

# ALTERNATIVE PERFORMANCE MEASURES: AN ASSESSMENT AFTER ESMA GUIDELINES

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## Abstract

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In July 2016, ESMA Guidelines that set out principles regarding the presentation of non-GAAP measures (ESMA Guidelines on Alternative Performance Measures - APMs) became effective. The guidelines should reduce the mispricing caused by pro forma earnings, and improve investor protection and the transparency of financial information. We provide a preliminary assessment of the impact of these guidelines on 2016 reports on a sample of European Small and medium-sized enterprises (SMEs) listed on regulated markets.

Using univariate and multivariate regressions, we demonstrate a significant relationship between Alternative performance measures disclosed in the press releases and stock prices in the period after the ESMA Guidelines. APMs are relevant information for investors and more adherence to the ESMA reporting guidelines may generate a positive impact on stock prices and short-term returns.

The findings also contribute to demonstrate that the European regulation about non-GAAP measures will reduce the asymmetry of information between users, particularly between capital owners and management, which may lead to increased users' confidence since they will be able to evaluate more effectively issuers' performance.

**Keywords:** Alternative Performance Measures, Stock Prices, Value Relevance of Earnings

**Authors' individual contribution:** Conceptualization - A.G.; Methodology - A.G., V.F. and G.V.; Writing - A.G., G.V. and V.F.; Investigation - A.G. and V.F.; Supervision - O.R.

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## 1. INTRODUCTION

On 5 October 2015, the European Securities and Markets Authority ("ESMA") issued ESMA Guidelines on Alternative Performance Measures (hereafter "APMs Guidelines", "APM Guidelines" or

"guidelines") with the objective of establishing consistent, efficient and effective supervisory practices within the European System of Financial Supervision ("ESFS"), and to ensuring the common, uniform and consistent application of Union law.

Examples of APM include underlying EBITDA, autonomous growth and net debt.

These guidelines had to be applied by companies on or after 3 July 2016, if they publish APM in regulated information (such as prospectuses, price-sensitive press releases, and management reports).

According to ESMA, compliance with the guidelines will benefit the comparability, reliability and/or comprehensibility of APM. In this context, the guidelines state that the definition of and calculation methodology for the APM must be disclosed, a relationship must be made between the APM and a relevant item in the statement of financial position, the income statement or the statement of cash flow, and that application must be consistent.

Moreover, in line with its aim of promoting protection of actual and potential investors, Article 5 of the Prospectus Directive sets out the principle that all information included in a prospectus shall be presented in an easily analyzable and comprehensible form. Therefore, where persons responsible for the prospectus decide to include APMs in a prospectus, this principle of comprehensibility dictates that such APMs should be defined, provided with meaningful labels and reconciled to financial statements and their relevance and reliability should be explained.

Starting from the seminal work of Ball and Brawn (1968) where they investigated whether and to what extent accounting information is reflected in stock prices, many scholars have investigated various relationships of accounting information, share prices, and market returns. The findings of Ball and Brown showed that cumulative abnormal returns increased for firms with unexpected good news prior to the earnings announcement with some effects following the announcement. An opposite and stronger reaction was observed for bad news firms. The evidence supports semi-strong market efficiency, that is, market prices reflect all publicly available information.

Since the 1980s some researchers have argued that financial accounting numbers are becoming less useful, that is, less relevant to investors. This conclusion is based on examining the statistical association between accounting earnings and share prices (or returns) over time.

The increasingly pervasive reporting of non-GAAP earnings poses fundamental challenges for investors and analysts, including non-comparability, a lack of transparency, and the need for decisions about the extent to which such measures are incorporated into forecasts.

Generally accepted accounting principles (GAAP) are the standard framework of guidelines for financial accounting. Non-GAAP measures can be disclosed to inform capital markets about recurring performance or to portray a firm's performance in an optimistic manner, a practice that may mislead investors. We study the disclosure of non-GAAP earnings measures that are accompanied by impression management communication techniques and explore how this varies across institutional environments. Since investors value persistent earnings (Collins & Kothari, 1989), firms have incentives to separate permanent and transitory earnings components. However, earnings

measurement and disclosure is constrained by GAAP and subject to monitoring.

