



Value relevance of accounting figures in presence of earnings management. Are enforcement and ownership diffusion really enough?

Susana Callao, Riccardo Cimini & José Ignacio Jarne

To cite this article: Susana Callao, Riccardo Cimini & José Ignacio Jarne (2016) Value relevance of accounting figures in presence of earnings management. Are enforcement and ownership diffusion really enough?, Journal of Business Economics and Management, 17:6, 1286-1299, DOI: [10.3846/16111699.2016.1203816](https://doi.org/10.3846/16111699.2016.1203816)

To link to this article: <http://dx.doi.org/10.3846/16111699.2016.1203816>



Published online: 21 Dec 2016.



Submit your article to this journal [↗](#)



View related articles [↗](#)



View Crossmark data [↗](#)

VALUE RELEVANCE OF ACCOUNTING FIGURES IN PRESENCE OF EARNINGS MANAGEMENT. ARE ENFORCEMENT AND OWNERSHIP DIFFUSION REALLY ENOUGH?

Susana CALLAO¹, Riccardo CIMINI², José Ignacio JARNE³

^{1,3}*Department of Accounting and Finance, Researcher of Business administration,
University of Zaragoza, Spain*

²*Department of Business and Economics, Researcher of Business administration,
University of Tuscia, Viterbo, Italy*

*E-mails: ¹scallao@unizar.es; ²rcimini@unitus.it (corresponding author);
³jijarne@unizar.es*

Received 28 October 2015; accepted 16 June 2016

Abstract. The study assesses and compares the value relevance (VR) of accounting numbers in entities that experienced high discretionary accruals intensity and so possible earnings management (EM) behaviours, testing whether and in what extent the quality of enforcement and governance mechanisms act as moderating factors on the relation EM-VR. Based on a sample of 2 667 European non-financial entities, the results show that while the VR of earnings is low in entities that experienced high discretionary accruals intensity, book value increases its VR. The study also shows that the quality of enforcement mechanisms and the ownership diffusion (that proxies the quality of corporate governance) are effectively able to obstruct the loss of VR of earnings. The value added of the paper consists in showing that both the quality of enforcement and the ownership diffusion contrast only in part and in different manner the loss of VR of earnings, due to the presence of EM behaviours, acting only in part as moderating factors.

Keywords: earnings management, value relevance, legal enforcement, corporate governance, ownership diffusion, European Union (EU).

JEL Classification: M41, G1.

Introduction

Scholars that investigated the relationship between EM and VR found that opportunistic behaviours of managers impair the weight investors place on earnings (Marquardt, Wiedman 2004). For book value, the debate is open; in fact, while some of them observed a reduction of its VR (Lang *et al.* 2006), other evidenced its increase (Marquardt, Wiedman 2004). This paper would like to contribute to this debate, studying whether the association between market prices and accounting amounts (earnings and book value) changes when managers opportunistically behave against the interests of external shareholders. The paper also aims at investigating whether and in what extent some factors,

such as legal enforcement and ownership diffusion (our proxy of high quality corporate governance) act as moderating factor, obstructing the loss of VR of accounting amounts in entities that experienced high discretionary accruals intensity. This is the value added of this paper; in fact, scholars focused on the ability of enforcement or of the quality of corporate governance simply to obstruct EM, not considering either that they could act as moderating factors or that they can obstruct the loss of VR due to opportunistic behaviours in different manner depending on whether we refer to usefulness or timeliness of accounting amounts.

To perform the study, we base on a sample of 2 667 listed entities (after eliminations). We use the Amadeus database to download data referred to the consolidated financial statements for the period 2009–2014 (16 002 firm-year observations).

Our research requires measuring EM, legal enforcement and ownership diffusion and choosing a model to assess the VR of accounting figures. The results obtained show that the VR of earnings decreases in entities that experienced high discretionary accruals intensity, while book value increases its VR in these entities. Moreover, both the quality of enforcement and governance mechanisms compensate in part the fall of the VR of earnings in entities that experienced high discretionary accruals intensity. Our findings suggest that such mechanisms – that could be considered control factors for EM – seem to be more effective to compensate usefulness rather than timeliness of earnings. In this sense, our findings contribute to the literature showing that EM influences VR of financial reporting and that enforcement and some governance characteristics act only in part as moderating factors, obstructing the loss of usefulness and of timeliness of accounting amounts. These results may be useful for firms, professionals, regulators and investors, because they show the importance of the quality of financial reporting for investors' strategies and the importance of environment and firm factors to control the negative effects of EM on VR of accounting amounts.

