

THE VALUE RELEVANCE OF FINANCIAL INFORMATION IN TROUBLED WATERS. THE EVIDENCE OF ITALIAN CONTEXT

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Abstract

Stemming from value relevance research, this study investigates the ability of accounting and financial data to provide useful information about the economic value of the firm in trouble waters. Because the firm is at the center of a network of interests of many stakeholders, that put some expectations on it, the investors requires useful financial statements information in order to take rational investment decisions about financial instruments, such as equity and corporate debts. Academic literature define value relevant the accounting information able to change the expectations but also to induce a change in the behavior of the decision makers. To ensure that the accounting information reported in the financial statements are value relevant they need to be related to the company current value. The aim of this research is to study the usefulness of accounting information perceived by investors and to understand the process of allocation of resources in the capital market in trouble waters.

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1 Literature review

Value Relevance studies belong to the broader field called Capital-Market-Based Accounting (CMBAR), that start with the pioneering studies dating back to the 60s of Ball and Brown (1968) and Beaver (1968).

According to the clearly established academic literature, the value relevance analysis is purely focused on the link between accounting values and stock market prices. The value relevance studies are based on the assumption of capital market efficiency, that is the capacity of capital market to react to the new information on the company financial performance. In Beaver opinion (1968), the value relevance is the explication power of accounting data in accordance with the specifications in the stock price, while in Hellstrom one (2005), it is the peculiar ability of the financial statements to capture or summarize information about the value of equity securities. As a consequence, the degree of association between financial information and equity market value could be interpreted as an indicator of the relevance of

financial statements information on the formation of the company's market value.

According to Ball and Brown (1968), the utility of net income must be assessed by examining the information content. Their analysis considers the net income as relevant information and suggests using its relationship with stock returns as a predictive criterion of its information's utility. A change in market value associated with a new communication of net income as index of financial information would provide evidence of its utility.

Beaver (1968) focused on information relevance of net income at the moment of announcement of the financial statements. The aim of the analysis was to measure empirically the perception of investors in informative value at announcement of financial results. Beaver found the empirical evidence about the increase obtained from both the trading volume and the volatility of earnings. Beaver concluded that net income was "relevant value": the announcement of the financial results affected the trend of both, the volume and the price of the ordinary shares in the week after publication.

However, recent empirical studies suggest deterioration in the ability of the profits to be value relevant, as pointed out by Collins, Maydew and Weiss (1997), and by Levers and Zarowin (1999). The literature debate was born in order to explain the loss of value relevance over time. Collins et al. (1997) identify numerous external factors that may have contributed to the change of the estimation power of value relevance. In particular, they refer to the companies increase in the technology and services field that resulted in an increase of its intangible assets, present in the firm and not accounted for in their financial statements; the lower persistence of earnings due to special components; the increase in the number of losses reported by companies which may result in a decreased ability of earnings to predict future returns (Hayn, 1995).

In summary, the literature does not agree on the value relevance of earnings, arriving to conflicting empirical results. The debate refers to the inability of net income to report a significantly stable relationship with market prices and return in the long run and to present similar significance of the correlations tested in different countries on the same variables. Despite net income determines an impacts on financial market at the moment of announcement, this information does not seem to generically useful to explain the company's value over time. This possibility can be considered only by recognizing a continuous misalignment between accounting data and market data, as a logical consequence of the presence of accounting policies inspired by conservatism, and even not neglecting any specific legal accounting characteristics of each country.

Stemming from this controversial debate, our analysis aims at verifying and assessing how and how much financial performance affects market performance of listed companies during the financial crisis through the empirical analysis of the Italian listed companies, with the reference to the industrial sector. In particular, we investigate if the financial crisis has revealed additional and alternative (other than those already found in the literature) financial factors that can explain the listed companies shares value in the case of Italian listed companies. We expected that the financial crisis has determined a change in the investment behavior of stakeholders, changing their time horizon of interest. In according of this expectation, we formulate the following hypothesis for the Italian listed companies:

H1: In the financial statements of industrial companies the value relevance of net income is higher than that of book value per share (Ohlson model)

H2: In the financial statements of industrial companies the value relevance of short time variables, as dividend yield is higher than that of long time variables, as leverage (our model)

Our model aims to reconstruct the evolution of the average market price on the basis of the identification of endogenous variables: the objective

of the study is to verify whether these variables are able to assess the impact of corporate financial performance's trend on the share price's trend. In addition, the correlation analysis between the market price and the company's financial performance has been enhanced by the introduction of exogenous variables that can explain the financial crisis' impact on the changes in the share price and, as a consequence, on the financial performance of the companies. We compared the trend of the single company performance with the performance of their specific sectors, which by definition are affected by the recessive crisis.

2 Data sample and data collection

To build a consistent model, we considered the Italian companies listed on the Milan Stock Exchange, excluding banks and financial institutions, over the period between 2006 and 2011. The choice of the period 2006-2011 allow us to compare the value relevance of accounting data before and after the financial crisis and to evaluate the crisis effect on the relevance of accounting information to determine the share market price. We expect that the empirical research shows a change in the investment behavior of stakeholders and therefore in their decisions regarding the allocation of capital resource.

