CAPITAL MARKETS UNION: FACTORS AFFECTING FINANCIAL INFORMATION RELEVANCE

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Abstract

This study examines the European capital markets and the differences in the way in which share prices reflect financial information in light of the European project "*Capital Markets Union*". Findings suggest that diversity exists and enforcement regime affects the above relationship. In particular, Small and Medium Enterprises (SMEs) are characterized by a weak relationship between prices and accounting information compared to large issuers, but this relationship enhance if the SMEs have an institutional investor as significant shareholder. Finally, findings reveal that whether there are ratings or analyst coverage on an issuer, prices are more linked to expected net income instead of the historical data. These results confirm the goodness of the action plan of building a Capital Markets Union.

Keywords: Capital Markets Union, SME, Institutional Investor
JEL Code: G20, G30, G32, M41

1. INTRODUCTION

This research is aimed at analyzing the different relationships between market prices and accounting values among the European Union in order to understand which factors could affect these relationships.

In recent years a significant gap between market value and book value is observed and the number of listed companies with a market value below the book value is increased.

In particular, about 10 years after the adoption of IFRS, many institutions have commissioned research aimed at verifying the importance to investors of the information provided in the financial statements. One of the areas of study developed in recent years is related to the analysis of the Value Relevance indicating the correlation between the market price of the share listed and carrying amounts. This could depend on the accounting transparency and on the quality of financial markets.

However none of these studies is focused on the whole European capital market and on the differences in the prices efficiency among the European financial centers.

In fact, at this stage, each financial center is characterized by different national features related to the development stage of financial markets, to the regulation adopted and to enforcement effectiveness. These factors could impact on the relevance of shares prices.

The European Commission published the Green Paper on Building a Capital Markets Union (CMU) in February 2015. As a green paper, it aimed to generate debate and discussion on possible areas for action in order to develop and integrate capital markets. The CMU could cut the cost of raising capital, notably for SMEs, help reduce the very high dependence on bank funding and could also increase the attractiveness of Europe as a place to invest.

Effectively capital markets offer access to the widest set of funding providers and provide an exit opportunity for private equity and business angels.

Efficient markets are therefore a critical link in the finance chain.

Moreover, the Action Plan on Building a Capital Markets Union (30.09.2015) reports a focus on "*the information gap between SMEs and investors*" that can be a hurdle to non-bank funding.

To this purpose, the Action Plan intends to improve a set of core financial and credit data of SMEs available to investors at European level.

A condition for such a system to add value would be sufficient comparability of key data, so that prospective investors across the EU have an accurate and reliable insight into the financial standing of SMEs.

For investors, access to SMEs on market exchanges can be appealing due to potential returns and diversification benefits. Poorer information sources and lower liquidity could obstruct this process. European Union consultation responses highlighted "*a lack of research on SMEs by investor analysts and additional reporting requirements as two major challenges for SMEs trying to list on public market exchanges*".

Many SMEs admitted to trading on multilateral trading facilities (MTFs) report financial information only on the basis of national accounting standards, which may not be sufficient to meet the needs of international investors due to the lack of comparability. According to the Action Plan, "*the Commission will also explore with the International Accounting Standards Board (IASB) the possibility of developing a voluntary tailor-made accounting solution, which could be used for companies admitted to trading on SME Growth Markets*".

According to the Action Plan, deeper financial integration will need to be accompanied by increased focus by ESMA on achieving convergence

of supervisory outcomes across the EU, including on accounting, to ensure that the single market works well.

In light of above, in order to contribute to the literature in deepening the quality and transparency of European financial markets, the following research questions are identified:

1. How does value relevance vary across European markets?
2. What is the impact of national enforcement and regulation on the relevance of financial information?
3. Do other market factors (e.g. market liquidity, trading venues or accounting requirements) impact the above relationships?
4. Do Small and Medium Enterprises (SMEs) highlight a different level of value relevance of the prices?
5. Could corporate governance factors (ownership structure) improve the value relevance and price efficiency?
6. What is the impact of a rating's attribution on the value relevance?

As explained below, the literature in this field has not performed a comparative analysis taking into account all 28 European member states to explore how the relevance of financial information on share prices vary and which factors could impact on the above relationship.

The focus of the empirical analysis is also the investigation of whether the differences between listed SME and large companies affect the information contained in the prices.

In this field, it could be interesting to investigate whether the enforcement activities and the investor protection's rules affect the value relevance.

On the other hand, considering in the model a variable linked to the presence of a rating attribution could allow to understand whether the coverage on the shares of rating agencies has an effect on the market efficiency. As reported above, this could support European Union plan on the development of SME capital market.

Taking into account different stock exchanges features, the research could consider whether the liquidity of the market or features of trading venues could influence the results.

Finally, the research tests whether the diversity in corporate governance structures, in terms of ownership, has an impact on value relevance.

The answers to these questions could also suggest policy intervention in order to apply the Capital Markets Union.

2. POSITIONING OF THE RESEARCH AND LITERATURE REVIEW

Following the adoption of mandatory EU IAS / IFRS, the economic literature has been characterized by the spread of some studies to analyze the effectiveness of such a change in European countries.

In particular, in recent years, about 10 years after the adoption of these principles also many institutions have commissioned researches aimed at verifying the importance to investors of the information provided in the financial statements.

One of the areas of study developed is related to the analysis of the Value Relevance of IFRS indicating the correlation between the market price of the share listed and carrying amounts from financial statements.

This approach is developed by identifying market values as the dependent variable and the application of the accounting values, generally income and equity as independent variables.

That is, an improvement in accounting quality should, other things being equal, be accompanied by an increase in value relevance. Where this is not the case, there is on the face of it an anomaly that requires explanation.

Value relevance models assume that share prices reflect investors' consensus belief. In fact even if the market is not totally efficient in processing the valuation implications of all publicly available information, share prices reflect the consensus of investors (Barth et al., 2001).

Since Fama studies an efficient market is defined as "a market in which prices always fully reflect available information" and a distinction between different types of efficient markets is made based on three concretions of the concept "available information" i.e. weak form efficient markets (historical price information), semi-strong form efficient markets (all publicly available information), and strong form efficient markets (all information, both public and private). Following the efficient market hypothesis (EMH) (FAMA, 1970) financial markets are perfectly capable of aggregating information of all investors, which in turn leads to efficient markets. If the price of a stock could appear to be too high given past price information, rational investors would bid the price down to make a profit.

Whether market is efficient, (e.g. semi-strong form) prices could correspond to the equity value of a firm and the analysis of the relevance of book value of equity and net income could be understood as the way in which the equity value of a company is impacted by accounting data (for example consider EVA valuation technique).

To investigate the empirical relation between stock market value and accounting information, the principal model used is defined by Ohlson in 1995 through the method of least squares analyzes the relationship between the variables described above.

According to Barth, Beaver, Landsman (2001), an accounting amount is defined as value relevant if it has a predicted association with equity market values. Although the literature examining such associations extends back over 30 years (Miller and Modigliani, 1966), the first study about the ''value relevance'' could be Amir et al. (1993). Following these theories an accounting amount will be value relevant and have a predicted significant relation with share prices, only if the amount reflects information relevant to investors in valuing the firm and is measured reliably enough to be reflected in share prices.

As reported above, currently, a frequently employed model is that based on Ohlson (1995) and its subsequent refinements (e.g., Feltham and Ohlson, 1999, Olhson 2001, 2009). The Ohlson model represents firm value as a linear function of book value of equity and the present value of expected future abnormal earnings. With additional assumptions of linear information dynamics and efficiency hypothesis, firm value can be re-expressed

as a linear function of equity book value, net income, dividends, and other information.

