ACCOUNTING RULES AND VALUE RELEVANCE: A NEW PERSPECTIVE FROM THE ITALIAN MARKET

Marco Rotili *, Alessandro Giosi **, Giacomo Ceccobelli ***

* Roma Tre University, Rome, Italy
** Department of Human Sciences, University of 'Libera Università Maria Santissima Assunta - Lumsa', Rome, Italy
*** *Corresponding author,* University of Tor Vergata, Rome, Italy
Contact details: University of Tor Vergata, Via Cracovia 50 – 00133 Rome, Italy

How to cite this paper: Rotili, M., Giosi, A., & Ceccobelli, G. (2019). Accounting rules and value relevance: A new perspective from the Italian market [Special issue]. *Corporate Ownership & Control, 17*(1), pp. 255-263.
http://doi.org/10.22495/cocv17i1siart8

Copyright © 2019 The Authors

This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0).
https://creativecommons.org/licenses/by/4.0/

ISSN Online: 1810-3057
ISSN Print: 1727-9232

Received: 15.10.2019
Accepted: 20.12.2019

JEL Classification: M41, G39
DOI: 10.22495/cocv17i1siart8

Abstract

The purpose of this study is to question the basic assumption of the higher value relevance (meaning its superior ability to represent the value of assets and liabilities) of the International Accounting Standard (IAS-IFRS), as compared to Italian accounting practices. Value relevance refers to the vast literature which investigates if and how financial data includes useful information for investors; in other words, if it represents a robust basis for their investment decisions. Analyzing both Anglo-Saxon and other European countries, the literature shows a heterogeneous scenario and divergent results. Unlike previous studies, this study links market and book values by means of the price to book value ratio, considering a sample of Italian listed companies on the Mercato Telematico Azionario, the main segment of the Italian Stock Exchange. Moreover, to strengthen the empirical results the research takes into account a longer period (1996-2015), bearing in mind the change in Italian accounting practices occurring in 2005 as a result of the adoption of IAS-IFRS. The study is consistent with that part of the literature which argues that the accounting discipline underlying IAS-IFRS shows a discrepancy between its theoretical purpose of expressing the current value of a company and its applicable accounting standards. In this respect, the results obtained are somewhat different from the mainstream view, suggesting that the introduction of the IAS-IFRS does not contribute to reducing the gap between the stock market capitalization and the respective book value of a company. Therefore, the Italian national accounting discipline, based on conservative accounting, quite surprisingly appears more value relevant; in other words, it seems to be more able to capture the business value assumed by investors.

Keywords: Value Relevance, IAS-IFRS, Fair Value Accounting, Italian Accounting Standards, Accounting Conservatism

Authors' individual contribution: Conceptualization – M.R. and G.C.; Methodology – M.R.; Writing – M.R. and G.C.; Funding – A.G.; Supervision – A.G.

1. INTRODUCTION

Italian accounting standards and, more generally, the accounting framework across European countries apart from the United Kingdom have developed in an economic and cultural background influenced by a statutory legal approach. This approach essentially results in a set of creditor-related information; it has the objective of guaranteeing greater disclosure and favors conservative accounting practices based on the principle of cost.

Conversely, the accounting discipline of the Anglo-Saxon model, from which the IAS-IFRS and US-GAAP derive, originates in a common law system; it is oriented to provide information primarily addressed to financial investors in their capacity as shareholders. The literature (Adams, Weetman, & Gray, 1993, 1999; Lionzo, 2005; Andrei, 2006) recognizes that it gives less relevance to the principle of prudence and is more concerned with

depicting the theoretical economic value of a business.

Booth (2003) affirms that these different purposes derive from diverse legal environments. This profile is also stressed by the Financial Accounting Standard Board (FASB), recognizing that the legal framework, as a coherent system of interrelated objectives and fundamentals, influences accounting principles and leads to consistent standards that prescribe the nature, function, and limits of financial accounting and financial statements.

The afore-mentioned different purposes result in specific criteria for assessing different items. In the Italian case, this distinct conceptual apparatus emerged because of the mandatory adoption of IAS-IFRS more than ten years ago required of larger companies.

Against this background, the objective of this research is to analyze whether and how the introduction of the IAS-IFRS has brought greater accounting recognition of assets and liabilities in the Italian scenario, thus relating the configuration of the equity of a company to a proxy of its market value.

In other words, the purpose of this study is to question the basic assumption that the International accounting discipline has an implicit natural ability to represent the theoretical or market value of assets and liabilities.

To this end the research makes a comparison between market values and book values of Italian listed companies on the Mercato Telematico Azionario, the main segment of the Italian Stock Exchange, in a twenty-year period (1996-2015), keeping in mind the key-driver factor related to the change in the accounting discipline occurring from the 2005 financial year.

Divergent evidence from the literature on value relevance, clearly summarized by Devalle (2010), have favored the establishment of a heterogeneous scenario; in order to obtain strong results, differently from the past, this study intends to strengthen its empirical results through the usage of a longer period of observation (1996-2015). In addition, previous literature has studied value relevance by virtue of market price as a dependent variable and the book value as the main regressor; in this respect, this study marks a certain distance adopting the price to book value ratio as value relevance index.