1. Literature review and research hypotheses development

This study addresses a first research question investigating whether the association between market prices and accounting amounts changes in the extent of which managers opportunistically behave against the interests of external shareholders. From this question, we understand that this work deals with two dimensions of the accounting quality (Barth *et al.* 2008), that are VR and accrual-accounting EM.

VR refers to the ability of accounting amounts to reflect the underlying economic value of a firm (Hung, Subramanyam 2007: 639). EM occurs when managers use judgments in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers (Healy, Wahlen 1999: 365). Incentives for manipulating earnings include capital market expectations, contracts written in terms of accounting numbers and antitrust or other government regulation (Healy, Wahlen 1999: 370).

Investigating the capability of EM to affect the VR of accounting amounts, scholars find contradictory results. For instance, Marquardt and Wiedman (2004) analyse whether EM impairs the VR of accounting information as reflected in stock prices. They find that

while in presence of EM net income is less value relevant in determining stock prices, book value plays a greater role in equity valuation even though accounting information is less useful overall in determining stock prices. More recently, Lang *et al.* (2006) find that non-US firms show more evidence of EM than US firms, and both their earnings and book value exhibit a lower association with share prices.

According to the above-mentioned scholars, while EM seems to negatively affect the earnings' VR, mixed results have been found for the VR of book value. On the one hand, this could be due to the fact that scholars focused on entities listed in different countries and adopted different accounting standards. On the other hand, such results depend on the assumption related to the *shape* of the function of equity value with both earnings and book value. Consistently with Burgstahler and Dichev (1997: 188), considering the market value of equity a *convex* function of earnings and book value, any loss of VR of earnings leads investors to place more weight on book value. To understand why, take into account that while earnings incorporate the option to continue the present activities with the current business technology (e.g., recursion value/option), book value incorporates the adaptation option, that is, the possibility to adapt the resources to alternative uses independently from their business technology (e.g., adaptation value/option). The adaptation option includes both the (rare) liquidation option and any form of internal change and reorganization. In a valuation model, when the earnings coefficient drops – perhaps due to EM behaviours – book value becomes the real determinant of the equity value, over which investors place more weight because the increased importance of the adaptation option compared with the recursion option. In fact, when the VR of earnings decreases, the firm exercises the adaptation option with a higher probability than it exercises the recursion option. So, the presence in the samples analysed of both entities that reported losses or that experienced high discretionary accruals intensity impairs the VR of earnings (Hayn 1995) and should increase the VR of book value. In case of losses, book value increases its VR thanks to the liquidation option; in case of EM behaviours also for changes and reorganizations. In this regard, there are papers that documented such changes/reorganizations that show how after period of high EM behaviours, entities do spin offs (Miloud 2013) or decide to go public with an Initial Public Offering (Lin, Yung 2014).

Therefore, assuming discretionary accruals a proxy of the presence of EM and that the equity value is a convex function of earnings and book value, our research hypotheses are the following:

H_{1A}: Earnings disclosed by entities that experiment high discretionary accruals intensity are less value relevant than the ones disclosed by entities where EM is low.

H_{1B}: Book value disclosed by entities that experiment high discretionary accruals intensity is more value relevant than the one of entities where EM is low.

A second research question addressed by this paper regards the ability of legal enforcement and corporate governance to act as moderating factors, obstructing the fall of VR of earnings due to EM.

Few papers investigate this topic. More in general, we can find papers that show the ability of enforcement and corporate governance to positively affect VR (Olsen, Elango

2005; Song *et al.* 2010; Lee *et al.* 2015) or to reduce EM behaviours. None of them show if such mechanisms are enough to obstruct the fall of VR due to EM, acting as moderating factors. For instance, Leuz *et al.* (2003) show that EM is negatively associated with the quality of minority shareholder rights and legal enforcement. The different enforcement regimes could explain the reasons why the first-time adoption of IFRS in EU produced different effects on EM depending on the country analysed and the kind of EM investigated (Mechelli, Cimini 2012).