The Ohlson model does not depend on a concept of permanent earnings or asset and liability values; the model is expressed in terms of accounting earnings and equity book value.

However, for the most part, valuation models that form the basis for tests in the value relevance literature are developed in terms of the level of firm value (e.g., Miller and Modigliani, 1966; Ohlson, 1995). Examining changes in share prices, or returns, is an alternative approach to assessing value relevance, where the precise specification of the valuation equation depends on the valuation model adopted (Ohlson, 1995).

Selection of which approach to use depends jointly on the hypotheses applied in the research question and on econometric considerations[1].

Over the last years the above models are mainly applied in Europe to investigate the effectiveness and the quality of IFRS. Below are described the last developments in this field and the main results achieved by studies focused on the value relevance of the share prices in Europe.

Applying this model Daske (2006) concludes that the quality of disclosures had improved under IFRS in Austria, Germany and Switzerland, which in 2004 accounted for more than half of the companies known to have (voluntarily) adopted IFRS at the time.

Aharony, Barniv & Falk (2010), using the framework suggested by Barth et al. (2001), demonstrated the usefulness of the accounting numbers to investors in equity securities in the EU. The research is based on prior cross-sectional studies that identify and analyze country characteristics such as disclosure policies, shareholder protection laws, enforcement regimes and corporate transparency that may cause differences in value-relevance levels across countries. They use valuation models that include the book value of equity and earnings and other variables. In particular for the price regression model, they run the share price on the book value of equity per share, earnings per share (Collins et al., 1997; Francis and Schipper, 1999) and other accounting variables of interest.

Devalle, Onali, Magarini (2010) examine whether value relevance has increased following the introduction of IFRS, using companies listed on five European stock exchanges: Frankfurt, Madrid, Paris, London and Milan. They find that the influence of earnings on share price increased following the introduction of IFRS in Germany, France and the UK, but that the influence of book value of equity decreased (except in the UK). They examine the extent to which accounting measures are reflected in share price before and after this event. To this end, they estimate panel-data regressions using data for 3,721 companies listed on five European stock markets, for the period 2002–2007.

In particular they found that in a regression of share price on book value of equity per share and earnings per share, for all companies in the sample, while IFRS are found to have increased value relevance of earnings and value relevance of book value of equity has decreased, the explanatory power of the regression has increased.

According to Agostino, et al. (2010) the IFRS introduction enhanced the information content of both earnings and book value for more transparent banks. By contrast, less transparent entities did not experience significant increase in the value relevance of book value.

Focusing on European banks, Agostino et al. (2011) show that IFRS adoption enhanced the information content of both earnings and book value for more transparent banks. However, less transparent entities did not experience significant increases in the value relevance of book value.

In particular using a standard value-relevance model, they examine the value relevance of earnings and book value for 221 listed banks from 2000 to 2006. They use panel rather than cross-section data, the latter used in most of the value relevance literature. With panel data, combined to country-level clusterization, they control for individual and country characteristics that may be unobservable or hard to measure, such as legal systems, financial systems, or alignment between tax and financial reporting, and that differ across the sample.

For additional insight into these results, they also study two separate sub-samples: low and high capitalization banks, on the grounds that problems of information asymmetry are more severe for the smaller institutions.

Results show that until 2005 accounting information does not appear to have been market-relevant for smaller intermediaries; from then on the earnings variable (but not book value) becomes significant, but its positive impact is much smaller for low capitalization intermediaries than for larger banks. The marginal effect (value relevance) of earnings increased for the entire sample.

Aubert, Grudnitski (2011) found a statistically significant relationship between accounting information and market returns for firms in the all-countries-combined sample of 3,530 observations, and in the countries of Belgium, Finland, France, Greece, Italy, the Netherlands, Norway, Sweden and the United Kingdom. Value relevance is measured by the contemporaneous association between stock returns and earnings per share.

Landsman et al. (2011) find that the information content of earnings announcements, as measured by abnormal return volatility and trading volume, increases in 16 EU and other countries that mandated adoption of IFRS relative to 11 countries that maintained domestic accounting standards. They also find that the effect of mandatory IFRS adoption depends on the strength of enforcement in the adopting country.

Clarkson, Hanna, Richardson, Thompson (2011) investigate the impact of IFRS adoption in Europe and Australia on the relevance of book value and earnings for equity valuation.

Using a sample of 3488 firms that initially adopted International Financial Reporting Standards (IFRS) in 2005, they compare the figures originally reported for the 2004 fiscal years to the IFRS figures that were provided in 2005 as the 2004 IFRS comparative figures.

[1] The key distinction between value relevance studies examining price levels and those examining price changes, or returns, is that the former are interested in determining what is reflected in firm value and the latter are interested in determining what is reflected in changes in value over a specific period of time. Econometric concerns associated with specifications based on price levels are the subject of several research studies. These concerns include coefficient bias induced by correlated omitted variables, measurement error, and cross-sectional differences in valuation parameters, and inefficiency and potentially incorrectly calculated coefficient standard errors induced by heteroscedasticity. However, a key conclusion is that the value relevance literature provides fruitful insights for standard setting.

The results using OLS and WLS suggest that there was a decline (increase) in the value relevance of BVPS and EPS upon the switch to IFRS[2].

Also Barth et al. (2012) study whether application of IFRS by non-US firms results in accounting amounts comparable to those resulting from application of US GAAP by US firms.

They construct the value relevance comparability metrics based on the explanatory power of regressions of stock price on equity book value and net income, stock return on net income and change in net income, and future operating cash flow on net income.

The value relevance metrics are based on the explanatory power from a regression of stock price, on net income before extraordinary items per share, and book value of equity per share, BVE.

They found that IFRS firms have greater accounting system and value relevance comparability with US firms when IFRS firms apply IFRS than when they applied domestic standards.

Zeghal, et al. (2012) investigate whether the application of IFRS in 15 European Union (EU) countries is associated with less earnings management and higher timeliness, conditional conservatism, and value relevance of accounting numbers.

The results suggest that there has been some improvement in accounting quality between the pre- and post-IFRS adoption periods.

In the model applied they regress price[3], P, as of six months after fiscal year-end on earnings per share, EPS, and equity book value per share, BVPS, scaling all variables with the share price six months after the preceding year-end, finding a positive and significant relation would suggest an increase in the value relevance of earnings after the mandatory adoption of IFRS.

Facing some concern regarding the results - that they could be driven by changes in the economic environment and certain firm characteristics - they, therefore, explore the influence of firm size, turnover, growth, and change in total liabilities by providing separate analysis with reference to these subsamples. Overall, these analysis give qualitatively similar results.

According to Young et. Al. (2013) the value relevance of forecasted earnings is significantly lower under IFRS while the value relevance of reported earnings is significantly larger. These findings suggest that IFRS substitutes price-relevant information previously provided to the market in the form of analyst forecasts with information encoded by companies in their reported earnings[4].

For the analysis they use analyst forecasts of future earnings to construct an empirical measurement of the "other information" variable in the Ohlson (1995) framework in light of Ohlson (2001). The analysis is based on three assumptions: first, that price equals the present value of expected future dividends; second, the dynamics governing the time-series properties of earnings follow a particular (general) Markovian form, and thirdly, earnings obey the clean surplus accounting relationship.

