The impact of IFRS on net income and equity: evidence from Italian listed companies

Michela Cordazzo

School of Economics and Management, Free University Bozen-Bolzano, Bolzano, Italy

Abstract

Purpose – The mandatory conversion to IFRS (International Financial Reporting Standards) has represented much more than a change in accounting rules. Firms' main concerns have been to understand the extent to which accounting differences between national GAAP and IFRS could affect their reported performance. The purpose of this paper is to address this concern by providing empirical evidence of the nature and the size of the differences between Italian accounting principles and IFRS.

Design/methodology/approach – The total and individual differences between Italian GAAP and IFRS are identified and quantified in the reconciliations of net income and equity of companies listed on *Borsa Italiana*. The focus is to show the major consequences of the conversion to IFRS on accounting outcomes.

Findings – The empirical results indicate a more relevant total impact of such a transition on net income than equity. The analysis of individual adjustments shows a greater discrepancy between Italian GAAP and IFRS in the accounting treatment of intangible assets, income taxes, and business combinations with reference to both net income and equity.

Originality/value – The main contribution of the paper is to investigate the impact of mandatory IFRS adoption for Italian listed companies' financial results. Previous literature does not focus on such a specific country, but it offers a comparative approach to different effects of IFRS on European countries.

Keywords Accounting, IFRS transition, Financial reporting, Measurement, Italy

Paper type Research paper

1. Introduction

The International Financial Reporting Standards (IFRS) consist of a set of international accounting principles, the adoption of which aims at establishing clear rules within the European Union (EU) to draw up comparable and transparent financial reporting. Their implementation represents an essential element to obtain an integrated, competitive, and attractive European capital market, which has impelled the European Commission to introduce this set of uniform accounting standards for listed EU companies.

The European community regulation 1606/2002 (EU, 2002) required companies listed in regulated European markets to adopt international accounting and financial reporting standards for preparing their consolidated financial statements as from 1 January 2005. In Italy, the law 306/2003 delegated the government to adopt one or more legislative decrees implementing the requirements of the EU regulation within

one year of the law coming into force. The Italian Government approved the legislative decree 58/2005 to implement the options allowed EU regulation 1606/2002. The decree made optional for quoted companies to adopt IFRS for their 2005 financial year, but mandatory as from the 2006 financial year.

Beginning from 2005, most of Italian-listed companies, banks, and financial companies prepare their interim and annual consolidated financial statements in accordance with IFRS. These statements have been derived from those prepared in accordance with the provisions of Italian law. They comprise the appropriate IFRS adjustments and reclassifications to reflect the changes in the presentation, recognition, and valuation required by IFRS (Delvaille *et al.*, 2005). The application of IFRS has been extended to the individual accounts of listed companies, banks, and financial companies from 2006. Their adoption is also permitted for non-listed companies in both individual and consolidated financial statements (Verna, 2003; Sottoriva, 2005).

The transition to IFRS has meant fundamental changes for many Italian and European companies. IFRS conversion has not been viewed simply as an accounting exercise of translation from local standards to IFRS, but as a change in national generally accepted accounting principles (GAAP) and in whole basis of financial reporting. IFRS information has affected the perception of firms' reported performance. The new performance measurement system has been expected to produce some differences in accounting rules between the set of domestic GAAP and IFRS.

In this respect, the *Organismo Italiano di Contabilità* (OIC, Italian accounting body) indicated that the main accounting differences emerging from the application of IFRS compared to Italian accounting principles affect many areas. Such critical areas include fair value reporting, depreciation and amortization, leases, segment reporting, revenue recognition, impairment tests, deferred taxes, and post-retirement employee benefits (OIC, 2005). Further, it was observed that one of the principal impediments to conversion would be the degree to which Italian taxation regulations largely determine accounting measurements. In particular, this may lead to distortions in the financial results of individual financial statements of listed companies.

Given indications of OIC and concern about the extent to which IFRS conversion could change firms' reported performance, the focus of this paper is to provide empirical evidence of the nature and the size of the differences between Italian GAAP and IFRS. The analysis is carried out on the total and individual adjustments to IFRS in the reconciliations of net income and equity of companies listed on *Borsa Italiana*.

For this, the level of discrepancy between Italian GAAP and IFRS is calculated by proposing a new measure of accounting comparability, i.e. the proportionality index. Such measure is derived from the Gray's conservatism index. The Gray's methodology has been applied for evaluating the level of conservatism of financial results in some countries as compared to US GAAP (Gray, 1980; Weetman and Gray, 1990, 1991; Adams *et al.*, 1993; Cooke, 1993; Hellman, 1993; Norton, 1995), and the level of comparability of quantitative differences between some European countries (Weetman *et al.*, 1998; Adams *et al.*, 1999; Street *et al.*, 2000).

The main contribution of the paper is to investigate the impact of mandatory IFRS adoption on net income and equity in Italy. Previous literature does not focus on such a specific country, but it offers a comparative approach to different effects of IFRS on European countries.

The paper is organized as follows. Section 2 presents a literature review of the studies on the consequences of IFRS adoption. Section 3 describes the sample of

companies, and the methodology applied for measuring the total and partial accounting differences between Italian GAAP and IFRS. Section 4 discusses the results emerging from the empirical analysis. Section 5 offers some concluding remarks.

2. Prior research

The studies on the mandatory application of IFRS by European companies investigate the implications of the introduction of this set of international accounting standards by adopting two main research approaches. A first group of studies focuses on the transition and implementation of IFRS by underling their effects for firms (Jermakowicz, 2004; Street and Larson, 2004; Sucher and Jindrichovska, 2004; Vellam, 2004), and for local and international regulators (Weißenberger *et al.*, 2004; Haller and Eierle, 2004; Shipper, 2005; Whittington, 2005). A second category investigates financial reporting with reference to the compliance to IFRS (Emenyonu and Gray, 1996; Dumontier and Raffournier, 1998; El-Gazzar *et al.*, 1999; Murphy, 1999; Street and Bryant, 2000; Ashbaugh, 2001; Glaum and Street, 2003; Tarca, 2004; Cuijpers and Buijink, 2005), and the quality of information under IFRS (Ashbaugh and Pincus, 2001; Hung and Subramanyam, 2004; Barth *et al.*, 2005; Van Tendeloo and Vanstraelen, 2005).

Some studies demonstrate that the problems in implementing IFRS within EU member states are widely linked to the preparation of accounting information for taxation purposes by continental European companies, which do not correspond to the investors/users financial reporting orientation of IFRS (Nobes, 2004; Nobes and Parker, 2006).