The paper is organized in the following way. Section 2 presents the theoretical background behind the value relevance of accounting standards, both at an international and a domestic level, in order to show a picture of very divergent results. Section 3 explains the methodology – focusing on the reason behind the sample selection and variable definition; descriptive statistics are reported before proceeding with the regression analysis. Finally, Section 4 sets out the conclusions, also focusing on the limitation of the study and some hints for future works.

2. LITERATURE REVIEW

Value relevance refers to the vast body of studies that investigates whether, and if so how, financial statements include information which can be relied on by financial investors to make decisions. This field of research was first considered in the late 60s by Ball and Brown (1968), and Beaver (1968), and then developed in the following decades of the last century.

Interest grew, including among Italian scholars, thanks to the mandatory adoption in the European Union (EU) jurisdictions of the IAS-IFRS accounting discipline. This decision originates from the evolution of the European framework. EU accounting legislation, adopted in the 1970s, provided a base level for harmonization, as regards reporting requirements for limited liability companies. However, it has not been able to deliver sufficient comparability for publicly traded companies.

Indeed the lack of comparability in financial reporting has adverse effects for stakeholders. Adaptation of financial statements to take account of local conventions was understandable when investors and other stakeholders were of the same nationality as the company. However, with the emergence of an integrated financial market, an internationally diverse group of investors often holds the securities of a company.

A new approach was deemed necessary to meet the needs of a fully integrated European capital and financial services market. In fact, investors considered that major companies should be subject to more demanding disclosure requirements and a financial reporting system, able to offer a much higher level of transparency and comparability of company performance.

To support a truly integrated European securities market, listed companies need to prepare and publish their financial statements based on a single set of financial reporting standards.

To pursue this objective, on 13 June 2000 the European Commission published *The EU's Financial Reporting Strategy: The Way Forward*. The Commission proposed that all European Union companies listed on a regulated market should be required to prepare their consolidated accounts in accordance with a single set of accounting standards, namely IAS-IFRS, from 2005 at the latest.

The decision to adopt IAS-IFRS as the accounting standard is included in Regulation (EU) No 1606/2002; following EU legislation, Italy has introduced the obligation to adopt IAS-IFRS for consolidated financial statements, as well as the potential to extend this innovation to individual financial statements. To give effect to this, Legislative Decree no. 38/2005 requires the use of IAS-IFRS in the case of the financial statements of listed companies and banks, and for the consolidated financial statements of insurance companies.

Against this background, there are several contributions, especially since the 90s, which are considered as milestones in understanding whether the IAS-IFRS is actually more value relevant than the accounting disciplines they replaced.

In this respect, in the 90s, Amir, Harris, and Venuti (1993) and Harris, Lang, and Möller (1994) have empirically verified that US-GAAP provided more value relevant information to investors than German accounting standards. Later, Harris and Möller (1999) introduced a comparison between US-GAAP and IAS-IFRS: collecting data of IAS-adopter companies from thirteen different countries. They demonstrated that the international accounting

discipline depicts a company's equity closer to its market value.

More recently, Bartov, Goldberg, and Kim (2005), analyzing the same kind of sample, showed a greater aptitude for the representation of business value by non-domestic principles (i.e. US-GAAP and IAS-IFRS), with no significant difference between the two accounting standards.

Following this last study, Ampofo and Sellani (2005) highlighted that IAS and US GAAP are more similar than dissimilar, and the movement toward harmonization is bringing them closer since they are not static, but represent a body of accounting knowledge growing in response to business needs. However, harmonization is not a straightforward process, as recognized by the authors, who develop several country-specific references to demonstrate the difficulty of achieving this purpose.

With reference to the Scandinavian countries, the literature essentially identifies an intermediate position between the neo-Latin and the Anglo-Saxon accounting cultures respectively, aimed at safeguarding capital and applying the principle of prudence, and protecting the investor, by representing the true market value of the company. In this respect, Niskanen, Kinnunen, and Kasanen (2000) and Gjerde, Knivsflå, and Saettem (2008) show that the introduction of international accounting standards has not increased the recognition of market value.

Further, in the same period, studies in the German market offer a valuable contribution to value relevance, it being the largest economy in the category of countries referable to the continental group. Analyzing a sample of listed companies on the Frankfurt Stock Exchange, Schiebel (2007) has unexpectedly evidenced that the accounting data prepared according to the German-GAAP were more value relevant than those prepared in accordance with the IAS-IFRS.

In addition, Ernstberger (2009) compares the value relevance of IFRS, US GAAP and German GAAP using a sample of all listed firms in Germany voluntarily under IFRS or US GAAP. The results of the study suggest that IFRS accounting produces more value relevant data than German and US GAAP. However, the differences in the value relevance of the accounting systems are lower than expected. The same evidence is derived from Moya and Oliveras (2006), recognizing that the financial impact of initial IFRS adoption on the statement of changes in equity and the income statement of German companies was significant.

In a group of countries similar to Italy and Germany, whose accounting culture focuses on the perspective of protecting third parties, other research showed the increased value relevance stemming from the adoption of IAS-IFRS. Cormier Demaria, and Lapointe-Antunes (2009), Iatridis and Rouvolis (2010) derive their evidence from a set of French and Greek companies, while Barth, Landsman, & Lang (2008) analyze the effects of the transition to IAS-IFRS using a sample of companies belonging to 21 different countries which have voluntarily adopted international accounting standards.

