

THE VALUE RELEVANCE OF THE PERFORMANCE OF LISTED ITALIAN COMPANIES FOLLOWING THE INTRODUCTION OF THE IAS/IFRS

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Abstract

This paper aims to offer a contribution to the area of value relevance studies. The analyzed variables are therefore partly accounting-related and partly market-related. The specific research area considered concerns the role of the International Accounting Standards (IAS/IFRS), investigating whether the adoption of IAS/IFRS has led to a greater correlation between some important financial statement values (net income, comprehensive income and equity) and stock market capitalization in comparison with ante-IAS/IFRS period. The study focuses on the Italian situation, analyzing a sample of 122 companies listed on the Milan Stock Exchange. We analyse a period of six years (2003-2008). The research shows specific results on the value relevance of accounting information referred to industrial and financial sectors, and to net income in comparison with comprehensive income.

Keywords: Value relevance, Comprehensive income, International Accounting Standards
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1. INTRODUCTION

Value relevance indicates the association between prices (or returns) of shares listed on regulated markets and accounting information - in general, values such as net income and equity. Market values are dependent variables, whereas accounting values represent independent variables. An accountable value is therefore “value-relevant” when it has a significant correlation with the chosen dependent variable. This area of research belongs within the context of accounting studies, and in Italy could represent the modern continuation of classical accounting studies.

This study belongs in the specific line of research into value relevance that aims to assess the consequences on companies’ market values deriving from the introduction of IAS/IFRS. This area of research has produced various contributions [Barth *et al.*, 2008], some of which refer specifically to the Italian situation [Cordazzo, 2008, Devalle, 2008, Pagiotti, 2009, Avallon, 2009]. The specific purpose is to evaluate whether the transition to the IAS/IFRS has produced more useful financial statements data for a vast range of users and, particularly, for investors in taking decisions of economic nature (IAS 1, par. 9).

The usefulness of the financial statements for investors depends on the correlation between market variables and accounting variables: the more the accounting variables are linked with the share prices on the market, the more useful the financial statements will be

for protecting saving and investors - also proving the high quality of the accounting standards with which the financial statements is prepared.

2. RESEARCH QUESTIONS

The correlation between net income and equity, on the one hand, and stock market capitalization, on the other, is investigated along a timescale of 6 years, from 2003 to 2008. In the first two years the financial statements were drawn up according to Italian accounting standards; the year of transition (2004), moreover, enables assessment of the effect produced by the transition to the IAS/IFRS, since it is the only one for which we have the financial statements data according to the national accounting principles and the international ones. In the four-year period 2005-2008, it is possible to develop the analysis in depth, both by sector, isolating the banking and insurance companies with respect to those belonging to other sectors, and in the direction of analysis of the different configurations of net income that have led to the transition from net income to comprehensive income.

The research questions are as follows.

- Did the transition to IAS/IFRS determine a greater correlation between net income, comprehensive income, equity and stock market capitalization with respect to the corresponding values determined by the Italian accounting standards?
- In the IAS period (2005-2008) was there an improvement in the correlation between net income, comprehensive income, equity and stock market capitalization with respect to the ante-IAS period (2003-2004)? Are differences found in the financial sector with respect to companies belonging to other sectors?
- In the IAS period (2005-2008) is the comprehensive income more value-relevant than the net income?

The first question focuses on the transition to the IAS/IFRS, i.e. on year 2004: since the financial statements figures determined with the national and international accounting standards are available, it is possible to appreciate the effect produced by transition the IAS/IFRS on the correlation with respect to stock market capitalization.

The second question aims to develop the investigation at temporal level, comparing the ante-IAS period (2003-2004) with the IAS period (2005-2008). Comparison of the correlations between financial statements figures and stock market capitalizations in the years indicated enables us to appreciate the variations in value relevance deriving from the transition to the international accounting standards, taking account of any sector peculiarities.

The third question stems from the wish to enter completely into the logic of the IASB, according to which corporate results are expressed by the comprehensive income. However, a prospect aimed at immediately supplying the comprehensive income was made compulsory by the IAS 1 only as from 1/1/2009. This entailed determining the comprehensive income in an indirect way as the sum of the net income and the other comprehensive incomes (OCI) that, in the period 2005-2008, were found in the statement of changes in equity.

3. METHOD OF RESEARCH

The study considers the consolidated financial statements from 2003 to 2008 of a sample of 122 companies listed on the Milan Stock Exchange; at 30 June 2009, these account for around 93% of the entire stock market capitalization. In particular, the following firms were excluded from the universe of those listed:

- listed after 31 December 2003 and/or no longer listed at 30 June 2009, to ensure availability of the figures for the whole period considered;
- with corporate address outside Italy, in order to avoid influence from contexts different from the Italian one;
- not providing a consolidated financial statement, to ensure homogeneity of the financial statements considered;
- not closing the financial statements at 31 December, to ensure homogeneity of the date of closure and of the relevant correlations with the stock market capitalizations.