Kang (2013) investigates the impact of mandatory International Financial Reporting Standards (IFRS) adoption on the value relevance of financial reports in 13 European countries by comparing the earnings–returns relation pre- and post-IFRS mandatory adoption in 2005. It shows that the financial reporting convergence enhances the association between earnings and returns. The legal system and aggregate earnings management within that country do not significantly deteriorate the positive value-relevance reaction to mandatory IFRS adoption in Europe.

The application of a common set of accounting standards has the convergence benefits for regional differences in economies and reduces information asymmetry between firms and investors across European countries. However, the relation between earnings and contemporaneous returns is reduced for companies in a country with severe differences from IFRS. Second, the coefficient estimates of the legal system and aggregate earnings management are insignificant, indicating that a country's legal enforcement and its firms' governance do not significantly deteriorate the positive value-relevance reaction to mandatory IFRS adoption in Europe.

The model applied is based on the OLS estimation by using the change in earnings responses as the dependent variable and three institutional characteristics as the independent variables.

Working with a broader EU sample, Verriest et al. (2013) investigate the quality of IFRS adoption disclosures relating to the reconciliations from local GAAP to IFRS, and more general IFRS disclosure and recognition choices. They find that disclosures are of higher quality when firms have strong corporate governance. They also find that, while disclosure levels improve generally on average with the introduction of IFRS, firms with higher quality governance make more extensive disclosures on the financial statement effects of specific standards.

According to Barth et al. (2014) net income adjustments resulting from mandatory 2005 IFRS adoption in Europe are value relevant for financial and non-financial firms[5].

Barth et al. provide evidence that the adjustments to net income resulting from mandatory adoption of IFRS in Europe are relevant to investors in both financial and non-financial firms. However, there are differences between these two types of firms and across major country groups in the value relevance of the aggregate net income adjustment and adjustments relating to several individual IFRS standards, which suggests that differences in domestic standards, as well as institutional features, can affect investors' assessment of the relevance of IFRS accounting amounts.

[2] In contrast, a different conclusion follows from the Product model, which fails to reject the null that the goodness-of-fit impact of IFRS adoption is zero.

[3] The value relevance measure is based on the price-earnings model as suggested by Ohlson (1995), where stock prices are regressed on both earnings and book value of equity.

[4] This implies that the IASB was indeed successful in its stated goal and points towards IFRS forecasts being more accurate and less dispersed than UK GAAP forecasts. This, in turn, implies that analysts are able to provide more informative forecasts under IFRS than under pre-IFRS regimes and that the aforementioned substitution effect is not a consequence of any decrease in the quality of forecasts under the new regime.

[5] Differences in relevance of the aggregate adjustment for financial and non-financial firms and across country groups, suggest differences in domestic standards that affect investors' assessment of the relevance of IFRS accounting amounts. Despite these differences, except for French/German non-financial firms, investors view net income measured using IAS 39 as more relevant than that measured using domestic standards.

They test for value relevance of net income adjustments using cross-sectional stock price equations that express price as a function of equity book value and net income, separately for financial and non-financial firms.

Following prior research (Bushman et al., 2004), they assume that stock price captures the underlying economic value of the firm as perceived by investors. In particular, they test for value relevance of the aggregate net income adjustment. Findings from this analysis provide evidence on whether IFRS based net income is more value relevant than domestic standards-based net income. Second, they test for value relevance of the net income adjustments attributable to individual standards. Differences in countries' institutional features, such as auditing and enforcement (Ball et al., 2000), according to the scholars, could result in the net income adjustment not being value relevant for firms in other countries even if the adjustment is value relevant for firms in the UK.

Siekkinen (2016) examines whether the value relevance of fair values varies across investor protection environments. By analyzing financial firms from 34 countries findings suggested that fair values, irrespective of the level in the fair value hierarchy, are value relevant in countries with a strong or medium investor protection environment. In a weak investor protection environment, only market prices (level 1) are relevant to investors.

Okafor et al (2016) investigate whether financial information prepared and disclosed under International Financial Reporting Standards (IFRS) has incremental value relevance vs information prepared under generally accepted accounting principles (GAAP) in Canada. They applied several methodologies to estimate value relevance and in particular they analyzed the adjusted R^2 of regressions of stock price on book value and earnings. Findings reported that accounting information prepared and disclosed under IFRS exhibits higher price and returns value relevance than accounting information prepared previously under local GAAP.

In general it is noted that the studies on the subject are usually focused on single nation and in a few cases is made a comparative analysis.

Even if the approach based on the single market has many advantages as pointed out by some scholars (Hung and Subramanyan, 2007) it cannot identify peculiarities of a given market.

Recent researches seem focused on the quality of the financial information following the adoption of IFRS, compared to previous GAAP.

While there is evidence of improved accounting quality following IFRS adoption, the research findings are mixed overall.

The analysis of the literature shows how limited are investigations on the effects of adopting IFRS in Europe and in particular in Eastern Europe.

Studies on the subject of value relevance highlight conclusions often based mainly on larger listed companies so some argue that one might expect more favorable results on the adoption of IFRS.

In this regard, some researches show that small businesses should better benefit from the adoption of IFRS. This may be due to greater transparency and comparability necessary for small businesses to cope with other information gaps that characterize them.

However, it seems that there is limited literature that analyze the evolution over time of the value relevance with a focus on the European Capital Markets. In particular, the analysis of some variables *(i)* market specific, such as market liquidity, trading venues or investor protection regime, or *(ii)* entity specific, such as dimension, governance, ratings are not explored in deep.

3. RESEARCH DESIGN & METHODOLOGY

To answer to the research questions described above, metrics are constructed based on the explanatory power of a regression of stock price on equity book value and net income.

The sample is composed by companies with listed common shares in the European Union (all stock exchanges of the 28 member states) because the setting of the study is the same of the Capital Markets Union.

To the purpose of conduct this study, taking into account Capital Markets Union analysis, data are assessed starting from 2011 to 2015.

In fact since 2011 - in response to the financial crisis of 2007–08 - the European System of Financial Supervision (ESFS) is established in Europe as a framework for financial supervision in the European Union. The system consists of the European Supervisory Authorities, the European Systemic Risk Board, the Joint Committee of the European Supervisory Authorities, and the national supervisory authorities of EU member states.

Consequently, in this research it is tested whether the enforcement regime has improved the way in which prices reflect financial information.

Analysis of the Value Relevance is conducted on the basis of the Olhson model assuming as dependent variable the price per share and as independent variables the book value of equity per share and earnings per share (Barth et al. 2012).

In order to apply the model to the above-described sample of companies, reference is made to the method of least squares (OLS). This method determines which line best fits the points identified by the variable described.

$$P_{it} = \beta_1 BVE_{it} + \beta_2 NI_{it} + \sum_i \beta_{3j} C_j + \varepsilon_{it} \qquad (1)$$

Price is based on the explanatory power from a regression of stock price, P, on net income per share, NI, and book value of equity per share, BVE. C_j is an indicator variable that equals one for firms domiciled in country j and zero otherwise. *i* and *t* refer to firm and year.

Following prior research, to ensure accounting information is in the public domain, P is stock price four months after fiscal year-end g (Barth et al., 2014 and Tsalavoutas et al., 2012). Book value per share and Net Income are referred to last fiscal year end data preceding price date.