However, once again, these results have been contradicted by similar research conducted by Italian scholars; Devalle, Onali, and Magarini (2010) compare a similar sample of companies referring to a three-year period 2002-2004 (with domestic accounting principles) and the following triennium 2005-2007 (i.e. after the introduction of IAS-IFRS). Contrary to expectations, the study shows that value relevance increased in the second period only in Germany, France and the United Kingdom, and opposite results came from Italy and Spain.

This picture of very divergent results summarized by Devalle (2010) highlights that the transition to IAS-IFRS, from the perspective of increasing the importance of accounting data for investors, has produced consequences which are not exactly in line with expectations.

More recently, Coluccia (2017) investigated value relevance referring to intangible assets in the Italian context: the analysis considers a sample of industrial companies listed on the Stock Exchange for the period 2000-2004 (IAS pre-adoption) and 2006-2010 (after IAS-adoption) and shows conflicting results. In short, intangible assets would be value relevant using both local and international regulations. The study highlights that intangible assets would seem to be more value relevant under the international discipline considering R-squared coefficients, while results based on the coefficients of regression may lead to opposite conclusions.

Developing a thesis stemming from these studies, the space for our contribution primarily derives from the strong dissonance of the results achieved. Starting from this scenario of divergent results, in order to strengthen the empirical results the research takes into account a longer period compared to previous literature (1996-2015), bearing in mind the change in Italian accounting discipline occurring in 2005 through the adoption of IAS-IFRS.

These considerations lead to our research question: *Which accounting discipline, IAS-IFRS or Italian accounting standards, is more value relevant, i.e. more able to capture and identify the different components of the value of a company?*

3. RESEARCH METHODOLOGY

3.1. Sample selection and variables definition

Previous literature has essentially studied value relevance by virtue of market price as a dependent variable, while the book value is depicted as the main regressor. Conversely, this study adopts as a value relevance index the price to book value ratio (P/BV). This variable directly relates to the market value of a company with its accounting representation.

The dependent variable P/BV provides a representation of the relationship between market and book values of the company and gives an opportunity to understand the perception of the company's value by investors compared to accounting value. However, the ratio has an implicit limit since it compares a purely accounting measure (BV) with a typical market indicator (P) which includes market imperfections, among other speculative factors, different contractual powers, information asymmetries, minority discounts, and control premiums.

The analysis refers to a twenty-year time period (1996-2015) and the sample consists of Italian listed companies. Thus, the P/BV ratio provides information on the value relevance of the accounting discipline progressively in force in Italy, as it

includes an index denominator (BV) initially calculated according to Italian accounting standards (financial years 1996-2004), then on the basis of IAS-IFRS accounting rules (financial years 2005-2015).

In order to define a suitable statistical sample, we refer to all the companies listed on the Mercato Telematico Azionario (MTA), the main segment of the Italian Stock Exchange. We choose the Italian market because it is representative of the neo-Latin accounting culture, before the introduction of the IAS-IFRS. As mentioned the accounting culture of the neo-Latin countries, and in particular of the continental Europe (France, Germany and, of course, Italy), is based on the "principle of prudence", which allows to protect the third part of the company (in particular lenders), through a prudent representation of income flows and asset stocks. These accounting systems represent assets at their historical cost, applying depreciation and amortization based on the recoverable value, and not allowing, except in special cases, the revaluation of the asset according to their market value. The Italian market in this sense is very interesting because it was initially characterized by the application of a highly prudent accounting culture but, at the same time, the Legislative Decree 38/2005 has introduced IAS/IFRS – based on an accounting culture less prudent and, at least apparently, more attentive to representing the market value of the assets – in a very extensive way (to all listed companies, but also to unlisted banks and to the insurance groups[1]). Finally, we specify that the Italian financial sector was already characterized by a "special regulation" (l.d. 87/1992) which already provided, after 2005, for the market evaluation of some balance sheet items; anyway, this special regulation did not have any significant effects on our research.

The MTA is the leading Italian Equity Market dedicated to mid and large size companies and is a regulated market subject to stringent requirements in line with the expectations of professional and private investors. Within the MTA market, the STAR segment includes mid-cap companies that voluntarily comply with specific standards of liquidity, information transparency, and corporate governance.

We assess the relevance of the change of accounting discipline by companies listed in the MTA in 2005, considering a 10-year period before from 1995 to 2005 under Italian accounting discipline and the same period from the adoption of IAS-IFRS.

For the sake of clarity, regarding separate financial statements, Legislative Decree 38/2005 provided for the entry into force of the IAS-IFRS on 31.12.2006. However, since the listed companies mostly belong to consolidated groups, and the individual companies have the right to adopt the IAS-IFRS sheet as at 31.12.2005, this last exercise has been considered sensitive to the change in the accounting discipline.

The number of listed companies has constantly increased during the observation period: in this respect, we have selected all the companies quoted on the Italian stock exchange during the selected period. In this way, we have obtained an unbalanced sample of about 1,076 companies, listed between 1996 and 2015, each one with one observation for every year of membership of the stock exchange. The number of companies is well above that currently listed on the MTA (242 as of end 2018) due to numerous mergers and acquisitions, as well as changes of a company name. In summary, we have a total of over 4,000 year-observations.

The number of observations derives from the product of the time period and the number of listed companies, subtracting missing data, i.e. observations corresponding to the years when a certain company was unlisted. As mentioned previously, there are many missing data concentrated in the early years of the historical series (many companies were listed, for example, since the early 2000s). Data are from DataStream; the empirical model runs using Stata.

