Economia Aziendale Online©

N. 4/2009

"Earnings management, timely loss recognition and value relevance in Europe following the IFRS mandatory adoption: evidence from Italian listed companies"

Paola Paglietti

Earnings management, timely loss recognition and value relevance in Europe following the IFRS mandatory adoption: evidence from Italian listed companies

Paola Paglietti

Dipartimento di Scienze Economiche e Commerciali, Università degli studi di Cagliari
Viale S. Ignazio 17, 09123, Cagliari, Italy - Phone: 0706753352
Email: ppagliet@unica.it

Abstract

Following the recent EU Regulation introducing the mandatory adoption of IFRS in Europe, this study examines accounting quality in Italy from 2002 to 2007. An empirical analysis is carried out by using consolidated financial statement data and stock prices information from a sample of 552 firm-year observations concerning a cohort of 92 Italian non-financial companies listed on the Italian Stock Exchange. Accounting quality is investigated by focusing on three dimensions, namely: a) earnings management, expressed as both earnings smoothing and managing earnings towards a target; b) timely loss recognition; c) value relevance. Each dimension is evaluated by using appropriate metrics introduced in previous literature. Relevant changes in the measurements deriving from these metrics, evaluated by contrasting results obtained for firms operating in the pre-adoption period (i.e., from 2002 to 2004) with those of firms operating in the post-adoption one (i.e., from 2005 to 2007), are interpreted as changes of accounting quality in Italy. Research findings are mixed. They may be particularly useful for investors, regulators and the institutions involved in the accounting harmonization process, since they provide early evidence of the impact of the IFRS mandatory adoption at country level.

Keywords: IFRS, Accounting quality, Financial reporting, International accounting, Regulation.

1 - Introduction

The need to make progress in the financial reporting harmonization induced the European Union (EU) to enact the Regulation (EC) No. 1606/2002. This regulation required EU-listed companies to prepare consolidated financial statements in accordance with the International Financial Reporting Standards (IFRS), issued by the International Ac-

counting Standards Board (IASB), from 1 January 2005[1]. Member States have the possibility to extend this requirement to unlisted companies and to individual financial statements.

The IFRS adoption by the EU is one of the biggest changes in financial reporting in Europe. Thus, there is a pressing need for managers, investors, regulators and institutions involved in the harmonization process to know the effect of this change. This is particularly true for the code-law European countries since the IASB model is tilted towards a common-law view of financial reporting (Ball, 2006; Barth et al., 2008). Common-law countries have comparatively deep markets, developed shareholder's rights, auditing professions, and other monitoring systems. This view should form the foundation for a high quality of public disclosure and financial reporting of firms (Ball, 2006).

This paper focuses on Italy, as a typical European code-law country (e.g. La Porta et al., 1997; Zambon, 2001), and examines whether the mandatory adoption of IFRS is associated with a higher accounting quality compared to the application of Italian GAAP (hereinafter I-GAAP). Limiting the investigation to a single country makes it possible to hold constant the institutional factors which give rise to financial reporting incentives (Schipper, 2005), such as the political and legal systems. It should strengthen the reliability of the results. Italy offers an interesting setting of analysis since it has many features in common with the other Continental European countries (e.g. Germany, France and Spain), but, at the same time, it also has its own financial reporting regime and an overall institutional context which make the country an appealing case study.

In international accounting literature, accounting quality is reported as a broad concept with multiple dimensions (Burgstahler et al., 2006). This study examines three dimensions of accounting quality, namely: earnings management, timely loss recognition and value relevance. They are often used in studies about the effects of accounting standards on accounting quality (e.g. Barth et al., 2008; Hung and Subramanyan, 2007).

To investigate the effect of the EU mandarory adoption of IFRS on the three abovementioned caracteristics of accounting quality, this research uses a sample of 552 firm-year observations concerning a cohort of 92 Italian non-financial companies which were listed on the Italian Stock Exchange from 2002 to 2007. Accounting quality is investigated by contrasting results obtained for firms operating in the pre-adoption period (i.e., from 2002 to 2004) with those concerning firms operating in the post-adoption period (i.e., from 2005 to 2007).

Empirical evidence shows an overall increase of earnings management in the post-adoption period, documented by an increase of earnings smoothing and no significant change of managing earnings towards a target. The findings deriving from the meas-

---

[1] Hereinafter, the term "IFRS" is used to refer to both the accounting standards issued by IASB and the International Accounting Standards (IAS), issued by the International Accounting Standards Committee (IASC), which was the IASB's predecessor.

urement of timely loss recognition indicate that IFRS adoption is associated with a decrease in the timeliness of the recognition of large losses and with a contemporaneous increase in the timeliness in recognizing economic losses relative to gains in the reported income. As for value relevance tests, results highlight that IFRS adoption increases the combined value relevance of book value and earnings. In particular, outcomes of relative value relevance analysis highlight that earnings markedly improve its ability to explain stock prices in the post-adoption period compared to the pre-adoption one.

This study tries to contribute to the literature by documenting early evidence of the effects on accounting quality of the IFRS mandatory adoption throughout the EU. Prior research reports the impact of the voluntary IFRS adoption on accounting quality in different countries, whereas little evidence is reported when the adoption is compulsory (Soderstrom and Sun, 2007, p. 695). By focusing on a code-law country, the study may also provide insight on the properties of a common-low accounting model versus a code-law one.

The remainder of the paper is organised as follows. Section 2 provides the background of the study: it discusses the usefulness of accounting quality investigation, reviews prior literature and summarizes the main differences between I-GAAP and IFRS. Section 3 deals with the methodology. Section 4 provides the empirical findings and Section 5 concludes.

2 – Background

2.1 – *The usefulness of accounting quality investigation*

In the following, accounting quality is briefly described from an international perspective as the basic attribute of information used in the capital markets. It is of interest to those who participate in any step of the process whereby information is created, disseminated, and used with the objective of efficient allocation of capital (Francis et al., 2006, p. 8). For this purpose, it is necessary that market values of firms, on which the allocation of capital is based, reflect true economic values to the greatest extent possible (Cornell and Landsman, 2003, p. 21), in order to efficiently support investment decisions made by financial statement users. As an example, accounting information is valuable to capital market participants to the extent that it is *timely* and *unbiased* (Francis et al., 2006, p. 9). The IASB, and beforehand the IASC, have developed a single set of accounting standards that, if followed, require companies to report "high quality, transparent and comparable information in financial statements"[2]. For this aim, the

---

[2] IASC Foundation Constitution, Part A, para. 2. Available at: www.iasb.org/About+Us/About+the+Foundation/Constitution.htm.

IASB conceptual framework provides the qualitative characteristics of financial reporting that contribute to economic decision usefulness (IASB, Framework, para. 24 and follows).

The above-mentioned considerations have motivated recent literature to measure how the characteristics of accounting quality change following IFRS adoption by using various proxies. The present study follows that stream of research (e.g. Lang et al., 2006; Barth et al., 2008) which measures accounting quality by focusing on three of its dimensions: *i*) earnings management; *ii*) timely loss recognition and *iii*) value relevance.