Street and Larson (2004) conduct a survey within EU member states to test the plans and barriers to convergence to IFRS before their mandatory adoption in 2005. The survey highlights that most of EU-listed companies do not plan to switch from national GAAP to IFRS, and after the required adoption, they might keep this two accounting systems for individual accounts. The difficulties rising in the application of some IFRS, the influence of tax system, and the lack of guidelines of national bodies in the application of such standards constitute the main impediments. Sucher and Jindrichovska (2004) confirm the problems of implementing IFRS in Czech Republic by analysing the key issues that arise by moving to IFRS reporting. Even though the Czech accounting system is moving closer to IFRS in some areas (such as the valuation at fair value), the need of national system to keep separate the tax and financial reporting explains why the Czech system differs in certain aspects from IFRS. Given the strong influence of tax rules on financial reporting, Vellam (2004) discusses whether the convergence between national GAAP and IFRS can be achieved in practice, by describing the differences between Polish financial reporting and IASB conceptual framework. The preference of Polish accounting system for a tax orientation and the lack of an effective enforcement of international accounting standards are perceived as the main reasons of a non-full compliance of IFRS requirements.

In Belgium, Jermakowicz (2004) underlines the benefits of complying with IFRS by identifying the main differences between IFRS and Belgian GAAP. The contribution of this research paper, as compared to the previous ones, is to analyse the implementation problems with reference to the link between financial and tax accounting by measuring the main impacts on IFRS conversion. The survey shows that the major differences between the two set of standards are linked to the tax nature of Belgian accounting rules, as well as the inadequate implementation guidance that creates a risk of a different interpretation of IFRS. Jermakowicz underlines that the latter key issue could

explain why the implementation of a new accounting regime is not known and understood by local and European companies.

Such implementation difficulties persist also for those European countries that have practised an international accounting implementation before the conversion to IFRS. In Germany, companies can publish their accounts in accordance with international accounting principles (IFRS or US GAAP) since 1998. Weißenberger *et al.* (2004) show that German companies not applying such standards are not clearly motivated to move to a particular international accounting regime. The motives that have driven the change to an international regime – such as the improved supply of information to investors and the enhanced standing on capital markets – do not play any role in the process of transition to IFRS. Companies perceive such reporting and business objectives may not be easy to achieve. Haller and Eierle (2004) support such conclusions by showing that IFRS implementation requires a thorough change of the German accounting system, and it requests a systematic revision of existing rules. The experience based on the previous adoption of international accounting rules does not make the process of transition to IFRS fast and easy, but slow and conservative. The previous change to an international accounting regime has not introduced considerable changes for the German accounting system, but it has played only a role at improving companies' financial reporting and business performance.

The regulatory change introduced by IFRS in Europe has not meant only a shift of the national accounting regulation and a revision of the importance of IFRS in determining financial outcomes. IFRS adoption has also created some implications for the worldwide international convergence of financial reporting. Shipper (2005) analyses the implications of the introduction of IFRS for international convergence between IASB and FASB. She concludes that IFRS mandatory adoption represents also an effort for removing the several differences between these accounting principles, in order to make the two set of standards as closer as possible and for producing comparable financial information. In particular, Whittington (2005) identifies two relevant critical areas where the changes introduced by IASB would reduce the boundaries between IFRS and US GAAP in order to achieve convergence. A first critical area refers to the development of fair value measures, such as the application of hedge accounting; while a second one is the treatment of business combination as acquisition, which precludes the application of pooling of interest accounting. The increased use of such accounting treatments would settle the convergence between IASB and FASB in a shared financial reporting project.

A second group of studies analyses the implications of IFRS application. They look at the potential effects of this accounting choice, and why companies voluntarily decide to move to an international accounting regime. The focus is on the characteristics of adopting companies and the consequences of IFRS application on their performance.

Emenyonu and Gray (1996), Dumontier and Raffournier (1998), El-Gazzar *et al.* (1999), Murphy (1999) examine to what extent the accounting measures and associated disclosure of European companies applying IFRS have become more harmonized internationally, as well as the motivations and characteristics of companies complying with international accounting principles. They demonstrate that the decision to apply IFRS is significantly associated with financing policy and performance, foreign operations, and multiple international listings. Street and Bryant (2000), Ashbaugh (2001) find support for these findings by identifying differences between non US-companies preparing reporting financial information in accordance with IFRS or US GAAP, with and without US listing. In particular, their results show that companies

traded in US financial markets disclose IFRS or US GAAP financial information because they can provide more standardized information than that prepared under national GAAP. On the other hand, Glaum and Street (2003), Tarca (2004), Cuijpers and Buijink (2005) show that the benefits of IFRS adoption are more relevant in those countries with national regulators and standard setters requiring companies to achieve more comparable financial information by applying IFRS or US GAAP.

Ashbaugh and Pincus (2001) investigate whether the differences between domestic and international accounting standards can influence the financial analysts' forecasts of earnings. Their research shows a positive and significant association between domestic GAAP-IFRS differences with analysts' forecasts of earnings. They conclude that IFRS convergence can reduce financial analysts' errors and increase the quality of earnings. Hung and Subramanyam (2004), Barth *et al.* (2005), Van Tendeloo and Vanstraelen (2005) argue that high-quality accounting standards could be a condition for high-quality information. They show that companies complying with IFRS can improve the value relevance of their financial statement information. These studies do not obtain significant results that fully support a higher accounting quality after IFRS compliance. Their results suggest that IFRS adoption is associated with an improvement in accounting quality, which it is not still effective.

As we can observe, most of the studies mentioned above are focused on the impact of IFRS transition in a specific country or they compare the effects of IFRS application in different European countries. There is no research referring to Italy. This is one of the main contributions of the paper.

3. Research methodology
3.1 Sample
The sample includes all industrial and services companies listed on *Borsa Italiana* (Italian Stock Exchange) as at 31 October 2006, which have completed the transition of consolidated financial accounts to IFRS.

Since the reconciliation from Italian GAAP to IFRS disclose detailed information of the different reconciling items, the nature and the size of total and individual adjustments to IFRS are investigated by evaluating the reconciliation statements between Italian GAAP and IFRS of each company selected.

IFRS 1 – First-time adoption of IFRS indicates "An entity shall explain how the transition from previous GAAP to IFRSs affected its reported financial position, financial performance and cash flows". Then it underlines "[…] company's first IFRS financial statements should include a reconciliation of shareholders' equity and net income […]". Following the requirements of IFRS 1, in Italy the *Commissione Nazionale per le Societa` e la Borsa* (CONSOB – Italian securities and exchange commission) does not specify the contents of such reconciliations. The commission recommends that companies provide useful and complete information for the understanding of the potential impact of the new set of accounting rules on their financial performance. After the transition date, the reconciliations can be disclosed on the first quarterly or half-year report, or as an appendix in the annual report (CONSOB, 2005).

Most of Italian-listed companies choose the first option, and include the disclosure of IFRS transition in their 2005 half-year statement as an annex. The statement contains a reconciliation of Italian net income and equity with those reported under IFRS (Appendix 1). The effect of each accounting treatment, which differs between the two set of rules, is quantified separately and explained in notes.