Several variables are associated as regressors to P/BV: in order not to lose statistical significance, we do not use average data and we have extended the sample assuming as significant every variable available for every single company listed on the Italian Stock Exchange.

A crucial part of the analysis is the selection of the independent variables, according to the need to describe the following profiles:

- Impact of the introduction of IAS-IFRS. As dummy variable (IFRS), it assumes the value of 0 and 1 in the case of financial years, respectively, under Italian accounting discipline (1996-2004) and IAS-IFRS (2005-2015). This is the independent variable representative of the phenomenon under investigation;
- Size and company financial performance and structure. In this respect, we use the price to earnings ratio (P/E), the leverage (LEV), the ROA (ROA) and the total assets logarithm (ASSETS). We consider the total assets logarithm in order to reduce its value compared to the other variables;
- Macroeconomic trend during the observation period. The related variables are GDP trend (ΔGDP), the level of unemployment (UNE) and the general government deficit to GDP ratio (DEF/GDP);
- Control variable related to the specific industry in which the sampled companies operate (INDUSTRY). Using DataStream, the different industries have been selected from the "US-standard industry classification", and then associated with each company.

We avoid redundant conceptual contents, such as inflation, generally strictly related to the GDP trend, or the different configurations of GDP itself, related to one another.

Furthermore, all the literature referred to has been reviewed to understand which company variables could influence the study of the dependent variable (P/BV): for instance, we have decided to include financial structure indicators (i.e. LEV and ASSETS) and profitability indicators (e.g. ROA). ROE is excluded since a more or less high frequency of negative profitability values would have "twisted" the model. Finally, we have decided to control the equation for the P/E as well, as a financial market index with information similar to P/BV.

[1] Recently the "Stability Law" for 2019 provided for the application on an optional basis of the international accounting standards for unlisted companies previously included in the scope of mandatory application of IAS/IFRS. Anyway, this law is not relevant for this paper because, as we will see later, we consider historical data series up to 2015.

As to the econometric methodology used for the regression analysis, we use an ordinary least squares model, consisting of the linear interpolation of a certain number of independent variables with a dependent variable. The coefficient related to each dependent variable represents its change based on a unitary change of the independent variable. Below the empirical model to test:

$$P/BV_{it} = \beta_0 + \beta_1 IFRS_{i,t} + \beta_2 P/E_{i,t} + \beta_3 LEV_{i,t} + \beta_4 ROA_{i,t} + \beta_5 ASSETS_{i,t} + \beta_6 GDP_{i,t} + \beta_7 UNE_{i,t} + \beta_8 DEF/GDP_{i,t} + \beta_9 Industry_{i,t} + \varepsilon_{i,t} \quad (1)$$

3.2. Descriptive statistics

Before proceeding with the regression analysis, we report below some descriptive statistics of the relationships between the analyzed variables. To create a better understanding of the data, Table 1 and the following graph focus on the P/BV considering its yearly value for the whole sample of companies, thereafter by distinguishing in terms of economic sector (industrial, banking, insurance); also analyzed is its correlation with relevant macroeconomic variables included in the regression model.

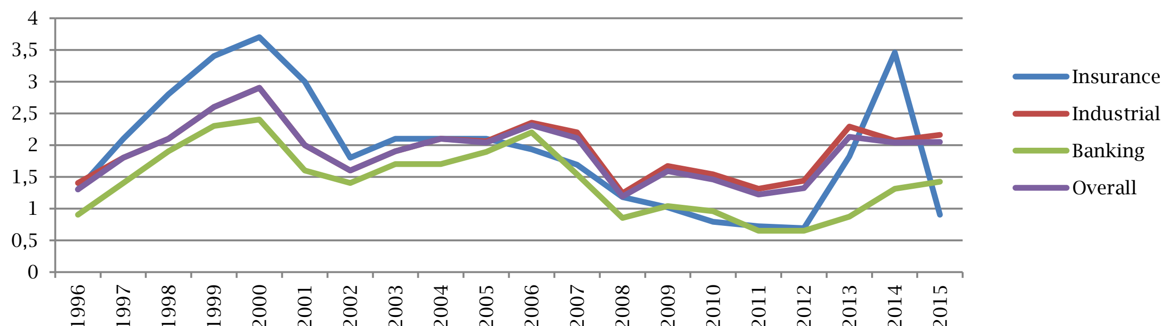
The overall mean P/BV is 1.9, the same level expressed in the industrial and insurance sectors, conversely, it is lower in the banking industry (1.4): this means that the mean price referring to the whole sample has been constantly higher than book value during the entire period. We do observe some exceptions, regarding banking and insurance only, from 2008 to 2014.

As to the correlation coefficients, we focus on the strength and direction of the association between P/BV and ΔGDP and DEF/GDP. The results show that, on average, P/BV correlates positively with both independent variables. The strongest correlation is observed between P/BV and DEF/GDP (0.56); the relationship is weaker in the financial sector (banking and insurance) compared to industrial. As regards ΔGDP, the coefficient associated is also positive but weaker (0.35): this could mean that the growth of the economy is reflected, on average, in a firm's market value.