Earnings management has been defined as an attempt by the managers to mislead some stakeholders about the economic performance of the company or to influence the outcomes of contracts that may affect their compensation (Healy and Wahlen, 1999). It results in the manipulation of economic and financial data operated by managers to achieve a pre-specified level of earnings. A decrease in earnings management usually corresponds to an increase in accounting quality. The main manifestations of earnings management are income smoothing and managing towards positive earnings. The former is defined as the process of manipulating the time profile of earnings or earnings reports to make the reported income stream less variable, while not increasing reported earnings over the long run (Fudenberg and Tirole, 1995, p. 75)[3]. The latter is related to the extent to which firms use accounting discretion to report small profits in order to avoid small losses, in this way misstating the real economic performance of a firm (see Burgstalher and Dichev, 1997; Leuz et al., 2003)[4].

Moreover, earnings management is also related to the ability of earnings that reflect losses to be announced on a more timely basis, that is, to timely loss recognition. In particular, earnings smoothing causes large losses to be relatively rare, so that timely loss recognition can be measured in terms of willingness of managers to recognize large losses as they occur rather than spread their effects over multiple periods (Lang et al., 2006; Barth et al., 2008). In addition, timely loss recognition is also related to the higher degree of verification for recognizing good news (or positive economic performance) compared to that used for recognizing bad news (or negative economic performance) in earnings (Basu, 1997). In general, an increase in timely loss recognition is associated with increasing accounting quality.

Value relevance is a conceptually different, although equally important, dimension of accounting quality. It is considered one of its basic attributes (Francis et al., 2004) and it is included among the five major areas of capital market research (Beaver, 2002, p. 459). Value relevance expresses the ability of financial statement information to capture or summarize information that affects share values. Usually, it is indicated by the statistical association between accounting information and market prices or returns

---

[3] This process is not new in the Italian academic context. It is close to Onida's theory of income stabilization. See Onida (1951).

[4] For details about earnings management topic see, among others, Prencipe (2006).

(Francis and Schipper, 1999): accounting quality improves as long as this statistical association increases.

2.2 – Related literature

This section summarizes prior research which operazionalize accounting quality under IFRS with earnings management, timely loss recognition, and value relevance metrics. It does not provide clear evidence on the actual benefits of mandatory adoption of IFRS compared to the voluntary one.

Consistent with IFRS being associated with higher accounting quality, Barth et al. (2008) document an improvement in accounting quality measured by a decrease in earnings management and an increase either in timely loss recognition or value relevance, based on a large worldwide sample of firms mainly adopting IFRS on a voluntary basis.

Moving the attention to single EU country studies, the findings are instead mixed. Most of the individual country research involves Germany. Paananen and Lin (2008), Christensen et al. (2008), Jermakowicz et al. (2007) and Bartov et al. (2005) are among those who find positive effects of voluntary IFRS adoption on accounting quality. Paananen and Lin (2008) evaluate accounting quality separately for firms adopting IFRS in the period 2002-2004 and for those adopting IFRS in the period 2005-2006. The first period includes voluntary adopters whereas the second one includes voluntary and mandatory adopters together. Their results suggest a decrease in accounting quality after the mandatory EU adoption of IFRS. Similar findings are reported in Christensen et al. (2008), who investigate the change in earnings management and timely loss recognition among firms that voluntarily adopt IFRS between 1998 and 2004 and those who resist IFRS adoption until it becomes mandatory. They find that voluntary adopters are less prone to earnings management and recognize losses more timely, whereas no accounting quality improvements are found for mandatory adopters. Jermakowicz et al. (2007) observe DAX-30 companies from 1995 to 2004 and find that adopting IFRS or US-GAAP or cross-listing on NYSE significantly increases the value relevance of earnings relative to market prices. The same results, but for profit observations only, are obtained by Bartov et al. (2005) for a sample of 416 German listed firms observed from 1998 to 2000 reporting under German GAAP, US-GAAP and IFRS. In contrast to that, another two studies provide opposite evidence. Van Tendeloo and Vanstaelen (2005) observe a sample of German companies reporting under local GAAP or IFRS from 1999 to 2001 and find that IFRS-adopters do not present different earnings management behaviour compared to companies reporting under German GAAP. Later on, Hung and Subramanyam (2007) observe a sample of German companies that elected to adopt IFRS between 1998 and 2002 and compare their financial statements prepared under German GAAP and under IFRS. They find no difference in value relevance of book value and earnings under IFRS and German GAAP.

Mixed findings also emerge from other EU countries. The study of Horton and Serafeim (2007) about capital maket consequences of mandatory IFRS adoption finds that earnings reconciliations from local GAAP to IFRS are incrementally value relevant in the UK, France and Italy, but not in Spain. Contrariwise, Panaanen (2008) finds no evidence of any improvement of Swedish accounting quality.

It is not easy to draw reliable conclusions about the effects of IFRS adoption on accounting quality in the EU by comparing the results of the above studies because of their conflicting findings. The main reasons for that are probably attributable to possible sample heterogeneity and to the self-selection bias due to the incentive of voluntarily adopters towards switching to IFRS. Some distinguishing elements of the present study should enforce its results with respect to similar research. Firstly, findings deriving from cross-country studies may be biased as they rely on the rather unrealistic assumption that countries share the same political and economic environment. It is evident that this bias is removed by limiting the analysis to a single country, because it correctly presumes, for example, that the pricing process is the same for all the observed firms. In particular, the investigation of the effects of the compulsory nature of the transition to IFRS in a single country ensures a common regulation about time and terms of IFRS compliance. From a methodological point of view, this concern would strengthen findings deriving from a single-country analysis over cross-country comparisons. Secondly, findings related to the investigation of the effects of a mandatory transition to IFRS do not suffer from the possible sample selection bias affecting samples of voluntarily adopting firms. In the case of voluntary adoption, it could happen that only those firms who perceive an advantage from switching to IFRS would do it. Thirdly, the initial set of companies is observed longitudinally in time so that the survivorship bias problem is minimized.

2.3 – *Italian accounting rules versus IFRS*

Italy is a country with a code-law legal system in which laws are established and enforced in the public sector. Accounting rules are also enshrined in legislation, whereas accounting standards, issued by the professional body, have always only played an integrative and interpretative role of the law, and they have never been officially recognized as law[5].

Italian accounting rules deriving from the above legal context show significant differences from IFRS. They have been characterized by emphasis on financial reporting conformity with tax regulations, protection of creditors, conservatism and the historical

---

[5] For an overview on the origin and development of professional accounting standards in Italy see, among others, Bruni (2004), Marchi and Allegrini (2003).

cost as the main measurement criterion[6]. Institutional factors reflect the great role of banks as suppliers of capital, the relatively poor market orientation (e.g Pagano et al., 1998) and the high concentrated ownership (La Porta at al., 1999). Due to the general aim of creditor protection, recognition and measurement principles are based on a prudent capital maintenance. On the contrary, IFRS bring a new accounting perspective with a stronger economic and business orientation, especially in terms of focusing on the information needs of the capital markets. Specifically, IFRS are formulated to express the economic substance of transaction, therefore reflecting not only the losses but also the gains in a timely manner. By so doing, they should provide investors with information to aid them in making decisions.