In their search for more flexible ways to convey information about earnings persistence, managers have tended toward the voluntary disclosure of non-GAAP performance measures in earnings press releases. Prior research suggests that investors perceive non-GAAP earnings to be informative (Bradshaw & Sloan, 2002; Bhattacharya et al., 2003), but express concerns about the possibility of exploitation by managers to positively bias investors' perceptions (Andersson & Hellman, 2007; Bhattacharya et al., 2007; Cormier et al., 2011). Therefore, the challenge for investors and regulators is to allow management freedom to use non-GAAP earnings adjustments to communicate key earnings components while simultaneously limiting opportunistic disclosures (Young, 2014).

The aim of this study is to investigate the impact of the application of ESMA Guidelines in reporting APMs on the value relevance of accounting information. In particular, we study the market's reaction to the disclosure of non-GAAP earnings measures over the period 2015-2016 analyzing in detail the consistent application of each requirement of the Guidelines and their relationship with the stock prices.

We expect that a strict adherence to ESMA Guidelines in reporting APMs will improve the relationship between APMs and stock prices, affecting the value relevance of earnings information reported in the press releases. As a result, we can formulate the following hypothesis:

*HP 1: The disclosure of APMs in the press releases is a value relevant information for investors.*

*HP 2: The reporting of APMs in compliance with ESMA Guidelines exerts a positive effect on stock prices/returns.*

Our study has important implications for financial reporting. Recently, the FASB and IASB have interpreted the widespread use of non-GAAP measures as a signal about whether firms should provide greater disaggregation of income statement line items. Linsmeier (2016) argues "that EPS (and NI reporting) increasingly may not be serving all users' needs" and that "examining the primary types of non-GAAP measures provide(s) insights into what users need" (p. 487).

This study contributes to verify whether there is an improvement in the quality of disclosed accounting measures generated by the application of ESMA guidelines. We believe that ESMA guidelines increase the transparency of information, reducing information asymmetry and leading to a better assessment of risks and better asset pricing. This should improve the efficiency of capital markets.

The rest of the paper is structured as follows. The available literature is surveyed in Section 2. Section 3 presents our methodology and the results of the empirical analysis. Section 4 provides the conclusion and the implications for policy makers.

## 2. LITERATURE REVIEW

A number of papers addressed the consequences of the non-GAAP regulations mainly in US capital markets. Bowen et al. (2005) found increasing emphasis on GAAP earnings in early 2001 following an SEC warning and enforcement action concerning non-GAAP disclosures.

Using a smaller, hand-collected sample, Marques (2006) found a decline in non-GAAP disclosure frequency after the SEC regulations, but results suggested little or no change in earnings-return relations due to the regulations. Entwistle et al. (2006) used a smaller sample of hand-collected non-GAAP earnings disclosures and demonstrate a relevant reduction in the frequency of non-GAAP earnings disclosures and in exclusion magnitudes, but an increase in special-item exclusions.

In contrast, Yi (2007) concluded that the association between 3-day announcement period returns and non-GAAP earnings increases and that the association between exclusions and future stock returns declines after the regulations. Kolev et al. (2008) found the association between other-item exclusions and future operating income declines after the regulations but that the association between future operating income and special-item exclusions increases.

Since 2002, Bradshaw and Sloan showed non-GAAP earnings are useful for investors because non-GAAP earnings are more strongly associated with returns, share prices, and future earnings than GAAP earnings. Gu and Chen (2004) found the most common items excluded by analysts and they found that items excluded by managers and analysts have predictive ability and that managers' exclusions provide information for analysts.

According to Christensen et al. (2011), analysts influence managers' exclusions. In cases where managers provide guidance about pro forma earnings during the year, analysts are more likely to exclude special and other items.

Considering the importance of specific adjusted items, Barth et al. (2012) explored adjustments for share-based payment expense. They conclude companies are more likely to exclude share-based payment expense from their non-GAAP earnings to manage investor perceptions while analysts are more likely to exclude the expense when the exclusion results in a measure of earnings that has greater predictive ability for companies' future performance.

Aubert (2010) found that non-GAAP metrics have the potential to misinform investors as they reflect figures that are opportunistically composed. The study of 116 financial press releases issued by French listed companies on the NYSE-Euronext Paris between 1996 and 2006 shows that non-GAAP earnings are higher than GAAP (or IFRS)-based earnings. He concluded that non-GAAP information tends to misinform market participants by releasing unregulated information that cosmetically improves financial performance.

The disclosure of adjusted IFRS earnings is a common practice in many countries (Isidro & Marques, 2015). These voluntary disclosures may reduce the information asymmetry between companies and capital providers, thus reducing the agency problem (Jensen & Meckling, 1976).