Table 1. Descriptive statistics

Year	*Price to book value ratio – Mean values*			
	Whole sample	*Industrial*	*Insurance*	*Banking*
1996	1.3	1.4	1.3	0.9
1997	1.8	1.8	2.1	1.4
1998	2.1	2.1	2.8	1.9
1999	2.6	2.6	3.4	2.3
2000	2.9	2.9	3.7	2.4
2001	2	2	3	1.6
2002	1.6	1.6	1.8	1.4
2003	1.9	1.9	2.1	1.7
2004	2.1	2.1	2.1	1.7
2005	2.04	2.06	2.1	1.89
2006	2.31	2.35	1.93	2.2
2007	2.11	2.2	1.69	1.54
2008	1.19	1.24	1.18	0.85
2009	1.59	1.67	1.02	1.04
2010	1.46	1.54	0.79	0.96
2011	1.22	1.31	0.72	0.65
2012	1.32	1.44	0.69	0.65
2013	2.13	2.29	1.82	0.87
2014	2.04	2.07	3.46	1.31
2015	2.05	2.16	0.9	1.42
Mean	1.9	1.9	1.9	1.4
Min	1.22	1.24	0.69	0.65
Max	2.9	2.9	3.7	2.4
Correlation coefficients:				
- P/BV and ΔGDP	0.35	0.3	0.45	0.56
- P/BV and DEF/GDP	0.56	0.56	0.43	0.42

Source: compiled by the authors



3.3. Empirical results

Table 2 details the summary results of the first stage of the regression analysis. The quality of statistics obtained from the model is reasonable: the adjusted R-squared is about 84%, showing an adequate level, while the Fisher test is significant at 1% level (0.0015). Thus, our regression model may represent a good approximation of the phenomenon under investigation.

As to the research question investigated, P/BV is positively associated with IFRS with a coefficient of 74.1 and significant at 5% level. The analysis of β coefficients associated with IFRS gives us quite surprising results: the introduction of the IAS-IFRS would have had a positive and significant impact on the P/BV on the observed sample.

According to the results, it seems reasonable to argue that the introduction of the international accounting discipline would have led to the configuration of book values more distant, compared to the Italian accounting discipline, from the values of the companies quoted on the market. In other words, the international accounting framework would be less value-relevant compared to our traditional accounting discipline: regarding the difference between prices and book values, which theoretically the IAS-IFRS framework is intended to limit, we do observe that its introduction contributes to signal a difference between the stock market capitalization and the respective book values.

Furthermore, P/BV is positively associated with P/E with a coefficient of 7.7. This means that upward (downward) movements in P/E are accompanied by upward (downward) movements in P/BV and vice versa; it is significant at the 1% level. In addition, the other company variables considered (LEV and ROA) do not show a significant relation with the dependent variable.

We have looked more closely at the impact of the introduction of IAS-IFRS on P/BV, by also taking into account whether macro-economic bias which occurred during the last economic crisis influenced the results. According to the empirical results, the growth of the GDP at current prices (ΔGDP) positively influences the P/BV but the association is non-statistically significant at the ordinary confidence level; in other words, the positive relationship between the two variables is too weak to assume an independent significance.

As to the other macroeconomic variables, DEF/GDP is the "inverse function" of P/BV and assumes statistical significance. Industry control variable shows a significant relationship between the size of the company (representing by ASSETS) and our reference index: the higher the total assets, the higher the ratio P/BV.

Table 2. Test of value relevance during the period 1996-2015 of Italian listed companies

Explanatory variables	*Coefficient*	*t-Value*	*P>|t|*	*Std. Error*	*VIF*	*1/VIF*
IFRS	74.1460 **	2.26	0.024	32.7763	2.26	0.44
P/E	7.7089 ***	6.10	0.000	1.2627	1.01	0.98
LEV	-128.537	-1.50	0.134	85.8486	1.25	0.79
ROA	345.8322	1.56	0.118	221.3217	1.21	0.82
ASSETS	11.7513 *	1.86	0.062	6.3027	1.42	0.70
ΔGDP	7.9879	1.28	0.202	6.2637	1.98	0.50
UNE	5.21394	1.04	0.298	5.0117	1.28	0.78
DEF/GDP	-23.1912 ***	-3.43	0.001	6.7638	1.02	0.98
Industry						
1	1091.832**	2.35	0.019	464.6325	8.20	0.12
2	870.3145*	1.91	0.056	455.7336	29.98	0.03
3	1036.675**	2.25	0.024	460.7345	49.28	0.02
4	1036.426**	2.25	0.025	461.0041	33.46	0.02
5	1014.92**	2.21	0.027	460.0565	9.81	0.10
6	994.4185**	2.16	0.031	460.309	45.53	0.02
7	1004.702**	2.17	0.030	462.5031	15.74	0.06
8	789.0237	1.55	0.122	509.7669	1.95	0.51
Adjusted R^2	0.84					
F-test	2.39**					
# of obs.						

*Source: compiled by the authors; ***, **, and * represent significance at the 1%. 5% and 10% level respectively.*

In order to strengthen the evidence, we have stressed the model. In this scenario, we have therefore dropped potentially distorting factors, making it possible to observe the statistical relationship between P/BV and the introduction of the IAS-IFRS.

In detail, starting from the Gauss-Markow Theorem, we have verified the absence of perfect collinearity and. as a further and consequent step, studied the level of multi-collinearity. We intend to prevent the regressors of our expression from being the linear combination of one another. This is because the macro-economic indicators certainly have high levels of correlation between them; in addition, we have calculated the variance inflation factor (VIF).