As to the quality of corporate governance, Kent *et al.* (2010) found that the quality of governance mechanisms increases the quality of discretionary accruals. Among the governance mechanisms, according to Alves (2012), the ownership structure of a firm is considered an important managers' monitoring mechanism, so it may have a monitoring role in constraining EM. Some researchers find that when management ownership increases, the incentives to manipulate earnings will decrease (Ali *et al.* 2008). Actually, large shareholders, not interested in monitoring, may intervene in the firm's management, and may encourage managers to engage in EM to maximise their private benefits (Jaggi, Tsui 2007). Supporting the thesis that companies with the most concentrated ownership are those that rely less on high quality governance mechanisms, Ștefănescu (2012) provides all the references that support the thesis that ownership diffusion is appreciated as a required feature for a good corporate governance. This is thanks to the impossibility of shareholders to influence the company's reporting practices and the shareholder's intention to scrutinize managerial performance; otherwise, ownership concentration is appreciated as an issue of bad governance because of the low corporate transparency and the high agency costs.

If both the quality of legal enforcement and corporate governance are able to obstruct EM, it is reasonable to hypothesize that, in the subset of companies with high discretionary accruals intensity, investors place more weight on earnings disclosed by those with high quality corporate governance and/or listed in countries with high quality enforcement.

Therefore, our research hypothesis is the following:

H₂: The high quality of enforcement and ownership diffusion positively affect the VR of the reported earnings in entities that experienced high discretionary accruals intensity.

2. Research protocol

2.1. Operationalization of DA_{it}

Scholars extensively investigated accrual-accounting EM introducing in the literature a considerable number of specifications whose common purpose is to detect whether and how insiders carried out opportunistic behaviours against the interest of stakeholders. In this paper, to estimate discretionary accruals, we use the model of Larcker and Richardson (2004) whose specification is the following:

$$\frac{TA_{it}}{A_{it-1}} = \delta_1 \frac{1}{A_{it-1}} + \delta_2 \frac{\Delta REV_{it} - \Delta REC_{it}}{A_{it-1}} + \delta_3 \frac{PPE_{it}}{A_{it-1}} + \delta_4 \frac{MB_{it}}{A_{it-1}} + \delta_5 \frac{CFO_{it}}{A_{it-1}} + \varepsilon_{it}, \quad (1)$$

where: TA_{it} are total accruals; $\Delta REV_{it} - \Delta REC_{it}$ is the difference between the change in revenues and the change in receivables; PPE_{it} is the property, plant, and equipment; MB_{it} is the market-to-book ratio; CFO_{it} is the cash flow from operations; A_{it-1} are the lagged total assets.

The residuals of Eq. (1) has been considered our measure of discretionary accruals (DA_{it}), that in the accounting literature are considered a proxy of EM. To identify entities that experienced high and low discretionary accruals intensity, first we calculate the absolute value of DA_{it} and then we split this new variable at the median to calculate dDA_{it} that identifies entities that experienced high ($dDA_{it} = 1$) and low ($dDA_{it} = 0$) discretionary accruals intensity. In the former, EM behaviours are more probable than in the latter.

2.2. Operationalization of ENF_{it} and GOV_{it}

According to our second research hypothesis, both the quality of enforcement mechanisms and corporate governance positively affect the VR of earnings in entities that experienced high discretionary accruals intensity.

To control for the quality of the enforcement mechanisms in the environment in which entities are listed, we downloaded the Worldwide Governance Indicators. These six variables, available from the World Bank's on-line databases are Regulatory Quality (RQ_{it}), Rule of Law (RL_{it}), Government Effectiveness (GE_{it}), Voice and Accountability (VA_{it}), Political Stability and Absence of Violence ($PSAV_{it}$) and Control of Corruption (CC_{it}). Moving from these initial variables, using the Principal Components Analysis (PCA) we assess a single aggregate score (ENF_{it}) that is a metric which proxies the quality of enforcement mechanisms of the countries in which entities are listed.

Once assessed ENF_{it} we split it at the median to identify countries with high ($dENF_{it} = 1$) and low ($dENF_{it} = 0$) quality of enforcement mechanisms. The former are those with ENF_{it} over the median and the latter are those with ENF_{it} under the median.

For the quality of corporate governance, we use as proxy the ownership structure. Our interest towards the ownership structure is due to the fact that it decreases incentives to manipulate accounting amounts (Ali *et al.* 2008) because, acting as monitoring mechanisms (Alves 2012), it can have a huge impact on corporate governance, supervision of boards of directors, and eventually on firm value (Zahedi *et al.* 2015: 903). In addition, according to Nguyen *et al.* (2015: 40), the accounting literature on the relationship between ownership structure and earnings informativeness yielded inconclusive results. Finally, the fact that this information is available on a database avoids limitations typical of studies that, for example, focus on board diversity as feature of high quality corporate governance. In this regard, Ararat *et al.* (2015) consider, between the limitations of their paper, the small sample size and the single-country context which were necessitated by manual data collection. In this regard, for data regarding the ownership structure, we use the Bvd independence indicator; it is calculated by Bureau Van Dick and assigns a letter (from A to D) to distinguish different kinds of ownership concentration/diffusion. In this regard, while letter A) qualifies the "independent companies", letter