Moreover, previous work about the use of non-GAAP metrics suggests that while managerial opportunism is an issue in the interpretation of such information, there are also reasons to believe that non-GAAP metrics can complement GAAP reporting. Overall, taking into account these concerns, non-GAAP metrics generally improve financial communication and give a better view of the firm.

However, the interface between GAAP and non-GAAP reporting as well as the impact of corporate governance on the quality of non-GAAP measures remain relatively unexplored. For example, Choi and Young (2015) suggest that non-GAAP earnings disclosures tend to be driven by a desire for informative (strategic) reporting when GAAP earnings beat (fail to meet) market expectations. Johnson et al. (2014) offer some insight into management's willingness to engage in non-GAAP reporting by showing a positive association between the prominent disclosure of non-GAAP earnings information and non-sophisticated investor reliance on this information.

Another body of literature argues that non-GAAP earnings may support or create unjustifiable stock valuations. Pro forma earnings frequently help firms achieve earnings targets (Black & Christensen, 2009; Lougee & Marquardt, 2004), and pro forma earnings are more likely after share price declines (Bhattacharya et al., 2004) and when boards of directors are less independent (Frankel & McVay, 2011). Strategic timing of earnings announcements is also linked to pro forma disclosures in a way that suggests managerial opportunism (Brown et al., 2012a).

Finally, it is important to note that prior studies mostly conclude that non-GAAP earnings are informative because of transitory item exclusions (Bradshaw & Sloan, 2002; Bhattacharya et al., 2003). In recent years, the earnings components that managers typically exclude are recurring expenses such as stock-based compensation and the amortization of intangibles (Whipple, 2015). Prior studies generally view recurring expense exclusions as more difficult to justify than transitory item exclusions and often interpret recurring exclusions as "low-quality" exclusions indicative of aggressive non-GAAP reporting (Black & Christensen, 2009; Brown et al., 2012; Christensen, Drake, & Thornock, 2014). However, the usefulness of recurring expenses can vary across firms and with the exception of Barth, Beaver, and Landsman (2012), Whipple (2015), and Black, Christensen, Ciesielski, and Whipple (2017), few studies have examined the potential informativeness - as opposed to aggressiveness - of recurring item exclusions for forecasting and valuation.

Based on the above analysis, there is a gap in the literature about the assessment of the impact in Europe after the Alternative Performance Measures Guidelines. Our paper could contribute to the growing literature on the impact of non-GAAP measures, verifying the effects of the new European regulation on capital markets.

### 3. EMPIRICAL ANALYSIS

#### 3.1. Description of the dataset and hand-collection of data

The sample comprises 71 European Small and Medium Enterprises (SMEs) listed on regulated financial markets, composing the S&P Europe 350 Industrial index, a free-float market cap-weighted index that measures the performance of equities in 17 Pan-European markets. We select firms from this index since it offers an effective balance between broad market representation and liquidity. The S&P

Europe 350 is part of the S&P Global 1200. To be included in the S&P Europe 350 index, a company must meet certain criteria, including: market capitalization (size must be in the top 95th percentile), public float (who holds the stock), liquidity, domicile, type of securities (stocks and preferred stocks are generally eligible), and sector classification. Similar to the S&P 500 index in the United States, the S&P Europe 350 index is used as a benchmark to measure a European stock's performance.

We focused on SMEs since they are usually perceived as more opaque than large corporate in reporting accounting information and therefore an improvement in financial reporting standards may generate a relevant impact on information asymmetry and stock pricing. Starting from 350 companies of the S&P Europe 350 Industrial index, we decide to exclude the following firms:

- firms with missing information;
- companies with a market capitalization in 2016 above 500 EUR/mln, as this represents the threshold applied by European shareholder directive to identify SMEs;
- companies not reporting APMs in their press releases.

Moreover, because market capitalization could not represent a robust parameter to select SMEs because of market volatility, we have applied European Accounting Directive thresholds assessing the amount of total assets and revenues.

Based on the selection criteria above mentioned, we collect a sample of 71 European SMEs listed on 11 European stock exchanges. SMEs do not include financial institutions.

To the purpose of conduct this study, taking into account that ESMA Guidelines entered into force when publishing regulated information on or after July 3, 2016, data collected are related to the period 2015-2016.

We have also identified and hand-collected non-GAAP earnings information from press releases published in relation to 2015 and 2016 annual results.