Among the remaining firms, we chose the 122 with greatest capitalization. The sample is first analyzed as a whole, then as per segmentation in industrial (97) and financial (16 banks and 9 assurances) companies. We employ the linear regression method and the variables placed in relation are the equity and the return on equity (ROE). The study of the ongoing relation between stock market capitalization, income and equity considered jointly belongs to the series of studies following the work of Easton, Edey and Harris, 1993 [Easton *et al.*, 1993]. Stock market capitalizations, rather than the price of each individual share, is used in order to avoid problems linked with corporate sizes. Capitalizations are recognized in two different dates: 30/04 and 30/06 of each year. The 30/04 date is chosen since it is assumed that, at that date, the capitalization fully reflects the effect produced by communication of the financial statements figures of the previous year. The 30/06 date is employed for control purpose, and because it is adopted in previous studies [Christensen *et al.*, 2008]. However, at 30 June the capitalization is affected not only by the data of the annual financial statements (communicated, in general, between March and April) but also by the figures made public in the quarterly reports.

With regard to the net income and equity data, the ROE is calculated by using the net income at 31/12 of year X and the net equity at 31/12 of year X-1. In addition, the ROE is calculated by using both the net income and the comprehensive income. The comprehensive income was reconstructed with an indirect method, i.e. by summing the net income given in the income statement with the other comprehensive income (OCI) given in the statement of the changes in equity. The net income and equity taken from the consolidated financial statements refer to the holding company; in other words, we do not consider the net income and equity figures referring to the minority partners in the subsidiary companies. The market and accounting variables were set in correlation by adopting a logarithmic linear equation [Schiebel, 2007]. The logarithmic equation has the virtue of avoiding the distortions arising from the different corporate sizes, so that the large companies do not have a preponderant influence which would thus falsify the results obtained.

The equation, in its most general formulation is as follows:

$$\text{Log}C = \alpha + \beta_1 \text{Log}(Eh - Nih) + \beta_2 \text{ROE}h \quad (1)$$

C = Stock Market Capitalization

Eh = Equity Holding Company

Nih = Net Income Holding Company

ROEh = Return on Equity Holding Company

The equation expressed previously in its most general formulation was developed by considering different notions of income (net income or comprehensive income) and different dates of sampling stock market capitalization (30 April or 30 June), leading to the following four equations.

Table no. 1 Equations used in the empirical research

E1	$\text{Logcap}_{30/04} = \alpha + \beta_1 \text{Log}(\text{Eh-NIh}) + \beta_2 \text{NIh}/(\text{Eh-NIh})$
E2	$\text{Logcap}_{30/04} = \alpha + \beta_1 \text{Log}(\text{Eh-CIh}) + \beta_2 \text{CIh}/(\text{Eh-CIh})$
E3	$\text{Logcap}_{30/06} = \alpha + \beta_1 \text{Log}(\text{Eh-NIh}) + \beta_2 \text{NIh}/(\text{Eh-NIh})$
E4	$\text{Logcap}_{30/06} = \alpha + \beta_1 \text{Log}(\text{Eh-CIh}) + \beta_2 \text{CIh}/(\text{Eh-CIh})$

Equation 1 (E1) represents the straight line of correlation between the logarithm of stock market capitalization at 30/04 of year X and the logarithm of the difference between the equity and the net income of the holding company at 31/12 of year X-1 plus the ROE calculated by placing as numerator the net income of the holding company given in the income statement of year X-1 and as denominator the equity at 31/12 of year X-1 minus the net income of the holding company given in the income statement of year X-1.

Equation 2 (E2) represents the straight line of correlation between the logarithm of stock market capitalization at 30/04 of year X and the logarithm of the difference between the equity and the comprehensive income of the holding company at 31/12 of year X-1 plus the comprehensive income of the holding company at 31/12 of year X-1 over the equity of the holding company at 31/12 of year X-1 minus the comprehensive income at 31/12 of the holding company in year X-1.

Equation 3 (E3) is equation 1 calculated by using the stock market capitalization at 30/06 of year X as dependent variable.

Equation 4 (E4) is equation 2 calculated by using the stock market capitalization at 30/06 of year X as dependent variable.

Each equation was then used in relation to each year in regard to the period considered (2003-2008). Equations 1 (E1) and 2 (E2) represent the effective aim of the paper, while the study of equations 3 (E3) and 4 (E4), in this paper, is mentioned only for control purposes.

The angular coefficients, through the slope of the line, measure the sensitivity of the variation of stock market capitalization as the amounts of ROE and total equity vary. However, the “goodness” of the relation is measured by R^2 adjusted (R^2_{adj}), i.e. by the correlation coefficient. This value tells us to what extent the points (i.e. the stock market capitalizations found) depart from the straight line, and therefore establishes the statistical significance, indicating whether the net income and equity are significant variables to account for the trend of the stock market capitalization.