The results show that Industry, i.e. the one that reflects the association between the companies' P/BV and the industry in which they operate, has very high multi-collinearity indicators, thus they could significantly affect the stability of β coefficient.

The analysis has then been repeated dropping this kind of variable. Table 3 details the results. They lead us to a similar conclusion: the introduction of the IAS-IFRS would have significantly and positively influenced the P/BV. In this respect, it is responsible for the existence of a differential between prices and book values of companies.

VIF levels do not seem very significant since their amount is slightly above the unit (average VIF equal to 1.37). In fact, in the literature, there is not a threshold considered effectively a risk as regards multi-collinearity. However, a level below 10 is generally accepted, indicating a level of linear combination between the variables below the attention threshold.

Table 3. Test of value relevance during the period 1996-2015 of Italian listed companies (dropping Industry)

Explanatory variables	*Coefficient*	*t-Value*	*P>|t|*	*Std. Error*	*VIF*	*1/VIF*
IFRS	76.0347**	2.34	0.020	32.5589	2.24	0.44
P/E	7.6895***	-1.24	0.000	1.2764	1.00	0.99
LEV	-105.3114	1.79	0.217	85.2273	1.22	0.82
ROA	398.8166*	1.79	0.073	222.5083	1.16	0.85
ASSETS	16.8886***	2.97	0.003	5.6932	1.06	0.94
ΔGDP	6.4468	1.05	0.296	6.1623	1.98	0.50
UNE	5.2584	1.04	0.297	5.0389	1.27	0.78
DEF/GDP	-22.7290***	-3.38	0.001	6.7226	1.02	0.98
Adjusted R^2	0.82					
# of obs.	4,160					

*Source: compiled by the authors; ***, **, and * represent significance at 1%. 5% and 10% level, respectively.*

Once the hypothesis of the absence of multicollinearity is verified, the statistical results can be considered completely stable. Before proceeding in this direction, however, a further and final significance check has been done. The presence of regressors that, although non-collinear, have an excessively high p-value, could, in turn, affect the analysis carried out (making the beta factors unsound).

To avoid this additional issue, we have run the regression analysis again, deleting all the non-significant variables. We took the following steps: at first keeping IFRS, P/E, ASSETS, DEF/GDP and ΔGDP; then the analysis has been repeated dropping ΔGDP (due to its low significance) so that the remaining regressors were IFRS, P/E, ASSETS and DEF/GDP. Table 4 and Table 5 detail the results.

Table 4. Test of value relevance during the period 1996-2015 of Italian listed companies (dropping Industry, LEV, ROA and UNE)

Explanatory variables	*Coefficient*	*t-Value*	*P>|t|*	*Std. Error*
IFRS	68.1806**	2.47	0.013	27.5853
P/E	7.5979***	5.68	0.000	7.5979
ASSETS	12.3931***	2.69	0.007	4.6003
ΔGDP	5.0861	0.84	0.403	6.0869
DEF/GDP	-25.5891**	-3.30	0.001	7.7549
Adjusted R^2	0.82			
F-test	6.55***			
# of obs.	4,160			

*Source: compiled by the author; ***, **, and * represent significance at the 1%, 5% and 10% level, respectively.*

Table 5. Test of value relevance during the period 1996-2015 of Italian listed companies (dropping Industry, LEV, ROA, UNE and GDP)

Explanatory variables	*Coefficient*	*t-Value*	*P>|t|*	*Std. Error*
IFRS	53.5703**	2.346	0.018	22.7262
P/E	7.5977***	5.68	0.000	1.3365
ASSETS	12.3825***	2.69	0.007	4.6023
DEF/GDP	-24.8152***	-3.17	0.002	7.8358
Adjusted R^2	0.82			
F-test	8.17***			
# of obs.	4,160			

*Source: compiled by the authors; ***, **, and * represent significance at the 1%, 5% and 10% level, respectively.*

Taking into account the β coefficients, we can see a substantial similarity between these last results and those already highlighted in Tables 2 and 3; once again, we see the presence of a positive and significant relationship between the performance of the P/BV and IFRS.

Considering the strong dissonance of previous literature, the study does not qualify an expected relationship in terms of more value relevance between IAS-IFRS and Italian accounting standards. The study is in the part of literature supporting a greater aptitude for the representation of business value by domestic principles (Niskanen et al., 2000; Gjerde et al., 2008; Schiebel, 2007). In particular, it confirms evidence derived from Devalle (2010) in the Italian market: the results are in the perspective that Italian accounting standards increase the importance of financial figures for investors since they are more able to capture and identify the different components of the value of a company.

4. CONCLUSION

The purpose of this study is to question the basic assumption of the higher value relevance of the IAS-IFRS when compared to the Italian accounting discipline, meaning its ability to better represent the market value of assets and liabilities. In other words, this study investigates the research question of what impact the adoption of IFRS has had on the value relevance of Italian companies' financial statements. Using a large sample of all listed firms in Italy in the period of 1996 to 2015, we analyze the value relevance of accounting data prepared under IFRS and compare it with the value relevance of accounting data prepared under the Italian accounting system.