In details in order to verify the application of ESMA Guidelines, we created the following 4 dummies:

- "APM Definition", equal to 1 if the company discloses the definitions of APMs used;
- "APM Reconciliation", equal to 1 if the company presents a reconciliation of APM to the most directly reconcilable line item of the financial statements;
- "Adjusted EBITDA", equal to 1 if the company reports and defines the Adjusted EBITDA on the first page of the press release;
- "GAAP Net Result", equal to 1 if the company reports the net result as provided in the financial statements in the first page of the press release.

In particular, we assumed that when the GAAP net result is provided on the first page APMs are not provided with more prominence than financial statement results as required by ESMA. This approach seems also in line with ESMA Q&A on APMs and with IASB discussion about prominence.

Moreover, we assigned press releases a score from 1 to 4 (SCORE) based on the presence of the four above mentioned dummies. This will evaluate the degree of compliance with ESMA Guidelines

requirements (definition, reconciliation, prominence) and the Variable SCORE can be perceived as a proxy of the quality of the financial reporting in the press releases (SCORE=4 means lower information asymmetry and higher information quality for investors). The higher the score, the stronger is the adherence of press releases to the ESMA Guidelines.

In Table 2 (see Appendix), we describe the outcome of the SCORE and the use of the APM figures in the 2015 and 2016 press releases for the sample selected.

Looking at the use of APM definition and reconciliation, we found a slight increase in using the APM terminology.

Nevertheless, only five companies explicitly stated that they comply with the ESMA APM Guidelines.

Other control variables are set up (EPS, BPS, P/BV, Beta, Tobin's Q). They are included in the analysis in order to check the incremental effects of dummies variables on stock prices.

### 3.2. Research design

Prior research indicates that non-GAAP reporting takes place in a context in which GAAP reporting does not leave much room for discretion (Isidro & Marques, 2015). Managers view non-GAAP reporting either as a tool to convey additional information that is not adequately reflected in GAAP earnings or as an opportunity to deflect attention from unfavorable underlying earnings performance. Managers. If managers use non-GAAP reporting in an opportunistic way, then we expect investors to use such information and to revisit their appreciation of underlying GAAP earnings. In other words, relevant and credible non-GAAP reporting is likely to enhance markets' appreciation of GAAP earnings.

To investigate the impact of ESMA Guidelines on the value relevance of APMs, we run univariate and multivariate OLS regressions.

First, we investigate the relationship between the requirements of ESMA Guidelines and stock prices using univariate regressions. More specifically, using press releases published in 2017 and 2016 (related to 2016 and 2015 annual reports, respectively), we regress the dummy variables Def\_2016, Rec\_2016, AdjEBITDA\_2016, NetResult\_2016, Score\_2016, Def\_2015, Rec\_2015, AdjEBITDA\_2015, NetResult\_2015, Score\_2015 against stock prices, separately for 2015 and 2016.

Second, according to recent literature (Cormier et al., 2017), we regress the variables EBITDA per Share and Score along with control variables to understand the incremental impact of APMs on stock prices, separately for 2015 and 2016. This allows us to compare the role of APMs after the introduction of ESMA Guidelines in 2016.

Here below the regression model<sup>2</sup> is presented:

$$PRICE = \alpha_0 + \alpha_1 BPS + \alpha_2 EPS + \alpha_3 EBITDAPS + \alpha_4 SCORE + \alpha_5 Beta + \alpha_6 TobinQ + \alpha_7 Country + \alpha_8 Sector + \varepsilon \quad (1)$$

<sup>2</sup>According to Cormier et al. (2017), we decide to use the stock prices as dependent variable. Other research designs may be applied: i.e. the estimation of abnormal returns to measure the market reactions to the press releases or DIFF-DIFF methodology to understand the effect on the treated group generated by the use of APMs and the introduction of ESMA Guidelines.

Where *PRICE* is the market share price at the end of April, considering European Transparency Directive timeline to publish financial information, *BPS* is the Book Value per share, *EPS* is the Earnings per share, *EBITDAPS* is the EBITDA per share, *SCORE* is the score variable of APM Guidelines constructed as explained above, *BETA* is the market beta of the entity, *TOBINQ* is the Tobin's Q (ratio between a physical asset's market value and its replacement value), *Country* is a control variable representing the different jurisdictions, *Sector* is a control variable representing the industry of each SME.

In particular, following prior research, to ensure accounting information is in the public domain, *P* is stock price four months after fiscal year-end (Lang et al., 2003, 2006; Barth et al., 2008). Book value per share and Net Income are referred to last fiscal year-end data preceding price date, and EBITDA is the earnings before interest expense, taxes, depreciation and amortization provided in the press release and hand-collected.