The reconciliation statements of 178 companies have been examined at the date of transition to IFRS (Appendix 2). These reconciliations are non-uniform in their presentation. The starting point in some cases is the parent company's net income or equity, but in others, it is the consolidated net income or equity. Because under Italian GAAP the consolidated net income or equity comprises minority interests, all data has been rebased to the starting point of Italian consolidated net income or equity, in order to make consistent comparisons between reconciliation statements.

Despite the recommendations of CONSOB, ten of the sampled companies do not provide the IFRS reconciliation statement of both net income and equity, and four do not produce the IFRS reconciliation statement of net income. For these two sub-samples, the individual adjustments to IFRS have not been analysed, but the study considers only the calculation of total impact on net income and equity. The analysis also excludes early IFRS adopters (two) and IPOs (six), because they do not provide a reconciliation statement of net income and equity. According to the requirements of Italian accounting system, companies exempted from producing consolidated financial statements (eight) are not analysed.

3.2 Proportionality index

The purpose of this paper is to provide empirical evidence of the nature and the size of Italian GAAP-IFRS differences. The findings of the studies investigating the effects of IFRS transition for firms (Jermakowicz, 2004; Street and Larson, 2004; Sucher and Jindrichovska, 2004; Vellam, 2004) and for local and international regulators (Weißenberger *et al.*, 2004; Haller and Eierle, 2004; Shipper, 2005; Whittington, 2005) constitutes its premises.

For this, the total and individual adjustments to IFRS are analysed in the reconciliations of net income and equity of Italian companies listed on *Borsa Italiana*.

This is addressed by proposing the proportionality index. Such index is a new measure of accounting comparability derived from the Gray's conservatism index, in order to analyse the quantitative effect of the principal impacts emerging from the application of IFRS compared to Italian accounting principles.

Gray (1980) first introduces the index of conservatism in comparing profits of several countries as a quantitative measure of differences between accounting practices. Weetman and Gray (1990, 1991), Adams *et al.* (1993), Cooke (1993), Hellman (1993), Norton (1995) apply the index in similar manners. The focus of these studies was to explore the quantitative differences in profits reported under US GAAP compared to those in accordance with European GAAP, for supporting the hypothesis that US standards are less conservative than European ones. In particular, some studies analyse the Form 20-F reconciliations prepared in accordance with the SEC requirements by European companies listed on NYSE and NASDAQ. They investigate the nature and the impact of accounting differences between US GAAP and non-US companies preparing financial information in accordance with domestic accounting standards or complying with IFRS.

Then the index has been proposed as a measure of comparability of accounting treatments without a judgement of conservatism (Weetman *et al.*, 1998; Adams *et al.*, 1999; Street *et al.*, 2000; Zambon, 2002). Its calculation is based on the measurement of the extent to which financial statements are affected by the application of different accounting regimes. In this last version of the index, the studies have extended the analysis of accounting rules that are not applied in the country in which companies

are legally based, by considering the accounting differences between US GAAP (IFRS) and domestic (European) accounting rules.

In the light of the applications of Gray's comparability index, the benchmark to make comparison is US GAAP (IFRS) for measuring the extent to which disclosed profit (equity) in other countries are more (less) conservative (comparable) than (with) US GAAP (IFRS). The total comparability index for firm i at time t is expressed as in Appendix 3. The neutral value is 1.0. An index greater (lower) than 1.0 indicates that the domestic net income (equity) is higher (lower) than that reported under US GAAP (IFRS).

The net income (equity) reported under US GAAP (IFRS) is chosen as the denominator in order to assess the impact of US GAAP (IFRS) on domestic financial statements and to provide a comparison across countries.

The partial comparability index for firm i at time t provides a measure of the contribution of each reconciling item j in explaining the total distance between the domestic net income (equity) and that reported under US GAAP (IFRS) (Appendix 3). The neutral value is 1.0 for consistency. An index greater (lower) than 1.0 indicates that the partial adjustment is negative (positive).

The relationship between the total and partial indexes of comparability is expressed by the sum of n total partial adjustments minus $(n-1)$.

Following Gray's methodology based on the measurement of the extent to which differences impact on accounting results, this study proposes the index of proportionality as an alternative assessment of the significance of Italian-IFRS accounting differences (Appendix 3).

According to the assumption that IFRS net income (equity) is a synthesis of the differences between the national accounting system and IFRS, the paper assumes that IFRS net income (equity) is the result of the accounting adjustments applied to domestic net income (equity) in the process of conversion. In this perspective, the total proportionality index measures the extent to which the transition to IFRS affects national accounting results.

The main difference between the Gray's approach and the total index of proportionality is that the extent does not refer to a principle of conservatism. The extent simply evidences how to express national GAAP-IFRS differences in the process of conversion to this international set of accounting rules. If the extent is null, the index is 0.0 for firm i at time t, which means there are not differences between the domestic value and that under IFRS. A value of the index higher (lower) than 0.0 shows that the domestic accounting result is lower (higher) than that reported under IFRS, i.e. the process of conversion to IFRS causes a positive (negative) impact on financial accounts (Appendix 4).

Based on the previous assumptions, the partial proportionality index measures the positive (negative) extent of each individual accounting adjustment in the reconciliation statement. The neutral value is 0.0 for reconciling item j to net income (equity) for firm i at time t, whether the financial results expressed according to national GAAP and IFRS are identical. An index lower (higher) than 0.0 means that the partial adjustment has a negative (positive) impact on IFRS net income (equity) (Appendix 4).

The relationship between the total and partial indexes of proportionality shows that the total index of proportionality is equal to the sum of the n relative accounting impacts on national net income (equity).

The calculation of the partial index of proportionality demonstrates that such an index presents a more relevant measure of the impact of each relative accounting

difference, as it shows directly the positive (negative) impact of the accounting adjustment. On the other hand, the total index of proportionality vs Gray's index is expressed in a manner that could result more comprehensive to firms. It indicates the percentage figure expressing the gap between the national value and that reported under IFRS. The application of such indexes is thus more consistent with the aim of the study, which intends to address firms' concern on the extent to which accounting differences could change their reported financial outcomes in IFRS transition.

The comparability and proportionality indexes are with some methodological limits. Rees (1993) has pointed out that Gray's indexes are indefinite when the value expressed according to US GAAP (IFRS) is 0. As to Gray's methodology, the proportionality indexes produce a measurement of total and partial differences that are difficult to interpret, when the IFRS value is 0.

The total index of proportionality is calculated also for ROE, which represents a synthesis of the two main accounting results. This extension provides more insights on the magnitude of the Italian-IFRS differences. It highlights how financial statement analysis is affected by the application of different accounting rules on companies' reporting performance (Hellman, 1993; Zambon, 2002).