The sample of Italian listed companies has been calculated by excluding banks and financial institutions. The exclusion is justified by the fact that these companies are subject to a specific accounting discipline in their financial statements, with different shape, structure and content because of their peculiar activity. The population is made up of 174 companies classified as follows: 26 in the FTSE MIB, FTSE MID CAP in 45, 102 in the FTSE SMALL CAP. Under the new structure of the MTA, it is also considered the FTSE STAR segment, which includes 58 companies.

The financial information of Italian listed companies were obtained by creating a database in an excel spreadsheet, using sources such as the website of the Italian Stock Exchange, the Consob and the financial statements and management reports of each companies. Using our database we elaborate the financial information regarding income statement, balance sheet and cash flow statement and calculate a series of financial indices aimed at making a judgment on the financial performance of the companies.

3 Research Methods

In order to estimate the accounting information significance, the study uses a multiple regression model proposed by Ohlson (1995) and Lev and Zarowin (1999). Its reliability is evaluated by a coefficient of determination R^2 , that expresses numerically how much variance of the independent variable is explained by the dependent variables selected in the model. In other words, the value of R^2

represents the measure of value relevance. The objective of the model is to define a relationship between the market value of equity and the accounting information:

$$MVE = f(AI) \quad (1)$$

The function analyzes the relationship between the available accounting information and the market value or, in other words, how much of the accounting information itself explains the change in market value over a specified period.

The first regression statistical analysis is structured according to the price model: the equation translates the evaluation model of Ohlson (1995):

$$P_{i(t+1)} = \beta_0 + \beta_1 BVS_{it} + \beta_2 EPS_{it} + \varepsilon_{it} \quad (2)$$

The estimation of the parameters of the ARIMA model and of the regression coefficients was conducted by the method of maximum likelihood, that compared to the OLS (Ordinary Least Square) model is more suitable to highlight significant serial correlations even if measured in very distant periods. Once the model was built and the estimation of the independent variables coefficients and the standard error was calculated, it was decided to verify the goodness of the fit of the model to the data through the standard error and the coefficient of determination. In order to neutralize the effect due to the different number of explanatory variables, it is used the coefficient of multiple determinations correctly:

$$P_{i(t+1)} = \beta_0 + \beta_1 EPS_{it} + \beta_2 ROA_{it} + \beta_3 DY_{it} + \beta_4 LEVERAGE_{it} + \beta_5 NCFinv_{it} + \varepsilon_{it} \quad (5)$$

4 Results

As regard to the first regression model, we verified all the hypotheses of significance, arbitrariness and multi-collinearity. The estimated coefficients for the regression model in 2006 show that the market value is affected more by earnings per share than book value per share. From 2007, regression coefficient's values are lower than the previous year and the trend continued in 2008, when the reduction was more significant in absolute terms, however. In 2009 there is a further drop in the share price and a further decrease in profits. Coefficients analysis shows a dependence of the price compared to book value substantially more stable compared to 2008, while we note a significant increase in the influence of EPS.

Relative to the second regression model, the regression coefficients show that in 2006 the significance of EPS (in accordance with the previous model), ROA and NCFinv. ROA, however, reaches a larger absolute value. In 2008 2007e significant result the EPS and DY, which has a negative coefficient. In

$$R_c^2 = 1 - \frac{SSE/(n - k - 1)}{SST/(n - 1)} \quad (3)$$

where SSE = Sum of Square Errors, SST = Sum of Square Total.

To verify the significance, we use a statistical test. Based on the observed sample, the statistical test aims to verify whether or not to accept the null hypothesis: if the information obtained from the sample is in stark contrast with the null hypothesis is rejected. The level of significance for which accept or reject the null hypothesis is $\alpha = 0.10$. In order to remove arbitrariness of the choice of α , we resorted to p-value, which allowed a greater awareness of the degree of evidence obtained by the rejection of the null hypothesis. By linear regression, first we determine the significance of the entire model and then that of the individual variables. The two variables suitable for the purpose are, respectively, the F-test and t-test. In order to control the level of correlation between the explanatory variables (multi-collinearity), we resorted to the VIF (Variance Inflation Factor):

$$VIF_j = \frac{1}{1 - R_j^2} \quad (4)$$

To build a second multiple linear regression model, we used EPS (Earning per Share) for the variables income, ROA (Return on Assets) and DY (Dividend yield) for ones return, the Leverage for ones assets and NCFinv (Net Cash Flow per investment) for ones flow. The multiple regression model is represented as follows:

2009 there were still significant as EPS and DY, which has on the contrary a positive value.

6. Discussion and conclusion

As regard to the first regression model, we can observe that the investment decisions until the explosion of the 2008 financial crisis were more influenced by net income rather than the balance sheet solidity. The price collapse caused by the financial crisis has also led to a reduction in the coefficient of determination and a greater focus by investors on companies with the best ability to overcome the situation.

In 2006 it is interesting to note that the cash flows for investment exhibit an inverse relationship with the price: increased investment spending corresponds to a higher stock price, while divestments have a negative influence on the market price. By results obtained, we disclose a predominant orientation to long-term investors for 2006. This interpretation seems to be confirmed in 2007 and 2008, in which investors are oriented reward companies that keep their internal resources produced.

In 2009, investors do not look for future capacity to generate income but they are instead interested in immediate results. From the empirical analysis appears clear an interesting change in the time horizon of the investment from the medium – long term to the short term.

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