D) qualifies the “direct majority owned”. With the ownership diffusion appreciated as a required feature for a good governance mechanism, this study assigns to each letter of the independence indicator a number. The variable that we called GOV_{it} ranges from 1 to 10 and proxies for the quality of corporate governance. The higher is the number, the lower is the concentration and the higher is the degree of independence of the entity. Similar to our enforcement metric, once assessed GOV_{it} we split it at the median to identify entities with high ($dGOV_{it} = 1$) and low ($dGOV_{it} = 0$) quality of governance mechanisms. The former are those with GOV_{it} over the median and the latter are those with GOV_{it} under the median.

The use of dummies to control for the intensity of discretionary accruals, for the corporate governance and enforcement mechanisms is due to the easier interpretation of the coefficients of the VR models presented in the following sub-section.

2.3. VR specifications

To assess and compare the VR of accounting amounts, we use both a price model and a return model. The price models are used to measure the *usefulness* of accounting amounts for investors’ decisions in the extent of which they are able to predict future cash flow. The return models control for *timeliness* of accounting amounts. The price model that we use to test H_{1A} , H_{1B} and H_2 is the modified version of the Ohlson (1995) model, whose specification is the following:

$$\begin{aligned} MV_{it} = & \alpha_0 + \alpha_1 NI_{it} + \alpha_2 dDA_{it} x NI_{it} + \alpha_3 dENF_{it} x dDA_{it} x NI_{it} + \\ & \alpha_4 dGOV_{it} x dDA_{it} x NI_{it} + \alpha_5 BV_{it} + \alpha_6 dDA_{it} x BV_{it} + \alpha_7 dDA_{it} + \\ & \alpha_8 dENF_{it} x dDA_{it} + \alpha_9 dGOV_{it} x dDA_{it} + \alpha_{t-1} T + \alpha_{s-1} S + \varepsilon_{it}, \end{aligned} \quad (2)$$

where: MV_{it} refers to the market value at the reporting date; NI_{it} is net income; BV_{it} is book value; dDA_{it} is a dummy that controls for the discretionary accruals intensity; $dENF_{it}$ is a dummy that controls for the quality of enforcement mechanisms; $dGOV_{it}$ is a dummy that controls for the ownership diffusion; T and S are dummy variables that control for the time and the industry fixed-effects.

To prevent outliers introduce bias in the results, we winsorised variables at 1%.

The return model that we use to test H_{1A} and H_2 (not H_{1B} being timeliness a property of earnings), is the one of Easton and Harris (1991) whose specification is the following:

$$\begin{aligned} RET_{it} = & \beta_0 + \beta_1 \frac{NIPS_{it}}{P_{it-1}} + \beta_2 dDA_{it} x \frac{NIPS_{it}}{P_{it-1}} + \beta_3 dENF_{it} x dDA_{it} x \frac{NIPS_{it}}{P_{it-1}} + \\ & \beta_4 dGOV_{it} x dDA_{it} x \frac{NIPS_{it}}{P_{it-1}} + \beta_5 \frac{\Delta NIPS_{it}}{P_{it-1}} + \beta_6 dDA_{it} x \frac{\Delta NIPS_{it}}{P_{it-1}} + \\ & \beta_7 dENF_{it} x dDA_{it} x \frac{\Delta NIPS_{it}}{P_{it-1}} + \beta_8 dGOV_{it} x dDA_{it} x \frac{\Delta NIPS_{it}}{P_{it-1}} + \\ & \beta_9 dDA_{it} + \beta_{10} dENF_{it} x dDA_{it} + \beta_{11} dGOV_{it} x dDA_{it} + \beta_{t-1} T + \beta_{s-1} S + \varepsilon_{it}, \end{aligned} \quad (3)$$

where: RET_{it} refers to the 12-month actual returns; $NIPS_{it}$ is the net income per-share deflated by the share prices at the beginning of the period; $\Delta NIPS_{it}$ is the change of net income per-share deflated by the share prices at the beginning of the period; P_{it-1} refers to the lagged share prices.

Also the specification of the return model has variables winsorised at 1%.

To test our research hypotheses, we consider as measure of VR the magnitude of the regression coefficients if statistically significant at 5%.