For robustness, we also estimated versions of equation (1) measuring share price at 6 months after 2015 fiscal year-end, findings reveal that the relation between the accounting amounts in equation (1) and share price 4 months after 2015 fiscal year-end has

substantially the same explanatory power than the relation using the alternative share price dates.
Common problems in Value Relevance researches are scale bias. In line with previous papers, this study will employ a per share specification to eliminate the scale bias (Barth 2014).
Other than the dummy variable referred to the European country in which a security is traded and to the industry in which a company operates, the model is set up to take into account the following variables:

1. dummy related to small and medium enterprises, based on the definition under the Accounting Directive (2013/34/UE).;
2. dummy indicating an issuer IAS adopter;
3. dummy specifying the trading venue (Multilateral Trading Facilities or Regulated Market).

Furthermore, to answer some research questions reported above, a dummy is constructed related to **enforcement variables**. In particular the investor protection rank and the minority investor protection index calculated by World Bank have been considered.

This study also set up a dummy indicating the **liquidity** of the security under the Markets in Financial Instruments Directive – MiFID based on the criteria laid out in Article 22. In particular, shares should have some features to be defined liquid in terms of trading results and amount of free float[6].
This data is provided by Bloomberg LLP. For robustness a dummy is tested indicating an high turnover velocity of the share (a measure of stock liquidity calculated by dividing the total number of shares traded over a period by the average number of shares outstanding for the period. It is assumed that the higher the share turnover, the more liquid the share of the company.)

In order to assess, according to Capital Markets Union project, the impact of lack of information, also due to the absence of a **rating attribution,** a dummy explaining the availability of a rating is considered. For robustness it is also considered a dummy based on the number of analyst researches for a single security.

Following European Commission study about the development of SMEs markets, a dummy referred to the presence of **institutional investors** as shareholder of the company is observed.

As already specified, the dataset is based on the observations provided by Bloomberg LLP, in terms of prices, industry identification, accounting values, ownership structures (e.g Percent of stock held by institutions) and market data. Only enforcement variables are provided by 2015 World Bank databases.

To mitigate the influence of outliers in the inferences, these variables in equation are winsorized[7] at 1% and 99% levels and eliminate observations with extreme DFBETA values (Belsley et al., 1980 and Barth, et al, 2014).
All non-Euro amounts are converted into Euros[8]. The number of observations varies across specifications because of data availability. However samples are consistent through the time because the same issuers are considered from 2011 to 2015.
Some problems in Value Relevance researches arise from heteroskedasticity. In line with previous research, the robust standard errors the Ordinary Least Squares could eliminate the effect of heteroskedasticity.

As already described, the assessment begin by focusing on the association of the accounting numbers produced for the variables representing share prices, book value per share and earnings per share. The regression statistic, R^2, represents the degree of association between these variables and accounting values; its accompanying F-statistic indicates the likelihood the degree of association is statistically different from zero.

Findings are also checked for robusteness, where applicable, performing statistics from implementation of a Vuong (1989) likelihood ratio test comparing the relative explanatory power of net income and equity book value for share price (Barth et al., 2014).

3.1. Variables and Measures

The sample is composed of 4.156 issuers of shares in 28 European Countries with a total market capitalization of about € 10.5 trillion in 2015 equal to about 73% of European Gross Domestic Product.

Larger capitalizations are observed in UK, France, Germany, Sweden, Spain and Italy.

About 79% of the issuers considered in the sample are IAS adopters, small and medium enterprises represent about 29% of the total sample and companies listed on a multilateral trading facilities or other non-regulated markets are 27% of the sample.

[6] All shares should have to meet the common criteria of being traded daily and having a free float market capitalisation of more than 500 million euro. In addition, the average daily trading activity in the share should exceed 500 trades or EUR 2 million (or the EUR equivalent) share should be deemed to have a liquid market for the purpose of Article 27, when it meets both criteria (a) and (b) above and additionally either criteria (c) or (d) as chosen by a Member State:
(a) Trading activity: The share is traded daily;
(b) The free float of the share is at least 500 million euro.
The free float should be calculated by excluding those holdings exceeding 5 % of the voting rights, as defined in the Transparency Obligations Directive, except where those holdings are held by mutual funds, pension funds and investment companies. The MiFID implementing Regulation (No 1287/2006, of 10 August 2006) requires the relevant competent authorities to calculate and publish a set of information regarding all shares which are admitted to trading on a regulated market. ESMA has collected this information, and publishes it in the form of a database. The information included in this database allows market participants to recognise liquid shares (which trigger the obligations for systematic internalisers according to Article 27)

[7] In particular data are winsorized taking into account issuer IAS/non-IAS adopter because following previous studies, significant differences are found between the two samples.
[8] Prices, even if not in euro, are provided in Euro by Bloomberg.

Table 1. Sample

Exchange Country	*Issuers*	*2015 Market Cap (€/mln)*	*IAS adopters*	*SMEs*	*issuers on MTFs*
Austria	62	89.491	53	4	6
Belgium	82	342.294	63	11	5
Bulgaria	26	1.816	24	1	0
Croatia	124	15.723	95	53	9
Cyprus	24	2.789	5	5	0
Czech Republic	10	25.043	10	2	0
Denmark	127	313.311	93	50	3
Estonia	13	1.726	10	1	0
Finland	119	194.318	117	20	1
France	444	1.778.901	270	91	78
Germany	553	1.624.792	376	166	192
Greece	192	32.937	108	84	10
Hungary	25	16.072	23	10	1
Ireland	24	76.930	23	5	11
Italy	209	514.824	179	31	8
Latvia	26	916	11	11	1
Lithuania	26	2.059	21	3	1
Luxembourg	8	19.292	8	0	1
Malta	8	2.290	8	0	0
Netherlands	71	444.662	50	10	0
Poland	327	145.449	268	111	8
Portugal	43	56.471	38	3	2
Romania	20	9.503	17	4	2
Slovakia	11	2.529	10	0	0
Slovenia	33	5.738	29	13	0
Spain	111	632.766	107	20	2
Sweden	364	833.338	324	148	123
UK	1074	3.293.820	955	348	644
Total	**4.156**	**10.479.799**	**3.295**	**1.205**	**1.108**

Table 2. Market Capitalization trend

€/bn	*2011*	*2012*	*2013*	*2014*	*2015*	*CAGR 11-15*
Austria	94,0	73,5	80,6	89,5	89,5	-1,2%
Belgium	199,0	185,8	236,8	342,3	342,3	14,5%
Bulgaria	2,2	1,4	1,7	1,8	1,8	-4,2%
Croatia	18,1	15,1	15,9	15,7	15,7	-3,5%
Cyprus	3,1	1,4	0,9	2,8	2,8	-2,8%
Czech Republic	36,2	29,5	23,8	25,0	25,0	-8,8%
Denmark	162,1	156,5	186,4	313,3	313,3	17,9%
Estonia	1,6	1,4	1,8	1,7	1,7	1,5%
Finland	167,4	126,9	138,1	194,3	194,3	3,8%
France	1.311,2	1.081,0	1.294,9	1.778,9	1.778,9	7,9%
Germany	1.120,8	1.016,1	1.145,1	1.624,8	1.624,8	9,7%
Greece	35,5	17,7	25,5	48,5	32,9	-1,9%
Hungary	23,4	15,8	15,0	12,4	16,1	-8,9%
Ireland	32,9	36,2	45,9	59,0	76,9	23,7%
Italy	436,8	317,2	358,4	474,7	514,8	4,2%
Latvia	0,9	0,8	0,8	0,9	0,9	1,0%
Lithuania	1,8	1,7	2,0	2,0	2,1	4,0%
Luxembourg	15,5	16,7	14,0	18,1	19,3	5,6%
Malta	1,7	1,6	1,9	2,0	2,3	7,7%
Netherlands	308,6	273,5	323,6	355,3	444,7	9,6%
Poland	137,9	104,6	112,3	130,1	145,4	1,3%
Portugal	56,3	43,4	50,1	57,8	56,5	0,1%
Romania	11,0	8,4	9,0	9,2	9,5	-3,5%
Slovakia	3,2	2,3	2,1	2,5	2,5	-5,5%
Slovenia	5,2	4,2	4,3	5,7	5,7	2,6%
Spain	487,8	331,9	427,1	632,8	632,8	6,7%
Sweden	598,5	527,9	637,8	833,3	833,3	8,6%
UK	2.374,9	2.399,3	2.637,8	2.865,2	3.293,8	8,5%
Total	**7.647,6**	**6.791,7**	**7.793,7**	**9.899,8**	**10.479,8**	**8,2%**

From 2011 to 2015 market capitalization is improved of about 8,2% per year, in particular in countries with a more developed financial markets.