As a result, if IFRS can be supposed to be of a higher quality than I-GAAP, then the quality of accounting information should have improved after the adoption of IFRS. Nevertheless, prior research points out possible obstacles that might limit the efficaciousness of the IFRS mandatory adoption in the EU. They show that the application of accounting standards is only one of the determinants of accounting quality, since the other determinants, such as the political and legal systems, the financial market development and the tax system can actually affect financial reporting behaviours (Ball, 2006; Sodestrom et al., 2007). As a confirmation of that, recent studies have found that improvements in accounting quality, after the IFRS adoption in the EU became mandatory, are confined to voluntary adopters, the latter corresponding to firms with real incentives to adopt (Panaanen, 2008; Paananen and Lin, 2008; Christensen et al., 2008). Instead, it is possible that firms that have no incentives to adopt IFRS respond to mandatory compliance with a "tick-box" mentality rather than sincere efforts to adopt the new standards, perhaps to reduce compliance costs (Christensen et al., 2008; p. 8).

All these considerations suggest to perform an exploratory analysis about accounting quality in Italy following the IFRS mandatory adoption.

3 – Methodology

Coherent with prior research, this study considers three dimensions of accounting quality: earnings management, timely loss recognition, and value relevance. They are analyzed separately by contrasting accounting data prepared in accordance with I-GAAP from 2002 to 2004 with those prepared in accordance to IFRS from 2005 to 2007.

3.1 – *Earnings management metrics*

The research focuses on two characteristics of earnings management: earnings smoothing and managing towards positive earnings. Consistent with prior research (Lang et al.,

---

[6] The literature about the financial statement in Italy is vast. See, among others, Dezzani (2006), Capaldo (1998), Santesso-Sostero (2001), Superti Furga (1997), Brunetti (1995) and Terzani (1995).

2003; Lang et al., 2006; Barth et al., 2008), they are measured by controlling for the effect of factors which are exogenous respect to accounting standards and reflect the economic environment in which a firm operates. These factors have been considered as linked to earnings quality in prior literature (Collins and Kothari, 1999; Penman, 2001).

As for earnings smoothing, three different metrics are applied, namely: i) the variability of annual changes in net income; ii) the variability of annual changes in net income relative to the variability of annual changes in cash flows; and iii) the correlation between accruals and cash flows.

The first measure of earnings smoothing evaluates earnings variability as the standard deviation of the residuals of the regression of annual change in net income on the above mentioned factors, that is:

$$\Delta Ni = \alpha + \beta_1 \, SIZE + \beta_2 \, GROWTH + \beta_3 \, EISSUE + \beta_4 \, LEV + \beta_5 \, DISSUE +$$
$$+ \beta_6 \, TURN + \beta_7 \, CF + \beta_8 \, AUD + \beta_9 \, XLIST + \beta_{10} \, NUMEX + \varepsilon \qquad (1)$$

where:

ΔNi is the annual change in net income, Ni, with Ni expressing net income scaled by end-of-year total assets;

$SIZE$ is the natural logarithm of the end-of-year market value of equity;

$GROWTH$ is the annual change in sales;

$EISSUE$ is the annual change in common stock;

LEV is end-of-year total liabilities divided by book value of equity;

$DISSUE$ is annual change in total liabilities;

$TURN$ is sales divided by end-of-year total assets;

CF is annual net cash flow from operating activities divided by end of year total assets;

AUD is an indicator variable that equals one if the firm's auditor is PwC, KPMG, E&Y or D&T;

$XLIST$ is an indicator variable that equals one if the firm is listed outside the EU;

$NUMEX$ is the number of Stock Exchanges on which a firm's stock is listed.

The residuals of the model (1) are denoted as ΔNi^*, and their standard deviation $\sigma_{\Delta Ni^*}$ is the first metric used for earnings smoothing. Lower values of $\sigma_{\Delta Ni^*}$ are evidence of increasing earnings smoothing, and vice versa.

The second metric considers the ratio between ΔNi^* and ΔCF^*; the latter corresponds to the residuals of the model:

$$\Delta CF = \alpha + \beta_1 \, SIZE + \beta_2 \, GROWTH + \beta_3 \, EISSUE + \beta_4 \, LEV + \beta_5 \, DISSUE +$$
$$+ \beta_6 \, TURN + \beta_7 \, AUD + \beta_8 \, XLIST + \beta_9 \, NUMEX + \varepsilon \qquad (2)$$

where ΔCF is the change in annual net cash flow CF. The ratio $\Delta Ni^* / \Delta CF^*$ measures the relationship between annual changes in net income relative to the annual changes in cash flows. The standard deviation of this ratio, $\sigma_{\Delta Ni^*/\Delta CF^*}$, expresses the variability of annual changes in net income relative to the variability of annual changes in cash flows. The rationale behind the use of this metric is that firms might use accruals to manage

earnings so that the resulting variability of earnings is reduced compared to that of cash flow.

Finally, earnings smoothing is also assessed by considering the interdependence between accruals and cash flows. Also in this case, to control for possible influence of endogenous factors the following regression equations are estimated:

$$CF = \alpha + \beta_1\ SIZE + \beta_2\ GROWTH + \beta_3\ EISSUE + \beta_4\ LEV + \beta_5\ DISSUE +$$
$$+ \beta_6\ TURN + \beta_7\ AUD + \beta_8\ XLIST + \beta_9\ NUMEX + \varepsilon \qquad (3)$$

$$ACC = \alpha + \beta_1\ SIZE + \beta_2\ GROWTH + \beta_3\ EISSUE + \beta_4\ LEV + \beta_5\ DISSUE +$$
$$+ \beta_6\ TURN + \beta_7\ AUD + \beta_8\ XLIST + \beta_9\ NUMEX + \varepsilon \qquad (4)$$

ACC indicates accruals, obtained by subtracting *CF* from *Ni*. Earnings smoothing is measured by the Spearman correlation coefficient between the residuals of model (3), *CF**, and those of model (4), *ACC**. It is denoted by $\rho_{(CF*,ACC*)}$. Prior literature (e.g. Leuz et al., 2003; Ball and Shivakumar, 2005) reports that the more negative $\rho_{(CF*,ACC*)}$ is, the more likely earnings smoothing is. This is due to the possible increase of accruals made by managers to smooth earnings when cash flow is low.

In addition, earnings management is measured by quantifying the preference of managers towards reporting small positive net income instead of negative net income. The managing towards positive earnings attitude has been measured as the frequency of small positive net income (Burgstalher and Dichev, 1997; Leuz et al., 2003). The present study evaluates this characteristic of earnings management by estimating the coefficient of a dummy variable *SPOS* in the regression equation (e.g. Barth et al., 2008):

$$POST_{(0,1)} = \alpha + \beta_1\ SPOS + \beta_2\ SIZE + \beta_3\ GROWTH + \beta_4\ EISSUE + \beta_5\ LEV +$$
$$+ \beta_6\ DISSUE + \beta_7\ TURN + \beta_8\ CF + \beta_9\ AUD + \beta_{10}\ XLIST + \beta_{11}\ NUMEX + \varepsilon \qquad (5)$$

SPOS equals one if net income scaled by total assets is between 0.00 and 0.01, and zero otherwise. The response variable *POST* in model (5) is another dummy variable that equals one for firms operating in the post-adoption period (2005-2007), i.e., those applying IFRS, and zero otherwise. The sign and the magnitude of the coefficient β_1 associated to *SPOS*, hereinafter called β_{SPOS}, provides information about earnings management practices. In particular, a negative β_{SPOS} means that firms applying I-GAAP are more oriented towards reporting a small positive net income compared to those applying IFRS.