The results obtained from the research are somewhat different when compared to similar previous studies. We observe that the introduction of IAS-IFRS contributes to the existence of a difference between stock market capitalization and corresponding book values.

Therefore, according to the evidence from the model, the introduction of the IAS-IFRS would have increased the value of stock market capitalization (P) compared to book values (BV), contributing, at least in Italy, to the existence of a differential of unrecognized value.

In other words, the evidence would contradict some theoretical assumptions and would support the following thesis (from which we would then deduce the answer to our research question):

- the accounting discipline underlying international standards (IAS-IFRS) – although created with the aim of providing the main "information protection" to the investor (in its role as capital provider), and based on the exposure of accounting values at fair value - demonstrates a certain gap between their theoretical purpose and application in practice (i.e. between the information protection needs of the investor and the "tool" adopted, the latter being able to expose "current values"" only in some residual cases);
- in the light of the previous point, the national (Italian) accounting discipline would be, against theoretical expectations, more "value relevant", meaning that it is better able to capture in the financial figures required by law the overall "business value".

With regard to international accounting standards IAS-IFRS, on the one hand, they have the aim of prioritizing the "informative need" of the investor, while on the other they formalize accounting tools that do not allow the more traditional principle of administrative prudence to be disregarded, and thus are not so far removed from the previous accounting discipline in force in Italy (IT-GAAP).

What really emerges is the incomplete ability of the IAS-IFRS to represent in the financial statements the value of the various items; in addition, it is clear that any accounting regulations, apart from their declared purposes, in practice produce more conservative results in order to avoid duplication and overestimation of values.

Taking into account evidence stemming from previous studies the significance of our contribution arises firstly from the strong dissonance with the previous results achieved. It also takes into account a longer period (1996-2015), bearing in mind the change in Italian accounting discipline occurring in 2005 through the adoption of IAS-IFRS.

The findings have potential implications for standard setters since they show that the accounting discipline underlying IAS-IFRS displays a certain gap between their theoretical purposes of expressing the current value of a company and its applicable accounting standards.

There are several limitations to this study. Firstly, the analysis could be biased by the sample defined consisting of companies applying a specific accounting system; the study focuses only on Italian firms which mitigate the generalization of the results to other countries, especially to those with a different institutional setting. Indeed, the research could address further studies in this field in order to corroborate our evidence. It could be useful to extend the analysis on a worldwide basis, taking into account other countries under IAS-IFRS.

REFERENCES

1. Adams, C. A., Weetman, P., & Gray, S. J. (1993). Reconciling national to International Accounting Standards: Lessons from a study of Finnish corporate reports. *The European Accounting Review, 2*(3), 471-494. https://doi.org/10.1080/09638189300000048
2. Adams, C, A., Weetman, P., & 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, 8*(1), 1-22. ttps://doi.org/10.1080/096381899336122
3. Amir, E., Harris, T., & Venuti, E. K. (1993). A comparison of the value-relevance of US versus non-US GAAP accounting measures using form 20-F reconciliations. *Journal of Accounting Research, 31*. 230-264. https://doi.org/10.2307/2491172
4. Ampofo, A. & Sellani, R. (2005). Examining the differences between United States Generally Accepted Accounting Principles (U.S. GAAP) and International Accounting Standards (IAS): Implications for the harmonization of accounting standards. *Accounting Forum, 29*(2), 219-231. https://doi.org/10.1016/j.accfor.2004.11.002
5. Andrei, P. (2006). *L'adozione degli IAS/IFRS in Italia: Impatti contabili e profili gestionali.* Giappichelli.
6. Ball, R. & Brown, P. (1968). An empirical evaluation of accounting income numbers. *Journal of Accounting Research, 6*(2), 159-178. https://doi.org/10.2307/2490232
7. Barth, M. E., Beaver, W. H., & Landsmann, W. R. (2001). The relevance of the value relevance literature for financial accounting standard setting: Another view. *Journal of Accounting and Economics, 31*(1-3), 77-104. https://doi.org/10.1016/S0165-4101(01)00019-2
8. Barth, M. E., & Clinch, G. (1998). Revalued financial, tangible, and intangible assets: Associations with share prices and non-market-based value estimates. *Journal of Accounting Research, 36,* 199-233. https://doi.org/10.2307/2491314
9. Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International accounting standards and accounting quality. *Journal of Accounting Research, 46*(3), 467-498. https://doi.org/10.1111/j.1475-679X.2008.00287.x
10. Bartov, E., Goldberg, S. R., & Kim, M. (2005). Comparative value relevance among German, US, and international accounting standards: A German stock market perspective. *Journal of Accounting. Auditing & Finance, 20*(2), 95-119. https://doi.org/10.1177/0148558X0502000201
11. Beaver, W. H. (1968). The information content of annual earnings announcements: Empirical research in accounting selected studies. *Journal of Accounting Research, 6,* 67-92. https://doi.org/10.2307/2490070
12. Booth, B. (2003). The conceptual framework as a coherent system for the development of accounting standards. *Abacus, 39*(3), 310-324. https://doi.org/10.1111/j.1467-6281.2003.00135.x
13. Collins, D. W., Maydew, E. L., & Weiss, I. S. (1997). Changes in the value-relevance of earnings and book values over the past forty years. *Journal of Accounting and Economics, 24*(1), 39-67. https://doi.org/10.1016/S0165-4101(97)00015-3
14. Coluccia, D. (2017). *Le attività immateriali. Disciplina contabile, disclosure e value relevance.* Giappichelli.