According to previous empirical studies, the value of total (partial) indexes of proportionality is classified on bands of 5-10 per cent of Italian-IFRS differences. The outlying values are removed for calculating the mean values, as they give a more representative picture of such differences. Such outliers results from reconciling adjustments, and they occur when loss (net income) is large (small) or the individual adjustments cause a change from net income to loss. They have been assumed to occur when the observed total (partial) proportional indexes are above or below a 300 per cent difference.

With respect to test the significance of total (partial) differences, the parametric two-tailed *t*-test is applied to means without outliers. In order to reinforce the significance on means whether the values of indexes are closer to the outliers' bands, the non-parametric two-tailed Wilcoxon signed-rank test is applied to medians with outliers. Using Minitab, both statistical non-parametric and parametric techniques are based on a null hypothesis assuming a mean (median) equal to the neutral value.

4. Results
4.1 Total proportional index
Tables I and II show the frequency and total impact of IFRS adoption on net income, equity, and ROE. IFRS net income is on average 25.34 per cent higher than Italian net income. 54.49 per cent of companies have an index lower than 0.10. From the *t*-test and the Wilcoxon test, the medians and means are significantly different. IFRS equity is on average 4.78 per cent higher than Italian equity. A total of 50 per cent of companies are with an index around the neutral value. The findings show that Italian equity is much closer to 0.0 than Italian net income, but it is still different from the neutral value. The application of the *t*-test and the Wilcoxon test shows that both mean and median differences are significant. By the calculation of ROE as synthesis of the two main accounting results, IFRS ratio is on average 9.47 per cent higher than Italian ratio. 41.57 per cent of companies evidence a ROE lower than 0.10. The *t*-test and Wilcoxon test verify again the difference in means and medians.

Table I.
Wilcoxon's and *t*-statistics
for total indexes
of proportionality

Variable	*n*	Median	Wilcoxon statistic	
Net income	178	0.1367***	12,459	
Equity	178	0.0141***	10,296.5	
ROE	178	0.0580*	9,164	
Variable	*N*	Mean	SD	*t*-statistic
Net income	172	0.2534***	0.5849	5.68
Equity	178	0.0478***	0.2424	2.63
ROE	171	0.0947**	0.6559	1.89

Notes: *Total index is significantly different from the neutral value 0.0 at 10%; **total index is significantly different from the neutral value 0.0 at 5%; ***total index is significantly different from the neutral value 0.0 at 1%

		Net income		Equity		ROE	
		n	%	*n*	%	*n*	%
IT ⩽ −10% vs IFRS	⩽ −0.10	97	54.49	39	21.91	74	41.57
−5% ⩽ IT ⩽ −10% vs IFRS	−0.999 - −0.05	18	10.11	23	12.92	18	10.11
IT ± 5% vs IFRS	−0.0499-0.0	19	10.67	49	27.53	14	7.87
	0.0-0.0499	10	5.62	40	22.47	7	3.93
5% ⩽ IT ⩽ 10% vs IFRS	0.05-0.0999	6	3.37	13	7.30	9	5.06
IT ⩾ 10% vs IFRS	⩾ 0.10	28	15.73	14	7.87	56	31.46
Total		178	100	178	100	178	100
Minimum		−9.5312		−0.6741		−263.2080	
Maximum		226.8378		2.3291		49.7480	

Elimination of outliers
The following outlying indexes have been eliminated before applying the two tailed *t*-test to both net income and ROE in Table I

Firm	Indexes eliminated	Principal causes
IRCE	−9.5312	Revaluation of certain property, plant and equipment; valuation of inventories at LIFO
Class	−6.1250	Revaluation of certain property, plant and equipment; amortization of goodwill
Carraro	−3.4383	Revaluation of certain property, plant, and equipment
SICC	6.2824	Capitalization of internally generated intangible assets; land depreciation
Trevisan Cometal	48.8765	Amortization of goodwill
Stefanel	226.8378	Impairment test; amortization of goodwill; revaluation of certain property, plant, and equipment

Table II.
Distribution of total
indexes of
proportionality

Notes: The index for ROE has also an outlier relating to Buongiorno. It has not been possible to investigate the causes, because the firm does not provide the reconciliation statement for both net income and equity

4.2 Partial proportional index

The impact of the most frequently occurring individual adjustments on net income and equity has been examined for exploring the causes of Italian GAAP-IFRS differences. Their frequency and impact are presented in Tables III and IV, respectively.

IAS 38 – intangible assets. Italian accounting principle no. 24 – intangible assets and civil Code require costs for pure research to be charged to operations when incurred,

Panel A: partial indexes of proportionality for net income				
Partial adjustment	n	Median	Wilcoxon statistic	
IAS 38 – intangible assets	148	0.0510***	9,815	
IAS 19 – employee benefits	144	0.0001	5,162.5	
IAS 12 – income taxes	132	−0.0120***	2,952	
IFRS 3 – business combinations	104	0.1230***	4,882	
IAS 16 – property, plant, and equipment	103	0.0010	2,400	
Partial adjustment	n	Mean	SD	t-statistic
IAS 38 – intangible assets	145	0.1744***	0.3689	5.69
IAS 19 – employee benefits	143	0.0293	0.2735	1.28
IAS 12 – income taxes	130	−0.0482	0.4451	−1.23
IFRS 3 – business combinations	101	0.2246***	0.4554	4.96
IAS 16 – property, plant, and equipment	98	0.0122	0.2931	0.41
Panel B: partial indexes of proportionality for equity				
Partial adjustment	n	Median	Wilcoxon statistic	
IAS 38 – intangible assets	152	−0.0036***	3,220.5	
IAS 19 – employee benefits	150	0.0007	6,328.5	
IAS 12 – income taxes	132	−0.0055***	3,064.5	
IAS 16 – property, plant, and equipment	112	0.0083***	5,467.5	
IFRS 3 – business combinations	110	0.0122***	4,968	
Partial adjustment	n	Mean	SD	t-statistic
IAS 38 – intangible assets	151	−0.0031	0.1087	−0.35
IAS 19 – employee benefits	150	−0.0054	0.0585	−1.13
IAS 12 – income taxes	132	−0.0045	0.1567	−0.33
IAS 16 – property, plant, and equipment	112	0.0612***	0.1402	4.62
IFRS 3 – business combinations	110	0.0284***	0.0793	3.76

Note: ***Partial index is significantly different from the neutral value 0.0 at 1%

Table III.
Wilcoxon's and t-statistics
for partial indexes of
proportionality

costs relating to a specific project and development costs to be capitalized over a period not exceeding five years. IAS 38 requires research costs to be expensed, development costs that meet the criteria for capitalization to be capitalized, and then amortized from the start of production over the economic life of related products.