3.2 – *Timely loss recognition metrics*

The second investigated dimension of accounting quality is timely loss recognition, which is strictly related to earnings smoothing because large losses are infrequent whenever firms smooth earnings. On the contrary, earnings are supposed to be of high quality if losses are recognized timely (Ball et al., 2000). Timely loss recognition is meas-

ured by focusing on both a large negative net income and the asymmetric incorporation of economic gains and losses into the reported income.

The timely recognition of large losses is assessed by estimating the following regression equation (Lang et al., 2003; Lang et al., 2006; Barth et al., 2008):

$$POST_{(0,1)} = \alpha + \beta_1 \, LNEG + \beta_2 \, SIZE + \beta_3 \, GROWTH + \beta_4 \, EISSUE + \beta_5 \, LEV +$$

$$+ \, \beta_6 \, DISSUE + \beta_7 \, TURN + \beta_8 \, CF + \beta_9 \, AUD + \beta_{10} \, XLIST + \beta_{11} \, NUMEX + \varepsilon \qquad (6)$$

where *LNEG* is a dummy variable that equals one if annual net income scaled by total assets is lower than -0.20. The sign and the magnitude of the coefficient β_1 associated to *LNEG,* hereinafter called β_{LNEG}, inform about timely loss recognition. In particular, a positive β_{LNEG} indicates that large losses are recognized more frequently in IFRS financial statements compared to I-GAAP ones.

The asymmetric incorporation of economic gains and losses into the reported income is measured by the adjusted R^2 of the model proposed by Basu (1997) and used by Ball et al. (2003):

$$Def(E) = \alpha + \beta_{1(Def(E))} D_{r^-} + \beta_{2(Def(E))} \, r + \beta_{3(Def(E))}(D_{r^-} \cdot r) + \varepsilon_{(Def(E))} \qquad (7)$$

where:

Def(E) is the deflated earnings per share, corresponding to earnings per share at year *t* divided by stock price at the end of year *t-1*;

r is annual stock returns from six months after the firm's fiscal year-end, corresponding to an annual change in the market value of equity;

D_{r^-} is a dummy variable that equals 1 if *r < 0*.

The model assumes that positive and negative returns are proxies for economic gains and losses, respectively. The dummy variable D_{r^-} allows the separation of the effect of economic losses from that of economic gains. In particular, the incremental sensitivity of accounting income to contemporaneous negative returns, i.e., negative change in the market value of equity, is measured by $\beta_{3(Def(E))}$. If $\beta_{3(Def(E))}$ is positive and large, then it is more presumable that economic losses are recognized timely. Finally, the combined effect of positive and negative returns on earnings timeliness is measured by the adjusted R^2 of model (7).

3.3 – *Value relevance metrics*

This study also investigates the value relevance of I-GAAP and IFRS accounting numbers by measuring their statistical association with stock market data. It investigates possible changes in the combined value relevance of earnings and book value with respect to stock prices. In addition, possible changes in the relative value relevance of both accounting numbers are also analyzed.

The adjusted R^2 and the regression coefficients of the Ohlson (1995) model are the metrics used to measure the combined value relevance. The model is defined as follows:

$$P = \alpha + \beta_{1(BV,E)} BV + \beta_{2(BV,E)} \, E + \varepsilon_{(BV,E)} \qquad (8)$$

where:

    P is the price of a share for a firm six months after the fiscal year-end;

    BV is the firm book value per share;

    E is the firm earnings per share[7].

In addition, to determine the explanatory power that E and BV have for prices individually, equation (7) can be split into two models in order to consider the relative value relevance of BV and E respectively (Arce and Mora, 2002):

$$P = \alpha + \beta_{1(BV)} BV + \varepsilon_{(BV)} \tag{9}$$

$$P = \alpha + \beta_{1(E)} E + \varepsilon_{(E)} \tag{10}$$

The relative value relevance of E and BV is measured by the adjusted R^2s and the estimated coefficients $\beta_{1(BV)}$ and $\beta_{1(E)}$ of the corresponding models (9) and (10). In particular, by comparing the value of the adjusted R^2 deriving from model (9) with that of model (10), it is possible to understand if BV is more value relevant than E, or vice versa.

3.4 – *Sample selection and descriptive statistics*

The empirical analysis has been carried out on a sample of 552 firm-year observations. The sample includes consolidated financial statement data and capital market data (stock prices and returns) concerning a cohort of 92 non financial companies whose shares were listed on the Italian Stock Exchange from 2002 to 2007. These data have been obtained from the AIDA database provided by Bureau Van Dijk Electronic Publishing.

Accounting data from 2002 to 2004 derives from I-GAAP financial statements, whereas accounting data from 2005 to 2007 refers to IFRS ones. The sample is organized in such a way that the same set of 92 firms is observed over this period of time. Since no sampling firms voluntarily adopted IFRS before 2005, the resulting sample is matched. This means that the same set of 92 listed firms adopted I-GAAP in the pre-adoption period (i.e., from 2002 o 2004) and IFRS in the post-adoption period (i.e., from 2005 to 2007).

Table 1 presents descriptive statistics for the variables considered in the research design, by distinguishing between test variables and control variables. Both have been computed separately for firms reporting under I-GAAP and under IFRS. The comparison of accounting data used as test variables reveals that no significant difference between I-GAAP and IFRS mean values and variability appears for change in net income (ΔNi); the mean levels of the change in cash flow (ΔCF) is also stable whereas its standard deviation significantly increases under IFRS. There is also a significant increase in

---

[7] Consistent with prior research (such as Collins et al.,1997), when estimating model (1) firms with negative book value (under either I-GAAP or IFRS) are excluded from the analysis. In addition, book value is adjusted by subtracting earnings, in order to avoid possible multicollinearity problems since the year-end book value contains the same period's earnings.

the average level of accruals (*ACC*), whose variability reduces when moving from I-GAAP to IFRS. As for indicator variables *SPOS* and *LNEG*, it appears that mean levels and standard deviations under IFRS reduce in both cases, although these decreases are significant for *LNEG* only. The latter result could signal an increase of earnings management practices under IFRS.

As for test variables used to measure asymmetric incorporation of economic gains and losses in the reported income (equation 7) and value relevance (equations 8 to 10), descriptive statistics document that the average levels and the variability of earnings per share *(E)*, the deflated earnings per share (*Def(E)*) and the book value (*BV*) significantly increase under IFRS. This could be evidence of an economic upturn which took place in Italy between the two considered periods and it is also confirmed by the contemporaneous significant increase in both the mean level and the variability of market prices (*P*) and stock returns (*r*).