Some problems in this kind of researches arise from are scale bias. In line with previous papers, this study will employ a per share specification to eliminate the scale bias (Barth, 2009, 2014).

Descriptive statistics of dependent variables are shown in Table 4 (see Appendix).

To reduce the heteroscedasticity problem, in line with previous studies, the robust standard errors of the Ordinary Least Squares is applied. Untabulated robustness analysis based on the winsorization of data confirms the results.

As a robustness check, we regress the stock returns calculated in the announcement window (0; +1) against the variable *SCORE* and the control variables Book Value per share (*BPS*), Earnings per share (*EPS*), EBITDA per share (*EBITDA\_PS*), the market beta of the entity, Tobin's Q, *COUNTRY* (to check the effect in different countries), *SECTOR* (to control the effect in different industries). The stock return is calculated as  $\ln(\text{Stock Price}_{t+1}/\text{Stock Price}_t)$  where *t* is day of the publication of the press release<sup>3</sup>.

$$\begin{aligned} \ln(\text{Stock Price}_{t+1}/\text{Stock Price}_t) = & \alpha_0 + \alpha_1 \text{BPS} \\ & + \alpha_2 \text{EPS} + \alpha_3 \text{EBITDAPS} \\ & + \alpha_4 \text{SCORE} + \alpha_5 \text{Beta} \\ & + \alpha_6 \text{TobinQ} + \alpha_7 \text{Country} \\ & + \alpha_8 \text{Sector} + \varepsilon \end{aligned} \quad (2)$$

### 3.3. Results of the empirical analysis

Table 5 (see Appendix) summarizes the results of the univariate regressions run separately in 2015 and in 2016. The univariate analysis suggests that two dummy variables (APM reconciliation, Adjusted EBITDA) exert a significant positive effect on stock prices in 2016 while they are not significant in 2015. In addition, the variable *SCORE* is significant at 1% confidence level. Reporting Adjusted EBITDA in the press releases and showing the reconciliation to the GAAP measures generate a positive impact on the company stock price. This implies that the ESMA Guidelines on Alternative Performance Measures (APMs) is useful for investors. The use of APMs in the press releases is a relevant information for

investors and the quality of the financial reporting in the press releases, proxied by APM reconciliation and *SCORE*, is beneficial for the stock prices.

To investigate the role of APMs (EBITDA per share) and the incremental effect of the reporting requirements requested by ESMA Guidelines, we run multivariate regressions separately for the period pre-ESMA Guidelines (2015) and for the period post ESMA Guidelines (2016).

Table 6a (see Appendix) summarizes the results of the multivariate regression in which we include the traditional control variables (Beta, BPS, EPS, Tobin's Q) to predict stock prices and the variables EBITDA per share and *SCORE*. The variable *SCORE* summarizes the dummies variables in a score from 1 to 4.

In the period pre-ESMA APM Guidelines (2015), as expected, Beta, Tobin's Q, EPS, and BPS exerts a significant positive effect on the stock prices while the variable *SCORE* and the EBITDA PER SHARE are not significant.

In the period post-ESMA APM Guidelines (2016), among the control variables, only the beta and the book value per share are significant in addition to the variable *SCORE* and the EBITDA PER SHARE. The earnings per share and the TobinQ become not relevant in 2016. These results are very interesting since our analysis demonstrate that, after the ESMA Guidelines, the role of APMs (EBITDA per share) is increased while the role of traditional variables (earnings per share and TobinQ) disappears. APMs seem more relevant than traditional performance measure (earnings per share) for investors. In addition, more adherence to ESMA Guidelines, proxied by the variable *SCORE*, increase the positive effect of APMs on stock prices.

Our findings allow us to confirm the usefulness of ESMA Guidelines in reducing information asymmetry and in increasing the quality of financial reporting in price-sensitive documents (press releases).

The inclusion of APM measures in the press releases, together with reconciliation and adjusted EBITDA, exert a positive effect on stock prices. Our results are confirmed in the robustness check where we regress stock returns against *SCORE* and control variables.

The variable *SCORE* exerts a significant positive effect on the stock return in the day after the publication of press releases. Issuing price-sensitive information with a strict adherent to ESMA Guidelines generates a short-term positive effect on stock returns. This positive effect seems not affected by the industry of the company and the country of origin.