In accordance with Italian accounting principle, costs for the establishment of a company or for issuance of capital stock can be recognized as an asset. This recognition is applicable where it is probable that the use of this asset will generate future economic benefits and costs of the asset can be determined reliably. IFRS require these costs to be charged against profit and loss account. This treatment is not applicable for establishment and issuance of capital stock of the parent company, which are recognized as a decrease in equity net of the relevant fiscal effect.

Start-up, training, and advertising costs are expensed when incurred in both sets of accounting standards. Costs for a new business or new production activities may be capitalized under Italian GAAP.

The adoption of these new accounting rules produces a negative effect on IFRS equity, which is on average 0.31 per cent lower than IT equity. The effect on IFRS net income is positive and on average 17.44 per cent higher than IT net income (Table III). The negative effect on IFRS equity is the result of the accounting reversal of intangible assets for which IAS 38 requires recognition in the income statement, when incurred. The positive effect on IFRS net income is due to the combination of the lower amortization charges and the elimination of costs that do not include amortization, which have produced a pre-tax benefit. The IFRS net income also benefits of the

| | IT ≤ −10% vs IFRS | | −5% ≤ IT ≤ −10% vs IFRS | | IT ±5% vs IFRS | | | | 5% ≤ IT ≤ 10% vs IFRS | | IT ≥ 10% vs IFRS | | Total | | | |
| | ≤ −0.10 | | −0.099 to −0.05 | | −0.0499 to 0.0 | | 0.0 to 0.0499 | | 0.05 to 0.0999 | | ≥ 0.10 | | | | Minimum | Maximum |
	n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Panel A: partial indexes of proportionality for net income																
IAS 38 – intangible assets	5	3.38	3	2.03	15	10.14	50	33.78	20	13.51	55	37.16	148	100	−13.6250	20.6595
IAS 19 – employee benefits	11	7.64	8	5.56	52	36.11	55	38.19	8	5.56	10	6.94	144	100	−0.4134	9.6216
IAS 12 – income taxes	28	21.21	17	12.88	38	28.79	32	24.24	2	1.52	15	11.36	132	100	−48.6486	6.1207
IFRS 3 – business combinations	5	4.81	3	2.88	2	1.92	29	27.88	8	7.69	57	54.81	104	100	−7.7589	43.6173
IAS 16 – property, plant, and equipment	15	14.56	6	5.83	27	26.21	43	41.75	4	3.88	8	7.77	103	100	−27.0058	9.4054
Panel B: partial indexes of proportionality for equity																
IAS 38 – intangible assets	7	4.61	7	4.61	103	67.76	27	17.76	1	0.66	7	4.61	152	100	−5.8193	0.7425
IAS 19 – employee benefits	2	1.33	2	1.33	56	37.33	88	58.67	2	1.33	0	0.00	150	100	−0.6530	0.0658
IAS 12 – income taxes	9	6.82	12	9.09	55	41.67	47	35.61	5	3.79	4	3.03	132	100	−0.2880	1.6327
IFRS 3 – business combinations	0	0.00	1	0.89	15	13.39	67	59.82	10	8.93	19	16.96	112	100	−0.0788	0.7435
IAS 16 – property, plant, and equipment	2	1.82	5	4.55	14	12.73	71	64.55	8	7.27	10	9.09	110	100	−0.1821	0.4690

Elimination of outliers

The following outlying indexes have been eliminated before applying the two-tailed *t*-test in Table III

Net income

	Indexes eliminated			Principal causes
IAS 38 – intangible assets	−13.6250	7.1389	20.6595	Capitalization of internally generated intangible assets
IAS 19 – employee benefits			9.6216	Recognition of actuarial liability for benefits
IAS 12 – income taxes	−48.6486		6.1207	Net impact of deferred taxes on IFRS adjustments (such as inventories, doubtful accounts, depreciation, business combination, goodwill, revaluation of assets)
IFRS 3 – business combinations	−7.7589	22.9459	43.6173	Amortization of goodwill
IAS 16 – property, plant, and equipment	−27.0058 −5.2463	−3.4444 3.7232	9.4054	Revaluation of certain property, plant, and equipment; land depreciation

Equity

	Indexes eliminated	Main causes
IAS 38 – intangible assets	−5.8193	Capitalization of internally generated intangible assets

reversal of amortization of goodwill. Goodwill is no longer amortized, but it is tested for impairment annually or more frequently whenever there is an indication that the asset may be impaired. The application of the *t*-test and the Wilcoxon test shows significant differences on net income and equity, except for the average values of equity partial indexes. This follows as 85.52 per cent (37.16 per cent) of sampled companies is grouped within ±5 per cent (10 per cent or more) equity (net income) band (Table IV).

IAS 19 – employee benefits. Italian accounting principle no. 19 – provision for losses and charges. Pension fund and indemnities. Liabilities and civil code require the liability for TFR (reserve for employee termination indemnity) and other post-retirement benefits to be recorded at nominal value. Under IAS 19, the liability for benefits to be paid on the termination of employment is based on actuarial assumptions, and recorded on an accruals basis consistent with the work performed to obtain such benefits and discounted. Independent actuaries determine the extent of the liability. The gains and losses determined by the actuarial calculations are recognized as revenues or costs in the statement of operations. This recognition occurs only when the cumulative net value exceeds 10 per cent of the obligations under the pension plan or the fair value of the plan's assets at that date (i.e. corridor method).

The adjustments made for the measurement and recognition of the new actuarial employees' benefits liability has determined on average IFRS equity 0.54 per cent lower than IT equity. The actuarial calculation of gains and losses shows on average IFRS net income 2.93 per cent higher than IT net income, as a consequence of lower costs. Despite such differences, both the *t*-test and the Wilcoxon test show no statistical significance on means and medians (Table III). An explanation of the lack of significance can be that the majority of companies are classified with IT net income (equity) to be ±5 per cent of IFRS net income (equity) (Table IV).

IAS 12 – income taxes. Under Italian accounting regulation (accounting principle no. 25 – accounting treatment of income taxes, civil code, and tax rules), deferred tax assets and liabilities must be calculated including all the temporary differences between the book value of an asset and its value under tax rules. Nevertheless, no amount must be posted if it is unlikely that the relative liability will ever have to be paid, or if it is not reasonably certain that there will be sufficient taxable income to absorb the relative deferred tax assets in the future. The adoption of IAS 12 does not provide for any special exceptions to the accrual of deferred tax liabilities. The standard has requirements similar to those of Italian GAAP for deferred tax assets.

The effect of IAS 12 on net income and equity is the consequence of the net impact of deferred taxes on IFRS adjustments (such as inventories, doubtful accounts, depreciation, business combination, goodwill, revaluation of assets). This effect is also linked to other Italian GAAP-IFRS differences concerning the recognition of deferred tax assets and liabilities. The result is a decrease of IFRS net income (equity), which is on average 4.82 per cent (0.45 per cent) lower than IT net income (equity) (Table III). The *t*-test and the Wilcoxon test indicate significant differences on median values of net income and equity partial indexes. Most of companies are classified within ±5 per cent band, but 55 companies on 102 show an equity partial index between −0.0499 and 0.0 (Table IV).