Table 1 – Descriptive statistics relating to test and control variables used in the analysis.

Test Variables	I-GAAP (*N=266*)			IFRS (*N=266*)		
	Mean	Median	Standard Deviation	Mean	Median	Standard Deviation
ΔNi	0.000	0.001	0.053	0.006	0.003	0.056
ΔCF	0.000	0.001	0.043	0.000	0.000	0.049**
ACC	-0.053	-0.047	0.039	-0.035***	-0.029***	0.030***
SPOS	0.105	0.000	0.307	0.094	0.000	0.293
LNEG	0.040	0.000	0.196	0.011**	0.000**	0.104***
E	0.164	0.075	0.688	0.433***	0.160**	1.060***
BV	4.517	2.770	4.726	5.313*	2.935	6.018***
Def(E)	0.012	0.000	0.093	0.032**	0.045***	0.130***
R	-0.002	0.000	0.225	0.234***	0.155***	0.404***
P	6.822	3.820	7.942	8.785**	4.805	10.844***
Control Variables						
SIZE	17.42	17.99	1.939	17.55	18.05	1.862
GROWTH	0.106	0.052	0.299	0.106	0.072	0.330
EISSUE	0.048	0.000	0.218	0.034	0.000	0.135***
LEV	1.836	1.533	1.635	2.090	1.591	2.224***
DISSUE	0.082	0.011	0.326	0.148**	0.076***	0.330
TURN	0.709	0.715	0.377	0.703	0.694	0.364
CF	0.055	0.059	0.058	0.055	0.057	0.056
AUD	0.844	1.000	0.363	0.859	1.000	0.349
XLIST	0.293	1.000	0.456	0.380**	1.000**	0.486
NUMEX	2.410	2.000	0.493	2.424	2.000	0.496

Sample of firms that adopted Italian Accounting Standards (I-GAAP) between 2002 and 2004 (I-GAAP firms) and International Financial Reporting Standards (IFRS) between 2005 and 2007 (IFRS firms).
Test Variables:
ΔNi is the change in scaled annual earnings, *NI*, where *NI* is earnings is scaled by end-of-year Total Assets;
ΔCF is the change in annual net Cash Flow, *CF*, where *CF* is scaled by end-of-year Total Assets;
ACC is *NI – CF*, scaled by end-of-year Total Assets;
SPOS is a dummy variable that equals 1 if *0.00 < NI ≤0.01;*
LNEG is a dummy variable that equals 1 if *NI ≤0.20;*
r is annual stock returns from six months after the firm's fiscal year-end;
P is the closing price of the firm's share as of six months after the fiscal year-end;
BV is book value of equity per share; *E* is earnings per share;

Def(E) is the deflated earnings per share, corresponding to earnings per share at year *t* divided by stock price at the end of year *t+1*.
Control Variables:
SIZE is the natural logarithm of the end-of-year market value of equity;
GROWTH is annual change in sales;
EISSUE is annual change in common stock;
LEV is end-of-year Total Liabilities divided by *BV*;
DISSUE is annual change in Total Liabilities;
TURN is sales divided by end-of-year Total Assets;
CF is annual net cash flow;
AUD is an indicator variable that equals one if the firm's auditor is PwC, KPMG, E&Y or D&T;
XLIST is an indicator variable that equals one if the firm is listed outside the EU;
NUMEX is the number of Stock Exchanges on which a firm's stock is listed.
Tests to compare means (Welch Two Sample t-test), medians (Kolmogorov-Smirnov Two Sample Test) and standard deviations (F-ratio test) have been performed to assess whether differences in location or scale parameters reported under I-GAAP and IFRS are statistically significant. The symbols *, **, *** indicate the statistical significance of the difference between IFRS and I-GAAP at 0.10, 0.05, and 0.01, respectively.

The descriptive analysis of the control variables reveals that IFRS adoption causes no significant change in the market value of equity (*SIZE*), as well as in the annual change in sales (*GROWTH*). The mean level of annual change in common stock (*EISSUE*) is also unchanged although its variability decreases significantly. Interestingly, results show that IFRS adoption coexists with a significant increase in the change of firm's total liabilities (*DISSUE*), whose differences in mean and median are statistically significant; this increase is also confirmed by the significant increase in the standard deviation of end-of-year total liabilities (*LEV*). As for the indicator variables *AUD* and *XLIST*, results show that IFRS adoption causes an increase both in the proportion of firms audited by a Big 4 auditor and in the proportion of firms listed outside of EU, although the increase is significant for *XLIST* only. Finally, a slight increase in the number of stock exchanges each firm is listed on also appears in the IFRS period.

4 – Empirical Results and Inferences

This section summarizes the results deriving from the empirical analysis. When estimating regression models introduced in equations (1) to (10), observations corresponding to large residuals have been removed from the analysis since they are identified as outliers[8].

4.1 – *Earnings management and timely loss recognition*

Table 2 presents the results concerning earnings management measurement for firms reporting under I-GAAP from 2002 to 2004 (pre-adoption period) and under IFRS from 2005 to 2007 (post-adoption period).

---

[8] In practice, in a first step, each model is estimated and its residuals are computed. In a second step, the same model is re-estimated by deleting observations corresponding to the residuals whose absolute value is larger than three times their standard deviation. In addition, data are standardized to obtain standardized regression coefficients which are more comparable to each other.

Table 2 – Earnings quality metrics: comparison of I-GAAP and IFRS Italian firms

Sample	$\sigma_{\Delta Ni*}$	$\sigma_{\Delta Ni*/\Delta CF*}$	$\rho_{(CF*,ACC*)}$	β_{SPOS}
I-GAAP firms	0.061	1.231	-0.232	
				-0.050
IFRS firms	0.050***	0.941***	-0.350*	

The sample of firms that adopted Italian Accounting Standards (I-GAAP) between 2002 and 2004 (I-GAAP firms) and International Financial Reporting Standards (IFRS) between 2005 and 2007 (IFRS firms) are compared. Variable definitions:

$\sigma_{\Delta Ni*}$ measures the variability of $\Delta Ni*$, which is expressed by the residuals of a regression of the changes in scaled annual earnings, ΔNi, on control variables;

$\sigma_{\Delta Ni*/\Delta CF*}$ is the ratio of $\sigma_{\Delta Ni*}$ over the variability of $\Delta CF*$; ΔCF is the change in annual net Cash Flow scaled by end-of-year Total Assets (*CF*). $\Delta CF*$ is expressed by the residuals of a regression of ΔCF on the control variables;

$\rho_{(CF*, ACC*)}$ is the partial Spearman correlation between the residuals from the regression of *ACC* and *CF* on control variables. *ACC* and *CF* are defined in Table 1;

β_{SPOS} is the standardized regression coefficient obtained from regressing a dummy variable $POST_{(0,1)}$ on another dummy variable *SPOS* that equals 1 if $0.00 < NI \leq 0.01$, plus the other control variables. $POST_{(0,1)}$ equals 1 if a firm belongs to the post-adoption period (2005-2007).