.4. RESULTS-FULL SAMPLE

4.1 Transition period (2004)

In the year 2004, year of transition to the IAS/IFRS, considering the pre-transition (non-IAS/IFRS) net income and equity figures in E1 (stock market capitalization at 30/04/2005) the R^2_{adj} is 0.840.

Table no. 2 The effect of the transition in terms of value relevance

Year	Equation	IAS/IFRS	R^2_{adj}
2004	E1	no	0,840
2004	E1	yes	0,892
2004	E2	yes	0,883

Considering, instead, the figures post-transition to IAS/IFRS:

- using E1 the coefficient increases (0.892);
- if we use E2, in which the economic values post-transition to IAS/IFRS derive from the sum of net income and OCI, the correlation coefficient increases (0.883) with respect to the value obtained by considering the pre-transition net income and equity figures, but remains lower than the values obtained by using equation 1.

In year 2004, then, the presence of OCI has the effect of reducing the value of the R^2_{adj} with respect to the value obtained by considering the net income alone. In addition, we verified that all the values of the correlation coefficients are lower if we use the stock market capitalization at 30/06 rather than the stock market capitalization at 30/04.

4.2 IAS period (2005-2008) VS ante-IAS period (2003-2004)

E1 has two particular characteristics:

- choice of stock market capitalization at 30/04/X;
- ROE calculated by using the net income given in the income statement for year X-1.

With regard to the study of E1, note that:

- in year 2005 the R^2_{adj} is lesser than in years 2003-2004 preceding transition to IAS/IFRS;
- in years 2006-2007 the R^2_{adj} is greater than in the two years preceding transition;
- in 2008 we find a reduction in the R^2_{adj} that falls below the pre-transition values, but this phenomenon could be retraced to the world economic crisis that has affected financial statements values.

The trend of the post-transition R^2_{adj} seesaws as compared with the values of the pre-transition period.

Table no. 3 Comparison between different periods

Year	Eq	R^2_{adj}	Equation	R^2_{adj}
2008	E1	0,837	E2	0,830
2007	E1	0,892	E2	0,888
2006	E1	0,903	E2	0,898
2005	E1	0,838	E2	0,839
2004	E1	0,840	E1	0,840
2003	E1	0,842	E1	0,842

E2 has the following particular characteristics:

- stock market capitalization at 30/04;
- ROE calculated by using the comprehensive income for years 2005-2008.

The values of the correlation coefficient obtained by using E2 show a similar trend to the values obtained with E1. In this case, too, we find that:

- in 2005 the R^2_{adj} has a lesser value than the coefficients obtained in the pre-transition period;
- in 2006 and 2007, instead, the R^2_{adj} has higher values than the pre-transition ones;
- the year 2008 records the lowest value of the period considered.

4.3 Net Income VS Comprehensive Income

Both the equations feature R^2_{adj} whose values remain high in the period considered. This is evidence of a significant correlation between the financial statements values and the stock market capitalization. For better understanding of the data obtained through E1 and E2, Table 4 should be analyzed.

Table no. 4 Comparison between Net Income and Comprehensive Income

Year	A) R^2_{adj} E1	B) R^2_{adj} E2	Δ	A>B
2008	0,837	0,830	0,007	yes
2007	0,892	0,888	0,004	yes
2006	0,903	0,898	0,005	yes
2005	0,838	0,839	-0,001	no

The table shows that the R^2_{adj} of E1 are slightly better from 2006 to 2008. In 2005, the R^2_{adj} of E2 is better than that of E1, but the difference is only by 0.001. This comparison would suggest that the stock market capitalization is better explained by using the ROE calculated with the net income, rather than by using the comprehensive income. Essentially, in the majority of cases by using the net income we obtain financial statements figures that are more value relevant than by using the comprehensive income.

Considering E3 and E4 for purposes of comparison, it emerges that, performing the same study by using the stock market capitalization at 30/06 the results turn out analogous. Moreover, this comparison underlines that the values of the R^2_{adj} of E1 and E2 are greater than the values obtained by using E3 and E4 (except for 2005). In other words, by taking 30/04 as the data of reference for the stock market capitalization, rather than 30/06, the data of accounting type are, in general, more value relevant.

4.4 Analysis of the coefficients (full sample)

The following tables summarize some data about the regression coefficients of the independent variables.

Table 5 summarizes the results in terms of coefficients (β_1) of the first independent variable (Log(Eh-NIh) for the Equation 1 e Log(Eh-CIh) for the Equation 2).

