation	2.86	3.09	205.92	102.26	35.22%	45.90%	12.15%	13.04%	2.39	2.32
First quartile	1.36	1.37	4.62	4.81	1.13%	0.88%	0.45%	0.44%	1.43	1.42
Median	2.19	2.18	23.29	23.45	5.38%	5.43%	2.76%	2.45%	1.89	1.92
Third quartile	3.53	3.31	51.05	48.72	12.51%	12.34%	5.76%	5.30%	2.57	2.70
Minimum	-2.35	-2.23	-1,343.07	-391.69	-459.89%	-523.98%	-190.37%	-210.30%	-5.07	-4.81
Maximum	21.54	25.98	1,550.10	537.66	72.81%	71.87%	60.81%	60.13%	20.06	19.58
Kurtosis	13.10	21.03	33.38	8.92	5,606.34%	5,692.67%	1,481.68%	2,374.39%	35.97	33.69
Asymmetry	3.11	3.83	1.65	0.60	-627.68%	-702.04%	-115.22%	-193.41%	5.17	4.93
Number of observations	173	173	173	173	173	173	173	173	173	173

(*) IGAAP = Italian GAAP
(**) ROE = Net income 2006/Book value of equity 2006
(***) ROA = Net income 2006/ Total assets 2006

Table 6
Descriptive statistics for regression variables

	PPS	$BVPS_{CON}$	$NIPS_{CON}$	$BVPS_{SEP-CON}^{IGAAP}$	$NIPS_{SEP-CON}^{IGAAP}$	$BVPS_{SEP-CON}^{IFRS}$	$NIPS_{SEP-CON}^{IFRS}$	$BVPS_{SEP}^{IFRS-IGAAP}$	$NIPS_{SEP}^{IFRS-IGAAP}$	$BVPS_{CON}$ X $NIPS_{CON}$	$BVPS_{SEP-CON}^{IGAAP}$ X $NIPS_{SEP-CON}^{IGAAP}$	$BVPS_{SEP-CON}^{IFRS}$ X $NIPS_{SEP-CON}^{IFRS}$	$BVPS_{SEP}^{IFRS-IGAAP}$ X $NIPS_{SEP}^{IFRS-IGAAP}$
Mean	7.54	4.06	0.34	-0.96	-0.17	-0.97	-0.17	0.01	0.00	2.53	0.38	-0.38	0.02
Standard deviation	7.03	3.68	0.46	1.66	0.35	1.78	0.37	0.15	0.06	4.65	1.17	1.34	0.06
First quartile	1.91	1.23	0.01	-1.79	-0.31	-1.52	-0.30	-0.09	-0.02	0.01	0.00	-0.37	0.00
Median	5.13	2.73	0.20	-0.40	-0.06	-0.41	-0.07	0.00	0.00	0.43	0.03	-0.03	0.00
Third quartile	10.85	5.95	0.56	-0.10	0.02	-0.10	-0.30	0.09	0.03	2.35	0.38	0.00	0.00
Minimum	0.56	0.43	-0.19	-8.54	-1.51	-8.83	-1.54	-0.26	-0.13	-2.31	-6.56	-9.11	-0.01
Maximum	22.14	11.90	1.33	4.47	0.88	4.44	0.89	0.30	0.12	15.85	7.13	6.85	0.29
Number of observations	173	173	173	173	173	173	173	173	173	173	173	173	173

PPS = price per share; $BVPS_{CON}$ = consolidated book value of equity per share; $NIPS_{CON}$ = consolidated net income per share; $BVPS_{SEP-CON}^{IGAAP}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements under Italian GAAP; $NIPS_{SEP-CON}^{IGAAP}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements under Italian GAAP; $BVPS_{SEP-CON}^{IFRS}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements under IFRS; $NIPS_{SEP-CON}^{IFRS}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements under IFRS; $BVPS_{SEP}^{IFRS-IGAAP}$ = book value reconciliation per share from Italian GAAP to IFRS in separate financial statements; $NIPS_{SEP}^{IFRS-IGAAP}$ = net income reconciliation per share from Italian GAAP to IFRS in separate financial statements.