IFRS 3 – business combinations. Italian accounting principle no. 24 – intangible assets and civil code require goodwill deriving from business combinations and consolidation differences to be subject to systematic amortization for no more than five years after the purchase date. Sometimes amortization is stretched to a period not exceeding 20 years. According to IFRS 3, the goodwill deriving from business combinations and consolidation differences is no longer amortized (insofar as they

refer to assets with an indefinite useful life), but it is subjected to a test of recoverability of residual values carried out in compliance with IAS 36 – impairment of assets. The unamortized values of goodwill and consolidation differences at the transition date are attributed to the identified cash generating units, whose forecast cash flows confirm the recoverability of the values posted on the financial statements.

The impact of the application of IFRS 3 shows an important and positive effect on IFRS net income, which results on average 22.46 per cent higher than IT net income. The effect is positive also on IFRS equity, which is on average 2.84 per cent higher than IT equity (Table III). The positive effect is due to the elimination of amortization of goodwill. Both the *t*-test and the Wilcoxon test demonstrate significant differences. A total of 57 companies on 104 evidence a partial index with IT net income 10 per cent or greater than IFRS net income. A total of 71 on 110 companies show equity partial index between 0.0 and 0.0499 (Table IV).

IAS 16 – property, plant, and equipment. According to Italian accounting principle no. 16 – tangible assets and IAS 16, property, plant, and equipment are generally recorded at historical cost, which correspond to the purchase price plus the direct attributable cost of bringing the assets to their working condition. They are depreciated over their useful life.

Most of sampled companies revalue certain property, plant, and equipment to amounts in excess of historical cost. Such treatment is permitted or required by specific laws of the countries in which the assets were located. These revaluations are credited to equity, and revalued assets are depreciated over their remaining useful lives. Furthermore, under Italian GAAP, the land directly related to buildings included in property, plant, and equipment is depreciated together with the related building depreciation. IFRS do not permit revaluations and land depreciation.

The individual adjustment of IAS 16 on net income and equity is the combination of the elimination of monetary revaluations of tangible assets and their relative depreciation, as well as the elimination of depreciation of land. Such elimination determines an increase of IFRS net income (equity) on average by 1.22 per cent (6.12 per cent) vs IT net income (equity) (Table III). The impact on equity is statistically significant as tested by the *t*-test and the Wilcoxon test. The majority of equity partial indexes (67 on 112) are clustered with values between 0.0 and 0.0499. A total of 70 on 103 net income partial indexes are within the ± 5 per cent band (Table IV).

5. Conclusions

Beginning from 2005, the European Commission has required the adoption of IFRS to European-listed companies. In Italy, despite the OIC and CONSOB position in favour of IFRS application, there was not significant adoption of such a set of standards before the mandatory transition. Only a few listed companies have referred to an IFRS transition project in 2003. They did not seem confident that IFRS information was sufficient or entirely appropriate for the purpose to communicate their performance to the markets (Delvaille *et al.*, 2005). The findings of reviewed studies confirm this attitude by showing that most of EU-listed companies did not plan to converge from national GAAP to IFRS before the required adoption. They were not clearly motivated to move to an international accounting regime.

This study has attempted to address firms' concern about the changes introduced by IFRS. The impact of IFRS mandate adoption on net income and equity of Italian companies listed on *Borsa Italiana* has been measured and statistically tested. Drawing on their reconciliations, the proportionality index has been proposed for

measuring the quantitative effect of the principal non-compliance areas emerging from IFRS application compared to Italian accounting principles.

The study suggests that reported performance benefits from converting to IFRS. The results show a positive and significant total impact on net income and equity, which is greater on equity. The calculation of the index of proportionality for ROE confirms the positive incidence of total adjustments to net income and equity, as the ratio is a synthesis of the two main accounting results.

Important areas of non-compliance with IFRS conversion have been highlighted. The relative adjustments showing a significant positive impact on IFRS net income are referred to business combinations and intangible assets, while income taxes evidence a significant negative effect. The difference on IFRS equity is explained by significant partial adjustments relating to the negative effect of intangible assets, income taxes, and the positive impact of business combinations, property, plant, and equipment.

As the individual impact of such adjustments to net income and equity provides a quantitative measure of the non-compliance areas, the study indicates the importance of these accounting differences in highlighting the diversity between Italian accounting standards and IFRS. Further, the nature of partial differences disclosed is consistent with some individual adjustments pointed out by the OIC in determining the impact of discrepancy subsisting between Italian GAAP and IFRS (OIC, 2005).

Taken overall, the results demonstrate that IFRS transition has produced significant effects on Italian accounting results. This provides direct evidence to the reviewed literature. Previous studies show that national GAAP-IFRS differences depend *de facto* on the tax driven nature of some EU member states accounting system – including Italy – which leads to report lower earnings for tax purposes. Some disagreement occurs also with some IFRS areas mainly relating to fair valuation, impairment review, deferred taxation, business combinations, and financial instruments.

On the other hand, these results also enforce firms' belief that IFRS conversion has meant a deep revision and improvement of the Italian accounting system, as well as the adoption of a global financial reporting model that will enable firms to play in a global marketplace. Furthermore, the results confirm the importance of European Commission decision to apply a single set of accounting standards in order to achieve accounting harmonization between EU member states. This goal has to be seen also at a worldwide level with reference to the process of accounting harmonization between IASB and FASB through the application of IFRS. This agreement highlights the active role of European Commission in the process of worldwide accounting harmonization in monitoring and acting through the IASB.

Finally, further research is required to measure the conversion to IFRS. It would be interesting to compare IFRS impact for a larger number of sample companies within EU member states. In this respect, more investigation is needed on some country variables (accounting system, taxation system, capital market structure, etc.) and firm–specific variables (size, cross-listing, industry, etc.), which have influenced IFRS implementation and enforcement. In the same way, a more focused market-oriented development would be the analysis of the association between financial markets' information needs and IFRS requirements. This would lead to examine some problems persisting in the recognition and valuation of some firms' resources as intangible assets. Even though IASB has attempted to address the recognition and measurement problems linked to intangible assets, some information deficiencies persist as shown by the systematic gap in financial markets between the market value and the book value of company equity.

The results of this study could be of some interest to institutions involved in the process of IFRS transition for solving problems and lacks of implementation and convergence between local GAAP and IFRS. Likewise, firms could benefit by examining the extent of IFRS impact on their reported performance and comparing their financial results after some years of IFRS application.

References

Adams, C.A., Weetman, P. and Gray, S.J. (1993), "Reconciling national to international accounting standards: lessons from a study of Finnish corporate reports", *The European Accounting Review*, Vol. 2 No. 3, pp. 471-94.