Issuers operating in the *Financial* industries are characterized by the largest capitalizations. About 35% of financial issuers are small and medium enterprises.

The main other industries represented in the sample (based on Bloomberg GICS Sector) are Consumer Discretionary, Industrials and Consumer Staples.

Information Technology is also characterized by a significant number of small and medium enterprises.

Table 3. Sample by industry

GICS Sector	*Observations*	*2015 Market Cap*	*SMEs*
Financials	697	2.238.689	244
Consumer Discretionary	686	1.532.754	157
Industrials	840	1.368.964	165
Consumer Staples	283	1.366.833	46
Health Care	284	895.509	132
Energy	170	839.154	63
Materials	366	774.318	85
Utilities	96	529.927	18
Information Technology	563	480.926	220
Telecommunication Services	64	439.981	18
N.A.	107	12.743	57
Total	**4.156**	**10.479.799**	**1.205**

Table 4. Market Capitalization trend by industry

€/bn	**2011**	**2012**	**2013**	**2014**	**2015**	**CAGR**
Consumer Discretionary	878	859	994	1.420	1.533	15%
Consumer Staples	822	902	1.114	1.236	1.367	14%
Energy	845	809	801	867	839	0%
Financials	1.519	1.162	1.517	2.074	2.239	10%
Health Care	459	488	608	849	896	18%
Industrials	985	858	993	1.306	1.369	9%
Information Technology	313	278	337	446	481	11%
Materials	838	684	645	772	774	-2%
Telecommunication Services	410	333	340	403	440	2%
Utilities	560	408	432	514	530	-1%
Others	20	11	14	13	13	-11%
Total	**7.648**	**6.792**	**7.794**	**9.900**	**10.480**	**8%**

In particular, focusing SMEs, issuers with a significant presence of institutional investors in shareholders' structure are 956 that represent about 79% of the total SMEs considered. Otherwise in large companies institutional investors represent about 95% of the total.

Table 5. SMEs figures

	Obs.	*Issuers with presence of institutional investor (>20%)*	*Issuer with ratings*
Large Companies	2.529	2.401	488
SMEs	1.205	956	4
N.A.	422	333	18
Total	**4.156**	**3.690**	**510**

Moreover only 4 SMEs of the sample have a rating attributed by the 3 major rating companies (S&P, Moody's and Fitch).

As explained above, sample is based on the observations starting from 2011. In particular for consistency issuers with missing data (in terms of price, net equity and net income) are dropped.

From the analysis of the data, it is observed that companies with market capitalization below the total net equity are in the range of 31%-43%. In deep, the years 2012 and 2013 are characterized by a greater number of issuers with a ratio P/BV below 1.

Table 6. Issuers with Capitalization below Net Equity

SMEs	*2011*	*2012*	*2013*	*2014*	*2015*
Large Companies	758	1.068	980	650	684
SMEs	439	512	532	457	450
N.A.	176	215	231	180	181
Total	**1.373**	**1.795**	**1.743**	**1.287**	**1.315**
Sample	**4.156**	**4.156**	**4.156**	**4.156**	**4.156**
%	**33%**	**43%**	**42%**	**31%**	**32%**

In the table below are reported market features observed in 2015. In particular, the sample is composed of 19% of companies with liquid shares, defined liquid according to MiFid.

Table 7. Market features: Liquidity and Enforcement

Exchange Country	*N. obs*	*Shares liquid ex MiFid*	*Investor protection strengh*	*World Investor Protection Rank*	*Minority investor protection index (0-10)*
Austria	62	14	Low	36	6,3
Belgium	82	27	Low	57	5,8
Bulgaria	26	0	High	14	7,2
Croatia	124	0	Low	29	6,5
Cyprus	24	1	High	25	6,7
Czech Republic	10	2	Low	57	5,8
Denmark	127	24	High	20	6,8
Estonia	13	3	Low	81	5,5
Finland	119	26	Low	66	5,7
France	444	127	Low	29	6,5
Germany	553	103	Low	49	6
Greece	192	6	Low	47	6,2
Hungary	25	0	Low	81	5,5
Ireland	24	8	High	8	7,3
Italy	209	58	Low	36	6,3
Latvia	26	0	Low	49	6
Lithuania	26	0	Low	47	6,2
Luxembourg	8	1	Low	122	4,5
Malta	8	0	Low	36	6,3
Netherlands	71	33	Low	66	5,7
Poland	327	20	Low	49	6
Portugal	43	7	Low	66	5,7
Romania	20	2	Low	57	5,8
Slovakia	11	0	Low	88	5,3
Slovenia	33	4	High	7	7,5
Spain	111	40	Low	29	6,5
Sweden	364	64	High	14	7,2
UK	1074	210	High	4	7,8
Total	**4.156**	**780**			

Table 7 also reported data about investor protection strength provided by World Bank. In particular, in columns are recorded the investor protection world rank and the related index. In particular, in the index 10 indicates maximum investor protection.

Taking into account the above data, a dummy representing low or high protection is created based on third quartile of Minority Investor Protection Index.

4. SUMMARY OF KEY RESULTS

4.1. European Capital Markets: the relationship between share prices and financial information

Applying the model to the sample described above, it is shown that there is a statistically significant relationship between stock prices, total equity (BVE) and net income (NI). In particular starting from 2011 the ability of accounting numbers to explain prices is in the range 49%-66%. The relationship between price and book value of equity (measured by the coefficient β_1 of the regression) is positive and in the range 0,53-0,74. Changes in Net Income generate a positive change in price (β_2 of the regression, ceteris paribus) and the related magnitude is increased over the last period.

Table 8. Relevance of financial information on prices in Europe

Years	*BVE*	*NI*	*R^2 adj.*	*n. Obs.*
2015	0,59***	6,88***	66%	4156
2014	0,74***	5,88***	49%	4156
2013	0,53***	3,43***	52%	4156
2012	0,58***	2,58***	54%	4156
2011	0,56***	3,51***	63%	4156

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

Also the breakdown by industries revels that Equity and Net Income are statistically linked to price. In particular, although the Financial industry is mainly composed of banks and other financial intermediaries subject to prudential regulation, value relevance is lower than other industries. For example in 2011 prices do not depend on the net income. This could be partially motivated by the presence of significant asset impairments that affect bank industry in 2011. Moreover, findings also prove that from 2014 to 2015 in financials industry the information capacity of the relationship between price and accounting value is increased and this could be due to the start of the Single Supervisory Mechanism and the impact of the comprehensive assessment.