Table 7

Incremental value-relevance of book value and net income in separate financial statements

(1) $PPS_{it-30,t+60} = \alpha_0 + + \alpha_1 BVPS_{it_{CON}} + \alpha_2 NIPS_{it_{CON}} + \alpha_3 BVPS_{it_{SEP-CON}} + \alpha_4 NIPS_{it_{SEP-CON}} + \varepsilon$

		Intercept	$BVPS_{it_{CON}}$	$NIPS_{it_{CON}}$	$BVPS_{it_{SEP-CON}}$	$NIPS_{it_{SEP-CON}}$	Adj. R^2	F-statistics	N
(a)	**Consolidated data only**	1.29*** (2.81)	1.30*** (11.3)	2.91*** (3.16)			0.669	174.96***	173
(b)	**Separate Financial Statements under Italian GAAP**	0.92** (2.07)	1.54*** (12.17)	5.35*** (4.13)	0.90*** (3.86)	3.42** (2.31)	0.701	101.70***	173
(c)	**Separate Financial Statements under IFRS**	0.93** (2.06)	1.51*** (11.64)	4.90*** (3.82)	0.74*** (3.31)	2.85** (2.05)	0.692	97.45***	173
	Δ Adj. R^2 (c) – (a)						0.032***[4.90]		
	Δ Adj. R^2 (c) – (b)						0.023** [3.49]		
	Δ Adj. R^2 (b) – (c)						0.009* [1.70]		

$PPS_{it-30,t+60}$ = price per share; $BVPS_{it_{CON}}$ = consolidated book value of equity per share;

$NIPS_{it_{CON}}$ = consolidated net income per share;

$BVPS_{it_{SEP-CON}}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements;

$NIPS_{it_{SEP-CON}}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements.

*, **, *** p-value < 10%, 5%, 1% respectively.
T-statistics for coefficients are in ( ).
Results are robust to hetereoskedasticy.
Statistical significance of the difference in R^2 between regression (b) and (a), as well as between (c) and (a), is tested with F-test. F-statistics is in [].
Statistical significance of the difference in R^2 between regression (b) and (c) is tested with Vuong (1989) test. Z-statistics is in [].

Table 8

Value-relevance of book value and net income reconciliation items from Italian GAAP to IFRS in separate financial statements

$$(2)\ PPS_{it-30,t+60} = \beta_0 + \beta_1\,BVPS_{it\,CON} + \beta_2\,NIPS_{it\,CON} + \beta_3\,BVPS_{it\,SEP-CON}^{IGAAP} + \beta_4\,NIPS_{it\,SEP-CON}^{IGAAP} + \beta_5\,BVPS_{it\,SEP}^{IFRS-IGAAP} + \beta_6\,NIPS_{it\,SEP}^{IFRS-IGAAP} + \varepsilon$$

	Intercept	$BVPS_{it\,CON}$	$NIPS_{it\,CON}$	$BVPS_{it\,SEP-CON}^{IGAAP}$	$NIPS_{it\,SEP-CON}^{IGAAP}$	$BVPS_{it\,SEP}^{IFRS-IGAAP}$	$NIPS_{it\,SEP}^{IFRS-IGAAP}$	Adj. R^2	F-statistics	N
Coefficients	0.88** (1.97)	1.56*** (11.95)	5.17*** (3.89)	0.91*** (3.87)	3.34** (2.24)	0.78 (0.39)	-3.47 (-0.70)	0.698	67.30***	173

$PPS_{it-30,t+60}$ = price per share;

$BVPS_{it\,CON}$ = consolidated book value of equity;

$NIPS_{it\,CON}$ = consolidated net income;

$BVPS_{it\,SEP-CON}^{IGAAP}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements under Italian GAAP; $NIPS_{it\,SEP-CON}^{IGAAP}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements under Italian GAAP; $BVPS_{it}^{IFRS-IGAAP}$ = book value reconciliation per share from Italian GAAP to IFRS; $NIPS_{it}^{IFRS-IGAAP}$ = net income reconciliation per share from Italian GAAP to IFRS.

T-statistics for regression coefficients are in ( ).
*, **, *** p-value < 10%, 5%, 1% respectively.
Results are robust to hetereoskedasticy.

Table 9
Incremental value-relevance of book value and net income in separate financial statements –Product model

$$(3) \quad PPS_{it-30,t+60} = \delta_0 + + \delta_1 BVPS_{it\,CON} + \delta_2 NIPS_{it\,CON} + \delta_3 BVPS_{it\,SEP-CON} + \delta_4 NIPS_{it\,SEP-CON} + \delta_5\ BVPS_{it\,CON} \times NIPS_{it\,CON} + \delta_6$$