15. Cormier, D., Demaria, S., Lapointe-Antunes, P., & Teller, R. (2009). First-time adoption of IFRS, managerial incentives, and value-relevance: Some French evidence. *Journal of International Accounting Research, 8*(2), 1-22. https://doi.org/10.2308/jiar.2009.8.2.1
16. Czarnitzki, D., Bronwyn H. H., & Oriani, R. (2006). The market valuation of knowledge assets in US and European firms. *The Management of Intellectual Property,* 111-131. Retrieved from https://pdfs.semanticscholar.org/17b6/fe3c2e10df070eb2099c694310e852e68b9c.pdf
17. Devalle, A., Onali, E. & Magarini, R. (2010). Assessing the value relevance of accounting data after the introduction of IFRS in Europe. *Journal of International Financial Management & Accounting, 21*(2), 85-119. https://doi.org/10.1111/j.1467-646X.2010.01037.x
18. Devalle, A. (2010). *Misurazione della performance nel bilancio IFRS: Comprehensive income, dibattito internazionale e value relevance.* New Jersey, USA: Pearson Prentice Hall.
19. European Commission. (2000, June 13). *The EU's financial reporting strategy: The way forward.* Retrieved from https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A52000DC0359
20. Eccles, R. G., & Keagan, E. M. (2002). *The value reporting revolution.* New York, USA: Wiley.
21. Ernstberger, J. (2009). The value relevance of accounting data according to IFRS and us GAAP: The case of Germany. *Corporate Ownership & Control, 6*(3-1), 177-195. https://doi.org/10.22495/cocv6i3c1p2
22. Gallego, I., & Rodríguez, L. (2005). Situation of intangible assets in Spanish firms: An empirical analysis. *Journal of Intellectual Capital, 6*(1), 105-126. https://doi.org/10.1108/14691930510574690
23. Gjerde, Ø., Knivsflå, K., & Saettem, F. (2008). The value-relevance of adopting IFRS: Evidence from 145 NGAAP restatements. *Journal of International Accounting, Auditing and Taxation, 17*(2), 92-112. https://doi.org/10.1016/j.intaccaudtax.2008.07.001
24. Harris, T., Lang, M., & Möller, H. P. (1994). The value relevance of German accounting measures: An empirical analysis. *Journal of Accounting Research, 32*(2), 187-209. https://doi.org/10.2307/2491281
25. Harris, S., & Möller, A. (1999). The market valuation of IAS versus US-GAAP accounting measures using form 20-F reconciliations. *Journal of Accounting and Economics, 26*(1-3), 285-312. https://doi.org/10.1016/S0165-4101(99)00003-8
26. Holthausen, R. W., & Watts R. L. (2001). The relevance of the value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics, 31*(1-3), 3-75. https://doi.org/10.1016/S0165-4101(01)00029-5
27. Iatridis, G., & Rouvolis, S. (2010). The post-adoption effects of the implementation of International Financial Reporting Standards in Greece. *Journal of International Accounting. Auditing and Taxation*, *19*(1), 55-65. https://doi.org/10.1016/j.intaccaudtax.2009.12.004
28. Lionzo, A. (2005*). Il sistema dei valori di bilancio nella prospettiva dei principi contabili internazionali.* Franco Angeli.
29. Marchi, L., & Potito, L. (2012). *L'impatto dell'adozione degli IAS/IFRS sui bilanci delle imprese italiane quotate.* Franco Angeli.
30. Mechelli, A. (2009). *L'adozione dei principi contabili internazionali in Italia: Profili teorici ed evidenze empiriche.* Rirea.
31. Mechelli, A. (2013). *La value relevance del bilancio di esercizio: Modelli, metodologie di ricerca ed evidenze empiriche.* Giappichelli.
32. Moya, S., & Oliveras, E. (2006).Voluntary adoption of IFRS in Germany: A regulatory impact study. *Corporate Ownership & Control, 3*(3), 138-147. https://doi.org/10.22495/cocv3i3p11
33. Niskanen, J., Kinnunen, J., & Kasanen, E. (2000). The value relevance of IAS reconciliation components: Empirical evidence from Finland. *Journal of Accounting and Public Policy, 19*(2), 119-137. https://doi.org/10.1016/S0278-4254(00)00002-8
34. Panno, A. (2011). *Intangible Assets. Profili economici ed aspetti valutativi.* Giappichelli.
35. Pizzo, M. (2006). *L'adozione degli IAS-IFRS in Italia. Fair value.* Turin, Italy: Giappichelli.
36. Powell, S. (2003). Accounting for intangible assets: Current requirements, key players and future directions. *European Accounting Review, 12*(4), 797-811. https://doi.org/10.1080/09638180310001628473
37. Pozzoli, M., Romano, R., & Romolini, A. (2011). Measurement and impairment of intangible assets in the Italian Stock Exchange. *Economia Aziendale Online, 2*(1), 65-73. Retrieved from https://pdfs.semanticscholar.org/b17c/3aeee01fc20791e71f6bc127fe2b2c383cad.pdf
38. Schiebel, A. (2007). Empirical value relevance on German GAAP and IFRS. *Journal of Economic and Financial Sciences, 1*(2), 141-170. https://doi.org/10.4102/jef.v1i2.365