Table no. 5 Coefficient of the first independent variable (Equity)

Year	Eq.	Independent variable	β_1	t-ratio	Sig.
2008	E1	Log(Eh-NIh)	0,901	22,139	0,000
2007	E1	Log(Eh-NIh))	0,927	30,707	0,000
2006	E1	Log(Eh-NIh)	0,906	31,687	0,000
2005	E1	Log(Eh-NIh)	0,917	25,565	0,000
2004ias	E1	Log(Eh-NIh)	0,913	29,845	0,000
2004	E1	Log(Eh-NIh)	0,906	24,365	0,000
2003	E1	Log(Eh-NIh)	0,909	23,399	0,000
2008	E2	Log(Eh-CIh)	0,927	23,331	0,000
2007	E2	Log(Eh-CIh)	0,939	30,893	0,000
2006	E2	Log(Eh-CIh)	0,911	31,043	0,000
2005	E2	Log(Eh-CIh)	0,915	25,339	0,000
2004ias	E2	Log(Eh-CIh)	0,918	28,774	0,000

As regards the coefficients of the equity it is possible to make some brief comments about the sign of the coefficients and their statistical significance. Indeed, it is important to note that the sign of the coefficients is positive. Moreover, as regards the value of this coefficient β_1 is observed that throughout the period under consideration has a value close to unity. This means that, for example for 2008, ceteris paribus (maintaining equal the second independent variable), if the Log (Eh-NIh) increased by one point LogCap30/04 would increase by an average of 0.901. By eliminating the logarithm, and then elevating the function (using the exponential function), we can say that if the (Eh-NIh) increases by one Euro, Cap30/04 would increase by an average of 2.462064 Euro ($e^{0.901}$). Using the t-test, we can also understand that the coefficients have good statistical significance because you can reject the null hypothesis ($\beta_1 = 0$) as the probability of making an error of the first kind (ie no real decline hypothesis) is less than one per thousand. Then using the t-test is possible to notice that: 1) the statistical significance of coefficients increases following the transition to international accounting standards; 2) from 2007 to 2008 the statistical significance of the coefficients of E2 is greater than the statistical significance of the coefficients of E1; 3) in respect of 2005 and 2006, the situation is the opposite.

The analysis of the coefficients and its statistical significance, such as analysis of R^2_{adj} , shows a substantial stability over the period.

Table no. 6 Coefficients of the second independent variable (ROE)

Year	Eq	Independent variable	β_2	t-ratio	Sig.
2008	E1	RNcg/(PNcg-RNcg)	1,99	7,278	0,000
2007	E1	RNcg/(PNcg-RNcg)	2,262	7,507	0,000
2006	E1	RNcg/(PNcg-RNcg)	2,76	7,674	0,000
2005	E1	RNcg/(PNcg-RNcg)	0,793	4,739	0,000
2004ias	E1	RNcg/(PNcg-RNcg)	3,245	8,726	0,000
2004	E1	RNcg/(PNcg-RNcg)	2,147	5,235	0,000
2003	E1	RNcg/(PNcg-RNcg)	2,505	6,769	0,000
2008	E2	Clcg/(PNcg-Clcg)	1,766	6,624	0,000
2007	E2	Clcg/(PNcg-Clcg)	2,117	6,789	0,000
2006	E2	Clcg/(PNcg-Clcg)	2,479	6,923	0,000
2005	E2	Clcg/(PNcg-Clcg)	0,827	5,125	0,000
2004ias	E2	Clcg/(PNcg-Clcg)	2,818	7,688	0,000

Table 6 shows the coefficients of ROE (or NIh/(Eh-NIh) for E1 and CIh/(Eh-CIh) for E2).

Primarily in relation to the coefficients of ROE it is possible to note the positive sign. Regarding the value of the coefficients it is recalled that when the second independent variable changes by a unit, the dependent variable shows a proportional change in β_2 , maintaining equal to the first independent variable.

So, for example, for 2008, if the NIh/(Eh-NIh) increases by one point LogCap30/04 increases on average of 1.99. Then if you delete the logarithm, by using the exponential function, it is possible to say that if the second independent variable increased by one, then the market value of the company would increase by an average of 7.315534 Euro ($e^{1.99}$). From the standpoint of statistical significance in this case it is found that the probability of making an error of the first kind, rejecting a true null hypothesis, is less than one per thousand. Furthermore, in most cases, the t-test support the conclusion that the statistical significance of coefficients increases following the transition to international accounting

standards (the only exception is the year 2005). Finally, the coefficients of E1 are larger than the coefficients of E2, with the exception of 2005.

The most important element that can be isolated from the analysis is that the statistical significance of the coefficients of ROE is good, but in general is lower than the statistical significance of the coefficients of the Equity. This fact leads to say that the variance of the market capitalization is best explained by the equity variable, rather than the income variable.

5. RESULTS- FINANCIAL COMPANIES VS INDUSTRIAL COMPANIES

5.1 Transition period

Industrial companies

With reference to the transition year, the pre-transition R^2_{adj} of E1 that uses the stock market capitalization at 30/04 is 0.821. Adopting E1 that involves using the net income given in the income statement and using the values post-transition to IAS/IFRS, the coefficient increases (0.887). The coefficient also increases (0.884) when, instead, we use E2 in which the economic values derive from the sum of net income and OCI. There is a lesser increase in the coefficient when E2 is used rather than E1.