Table 9. Value Relevance by Industry

Industry		*2011*	*2012*	*2013*	*2014*	*2015*	*n. obs*
Consumer Discretionary	BVE	0,77***	0,69***	0,60***	0,88***	0,74***	
	NI	2,77***	3,21***	5,21***	4,80**	5,36**	
	adj. R2	78%	80%	83%	77%	75%	574
Consumer Staples	BVE	0,37***	0,67***	0,63***	0,24**	0,23***	
	NI	6,13***	2,59	2,89	10,63***	10,80***	
	adj. R2	65%	58%	60%	84%	88%	237
Energy	BVE	0,88***	0,69***	0,93***	1,25***	1,15***	
	NI	2,29*	5,73**	0,77	1,25	1,97	
	adj. R2	91%	92%	87%	88%	93%	150
Financials	BVE	1,21***	0,70***	0,56**	0,61*	0,64***	
	NI	-0,26	5,35**	7,18***	15,40**	9,51**	
	adj. R2	62%	47%	47%	44%	57%	602
Health Care	BVE	0,62***	0,94***	1,03***	1,38***	1,15***	
	NI	2,37**	1,76	5,37**	6,43**	5,86*	
	adj. R2	59%	65%	67%	62%	58%	242
Industrials	BVE	0,57***	0,68***	0,56***	0,64***	0,55***	
	NI	4,09**	2,98**	4,74***	6,05***	6,42***	
	adj. R2	69%	67%	72%	69%	73%	727
Information Technology	BVE	1,17***	0,87***	1,04***	0,82***	1,01***	
	NI	3,11***	1,92***	2,87***	4,26**	6,23***	
	adj. R2	88%	84%	85%	72%	74%	470
Materials	BVE	0,65***	0,74***	0,93***	1,10***	1,03***	
	NI	4,44***	2,85*	1,52	5,12***	3,82	
	adj. R2	78%	80%	73%	83%	78%	325
Telecommunication Services	BVE	0,79***	0,48***	0,44	0,88**	1,23***	
	NI	2,04	3,73	9,26	5,98	17,91*	
	adj. R2	49%	59%	47%	48%	77%	59
Utilities	BVE	0,58***	0,78***	1,01***	0,83***	0,39**	
	NI	3,29*	2,57	-0,21	2,68	6,65**	
	adj. R2	85%	86%	77%	79%	86%	90

***, **, * denote significance at the 0,1%, 1% and 5% level, respectively.

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R2 are reported.

Focusing on the assessment of the value relevance across countries, it is observed that not in all countries the relationship between accounting value and price is statistically significant.

In 2015 relevant differences in Value Relevance are observed in the European Union. Excluding countries where the number of observations is limited (lower than 20), the price results influenced by financial information in 2015 in a range from 47%-94%. While the book value of equity has quite always a relationship statistically significant with prices, in at least 5 member states the Net Income seems not to be statistically related to prices.

Table 10. Relevance of financial information across EU28 countries

2015	**Country**	**BVE**	**p-value**	**NI**	**p-value**	**R^2 adj.**	**n. Obs.**
1	UK	0,68***	(0,00)	8,50***	(0,00)	64%	882
2	France	0,41***	(0,00)	7,97	(0,15)	65%	442
3	Germany	1,17***	(0,00)	4,48***	(0,00)	72%	429
4	Sweden	0,70***	(0,00)	4,60*	(0,01)	56%	364
5	Poland	0,47**	(0,09)	10,12***	(0,00)	85%	325
6	Italy	0,46***	(0,00)	7,50**	(0,00)	53%	197
7	Denmark	0,46***	(0,00)	7,10**	(0,00)	77%	125
8	Finland	1,14***	(0,00)	2,03	(0,18)	48%	119
9	Greece	0,53***	(0,00)	-0,54*	(0,02)	47%	107
10	Spain	0,66***	(0,00)	5,37	(0,80)	88%	93
11	Belgium	0,95***	(0,00)	3,76**	(0,00)	85%	82
12	Netherlands	1,18***	(0,00)	4,78*	(0,02)	74%	71
13	Croatia	0,62***	(0,00)	4,05**	(0,00)	80%	46
14	Austria	1,13***	(0,00)	5,36***	(0,00)	83%	45
15	Portugal	0,59***	(0,00)	0,41***	(0,00)	94%	41
16	Bulgaria	0,86***	(0,00)	-2,18*	(0,05)	77%	26
17	Ireland	1,23**	(0,00)	14,43	(0,25)	88%	24
18	Lithuania	-0,02	(0,94)	10,98	(0,10)	87%	23
19	Latvia	0,84***	(0,00)	-0,89**	(0,00)	78%	22
20	Hungary	0,60**	(0,00)	4,65*	(0,04)	83%	20
21	Romania	1,45***	(0,00)	-6,12	(0,68)	97%	14
22	Estonia	0,63	(0,27)	8,03***	(0,00)	75%	13
23	Slovenia	1,13***	(0,00)	0,23***	(0,00)	98%	13
24	Czech Republic	0,22	(0,59)	12,54	(0,18)	96%	9
25	Cyprus	0,38*	(0,01)	-0,73*	(0,02)	82%	8
26	Malta	-0,37	(0,57)	11,35	(0,15)	59%	8
27	Luxembourg	0,14	(0,63)	10,83***	(0,00)	50%	7
28	Slovakia	-0,64***	(0,00)	0,00**	(0,00)	0%	2

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported. Countries with few observations are reported only for information purpose.

Hereinafter are analyzed some variables that could motivate such differences.

4.2. The influence of the investor protection strength on value relevance and on SMEs

The following table reports the results related to the assessment of the value relevance of accounting data, described above, on price taking into account the different enforcement regimes in which the securities are listed.

According to Djankov et al., 2008, stronger legal protections make minority investors more confident about their investments, reducing the need for concentrated ownership to mitigate weaknesses in corporate governance.

In particular, a dummy variable is introduced in order to identify countries with an higher enforcement strength. Data related to this variable is based on World Bank "minority investor protection index". This index represent the average of the extent of conflict of interest regulation index and the extent of shareholder governance index calculated by the World Bank. The index ranges from 0 to 10, rounded to the nearest decimal place, with higher values indicating stronger minority investor protections.

It is considered with an high enforcement strength, countries with an index value greater than third quartile of the dataset.

Results are also controlled with a variable that highlights European countries in the top 30 ranking of world countries in protecting minority investors (source World Bank).

Results show that in countries with an higher investor protection there is also greater value relevance than countries with low investor protection. In particular both r-squared and p-value of the coefficients support this conclusion.

Table 11. Investor protection strength and relevance of financial information

		2011	2012	2013	2014	2015	n. obs
Total Sample - high investor	BVE	0,48***	0,56***	0,51***	0,74***	0,58***	
Protection	NI	3,93***	2,35*	2,99***	5,37**	6,38***	
	adj. R2	61%	50%	46%	45%	61%	2.289
Total Sample - low investor	BVE	0,61**	0,48**	0,41*	0,37	0,49**	
Protection	NI	0,54	0,81	2,04	8,34	7,56**	
	adj. R2	35%	27%	22%	22%	38%	1.168
SMEs - high investor protection	BVE	0,80***	0,61***	0,63***	0,66***	0,45***	
	NI	-1,71	-0,08	1,61	2,33	5,02	
	adj. R2	55%	57%	68%	63%	80%	539
SMEs - low investor protection	BVE	0,54*	0,44**	0,37	0,22	0,52*	
	NI	1,62	1,38	2,17	11,38	8,12**	
	adj. R2	32%	24%	18%	23%	35%	629

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R2 are reported.