Adams, C.A., Weetman, P. and Gray, S.J. (1999), "Reducing the burden of US GAAP reconciliations by foreign companies listed in the United States: the key question of materiality", *The European Accounting Review*, Vol. 8 No. 1, pp. 1-22.

Ashbaugh, H. (2001), "Non-US firms' accounting standard choices", *Journal of Accounting and Public Policy*, Vol. 20, pp. 129-53.

Ashbaugh, H. and Pincus, M. (2001), "Domestic accounting standards, international accounting standards, and the predictability of earnings", *Journal of Accounting Research*, Vol. 39 No. 3, pp. 417-34.

Barth, M., Landsman, W. and Lang, M. (2005), "International accounting standards and accounting quality", working paper, Stanford University, Stanford.

Commissione Nazionale per le Società e la Borsa (CONSOB) (2005), "Delibera n. 14990/2005 del 14 aprile 2005 – Modifiche del Regolamento n. 11971/1999 in considerazione delle novità introdotte dall'entrata in vigore del regolamento comunitario n.1606/2002 relativo all'applicazione dei principi contabili internazionali", available at: www.consob.it

Cooke, T. (1993), "The impact of accounting principles on profits: the US versus Japan", *Accounting and Business Research*, Vol. 23 No. 92, pp. 460-76.

Cuijpers, R. and Buijink, W. (2005), "Voluntary adoption of non-local GAAP in the European Union: a study of determinants and consequences", *The European Accounting Review*, Vol. 14 No. 3, pp. 487-524.

Delvaille, P., Ebbers, G. and Saccon, C. (2005), "International financial reporting convergence: evidence from three continental European countries", *Accounting in Europe*, Vol. 2, pp. 137-64.

Dumontier, P. and Raffournier, B. (1998), "Why firms comply voluntarily with IAS: an empirical analysis with Swiss data", *Journal of International Financial Management and Accounting*, Vol. 9 No. 3, pp. 216-45.

El-Gazzar, S.M., Finn, P.M. and Jacob, R. (1999), "An empirical investigation of multinational firms' compliance with international accounting standards", *The International Journal of Accounting*, Vol. 34 No. 2, pp. 239-48.

Emenyonu, E.N. and Gray, S.J. (1996), "International accounting harmonization and the major developed stock market countries: an empirical study", *The International Journal of Accounting*, Vol. 31 No. 3, pp. 269-79.

European Union (EU) (2002), "Regulation (EC) No. 1606/2002 of the European parliament and of the council of 19 July 2002 on the application of international accounting standards", available at: http://ec.europa.eu/internal_market/accounting

Glaum, M. and Street, D.L. (2003), "Compliance with the disclosure requirements of Germany's new market: IAS versus US GAAP", *Journal of International Financial Management and Accounting*, Vol. 14 No. 1, pp. 64-100.

Gray, S.J. (1980), "The impact of international accounting differences from a security-analysis perspective: some European evidence", *Journal of Accounting Research*, Vol. 18 No. 1, pp. 64-76.

Haller, A. and Eierle, B. (2004), "The adaptation of German accounting rules to IFRS: a legislative balancing act", *Accounting in Europe*, Vol. 1, pp. 27-50.

Hellman, N. (1993), "A comparative analysis of the impact of accounting differences on profits and return on equity: differences between Swedish practice and US GAAP", *The European Accounting Review*, Vol. 2 No. 3, pp. 495-530.

Hung, M. and Subramanyam, K.R. (2004), "Financial statements effects of adopting international accounting standards: the case of Germany", working paper, University of Southern California, Los Angeles, CA.

Jermakowicz, E.K. (2004), "Effect of adoption of international reporting standards in Belgium: the evidence from BEL-20 companies", *Accounting in Europe*, Vol. 1, pp. 121-31.

Murphy, A.B. (1999), "Firm characteristics of Swiss companies that utilize international accounting standards", *The International Journal of Accounting*, Vol. 34 No. 1, pp. 115-28.

Nobes, C.W. (2004), *A Conceptual Framework for the Taxable Income of Businesses and How to Apply it Under IFRS*, ACCA, London.

Nobes, C.W. and Parker, R. (2006), *Comparative International Accounting*, Prentice Hall, London.

Norton, J. (1995), "The impact of financial accounting practices on the measurement of profit and equity: Australia versus the United States", *Abacus*, Vol. 31 No. 2, pp. 178-200.

Organismo Italiano di Contabilità (OIC) (2005), *Guida operativa per la transizione ai principi contabili internazionali (IAS/IFRS)*, Il Sole 24 Ore, Milano.

Rees, W. (1993), "Measuring conservatism – the case of published and DVFA/SG adjusted earnings for German firms", Working Paper No. 93/059, University of Strathclyde, Strathclyde.

Shipper, K. (2005), "The introduction to international accounting standards in Europe: implications for international convergence", *The European Accounting Review*, Vol. 14 No. 1, pp. 101-26.

Sottoriva, C. (2005), "Principi contabili internazionali e coordinamento con il TUIR", *Le Società*, No. 5, pp. 590-4.

Street, D.L. and Bryant, S.M. (2000), "Disclosure level and compliance with IASs: a comparison of companies with and without US listings and filings", *The International Journal of Accounting*, Vol. 35 No. 3, pp. 305-29.

Street, D.L. and Larson, R. (2004), "Large accounting firms' survey reveals emergence of 'two standard' system in the European union", *Advances in International Accounting*, Vol. 17, pp. 1-29.

Street, D.L., Nichols, N.B. and Gray, S.J. (2000), "Assessing the acceptability of international accounting standards in the US: an empirical study of the materiality of US GAAP reconciliations by non-US companies complying with IASC standards", *The International Journal of Accounting*, Vol. 35 No. 1, pp. 27-63.

Sucher, P. and Jindrichovska, I. (2004), "Implementing IFRS: a case study of the Czech Republic", *Accounting in Europe*, Vol. 1, pp. 109-41.

Tarca, A. (2004), "International convergence of accounting practices: choosing between IAS and US GAAP", *Journal of International Financial Management and Accounting*, Vol. 15 No. 1, pp. 60-91.

Van Tendeloo, B. and Vanstraelen, A. (2005), "Earnings management under German GAAP and IFRS", *The European Accounting Review*, Vol. 14 No. 1, pp. 155-80.

Vellam, I. (2004), "Implementation of international accounting standards in Poland: can true convergence be achieved in practice?", *Accounting in Europe*, Vol. 1, pp. 143-67.

Verna, G. (2003), "Il bilancio tra riforma delle società e introduzione dei principi contabili internazionali", *Rivista dei Dottori Commercialisti*, No. 3, pp. 509-38.

Weetman, P. and Gray, S.J. (1990), "International financial analysis and comparative corporate performance: the impact of UK versus US accounting principles on earnings", *Journal of International Financial Management and Accounting*, Vol. 2 Nos 2-3, pp. 111-30.