Table no. 7 The effects of the transition among the industrial companies

Year	Equation	IAS/IFRS	R^2_{adj}
2004	E1	no	0,821
2004	E1	yes	0,887
2004	E2	yes	0,884

Financial companies

Using the equations involving stock market capitalization at 30/04, the value of the pre-transition correlation coefficient turns out lower than the post-transition one when E1 is used, but is higher when E2 is used. By using the comprehensive income, therefore, we find a decrease in the correlation coefficient.

Table no. 8 The effects of the transition among the financial companies

Year	Equation	IAS/IFRS	R^2_{adj}
2004	E1	no	0,838
2004	E1	yes	0,846
2004	E2	yes	0,808

Comparison

Using E1 and E2 in the year of transition, the R^2_{adj} obtained for the industrial companies after transition to IAS/IFRS is higher than that found for the financial companies. The same conclusion is reached by using E3 and E4.

Table no.9 Comparison between industrial and financial companies

Equation	IAS/IFRS	Industrial R ² adj	Financial R ² adj	Financial VS Industrial
E1	no	0,821	0,838	F>I
E1	yes	0,887	0,846	I>F
E2	yes	0,884	0,808	I>F

5.2 IAS period (2005-2008) VS ante-IAS period (2003-2004)

Industrial companies

The results found in regard to the R²adj show, first and foremost, that there is a close correlation between the pre-selected independent variables (equity and ROE) and the dependent variable (capitalization). Note also that:

- in the first post-transition year considered in the previous table (2005), the correlation between the variables diminishes with respect to the previous two-year period and the lowest value is found for the whole period considered (2003-2008);
- in 2006, however, the value of the R²adj for E1 is higher than the values of the years preceding the transition: this is the maximum value of the period (2003-2008);
- in 2007 the value of the R²adj falls as compared with 2006, but remains above the pre-transition values;
- year 2008 shows a decrease in the R²adj between stock market capitalization and financial statements values, with a correlation coefficient lower than the pre-transition values.

Table no. 10 Comparison between different periods

Year	Eq	R ² adj	Eq	R ² adj
2008	E1	0,822	E2	0,817
2007	E1	0,886	E2	0,880
2006	E1	0,897	E2	0,891
2005	E1	0,814	E2	0,815
2004	E1	0,821	E1	0,821
2003	E1	0,828	E1	0,828

In studying E2, in order to make comparison with the years preceding the transition E1 must be used for years 2003-2004. Here, too, the correlation coefficient exhibits an up-down trend. The result obtained is similar the one found with E1. In particular:

- in 2005 the value of the R²adj falls below the pre-transition values (we find the lowest value of the whole period 2003-2008);
- in 2006 the value of the R²adj exceeds the pre-transition values and is the highest in the considered period;
- in 2007 the R²adj remains above the pre-transition values but is lower than the previous year;
- in 2008 the value of the correlation coefficient R²adj falls further and is below the pre-transition values.

Industrial companies – Net Income VS Comprehensive Income

Both equations feature high correlation coefficients. The comparison between the correlation coefficients obtained is summarized in the following table.

Table no. 11 Comparison between Net Income and Comprehensive Income

Year	A R ² adj E1	B R ² adj E2	Δ	A>B
2008	0,822	0,817	0,005	yes
2007	0,886	0,880	0,006	yes
2006	0,897	0,891	0,006	yes
2005	0,814	0,815	-0,001	no

The R²adj of E1 appear better than those of E2 for years 2006 to 2008. In year 2005 the coefficient of E2 is better than E1, but they differ by only 0.001. This comparison, as is true of the overall sample, would suggest that stock market capitalization is better explained by using the ROE calculated with the net income, rather than by using the value of the comprehensive income. In other words, use of net income leads to more value-relevant financial statement values than does comprehensive income. Therefore the result regarding industrial companies does not diverge from that found for the sample as a whole.

Financial companies

With regard to the financial companies, in using E1 we note that, excluding year 2008, the post-transition R²adj remain systematically greater than the pre-transition ones. In particular:

- in 2005 the value of the R²adj is greater than the values of the pre-transition years;
- in 2006 the R²adj increases further, attaining the highest value in the period analyzed;
- as from 2007, although the R²adj is still higher than in the pre-transition period, we find a reduction with respect to the previous year;
- the value of the correlation coefficient in 2008 is significantly lower than the pre-transition values.

Table no. 12 Comparison between different periods

Year	Eq.	R ² adj	Eq.	R ² adj
2008	E1	0,795	E2	0,797
2007	E1	0,848	E2	0,840
2006	E1	0,876	E2	0,857
2005	E1	0,844	E2	0,822
2004	E1	0,838	E1	0,838
2003	E1	0,827	E1	0,827

With regard to E2 we find:

- in 2005, first year of transition to IAS, the coefficient falls with respect to the pre-transition years;
- in 2006 we find a growth in the R²adj, to a value above the pre-transition period;
- 2007 witnesses a decrease in the value of the R²adj as against the previous year, but it remains greater than in the pre-transition period;

- in 2008 a further diminution in the coefficient occurs and it is below the values of the pre-transition period.