Moreover, findings revels that this gap is larger in SMEs than large companies. In particular for SMEs listed in countries with low investor protection, the historical financial information has low impact on prices.

4.3. The impact of market specific factors (trading venues, accounting requirements and liquidity) on the relationship between share prices and financial information

4.3.1.The influence of the different trading venues and of accounting requirements

The following table presents the results of analysis of value relevance from 2011 to 2015 based on accounting standard applied or exchange venue.

In particular findings suggest that for European issuers that adopt IAS, accounting data have direct impact on price.

On the other hand, Net Income of non-IAS adopters result non statistically related to price. This confirm that ability of information disclosed by financial statements to capture and summarize firm value is higher for firms with a financial reporting based on IFRS/IAS.

The results also show that during last 5 years, the link between prices and accounting value for IAS-adopters seems stable with a value relevance of the models measured by R-squared in the range of 68%-72%.

Table 12. Impact of GAAP and trading venues on value relevance

		2011	**2012**	**2013**	**2014**	**2015**	**n. obs**
Non-IAS adopter	BVE	1,64***	2,19*	2,34**	3,10*	1,95***	
	NI	7,80*	-0,08	0,46	7,58	6,56	
	adj. R^2	88%	71%	72%	68%	81%	242
IAS Adopter	BVE	0,62***	0,63***	0,55***	0,66***	0,56***	
	NI	3,15***	2,42***	3,82***	5,07***	5,90***	
	adj. R^2	72%	69%	70%	68%	70%	3.234
Regulated Market	BVE	0,59***	0,66***	0,59***	0,69***	0,57***	
	NI	3,69***	2,43***	3,46***	5,06***	6,10***	
	adj. R^2	72%	69%	68%	69%	71%	2.571
Non-regulated market	BVE	1,47***	0,95***	0,94***	0,90**	1,00***	
(MTF)	NI	0,82	6,55**	7,70**	21,83**	11,51***	
	adj. R^2	73%	59%	58%	59%	68%	905

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

Moreover, while the IAS Regulation states that the IFRS must be applied to the consolidated financial statements of EU companies whose securities are traded on a regulated EU market, the above relationship is also tested taking into account the non-regulated markets.

In this regards, findings also suggest that there is not a relevant difference between trading venues - specifically regulated market versus multilateral trading facilities – in the way in which share prices reflect the accounting value.

4.3.2. The influence of market liquidity in the relationship between share prices, book value and earnings

The sample is tested in order to understand whether the liquidity of a security could affect the relationship between price and financial items.

In particular, a dummy that indicates if the security is liquid, as defined by the Committee of European Securities Regulators (CESR) under the Markets in Financial Instruments Directive (MiFID) is applied to the model. This data are provided by Bloomberg.

The results suggest that the high liquidity of a securities is not a feature that influence the explanatory power of accounting data in respect of share prices.

Untabulated analysis by country shows the same results.

These findings could be coherent with other researches (Christensen et al., 2013) that suggest that, across all countries, mandatory IFRS reporting had little impact on liquidity.

Table 13. Market liquidity and value relevance

		2011	2012	2013	2014	2015	n. obs
Shares liquid ex MiFid	BVE	0,24***	-1,54***	-0,26**	0,60***	0,38***	
	NI	6,14***	4,13***	6,15***	4,60***	8,88***	
	adj. R^2	68%	55%	65%	66%	60%	780
Shares non-liquid ex	BVE	0,45***	0,50***	0,45***	0,65***	0,58***	
MiFid	NI	3,88***	2,30***	3,01***	4,09***	5,07***	
	adj. R^2	72%	64%	59%	62%	77%	2.233
High Turnover velocity	BVE	0,72***	0,76***	0,86***	1,44***	0,89***	
	NI	4,23***	4,52**	5,60**	9,28*	5,82***	
	adj. R^2	64%	62%	64%	61%	67%	706
Low Turnover velocity	BVE	0,41***	0,48***	0,43***	0,68***	0,52***	
	NI	4,24***	2,21***	3,01***	3,36***	5,84***	
	adj. R^2	72%	64%	62%	69%	73%	2.307

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

Results are also controlled analyzing security turnover velocity calculated by dividing the total number of shares traded over in a day by the average number of shares outstanding for the day. The more is turnover velocity, the more is the liquidity of a share.

Findings are also controlled by SMEs and it is obtained the same result described above.

Table 14. 2015 SMEs and share liquidity

2015 – adj. R^2	Shares Liquid ex MiFid	Shares non-Liquid ex MiFid
SMEs	n.a.	64%
Large Issuers	59%	80%

Table highlights the adjuster R^2.

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI).

4.3.3. European listed SMEs: differences from large issuers about the power of financial information to impact on share prices

Findings suggest that European listed SMEs are characterized by a less significant relationship between price and accounting values. In particular while for large issuers, since 2011, book value and net income are statistically significant and related to price, the explanatory power of these power is not so significant.

Specifically, for SMEs there is a positive relationship between price and book value even if that influence is less statistically significant compared to Large issuers. Contrary Net Income is related to price only in 2014 and 2015.

Table 15. Information gap of SMEs

	Year	BVE	(t)	NI	(t)	R^2 adj.	n. Obs.
Large	2015	0,59***	2,1	6,73***	3,1	71%	2.529
issuers	2014	0,81***	1,0	4,64**	1,7	58%	2.529
	2013	0,54***	2,0	3,50***	1,5	59%	2.529
	2012	0,59***	2,5	2,61**	0,5	60%	2.529
	2011	0,52***	3,1	4,23***	0,4	70%	2.529
SMEs	2015	0,49*	12,2	7,55**	6,3	39%	1.205
	2014	0,37	12,9	8,33**	3,2	22%	1.205
	2013	0,41*	6,8	2,05	3,8	22%	1.205
	2012	0,48*	8,2	0,81	2,8	27%	1.205
	2011	0,62**	7,0	0,55	6,6	36%	1.205

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

4.3.4. Institutional investors and relevance of financial information on share prices

The table below reports the findings of the analysis about the relationship between share prices and accounting data, measured in all 28 European countries, taking into account whether a firm has in the shareholder structure a significant presence of institutional investors.

Results suggest that when a significant amount of shares is hold by institutional shareholders, prices better reflect the financial information.

These results are confirmed over time from 2011 to 2015.

Table 16. Institutional shareholder effect on relevance of financial information

Total Sample	Year	BVE	(t)	NI	(t)	R^2 adj.	n. Obs.
Significant	2011	0,54***	8,2	3,67***	7,2	67%	3.357
institutional	2012	0,60***	8,9	2,20**	2,7	58%	3.357
shareholder	2013	0,56***	7,8	3,04***	3,8	58%	3.357
	2014	0,78***	11,6	4,71***	3,4	56%	3.357
	2015	0,57***	12,5	6,96***	6,9	69%	3.357
Non-significant	2011	0,59*	2,4	2,76	1,1	46%	377
institutional	2012	0,41*	2,4	4,47*	2,1	39%	377
shareholder	2013	0,38	1,6	4,95*	2,3	32%	377
	2014	0,47	1,0	9,72	1,6	32%	377
	2015	0,64*	2,4	7,30**	2,8	50%	377

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

Moreover, focusing on SMEs, findings suggest that without the significant presence of institutional shareholders, the accounting data have not impact on shares prices.

The research demonstrates that institutional investors that enter the equity structure of a company could play an important role in increasing the informational efficiency of stock prices. This advantage is more prominent for small and medium enterprises.