Control variables are *LEV, GROWTH, EISSUE, DISSUE, TURN, SIZE, AUD, XLIST* and *NUMEX*. They are defined in Section 2.2.1 when describing model equation (1).

Tests to compare $\sigma_{\Delta Ni*}$ (F-ratio test), $\sigma_{\Delta Ni*/\Delta CF*}$ (F-ratio test), $\rho_{(CF*, ACC*)}$ (Z test of the difference between two independent correlations) have been performed to assess whether significant differences arise when moving from I-GAAP to IFRS. In addition, a t-test on the β_{SPOS} to check if it is statistically different from zero has also been carried out by using a White-corrected t-statistic to control for heteroschedasticity. The symbols *, **, *** indicate the statistical significance of the difference between IFRS and I-GAAP, as well as of the estimated value of β_{SPOS}, at 0.10, 0.05, and 0.01, respectively.

It emerges that the variability of net income measured by $\sigma_{\Delta Ni*}$ decreases in the post-adoption period. This is consistent with an increase of earnings smoothing. The latter is also confirmed by the decrease of the variability of net income relative to that of cash flow: $\sigma_{\Delta Ni*/\Delta CF*}$ equals 1.231 under I-GAAP but it significantly reduces to 0.941 under IFRS, indicating that the decrease in variability of earnings is likely to be driven by underlying cash flow. In addition, the negative correlation between accruals and cash flow, $\rho_{(CF*,ACC*)}$, significantly increases when moving to IFRS ($\rho_{(CF*,ACC*)}$ equals -0.232 under I-GAAP and -0.350 under IFRS). This result also implies increasing earnings management. On the contrary, there is no reliable evidence of a change in earnings management towards a target due to IFRS adoption. Although the coefficient β_{SPOS} of model (4) is negative ($\beta_{SPOS} = -0.050$), which would indicate that IFRS-adopting firms report a small positive net income less frequently than I-GAAP-adopting ones, it is not statistically significant. Summarizing, empirical evidence documents an increase of earnings smoothing and no change of managing earnings towards a target. As Barth et al. (2008, pp. 2-3) argue, this finding may depend on the flexibility characterizing principle-based accounting standards as well as a lax in their enforcement. In particular, principle-based IFRS are likely to increase the discretionary power used by managers in reporting earnings.

Moving to timely loss recognition, the results provided by the investigation of the recognition of large losses and the asymmetric incorporation of economic gains and losses into the reported income are summarized in Table 3.

Table 3 – Timely loss recognition metrics: comparison of I-GAAP and IFRS Italian firms

Sample	β_{LNEG}	n	$\beta_{1,(\Delta E)}$	$\beta_{2,(\Delta E)}$	$\beta_{3,(\Delta E)}$	$R^2_{(\Delta E)}$	Chow F-statistic
I-GAAP firms	-0.440**	268	0.037**	0.142***	0.143*	0.206	3.61***
IFRS firms		267	-0.08	0.029	0.378***	0.113	

The sample of firms that adopted Italian Accounting Standards (I-GAAP) between 2002 and 2004 (I-GAAP firms) and International Financial Reporting Standards (IFRS) between 2005 and 2007 (IFRS firms) are compared.

β_{LNEG} is the standardized regression coefficient obtained from regressing a dummy variable $POST_{(0,1)}$ on another dummy variable *SPOS* that equals 1 if *0.00 < NI ≤ 0.01*, plus the other control variables. $POST_{(0,1)}$ equals 1 if a firm belongs to the post-adoption period (2005-2007). Control variables are *LEV, GROWTH, EISSUE, DISSUE, TURN, SIZE, AUD, XLIST* and *NUMEX*. They are defined in Section 2.2.1 when describing model equation (1).

The remaining columns of the Table report results obtained by estimating on the two subsamples the following regression equation:

$$Def(E) = \alpha + \beta_{1(Def(E))} D_{r^-} + \beta_{2(Def(E))} r + \beta_{3(Def(E))} \cdot (D_{r^-} \cdot r) + \varepsilon_{(Def(E))}$$

where:

Def(E) is the deflated earnings per share, corresponding to earnings per share at year *t* divided by stock price at the end of year *t+1*;

r is annual stock returns from six months after the firm's fiscal year-end;

D_{r^-} is a dummy variable that equals 1 if *r < 0*;

To check if the coefficients $\beta_{1,(Def(E))}$, $\beta_{2,(Def(E))}$ and $\beta_{3, Def(E))}$ are statistically different from zero, t-tests have also been carried out by using White-corrected t-statistics to control for heteroschedasticity In addition the last column of the table reports the Chow-F test statistic to examine for systematic differences in the estimated models in the two subsamples.

The symbols *, **, *** indicate the statistical significance of the difference between IFRS and I-GAAP, as well as of the estimated value of β_{SPOS}, at 0.10, 0.05, and 0.01, respectively.

The negative and significant (at 5% level) coefficient β_{LNEG} associated with large negative losses in equation (6) (β_{LNEG} = -0.440) suggests that firms are less likely to recognize large losses under IFRS, providing evidence of a further increase in earnings management.

Furthermore, the results concerning the asymmetric incorporation of economic gains and losses into the reported income are particularly interesting. The value of the adjusted R^2 of model (7) equals 0.206 under I-GAAP and 0.113 under IFRS. This would indicate that the timeliness of earnings is larger under I-GAAP. Interestingly, the coefficient for the timeliness of economic losses is positive and significant in both cases ($\beta_{3(Def(E))}$ equals 0.143 under I-GAAP and 0.378 under IFRS), although it is larger and more significant under IFRS. This means that firms reporting under IFRS proportionally exhibit greater timeliness in recognizing economic losses relative to gains. The differences in the values of the estimated coefficients of model (7) under I-GAAP and under IFRS are also confirmed by the significance of the Chow (1960) F-statistic used to test for possible systematic changes in earnings timeliness between the two accounting regimes.

Overall, these results would evidence that accounting quality measured by timely loss recognition decreases after IFRS adoption because it induces no significant increase in the recognition of large losses. In addition, the asymmetric incorporation of economic losses into reported income relative to economic gains increases, but within a generalized decrease in the timeliness of earnings.

4.2 – *Value relevance*

Table 4 reports the results of the models (8) to (10) applied to the Italian listed compa-
nies reporting under I-GAAP in the period 2002-04 and under IFRS in the period 2005-
07.