$$BVPS_{it\,SEP-CON} \times NIPS_{it\,SEP-CON} + \varepsilon$$

	Intercept	$BVPS_{it\,CON}$	$NIPS_{it\,CON}$	$BVPS_{it\,SEP-CON}$	$NIPS_{it\,SEP-CON}$	$BVPS_{it\,CON}$ X $NIPS_{it\,CON}$	$BVPS_{it\,SEP-CON}$ X $NIPS_{it\,SEP-CON}$	Adj. R^2	F-statistics	N
(a) Separate Financial Statements under Italian GAAP	0.05 (0.11)	1.74*** (11.67)	9.26*** (5.32)	0.70** (2.22)	2.70* (1.88)	-0.58*** (-2.88)	-0.36 (-0.80)	0.723	75.93***	173
(b) Separate Financial Statements under IFRS	0.11 (0.21)	1.71*** (11.44)	8.53*** (4.99)	0.56** (2.24)	1.69 (1.24)	-0.57*** (-2.88)	-0.35 (-1.08)	0.715	72.76***	173
Δ Adj. R^2 (a) in Table 10 – (a) in Table 8								0.022** [3.84]		
Δ Adj. R^2 (b) in Table 10 - (b) in Table8								0.023** [3.79]		
Δ Adj. R^2 (a) – (b)								0.008* [1.95]		

Table 9 (continued)

$PPS_{it-30,t+60}$ = price per share;

$BVPS_{it_{CON}}$ = consolidated book value of equity per share;

$NIPS_{it_{CON}}$ = consolidated net income per share;

$BVPS_{it_{SEP - CON}}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements;

$NIPS_{it_{SEP - CON}}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements.
T-statistics for regression coefficients are in ( ).
*, **, *** p-value < 10%, 5%, 1% respectively.
Results are robust to hetereoskedasticy.
Statistical significance of the difference in R^2 between regression (a) and (b) in Table 10 and their restricted model (a) and (b) in Table 8 is tested with F-test. F-statistics is in [ ].
Statistical significance of the difference in R^2 between regression (a) and regression (b) is tested with Vuong test. Z-statistics is in [ ].

Table 10
Value-relevance of book value and net income reconciliation from Italian GAAP to IFRS − Product model

$$(4)\ PPS_{it-30,t+60} = \eta_0 + \eta_1 BVPS_{it_{CON}} + \eta_2 NIPS_{it_{CON}} + \eta_3 BVPS^{IGAAP}_{it_{SEP-CON}} + \eta_4 NIPS^{IGAAP}_{it_{SEP-CON}} + \eta_5 BVPS^{IFRS-IGAAP}_{it_{SEP}} + \eta_6 NIPS^{IFRS-IGAAP}_{it_{SEP}} + \eta_7 BVPS_{it_{CON}} X NIPS_{it_{CON}} + \eta_8 BVPS^{IGAAP}_{it_{SEP-CON}} X$$

$$NIPS^{IGAAP}_{it_{SEP-CON}} + \eta_9 NIPS^{IFRS-IGAAP}_{it_{SEP}} X BVPS^{IFRS-IGAAP}_{it_{SEP}} + \varepsilon$$

Intercept	$BVPS_{it_{CON}}$	$NIPS_{it_{CON}}$	$BVPS^{IGAAP}_{it_{SEP-CON}}$	$NIPS^{IGAAP}_{it_{SEP-CON}}$	$BVPS^{IFRS-IGAAP}_{it_{SEP}}$	$NIPS^{IFRS-IGAAP}_{it_{SEP}}$	$BVPS_{it_{CON}}$ X $NIPS_{it_{CON}}$	$BVPS^{IGAAP}_{it_{SEP-CON}}$ X $NIPS^{IGAAP}_{it_{SEP-CON}}$	$BVPS^{IFRS-IGAAP}_{it_{SEP}}$ X $NIPS^{IFRS-IGAAP}_{it_{SEP}}$	Adj. R^2	F-statistics	N
0.04 (0.07)	1.67*** (10.16)	9.81*** (5.64)	0.57* (1.79)	3.26** (2.24)	0.12 (0.07)	-4.63 (-0.95)	-0.62*** (-2.99)	-0.46 (-1.02)	13.51** (2.41)	0.731	52.82***	173

$PPS_{it-30,t+60}$ = price per share;

$BVPS_{it_{CON}}$ = consolidated book value of equity;

$NIPS_{it_{CON}}$ = consolidated net income;

$BVPS^{IGAAP}_{it_{SEP-CON}}$ = reconciliation adjustment of book value of equity per share from consolidated to separate financial statements under Italian GAAP; $NIPS^{IGAAP}_{it_{SEP-CON}}$ = reconciliation adjustment of net income per share from consolidated to separate financial statements under Italian GAAP;

$BVPS^{IFRS-IGAAP}_{it_{SEP}}$ = book value reconciliation per share from Italian GAAP to IFRS in separate financial statements;

$NIPS^{IFRS-IGAAP}_{it_{SEP}}$ = net income reconciliation per share from Italian GAAP to IFRS in separate financial statements.

*, **, *** Coefficients are statistically significant at the 10%, 5%, 1% levels.
T-statistics are in ( ).
Results are robust to hetereoskedasticy.