H_{1A} is validated whether the regression coefficient of the price (return) model α_2 (β_2) is negative and statistically significant. This means that the VR of earnings in entities that experienced high discretionary accruals intensity ($\alpha_1 + \alpha_2$ in the price model and $\beta_1 + \beta_2$ in the return model) is lower and statistically different than the VR of earnings reported by entities that experienced lower discretionary accruals intensity (α_1 in the price model and β_1 in the return model).

To validate H_{1B} , using Eq. (2) we expect to find the regression coefficient α_6 to be positive and statistically significant. This coefficient measures the difference of the VR of book value in entities that experienced a high ($\alpha_5 + \alpha_6$) and a low (α_5) discretionary accruals intensity. This will confirm that the value of the adaptation option incorporated in book value increases when investors place less weight on the coefficient of earnings that incorporates the recursion option.

Moving to our last research hypothesis, using the price (return) model, we expect to find α_3 and α_4 (β_3 and β_4 , β_7 and β_8) positive and statistically significant. This means that both the quality of enforcement and governance mechanisms positively affect the VR of earnings in entities that experienced high discretionary accruals intensity.

3. Sample selection and empirical findings

To implement our research protocol, we use the Amadeus database to download data referred to the consolidated financial statements of entities listed on the stock markets of the countries that belonged to the EU at the time of issuance of EU Regulation 1606/2002 other than the information that regard the ownership structure. The lists of entities numbers 5 252 non-financial entities whose data have been downloaded from the period 2009–2014. Taking into account that we eliminated 2 585 entities for missing data, our final sample consists of 2 667 entities (e.g., 16 002 firm-year observations).

Table 1 tabulates data related to the geographical portrait of the entities analysed.

The table shows that our sample selection strategy leads us to analyse entities listed in 14 European countries. We have not considered those listed in Denmark because of the eliminations due to missing data.

Table 1. Geographical portrait of the firm-year observations analysed

Countries	Firm-year observations	Countries	Firm-year observations
Austria	60	Luxembourg	48
Belgium	192	Netherland	276
Finland	468	Portugal	222
France	3 000	Spain	528
Germany	2 952	Sweden	1 230
Greece	1 104	U.K.	4 788
Ireland	162	Total	16 002
Italy	962		

Table 2 provides the regression parameters of Eq. (2) and Eq. (3) estimated using the OLS distinguishing those of the price model (panel a) and those of the return model (panel b).

Table 2. Research results

Panel a)	Coefficient	T-statistic	P-value
NI_{it}	+8.72	+77.47	0.00
$dDA_{it} \times NI_{it}$	−5.19	−23.65	0.00
$dENF_{it} \times dDA_{it} \times NI_{it}$	+0.68	+5.20	0.00
$dGOV_{it} \times dDA_{it} \times NI_{it}$	+3.06	+18.13	0.00
BV_{it}	+0.84	+55.34	0.00
$dDA_{it} \times BV_{it}$	+0.04	+2.23	0.03
dDA_{it}	−11 567.20	−2.12	0.03
$dENF_{it} \times dDA_{it}$	+13 006.16	+0.26	0.79
$dGOV_{it} \times dDA_{it}$	+175 173.00	+3.36	0.01
Intercept	−306 183.40	−0.36	0.72
Panel b)	Coefficient	T-statistic	P-value
$NIPS_{it} / P_{it-1}$	+0.49	+14.02	0.00
$dDA_{it} \times NIPS_{it} / P_{it-1}$	−0.42	−10.87	0.00
$dENF_{it} \times dDA_{it} \times NIPS_{it} / P_{it-1}$	+0.05	+2.41	0.02
$dGOV_{it} \times dDA_{it} \times NIPS_{it} / P_{it-1}$	+0.07	+3.34	0.02
$\Delta NIPS_{it} / P_{it-1}$	+0.30	+8.87	0.00
$dDA_{it} \times \Delta NIPS_{it} / P_{it-1}$	−0.17	−3.96	0.00
$dENF_{it} \times dDA_{it} \times \Delta NIPS_{it} / P_{it-1}$	+0.14	+4.84	0.00
$dGOV_{it} \times dDA_{it} \times \Delta NIPS_{it} / P_{it-1}$	−0.02	−0.59	0.56
dDA_{it}	−0.18	−12.38	0.00
$dENF_{it} \times dDA_{it}$	0.09	+7.31	0.00
$dGOV_{it} \times dDA_{it}$	+0.05	+4.15	0.00
Intercept	+0.10	+0.37	0.71

Results tabulated in panels a) and b) validate our research hypotheses.