*Table 4 – Value relevance metrics: comparison of Italian firms reporting under I-GAAP
and IFRS.*

Models:

$$(8) \quad P = \alpha + \beta_{1(BV,E)} BV + \beta_{2(BV,E)} E + \varepsilon_{(BV,E)} ;$$
$$(9) \quad P = \alpha + \beta_{1(BV)} BV + \varepsilon_{(BV)};$$
$$(10) \quad P = \alpha + \beta_{1(E)} E + \varepsilon_{(E)}.$$

Year	N	$\beta_{1,(BV,E)}$	$\beta_{2,(BV,E)}$	$R^2_{(BV,E)}$	$\beta_{1,(BV)}$	$R^2_{(BV)}$	$\beta_{1,(E)}$	$R^2_{(E)}$	Vuong's Z statistic
02-04 I-GAAP	267	1.11***	-0.59***	0.49	0.57***	0.44	0.50***	0.33	1.92**
05-07 IFRS	266	0.65**	0.10	0.54	0.74***	0.55	0.58***	0.47	1.77**

Chow's F statistic	5.19***

The sample of firms that adopted Italian Accounting Standards (I-GAAP) between 2002 and 2004 (I-GAAP firms)
and International Financial Reporting Standards (IFRS) between 2005 and 2007 (IFRS firms) are compared. For each
sample, the combined value relevance of book value of equity per share (*BV*) and earnings per share (*E*) with respect
to stock prices (*P*) has been measured, as well as the relative value relevance of *BV* and *E*. The Table reports the
number of firm-year observations (*N*), the estimated standardized regression coefficients (*β*) and the adjusted R^2s. To
check if the *β* coefficients are statistically different from zero, *t*-tests have been carried out by using White-corrected
t-statistics to control for heteroschedasticity To examine for systematic differences in the combined value relevance
for firms reporting under I-GAAP or IFRS, the Chow-F test statistic is also reported. In addition, the magnitude of the
differences between adjusted R^2s in the relative value relevance models has also been assessed by computing the
Vuong Z-test. This test allows the comparison of regression models which have the same dependent variable (*P*) and
the same sample, but different explanatory variables (*E* or *BV*). For all tests, the symbols *, **, *** indicate the statis-
tical significance of the difference between IFRS and I-GAAP, as well as of the estimated values of *β*, at 0.10, 0.05,
and 0.01, respectively.

A measurement of the combined value relevance of book value (*BV*) and earnings
(*E*) in both periods is provided by model (8). Its estimated coefficients and adjusted R^2s
show an increase in the combined value relevance of the two accounting numbers: the
adjusted R^2 of model (8), $R^2_{(BV,E)}$, increases from 0.49 to 0.54. The Chow F-statistic used
to test for systematic differences between the outcomes of model (8) applied under the
two accounting regimes is significant, validating in this way the increase of $R^2_{(BV,E)}$. Fo-
cusing on the regression coefficients, it emerges that *BV* slightly reduces its influence
on stock prices under IFRS ($\beta_{1(BV,E)}$ decreases from 1.11 to 0.65, though it remains sig-
nificant), and that *E* has a negative influence on stock prices under I-GAAP ($\beta_{2(BV,E)} =$
-0.59) but not under IFRS ($\beta_{2(BV,E)} = 0.10$). Although the estimated $\beta_{2(BV,E)}$ is insignifi-

cant, its change of sign would probably document increased quality of earnings under IFRS.

As previously described, the individual association between *BV* or *E* and stock prices, i.e., their relative value relevance, is measured by models (9) and (10) respectively. Their results show an increase in the relative value relevance of both *BV* and *E*. The first one is documented by the increase of $R^2_{(BV)}$, the adjusted R^2 of model (9), from 0.44 to 0.55, while the second one arises from the increase of $R^2_{(E)}$, the adjusted R^2 of model (10), from 0.33 to 0.47. This would mean that both accounting numbers are informative for investors and that their importance increases under IFRS.

Relative value relevance tests are also used to asses, for each period, if *BV* results more value relevant vis-à-vis *E*, or vice versa: *BV* is relatively more value relevant than *E* either under I-GAAP or under IFRS, as in both cases $R^2_{(BV)} > R^2_{(E)}$, although the difference ($R^2_{(BV)}$ - $R^2_{(E)}$) tends to reduce under IFRS. This relative superiority of *BV*, as well as its decrease, is also confirmed by the Vuong(1989) Z-statistic, which is higher and more significant under I-GAAP. Operatively, its positive value indicates the performance of model (9) is superior to that of model (10) (i.e., *BV* is relatively more value relevant than *E*), and vice versa.

Overall, the results of value relevance tests point out that IFRS adoption improves accounting quality, to be meant as the ability of accounting numbers to provide investors with useful information for decision purposes. Additionally, the relative value relevance outcomes highlight that such an improvement involves book value and, in particular, earnings. The enhancement in the role of earnings in equity valuation under IFRS also appears from the change in the sign of its regression coefficient in the combined value relevance.

5 – Concluding remarks

Following the recent IFRS mandatory adoption in the EU, this study has analyzed the impact of IFRS on accounting quality in Italy, a country with a code-law institutional framework.

Consistent with prior research, accounting quality has been operationalized with earnings managements, timely loss recognition, and value relevance metrics. Research findings indicate that, on the one hand, accounting quality after IFRS adoption decreases if considered with respect to earnings management and timely loss recognition: empirical evidence shows an increase of earnings smoothing and a decrease of earnings timeliness and, in particular, of the timeliness of the recognition of large losses. On the other hand, results of value relevance tests highlight an improvement of the ability of accounting numbers to provide investors with useful information for decision purposes.

These findings have important implications. It could be inferred that moving accounting rules towards high quality accounting standards is not sufficient, *per se*, to

guarantee improvements in accounting quality. In fact, although the higher association between accounting numbers and share prices after IFRS adoption demonstrates that investors consider accounting information useful for their economic decisions, the persistence (or even the worsening) of earnings management practices probably suggests that the inherent flexibility in principle-based IFRS do not lead managers towards the issue of financial statements characterized by improved accounting quality, at least after the first three-year period following the mandatory adoption of IFRS.

The conclusion of the study is useful for regulators, institutions involved in the harmonization process, investors and whoever makes use of financial statement information for decision purposes. In line with similar studies carried out for other countries experiencing IFRS adoption, it supports the view that the reporting incentives of individual firms in an institutional setting, rather than the accounting standards applied, largely determine the properties and quality of the financial statements (Ball et al., 2003). As a result, no measurable economic benefits will appear, even under the label of "high quality accounting standards", as long as real changes in the reporting practice and transparency of IFRS adopting firms take place. In this respect, the suggestion is that the European Commission should now devote its efforts towards an effective legal enforcement system, under which countries that do not properly implement IFRS may be, for example, penalized. An additional and detailed implementation guide for a correct application of IFRS would also be necessary.

Of course, it is not possible to draw definitive inferences from these results since IFRS are observable only for three years. Additional evidence will be necessary in the next future as soon as new data are available in order to verify if the results of this study are strengthened or not, particularly following the recent international financial crisis.

References

Arce M. and Mora A. (2002), Empirical evidence of the effects of European accounting differences on the stock market valuation of earnings and book value, *The European Accounting Review*, V. 11, No. 3, [573-599].

Ball R., Kothari S.P. and Robin A. (2000), The effects of international institutional factors on properties of accounting earnings, *Journal of Accounting and Economics*, V. 29, No. 1 [1-51].

Ball R., Robin A. and Wu J.S. (2003), Incentives versus Standards: Properties of Accounting Income in Four East Asian Countries, *Journal of Accounting and Economics*, V. 36 [235-270].