Weetman, P. and Gray, S.J. (1991), "A comparative international analysis of the impact of accounting principles on profits: the USA versus the UK, Sweden and the Netherlands", *Accounting and Business Research*, Vol. 21 No. 84, pp. 363-79.

Weetman, P., Jones, E.A.E., Adams, C.A. and Gray, S.J. (1998), "Profit measurement and UK accounting standards: a case of increasing disharmony in relation to US GAAP and IASs", *Accounting and Business Research*, Vol. 28 No. 3, pp. 189-208.

Weißenberger, B., Stahl, A.B. and Vorstius, S. (2004), "Changing from German GAAP to IFRS or US GAAP: a survey of German companies", *Accounting in Europe*, Vol. 1, pp. 169-89.

Whittington, G. (2005), "The adoption of international accounting standards in the European Union", *The European Accounting Review*, Vol. 14 No. 1, pp. 127-53.

Zambon, S. (2002), *Locating Accounting in its National Context: The Case of Italy*, Franco Angeli, Milano.

Further reading

International Accounting Standards Board (IASB) (2007), *A Guide Through International Financial Reporting Standards 2007*, IASB, London.

Siegel, S. and Castellan, N.J. (1988), *Nonparametric Statistics for the Behavioural Sciences*, McGraw-Hill, New York, NY.

Appendix 1

Thousands of euro	Shareholders' equity as at 01.01.2004	Shareholders' equity as at 31.12.2004	Net income year 2004
Total amounts (parent company portion and minority interests portion) under Italian GAAP	1,186,660	1,237,159	122,582
Less – minority interests portion	(12,799)	(6,840)	492
Parent company portion under Italian GAAP	1,173,861	1,230,319	123,074
Adjustments to financial statements for IFRS			
(a) Reversal of monetary revaluations (IAS 16)	(3,085)	(2,896)	189
(b) Reversal of start-up and expansion costs (IAS 38)	(7,361)	(3,496)	3,865
(c) Reversal of goodwill amortization (IFRS 3)	–	721	721
(d) Straight-line lease instalments (IAS 17)	(4,357)	(1,098)	3,308
(e) Recognition of deferred tax assets (IAS 12)	–	7,146	7,146
(f) Different tax rate for calculation of "profit in stock" (IAS 12)	73	1,334	1,261
(g) Discounting of employee benefits to present value (IAS 19)	3,825	4,207	373
(h) Cost of stock options (IFRS 2)	–	–	(722)
(i) Derivatives for interest rate risks (IAS 39)	(9,653)	(4,963)	4,690
(l) Derivatives for exchange rate risks (IAS 39)	(264)	139	(264)
(m) Securities available for sale (IAS 39)	262	301	(43)
(n) Impairment loss adjustments for non-current assets (IAS 36)	–	(35,683)	(35,951)
(o) Provisions for risks and future charges (IAS 37)	4,494	–	(4,563)
(p) Exchange differences on equity investment disposals (IAS 21)	–	–	69
Tax effect on reconciling items	4,215	10,019	5,684
Minority interests in reconciling items	(194)	(41)	(41)
Parent company portion under IFRS	1,163,180	1,206,009	108,796

Table AI.
Reconciliation statement
disclosed in
Benetton group's 2005
half-year report

Appendix 2

Listed companies on Borsa Italiana as at 31 October 2006	n
Industrial sectors	111
Services sectors	83
Total	194
Less	
Early IFRS adopters	2
IPOs	6
Companies exempted from producing consolidated financial statements	8
Final example	178
Companies providing both net income and equity reconciliations	164
Companies not providing both net income and equity reconciliations	10
Companies not providing net income reconciliations	4

Table AII.
Sample selection criteria

www.mana

Appendix 3. Proportionality indexes vs Gray's comparability indexes

Total comparability index
Total comparability index for net income (equity) for firm i at time t:

$$TCINI(E)_{i,t} = 1 - \frac{NI(E)_{US\,GAAP(IFRS)\,i,t} - NI(E)_{domestic\,i,t}}{\left| NI(E)_{US\,GAAP(IFRS)\,i,t} \right|}$$

Partial comparability index
Partial comparability index for reconciling item j to net income (equity) for firm i at time t:

$$PCINI(E)_{i,j,t} = 1 - \frac{partial\,adjustment_{i,j,t}}{\left| NI(E)_{US\,GAAP(IFRS)\,i,t} \right|}$$

Relationship between total and partial index of comparability:

$$TCINI(E)_{i,t} = \sum_{j=1}^{n} \left(1 - \frac{partial\,adjustment_{i,j,t}}{\left| NI(E)_{US\,GAAP(IFRS)}\,i,t \right|} \right) - (n-1)$$

Total proportionality index
Total proportionality index for net income (equity) for firm i at time t:

$$TPINI(E)_{i,t} = \frac{NI(E)_{IFRS\,i,t} - NI(E)_{domestic\,i,t}}{\left| NI(E)_{IFRS\,i,t} \right|}$$

Partial proportionality index
Partial proportionality index for reconciling item j to net income (equity) for firm i at time t:

$$PPINI(E)_{i,j,t} = \frac{partial\,adjustment_{i,j,t}}{\left| NI(E)_{IFRS\,i,t} \right|}$$

Relationship between total and partial index of proportionality:

$$TPINI(E)_{i,t} = \sum_{j=1}^{n} \left(\frac{partial\,adjustment_{i,j,t}}{\left| NI(E)_{IFRS\,i,t} \right|} \right)$$

Appendix 4. Example of calculation of proportionality index vs Gray's comparability index

Calculation of total indexes
IT net income = 150
IFRS net income = 100

$$\text{TCI} = 1 - \left(\frac{100 - 150}{100}\right) = 1.50$$

$$\text{TPI} = \frac{100 - 150}{100} = -0.50$$

Calculation of partial indexes

IAS 38 – intangible assets
IAS 19 – employee benefits

IT net income = 150
(60)
10
IFRS net income = 100

$$PCI_{IAS\,38} = 1 - \left(\frac{-60}{100}\right) = 1.60$$

$$PCI_{IAS\,19} = 1 - \left(\frac{10}{100}\right) = 0.90$$

$$PPI_{IAS\,38} = \frac{-60}{100} = -0.60$$

$$PPI_{IAS\,19} = \frac{10}{100} = 0.10$$

About the author
Michela Cordazzo, Assistant Professor (Accounting), School of Economics and Management, Free University of Bozen-Bolzano. She has been Marie Curie PhD Fellow at the School of Accounting and Finance, University of Manchester. In 2007 she was Visiting Scholar at the Faculty of Economics, University of Melbourne, and in 2011 at the China Europe International Business School (Shanghai). Her research interests concern intellectual capital reporting, international and market-based accounting. Michela Cordazzo can be contacted at: michela.cordazzo@unibz.it