The above effect could be driven by the higher quality reporting required by institutions, including clear explanations for good and bad performance and also by the informed application of their shareholder rights and of their ownership functions in companies in which they invest.

Table 17. SMEs and institutional shareholders: relevance of financial information

SMEs	Year	BVE	(t)	NI	(t)	R^2 adj.	n. Obs.
Significant	2011	0,55***	6,7	-0,16	-0,2	53%	956
institutional	2012	0,50***	6,5	-0,28	-0,5	67%	956
shareholder	2013	0,36***	7,5	0,13	0,5	60%	956
	2014	0,40***	4,6	1,33*	2,0	50%	956
	2015	0,43***	7,9	3,03***	5,0	67%	956
Non-significant	2011	0,69	1,0	0,71	0,2	29%	249
institutional	2012	0,11	0,2	6,52	1,6	21%	249
shareholder	2013	0,33	0,6	4,91	1,4	21%	249
	2014	-0,88	-1,0	32,88**	1,7	39%	249
	2015	0,38	0,5	11,86**	1,8	39%	249

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

4.3.5. The importance of ratings in the European capital markets: the role of the expected financial information

As reported in the Action Plan on the CMU, the information gap between SMEs and investors can be a hurdle to non-bank funding. In particular, search costs prevent potential investors from identifying and assessing attractive companies in which to invest.

European Commission underline the need of making available to investors at European level a set of core financial and credit data to overcome information barriers.

For these reasons, in this research, the value relevance is observed taking into account the presence of a rating attribution.

To do that, it is also analyzed the relationship between price, book value and expected net income, as a credit score is also based on the financial projections of a company.

Findings suggest that, for issuers with a rating assigned by top 3 rating firms, the adjusted R-squared is quite always lower than the panel composed by issuers without a rating. Furthermore, over the last three years the actual book value of equity has had a limited or null influence on prices, and only net income has had a significant relationship with market quotation.

Moreover, while actual financial information partially explain the level of share prices, the relationship between prices, actual net equity and expected net income has a stronger value relevance.

Table 18. Relationship between share prices and historical financial information: ratings influence

		2011	2012	2013	2014	2015	n. obs
Issuer with rating	BVE	0,27***	0,27***	0,13	0,20	0,21	
attributions	*t*	3,5	3,6	1,7	1,5	1,8	
	NI	4,46***	2,62**	5,54***	6,74***	6,73***	
	t	5,1	2,6	4,3	3,9	4,6	
	adj. R^2	62%	41%	55%	57%	58%	510
Issuer without ratings	BVE	0,82***	0,90***	0,89***	0,92***	0,63***	
	t	5,0	6,6	6,7	6,7	10,4	
	NI	9,04***	5,56***	5,14***	7,53***	7,25***	
	t	5,4	4,1	4,6	4,5	7,5	
	adj. R^2	67%	67%	66%	63%	68%	3.646

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI). The total number of observations (n. Obs) and the adjuster R^2 are reported.

Effectively, instead of considering in the above model the net income of the last published financial statements, the test based on the expected net income, other than actual net equity, suggests that prices reflect strongly the expected net income. In particular, the adjusted R^2 increases when the model takes into account the expected net income instead of the actual net profit. This result confirms that prices are impacted by the expected flows generated by shares.

Furthermore, the findings suggest that where there is a rating attribution, share prices are more statistically related to the adjusted net income than the book value of equity.

Table 19. Relationship between share prices expected Net Income: the role of the rating

Expected Net Income Model		2011	2012	2013	2014	2015	n. obs
Rating	BVE	0,04	0,10	0,20**	0,13	0,05	
	NI	14,50***	15,70***	11,06***	15,30***	15,93***	
	adj. R^2	65%	77%	85%	86%	88%	437
No Rating	BVE	0,07	0,18**	0,27***	0,01	0,35***	
	NI	13,14***	13,16***	14,11***	19,07***	9,62***	
	adj. R^2	64%	68%	86%	74%	72%	1.149

****, **, * denote significance at the 0,1%, 1% and 5% level, respectively.*

Findings represent "Expected Net Income" models: the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Expected net Income per share based on market consensus for the next year (t+1). The total number of observations (n. Obs) and the adjuster R^2 are reported. Vuong tests are also performed based on the same panel of issuers and results suggest for 2015 a z-statistic of 6,57 (R-squared of Expected net income model prevails over "Actual Net Income" model that is the explanatory power from a regression of share price (P), Book Value of Total Equity per share (BVE), Net Income per share (NI)); for 2014 of 5,23, for 2013 of 5,84, for 2012 of 6,38 and for 2011 of 3,05 and they are always statistically significant.

These findings seem to be justified taking into account that in the process of a rating opinion the assessment of expected financial information has a key role. Commonly in this case the relevance of projection, that are also analyzed by rating firm, assumes a significant role. For this reason, in this case, expected net incomes tend to have more effect on prices than in other case. Consequently markets are more reliant on these projected information.

For robustness results are analyzed considering the presence of a significant number[9] of analyst covering the security and the same conclusions are met.

[9] A dummy is defined to take into account issuer covered by more than 5 analyst researcher, that represent an average of the sample.

5. CONCLUDING REMARKS

This study documents that European capital markets are still characterized by divergences in terms of relevance of financial information on shares prices (*value relevance*).

In particular, following previous studies about value relevance, this research has analyzed the relationship between share prices and accounting information namely book value of equity and net income, starting from 2011 to 2015 based on a sample of more than 4,000 companies.

In depth, the study has tested some drivers behind the project of the European Commission named Capital Markets Union (CMU) launched to achieve a single market for capital in Europe.

The research has shown that prices depend on book value of equity and net income of the issuers but have not found an improving trend in the way in which prices reflect the financial information. Significant differences exist country by country: the price results influenced by financial information in 2015 in a range from 47%-94% and while the book value of equity has quite always a relationship statistically significant with share prices, in at least 5 member states the net income seems not to be statistically related to prices.

In particular, findings reveal that in member states with a higher investor protection regime, there is a higher relationship between equity, net income and share prices. This result does not depend on the differences in market liquidity.

Moreover, analyzing other market specific features, results suggest that significant differences in terms of value relevance are not explained by the nature of the trading venues - regulated market versus non-regulated market (in particular multilateral trading facilities). Otherwise as regard to listing accounting requirements, for issuers that have accounted the book value of equity and the net income according to IFRS, net income turns out to be statistically related to prices contrary to non-IFRS companies, while the book value of equity is quite always relevant.

Focusing on Small and Medium Enterprises (SMEs), findings suggest that large issuers are characterized by stronger relationship between prices and financial information compared to SMEs. This confirm the way in which European Commission is acting aim at reduce the information gap of SMEs.

Furthermore, result revels that if there is a presence in SMEs shareholder structure of institutional investors, issuers has a higher value relevance.

In particular, the study proves one of the benefits of the role of the institutional investors because mainly when they enter the equity of SMEs, they could contribute to increase the informational efficiency of stock prices.

Consequently the plan of the Capital Markets Union project to simplify for SMEs the access both to capital markets and to institutional investors could produce benefit on share prices.

Finally, the research has explored whether an issuer, that has a rating attribution, has a stronger relationship between prices and historical accounting data. Findings suggest that in this case there is not an improvement in value relevance because prices are more linked to expected net income instead of the historical one.

All the results confirm the goodness of the action plan of building a Capital Markets Union. In particular, based on the above findings, European Regulator should boost institutional investors in providing with capital to SMEs. In this way there will be benefits for all market participants because both financial information and prices will better represent the economic value of the companies.

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