Ball R. and Shivakumar L. (2005), Earnings Quality in UK Private Firms: Comparative Loss Recognition Timeliness, *Journal of Accounting & Economics*, V. 39 [83–128].

Ball R. (2006) International Financial Reporting Standards (IFRS): pros and cons for investors, *Accounting and Business Research,* International Accounting Policy Forum [5-27].

Barth M.E., Landsman W.R. and Lang M.H. (2008), International accounting standards and accounting quality, *Journal of Accounting Research*, V. 46, N. 3 [1-32].

Bartov E., Goldberg S.R. and Kim M. (2005), Comparative value relevance among German, U.S., and International Accounting Standards: a German sock market perspective, *Journal of Accounting, Auditing & Finance*, V. 20, No. 2 [95-119].

Basu S. (1997), The conservatism principle and the asymmetric timeliness of earnings, *Journal of Accounting and Economics*, V. 24, No. 1 [3-37].

Beaver W.H. (2002), Perspectives on recent capital market research, *The Accounting Review*, V. 77, No. 2 [453-474].

Brunetti G. (1995), *Contabilità e bilancio d'esercizio*, Etas, Milano.

Bruni G. (2004), I principi contabili. Fondamenti e percorsi evolutivi, *Rivista dei dottori commercialisti*, No. 1.

Burgstahler D. and Dichev I. (1997), Earnings Management to avoid earnings decreases and losses, *Journal of Accounting and Economics*, V. 24 [99-129].

Burgstahler D.C., Luzi H. and Leuz, C. (2006), The importance of reporting incentives: earnings management in European private and public firms, *The Accounting Review*, V. 81, No. 5 [983-1016].

Capaldo P. (1998), *Reddito, capitale e bilancio di esercizio*, Giuffrè Editore, Milano.

Chow G.C. (1960), Tests of equality between sets of coefficients in two linear regressions, *Econometrica*, V. 28, No. 3 [591-605].

Christensen H.B., Lee E. and Walker M. (2008), Incentives or standards: What determines accounting quality changes around IFRS adoption*?*, *Working Paper Manchester Business School*, UK, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1013054.

Collins D. and Kothari S.P. (1989), An analysis of intertemporal and cross-sectional determinants of earnings response coefficients, *Journal of Accounting and Economics*, V. 11, No. 2 [143-181].

Collins D.W., Maydew E.L. and Weiss I.S. (1997), Changes in the value relevance of earnings and book vales over the past forty years, *Journal of Accounting and Economics*, V. 24, No. 1 [39-67].

Cornell B. and Landsman W. (2003), Accounting and valuation: Is the quality of earnings an issue?, *Financial Analysts Journal*, V. 59, No. 6 [20–28].

Dezzani F. (2006), "Principi civilistici" e principi IAS/IFRS": "Sistemi alternativi" per la redazione del bilancio d'esercizio, *Rivista Italiana di Ragioneria e di Economia Aziendale*, V. 5-6 [269-291].

Francis J. and Schipper K. (1999), Have financial statements lost their relevance?, *Journal of Accounting Research*, V. 37, No. 2 [319-352].

Francis J., LaFond R., Olsson P.M. and Schipper K. (2004), Costs of equity and earnings attributes, *Accounting Review*, V. 79, No. 4 [967–1010].

Francis J., Olsson P.M. and Schipper K. (2006), *Earnings quality*, Now Publishers Inc., Boston.

Fudenberg K. and Tirole J. (1995), A theory of income and dividend smoothing based on incumbency rents, *Journal of Political Economy*, V. 103 [75-93].

Healy P.M. and Wahlen J.M. (1999), A review of the earnings management literature and its implications for standard setting, *Accounting Horizons*, December [365-383].

Horton J and Serafeim I. (2007), Does mandatory IFRS adoption improve the information environment?, *Working Paper, London School of Economics and Harvard Business School*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1264101.

Hung M. and Subramanyam K.R. (2007), Financial statement effects of adopting International Accounting Standards: the case of Germany, *Review of Accounting Studies*, V. 12, No. 4 [623–657].

IASC (1989), *Framework for the Preparation of Financial Statements*, International Accounting Standards Committee, London, UK.

Jermakovicz E.K., Prater-Kinsey J. and Wulf I. (2007), The Value Relevance of Accounting Income Reported by DAX-30 German Companies, *Journal of International Financial Management and Accounting*, V.18, No 3 [151-191].

La Porta R., Lopez-De-Silanes F., Shleifer A. and Vishny R.W. (1997), Legal determinants of external finance, *The Journal of Finance*, Vol. LII, No. 3 [1131–1150].

La Porta, R., Lopez-De-Silanes, F. and Shleifer, A. (1999), Corporate ownership around the world, *The Journal of Finance*, V. 54, No. 2 [471–517].

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*, V. 41 [363–386].

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*, V. 42 [255–83].

Leuz C., Nanda D. and Wysocki P.D. (2003), Earnings management and investor protection: an international comparison, *Journal of Financial Economics*, V. 69 [505–527].

Marchi L. and Allegrini M. (2003), L'evoluzione dei principi contabili in Italia, *Revisione contabile*, No. 50.

Ohlson J.A. (1995), Earnings, book values, and dividends in equity valuation, *Contemporary Accounting Research*, V. 11, No. 2 [661-687].

Onida P. (1951), *Il bilancio d'esercizio nelle imprese. Significato economico del bilancio. Problemi di valutazione,* Giuffrè Editore, Milano.

Paananen M. (2008), The IFRS Adoption's Effect on Accounting Quality in Sweden, *Working paper, University of Hertfordshire, UK,* available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1097659.

Paananen M. and Lin H. (2008), The Development of Accounting Quality of IAS and IFRS Over Time: The Case of Germany, *Working paper, University of Hertfordshire, UK*, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1066604.

Pagano, M., Panetta, F. and Zingales, L. (1998), Why do companies go public? An empirical analysis*, The Journal of Finance*, V. 53 (February) [27-64].

Penman S. (2001), *Financial Statement Analysis and Security Valuation*, Mc Graw-Hill, New York.

Prencipe A. (2006), *Earnings Quality*, Pearson Education, Milano.

Schipper K. (2005), The introduction of accounting standards in Europe: Implications for international convergence, *European Accounting Review*, V. 14, No. 1 [101-126].

Soderstrom N.S. and Sun K.J. (2007), IFRS adoption and accounting quality: a review, *European Accounting Review*, V. 16, No. 4 [675–702].

Santesso E. and Sostero U. (2001), *Principi contabili per il bilancio d'esercizio*, Il Sole 24 Ore, Milano.

Superti Furga F. (1997), *Il bilancio di esercizio italiano secondo la normative europea*, Giuffrè Editore, Milano.

Terzani S. (1995), *Introduzione al bilancio d'esercizio*, CEDAM, Padova.

Van Tendeloo B. and Vanstraelen A. (2005), Earnings Management under German GAAP versus IFRS, *European Accounting Review*, V. 14 [155–180].

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

Zambon S. (2001), Italy, in Alexander D. and Archer S. (Eds.), *European Accounting Guide*, Aspen Law & Business, Gaithersburg [520-667].