## 4. CONCLUSION

In this paper, we have investigated the role of alternative performance measure on stock price in the two different periods, before the ESMA APM Guidelines (2015) and immediately after the Guidelines (2016). In particular, we analyze the impact of APM and other reporting characteristics on the stock prices/returns of 71 European SMEs listed on 11 European stock exchanges, using the information provided in the press releases.

Using univariate and multivariate regressions, we demonstrate a significant relationship between

<sup>3</sup> We use the stock return of the trading day immediately after the publication of the press release since, in most cases, the press release is published when markets are closed. Therefore, the publication of press releases affects the stock prices starting from the day after publication.

Alternative performance measures disclosed in the press releases and stock prices in the period after the ESMA Guidelines. We also demonstrate that, after the ESMA Guidelines, the role of APMs is increased while the role of traditional variables (earnings per share and TobinQ) disappears. Our findings have several implications for companies, investors, and regulators. First, APMs are relevant information for investors and generate a significant impact on stock prices. More specifically, the reporting of EBITDA in the press releases, together with strict adherence to the ESMA reporting guidelines, generate a positive impact on stock prices. Therefore, we strongly suggest companies to report APMs in their press releases and to improve the quality of their information in accordance with the ESMA Guidelines, especially for SMEs. From the regulators' perspective, we may assert that ESMA Guidelines reduce the information asymmetry,

moving towards more efficient financial markets. More in general, a European regulation about non-GAAP measures may lead to increased investors' confidence since they will be able to evaluate more effectively issuers' performance.

Our findings might be affected by several limitations. The main limitation is related to our dataset. In fact, we use a small dataset of European SME only for the years 2015-2016. Further researches may address these limitations, by extending the period of analysis and by increasing the number of companies in the sample. In addition, different methodologies such as short-term abnormal returns to measure the market reactions to the press releases or DIFF-DIFF (*in this case, a sample of SMEs not reporting APMs is needed*) to understand the effect on the treated group may be applied to larger dataset to measure the impact of APMs and ESMA Guidelines.

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## APPENDIX

**Table 1.** Sample by country and industry

Sectors	Austria	Belgium	Finland	France	Germany	Ireland	Italy	Luxemb.	Neth.	Portug.	Spain	Total
Consumer Staples	0	0	1	1	0	0	2	0	0	0	1	5
Leisure Products	1	0	1	0	3	2	6	0	2	0	2	17
Energy	0	1	0	1	0	0	0	0	0	0	0	2
Industrials	2	1	1	0	6	0	1	0	0	0	1	12
Information Tech.	1	1	2	0	9	1	1	1	1	0	1	18
Real Estate	1	0	1	0	0	0	0	0	0	0	0	2
Materials	0	2	0	2	0	1	0	0	0	0	1	6
Health Care	0	0	1	2	2	0	0	0	0	0	0	5
Utilities	0	0	0	0	0	0	1	0	0	0	0	1
Telecommunications	0	0	0	0	1	0	1	0	0	1	0	3
<b>Total</b>	<b>5</b>	<b>5</b>	<b>7</b>	<b>6</b>	<b>21</b>	<b>4</b>	<b>12</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>71</b>

Note: The table represents the distribution by country and industry of the 71 European SMEs listed on 11 European stock exchanges selected in the sample for the analysis.

**Table 2.** Score distribution in the sample as 2015 and 2016

Score	2015	2016
n.0	26	22
n.1	27	22
n.2	11	10
n.3	4	12
n.4	3	5

Note: This table shows the outcome of the SCORE and the use of the APM figures in the 2015 and 2016 press releases for the sample selected. We assigned press release a score from 1 to 4 (SCORE) based on the presence of the four of dummies above mentioned. This will evaluate the degree of compliance with ESMA Guidelines requirements (definition, reconciliation, prominence) and the Variable SCORE can be perceived as a proxy of the quality of the financial reporting in the press releases (SCORE=4 means lower information asymmetry and higher information quality for investors). The higher the score, the stronger is the adherence of press releases to the ESMA Guidelines.

**Table 3.** Findings of the APM requirements

Data	2015	2016
APM Definition	14	21
APM Reconciliation	7	13
Adjusted EBITDA	14	22
GAAP Net Results	38	42
ESMA GL cited	n.a.	5

Note: The table shows the evidence from the analysis done to verify the compliance with the APM ESMA guidelines. We chose the following 4 dummies:

- "APM Definition", equal to 1 if the company discloses the definitions of APMs used;
- "APM Reconciliation", equal to 1 if the company presents a reconciliation of APM to the most directly reconcilable line item of the financial statements;
- "Adjusted EBITDA", equal to 1 if the company reports and defines the Adjusted EBITDA on the first page of the press release;
- "GAAP Net Result", equal to 1 if the company reports the net result as provided in the financial statements in the first page of the press release.