Financial companies – Net Income VS Comprehensive Income

The following table compares the absolute value of the coefficients of E1 and E2 regarding the financial companies in the sample.

Table no. 13 Comparison between Net Income and Comprehensive Income

Year	A R ² adj E1	B R ² adj E2	Δ	A>B
2008	0,795	0,797	-0,002	no
2007	0,848	0,84	0,008	yes
2006	0,876	0,857	0,019	yes
2005	0,844	0,822	0,022	yes

In the period 2005-2007, the absolute value of the R²adj of E1 as compared with E2 is systematically greater than the absolute value of the coefficients obtained with E2. In this period, therefore, the net income is more value relevant than the comprehensive income. However, in year 2008 the correlation coefficient of E2 exceeds that of E1, but the difference between the two coefficients is a mere 0.002. In 2008, substantially, the value relevance of the comprehensive income is greater than that of the net income, though at a closer look they almost coincide.

Comparison

The comparison between the industrial and the financial companies with regard to the data obtained by using E1 indicate that the values of the R²adj obtained for the industrial companies exceed those for the financial companies, excluding year 2005. In substance, the financial statements figures of the industrial companies exhibit a greater correlation with the stock market capitalization, i.e. a greater value relevance in the period 2006-2008.

As regards E2 — that is, by introducing the comprehensive income at 30/04 — we obtain an analogous result, showing, however, lower values of the correlation coefficients than with E1.

5.3 Analysis of the coefficients (industrial and financial companies)

With reference industrial and financial companies, the following tables summarize some data about the regression coefficients of the independent variables.

Table 14 summarizes the results in terms of coefficients (β_1) of the first independent variable (Log(Eh-NIh) for the Equation 1 e Log(Eh-CIh) for the Equation 2).

Table no. 14 Coefficients of the first independent variable (Equity)

Year	Eq	Independent variable	Industrial compaies		
			β_1	t-ratio	Sig.
2008	E1	Log(PNcg-RNcg)	0,898	17,09	0,000
2007	E1	Log(PNcg-RNcg)	0,926	24,584	0,000
2006	E1	Log(PNcg-RNcg)	0,899	26,263	0,000
2005	E1	Log(PNcg-RNcg)	0,916	20,189	0,000

Year	Eq	Independent variable	Industrial compaies		
			β_1	t-ratio	Sig.
2004	E1	Log(PNcg-RNcg)	0,915	19,812	0,000
2003	E1	Log(PNcg-RNcg)	0,903	19,144	0,000
2008	E2	Log(PNcg-Clcg)	0,912	17,473	0,000
2007	E2	Log(PNcg-Clcg)	0,934	24,369	0,000
2006	E2	Log(PNcg-Clcg)	0,904	25,722	0,000
2005	E2	Log(PNcg-Clcg)	0,916	20,045	0,000
2004ias	E2	Log(PNcg-Clcg)	0,934	25,258	0,000
Year	Eq	Independent variable	Financial companies		
			β_1	t-ratio	Sig.
2008	E1	Log(PNcg-RNcg)	0,846	8,546	0,000
2007	E1	Log(PNcg-RNcg)	0,993	11,471	0,000
2006	E1	Log(PNcg-RNcg)	0,995	12,721	0,000
2005	E1	Log(PNcg-RNcg)	1,003	11,382	0,000
2004ias	E1	Log(PNcg-RNcg)	0,904	11,065	0,000
2004	E1	Log(PNcg-RNcg)	0,914	10,802	0,000
2003	E1	Log(PNcg-RNcg)	0,931	10,444	0,000
2008	E2	Log(PNcg-Clcg)	0,876	9,389	0,000
2007	E2	Log(PNcg-Clcg)	0,981	11,049	0,000
2006	E2	Log(PNcg-Clcg)	0,988	11,714	0,000
2005	E2	Log(PNcg-Clcg)	0,946	10,636	0,000
2004ias	E2	Log(PNcg-Clcg)	0,913	10,007	0,000

As regards the coefficients of the equity it is possible to make some brief comments about the sign of the coefficients and their statistical significance. Indeed, it is important to note that the sign of the coefficients is positive.

This means that, for example for 2008, *ceteris paribus* (maintaining equal the second independent variable), if the Log(Eh-NIh) increased by one point LogCap30/04 would increase by an average of 0.898 for industrial sector and of 0.846 for financial sector. By eliminating the logarithm, and then elevating the function (using the exponential function), we can say that if the (Eh-NIh) increases by one Euro Cap30/04 would increase by an average of 2.4547 Euro ($e^{0.898}$) for industrial sector and of 2.3303 ($e^{0.846}$) for financial sector. Using the t-test, both sectors considered, we can also understand that the coefficients have good statistical significance because you can reject the null hypothesis ($\beta_1 = 0$) as the probability of making an error of the first kind (ie no real decline hypothesis) is less than one per thousand. Then using the t-test is possible to notice that: 1) the statistical significance of coefficients increases following the transition to international accounting standards; 2) from 2005 to 2007 the statistical significance of the coefficients of E1 is greater than the statistical significance of the coefficients of E2; 3) in respect of 2008, the situation is the opposite.