Moreover, we observed that only in 5 cases issuers cited the compliance with the APM ESMA Guidelines.

**Table 4.** Descriptive statistics - total sample

Variables	(1) N	(2) mean	(3) sd	(4) min	(5)
Def_2016	63	0.333	0.475	0	1
Rec_2016	63	0.206	0.408	0	1
AdjEBITDA_2016	63	0.349	0.481	0	1
NetResult_2016	63	0.667	0.475	0	1
Score_2016	71	1.380	1.280	0	4
Def_2015	60	0.233	0.427	0	1
Rec_2015	60	0.117	0.324	0	1
AdjEBITDA_2015	60	0.233	0.427	0	1
NetResult_2015	60	0.633	0.486	0	1
Score_2015	71	1.028	1.069	0	4
Price29042016	68	21.70	39.45	0.0539	251.9
Price28042017	70	25.12	50.98	0.0462	308
EPS29042016	66	0.0901	0.955	-3.692	5.267
EPS28042017	69	0.180	0.946	-3.130	3.876
TobinQRatio29042016	66	1.785	1.930	0.472	13.81
TobinQRatio28042017	70	1.836	2.233	0.529	17.44
Beta29042016	67	0.843	0.233	0.233	1.377
Beta28042017	70	0.791	0.260	-0.202	1.371
BPS29042016	66	8.241	9.655	-5.730	44.29
BPS28042017	69	8.824	11.41	-5.086	74.51
Country_n	71	5.408	2.665	1	11
Sector	71	4.451	2.371	1	10
ShOut2016	70	745.5	5,108	1.980	42,735
ShOut2015	68	759.1	5,138	1.980	42,369
EBITDA_Sh_2016	54	1.771	3.010	-1.367	16.36
EBITDA_Sh_2015	48	1.554	2.375	-2.666	9.263

Note: The following dummy variables are defined above: Def is APM Definition, REC is APM Reconciliation, AdjEBITDA is Adjusted EBITDA, NetResult is GAAP Net Result and Score is the score defined above. The other variables are: PRICE is the market share price at the end of April, considering European Transparency Directive timeline to publish financial information, BPS is the Book Value per share, EPS is the Earnings per share, EBITDAPS is the EBITDA per share + SCORE is the score variable of APM Guidelines constructed as explained above, BETA is the market beta of the entity, TOBINQ is the Tobin's Q (ratio between a physical asset's market value and its replacement value), Country is a control variable representing the different jurisdictions, Sector is a control variable representing the industries of each SME.



**Table 5.** Univariate regression for the 2005 and for the 2006

Def_2016	194.950									
p-value	0.179									
Rec_2016		31.3978*								
p-value		0.061								
AdjEBITDA_2016			25.8512*							
p-value			0.070							
NetResult_2016				98.797						
p-value				0.498						
Score_2016					10.2429*					
p-value					0.030					
Def_2015						112.786				
p-value						0.383				
Rec_2015							178.140			
p-value							0.294			
AdjEBITDA_2015								21.697		
p-value								0.867		
NetResult_2015									60.302	
p-value									0.597	
Score_2015										54.255
p-value										0.228
_cons	19.3045**	19.3242*	16.7346*	193.743	109.277	20.2104**	20.7731**	22.3718**	19.1050*	15.9585*
p-value	0.024	0.013	0.049	0.106	0.215	0.002	0.001	0.001	0.038	0.020
N	62	62	62	62	70	59	59	59	59	68

Note: This table presents the results of the univariate test. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. t-statistics (traditional cross-sectional method) based on standard errors are shown. Dependent variable: stock price. Independent variables: Def is APM Definition, REC is APM Reconciliation, AdjEBITDA is Adjusted EBITDA, NetResult is GAAP Net Result and Score is the score defined above.