The analysis of the coefficients and its statistical significance, such as analysis of $R^2_{adj.}$, shows a substantial stability over the period.

As regard the second independent variable, it is possible to note the positive sign. Regarding the value of the coefficients it is recalled that when the second independent variable changes by a unit, the dependent variable shows a proportional change in β_2 , maintaining equal to the first independent variable.

So, for example, for 2008, *ceteris paribus* (maintaining equal the second independent variable), if the NIh/(Eh-NIh) increases by one point LogCap30/04 increases on average of

2.129 for industrial sector and of 1.273 for financial sector. Then if you delete the logarithm, by using the exponential function, it is possible to say that if the second independent variable increased by one, then the market value of the company would increase by an average of 8.4065 Euro ($e^{2.129}$) for industrial sector and of 3.5716 Euro ($e^{1.273}$) for financial sector.

As regard the second independent variable, the statistical significance is high (probability of making a mistake of the first kind than one per thousand) for the industrial sector, while for the financial companies the table 15 shows different levels of significance.

In particular, for the latter statistical significance related to the second variable has a down trend and if you use the E1, or if you use the E2. However in case of application of E2 statistical significance in general is reduced. With reference to β_2 is also noted that, during the observation period (2003-2008):

- for the financial sector, the coefficient in question shows increasingly lower values for both equations used;
- for the industrial sector, however, the coefficient shows increasing values.

Table no. 15 Coefficients of the second independent variable (ROE)

Year	Eq	Independent variable	Industrial compaies		
			β_1	t-ratio	Sig.
2008	E1	RNcg/(PNcg-RNcg)	2,129	6,981	0,000
2007	E1	RNcg/(PNcg-RNcg)	2,402	7,149	0,000
2006	E1	RNcg/(PNcg-RNcg)	2,633	7,15	0,000
2005	E1	RNcg/(PNcg-RNcg)	0,74	4,25	0,000
2004ias	E1	RNcg/(PNcg-RNcg)	3,103	7,923	0,000
2004	E1	RNcg/(PNcg-RNcg)	1,952	4,394	0,000
2003	E1	RNcg/(PNcg-RNcg)	2,349	6,004	0,000
2008	E2	CIcg/(PNcg-CIcg)	2,064	6,747	0,000
2007	E2	CIcg/(PNcg-CIcg)	2,271	6,444	0,000
2006	E2	CIcg/(PNcg-CIcg)	2,394	6,425	0,000
2005	E2	CIcg/(PNcg-CIcg)	0,748	4,376	0,000
2004ias	E2	CIcg/(PNcg-CIcg)	2,986	7,604	0,000
Year	Eq	Independent variable	Financial companies		
			β_1	t-ratio	Sig.
2008	E1	RNcg/(PNcg-RNcg)	1,273	1,743	0,095
2007	E1	RNcg/(PNcg-RNcg)	2,204	2,403	0,025
2006	E1	RNcg/(PNcg-RNcg)	6,479	3,32	0,003
2005	E1	RNcg/(PNcg-RNcg)	5,468	3,265	0,004
2004ias	E1	RNcg/(PNcg-RNcg)	5,383	3,34	0,003
2004	E1	RNcg/(PNcg-RNcg)	5,372	3,208	0,004
2003	E1	RNcg/(PNcg-RNcg)	6,561	3,164	0,005
2008	E2	CIcg/(PNcg-CIcg)	0,705	1,032	0,313
2007	E2	CIcg/(PNcg-CIcg)	1,766	1,977	0,061
2006	E2	CIcg/(PNcg-CIcg)	4,527	2,508	0,02
2005	E2	CIcg/(PNcg-CIcg)	2,77	2,773	0,011
2004ias	E2	CIcg/(PNcg-CIcg)	2,961	1,985	0,06

Also for industrial and financial sectors, the statistical significance of the coefficients of ROE is good, but in general is lower than the statistical significance of the coefficients of

the Equity. This fact leads to say that the variance of the market capitalization is best explained by the equity variable, rather than the income variable.

Table 15 shows the coefficients of ROE (or $Nih/(Eh-Nih)$ for E1 and $CIh/(Eh-CIh)$ for E2).

6. CONCLUSIONS

The high value relevance between the stock market capitalization of the listed Italian firms (dependent variables), the equity and the ROE (independent variables) demonstrates the significant role played by net income and equity in accounting for the value of these firms expressed by their equity prices.

The results regarding the first research question, for the whole sample, show an increase of value relevance in the year of transition (2004) to the IAS/IFRS. This coefficient is greater if we consider the net income. Our research confirms conflicting results:

- firstly, even using the Italian accounting principles we get a high value relevance that seems to contradict the criticisms of poor quality made of the financial statements of the companies listed in the pre-transition period;
- in addition, the transition to the IAS/IFRS confirms a further improvement in the value relevance of net income and equity in accounting for the stock market capitalization of the firms considered;
- lastly, the net income is preferable to the comprehensive income. This is surprising since the expected improvement in the quality of the financial statements is indeed connected with the determination not only of the net income but also, through finding the OCIs, of the comprehensive income: the results of this study, on the contrary, show a value relevance, albeit a modest one, with respect to the net income.

Concerning the second research question, comparison between the ante-IAS period (2003-2004) and the IAS period (2005-2008), for the full sample, confirms and reinforces the results that emerge from the transition year:

- the value relevance is confirmed as high for the whole period considered, never falling below 0.83;
- the period of study could be further divided into three parts: the ante-IAS period (2003-2004), the IAS period (2005-2007) of economic growth, the IAS period (2008) with the beginning of the financial crisis. Comparison between the first two periods shows that the improved value relevance is not confined to the year of transition but extends to the whole subsequent three-year period (2005-2007), even if in 2005 the value relevance is slightly lesser than in the ante-IAS period. In 2008, on the contrary, the correlation returns to the levels found for the ante-IAS period (2003-2004) but, in this case, it must be recalled that we are dealing with the year when the global crisis of the financial and economic markets began. Between the end of 2008 and the start of 2009 there were significant falls in equity prices and the relevant stock market capitalizations, which rendered these values very volatile and, at least partly, unreliable since they were the result *inter alia* of downward speculation;
- in confirmation of the results regarding the transition year (2004), even considering a longer period (2005-2008), the value relevance relating to net income and comprehensive income were very similar and exhibit the same trend in time.

Following the initial surprise and, perhaps, owing to their low knowledge of the new income configuration, it is likely that investors failed to appreciate the data contributed by the OCI and did not take account of them in their investment decisions. But this result may also depend on the small difference existing between net income and comprehensive income;

- in the year of transition (2004), the findings for the industrial companies are in line with those referring to the sample as a whole: the post-transition value relevance remains greater than the pre-transition one, and by using the stock market capitalization at 30/04 we get correlations higher than those obtained by using stock market capitalization at 30/06. In the financial companies, on the contrary, the correlation after transition to the IAS/IFRS is higher than the coefficient obtained by using the pre-transition values in the case where the equations are used whose economic values are represented by the net income, whereas it is lower when the values of comprehensive income are used. Here, too, by using the stock market capitalization at 30/04 we find higher correlations than with the equations using the stock market capitalization at 30/06. In the sector (banking and insurance companies) where the IAS/IFRS should have had the most significant impact on the financial statements, the results show a reduction in value relevance in the year of transition;
- comparison between the ante-IAS period (2003-2004), the IAS period with economic growth (2005-2007) and the IAS period at the beginning of the financial crisis (2008) provides the following results:
 - 1) Industrial companies – The results prove to be similar to those referring to the sample as a whole, with a high value relevance for the entire period of study but with an more up-down trend in the period considered. For the two-year ante-IAS period shows correlations higher than those regarding the full sample, and even in the first year of application of the IAS (2005) the correlation is further reduced; it has a significant upward trend in 2006 and 2007, after which it returns to the ante-IAS levels in the year of the onset of the economic crisis (2008); in this case, too, no significant differences appear between net income and comprehensive income;
 - 2) Financial companies – The results are fully in line with the time subdivision of the period of study: the two-year ante-IAS period features high correlation indices, but these are smaller with respect to the IAS period with economic growth in which a rising trend until 2006 was followed, as from 2007, by a reduction in value relevance that, in 2008, falls to 0.795, the lowest of all those found by us in the period considered. In the banks and insurance companies, therefore, the financial crisis has a greater effect on the reduction in value relevance as compared to the other sectors, probably owing to the lesser reliability of the market prices. As in the previous cases, no significant differences appear between net income and comprehensive income.

The results relating to the third research question, partly illustrated in the two previous, are as follows:

- for the sample as a whole, the value relevance of the net income remain substantially higher than comprehensive income in the period 2006-2007, with the exception of 2005;
- the sector results are in line with those referring to the sample as a whole.

This research shows that the IAS/IFRS financial statements have rendered financial statements more useful for investors, even though they may not fully appreciate the information potential stemming from the OCI and the comprehensive income. In addition, the results of the study show that in the first year of the financial crisis (2008) the value relevance figures return to the ante-IAS levels and, at times, to lower levels: the reliability of the stock market capitalizations and the efficiency of the financial markets cannot be taken for granted and significantly influence the value relevance between the variables analyzed.

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