**Table 6a.** Multivariate analysis

VARIABLES	(I) 2016 Post ESMA - APM Guidelines	VARIABLES	(I) 2015 Pre ESMA - APM Guidelines
BPS	1.273*** (0.417)	BPS	2.162*** (0.418)
EBITDA_PS	9.778*** (2.043)	EBITDA_PS	1.017 (0.749)
Score	10.23* (5.885)	Score	3.508 (3.113)
Beta	-59.00* (31.53)	Beta	43.42** (21.16)
EPS	7.154 (5.287)	EPS	34.48*** (7.879)
TobinQ	-3.258 (4.401)	TobinQ	4.062*** (1.488)
Country_n	2.127 (1.649)	Country_n	0.207 (0.783)
Sector	0.582 (2.296)	Sector	-0.693 (1.051)
Constant	18.11 (34.96)	Constant	-50.57*** (18.02)
Observations	52	Observations	43
R-squared	0.579	R-squared	0.861

Note: This table presents the results of the multivariate test. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. t-statistics (traditional cross-sectional method) based on standard errors are shown. The variables are defined as follows: Where PRICE is the market share price at the end of April, considering European Transparency Directive timeline to publish financial information, BPS is the Book Value per share, EPS is the Earnings per share, EBITDAPS is the EBITDA per share, SCORE is the score variable of APM Guidelines constructed as explained above, BETA is the market beta of the entity, TOBINQ is the Tobin's Q (ratio between a physical asset's market value and its replacement value), Country is a control variable representing the different jurisdictions, Sector is a control variable representing the industries of each SME.

Table 6b. Correlation matrix

2016	Price	BPS	EBITDA_PS	Score	Beta	EPS	TobinQ	Country	Sector
Price	1.00								
BPS	0.27*	1.00							
EBITDA_PS	0.58*	-0.10	1.00						
Score	0.26*	-0.10	0.21	1.00					
Beta	-0.41*	-0.08	-0.20	-0.23	1.00				
EPS	0.22	0.42*	-0.07	0.00	-0.08	1.00			
TobinQ	0.04	-0.13	0.06	-0.15	-0.01	0.01	1.00		
Country	-0.09	-0.36*	-0.05	-0.10	0.06	-0.15	-0.12	1.00	
Sector	0.04	0.02	0.09	-0.10	0.08	0.07	0.23	-0.14	1.00

2015	Price	BPS	EBITDA_PS	Score	Beta	EPS	TobinQ	Country	Sector
Price	1.00								
BPS	0.44*	1.00							
EBITDA_PS	0.14	-0.13	1.00						
Score	0.15	-0.09	-0.06	1.00					
Beta	-0.07	-0.13	0.02	0.12	1.00				
EPS	0.48*	-0.20	0.12	0.17	-0.12	1.00			
TobinQ	0.06	-0.18	0.19	-0.09	-0.09	0.09	1.00		
Country	-0.13	-0.32*	0.01	-0.01	0.16	0.01	-0.13	1.00	
Sector	-0.01	-0.00	-0.17	-0.06	0.05	-0.14	0.20	-0.14	1.00

Note: This table presents the correlation matrix. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. t-statistics (traditional cross-sectional method). The variables are defined as follows: Where PRICE is the market share price at the end of April, considering European Transparency Directive timeline to publish financial information, BPS is the Book Value per share, EPS is the Earnings per share, EBITDAPS is the EBITDA per share, SCORE is the score variable of APM Guidelines constructed as explained above, BETA is the market beta of the entity, TOBINQ is the Tobin's Q (ratio between a physical asset's market value and its replacement value), Country is a control variable representing the different jurisdictions, Sector is a control variable representing the industries of each SME.

Table 7. Robustness check - regression results using stock returns as dependent variable

VARIABLES	(t)
BPS	0.000637
EBITDA_PS	-0.000403
Score	0.00652*
Beta	0.00450
EPS	-0.00602
TobinQRatio	0.00482
Country_n	-0.00122
Sector	-0.00176
Constant	-0.0165
Observations	77
R-squared	0.100

Note: This table presents the results of the multivariate test. \*\*\*, \*\*, \* denote significance at the 1%, 5% and 10% level, respectively. Dependent variable is the stock return in the announcement window (0; +1). The stock return is calculated as  $\ln(\text{Stock price}_{t+1} / \text{Stock Price}_t)$  where t is day of the publication of the press releases. Independent variables: BPS is the Book Value per share, EPS is the Earnings per share, EBITDAPS is the EBITDA per share, SCORE measure the adherence of the press release content to the APM Guidelines, BETA is the market beta of the entity, TOBINQ is the Tobin's Q (ratio between a physical asset's market value and its replacement value), Country is a control variable representing the different jurisdictions, Sector is a control variable representing the industries of each SME.