The VR of earnings reported by entities that do not experienced high discretionary accruals intensity is +8.72 in the price model (α_1) and +0.49 in the return model (β_1). On the contrary, in entities that experienced high discretionary accruals intensity, the VR of earnings is lower. In the price model is +3.53 ($\alpha_1 + \alpha_2$) and in the return model is +0.07 ($\beta_1 + \beta_2$). Therefore, while the price model allows us to conclude that, in entities that experienced high discretionary accruals intensity, earnings are less useful for investors' decisions, the return model suggests that they are less timely. As to VR of book value, findings also validate the hypothesis that investors consider it more useful. The VR of book value in entities that experienced high discretionary accruals intensity is higher (+0.88, that is $\alpha_5 + \alpha_6$) that in the other group of entities (+0.84, that is α_5).

These results show, in the price model, a transfer of the explanatory power of the earnings to the book value. It confirms the convexity of the function relating the market value to book value and earnings (Burgstahler, Dichev 1997). EM practices primarily affect earnings, and it is associated with low earnings informativeness and higher VR of book value.

Our results also show that both the quality of enforcement mechanisms and the ownership diffusion obstruct only in part the fall of the VR, that is usefulness and timeliness, of earnings in entities that experienced high discretionary accruals intensity. For usefulness, results disclosed in Table 2 show that, in the price model, high quality legal systems increase the VR of earnings in entities that experienced high accruals intensity being the coefficient of the interaction term α_3 positive (+0.68) and statistically significant at 1%. Also the ownership diffusion has a similar effect on the VR of earnings in entities that experienced high discretionary accruals intensity, being the coefficient of the interaction term α_4 positive (+3.06) and statistically significant at 1%. For timeliness, the return model suggests that high quality legal systems increase the VR of earnings disclosed by entities that experienced high accruals intensity. The interaction terms β_3 and β_7 are positive (+0.05 and +0.14) and statistically significant (at 5% and at 1%). The ownership diffusion has a similar effect but weaker compared with the quality of legal systems. In fact, only the interaction term β_4 is positive (+0.07) and statistically significant at 5% (e.g., β_8 is not significant). It may be due to the definition of the GOV variable, since it only considers the ownership diffusion, but there are other components of corporate governance which can control EM, such as the size and structure of board, audit committee, etc.

If high discretionary accruals intensity impairs the usefulness and the timeliness of earnings, our results suggest that the quality of enforcement mechanisms and the ownership diffusion positively affect their VR. Nevertheless, they are not enough to compensate completely the loss of VR due to the high accruals intensity. Results also suggest that the quality of such mechanisms is better able to recover usefulness of earnings for investors' decisions than the timeliness lost due to the presence of possible EM behaviours.

Enforcement mechanisms may be considered as an important tool to improve the quality of financial information. Without an adequate enforcement "the rules remain requirements only on paper" (Hope 2003). Although international standards bodies, as

International Accounting Standards Board (IASB), offer discretion with regard to the implementation of accounting enforcement systems, its proper functioning is a necessary and effective tool to ensure a high degree of quality of financial information. In this line, Böcking *et al.* (2015) find that the German enforcement system is effective in detecting and constraining EM, and Callao and Jarne (2010) show a significant and negative relationship between legal enforcement and manipulation. Also, several authors, as Sunder (1997) or Christensen *et al.* (2013), argue the importance enforcement mechanisms, indicating that the successful implementation of accounting standards (and reduced EM) resides both own rules and implementation of effective accounting enforcement regimes. Our results further show that the enforcement controls the negative effect of EM in the VR of earnings. For ownership diffusion, results are consistent with results obtained by Fan and Wong (2002) and Leuz *et al.* (2003), among others. They show that concentrated ownership creates conflicts between controlling owners and outside investors and the first report information for self-interested purposes. Thus, the informativeness of earnings decreases. However, in the Spanish environment the results are opposites (Azofra *et al.* 2003 or García, Gill de Albornoz 2005).

In the last part of the paper, several sensitivity analyses validate the large majority of our results.

In the first sensitivity, we test the robustness of our findings using as proxy of the quality of enforcement mechanisms the antidirectorright index (ADRI) calculated by Spamann (2010) revisiting data of La Porta *et al.* (1998). Using the price model, findings validate the hypothesis that earnings management behaviours reduce the value relevance of earnings ($\alpha_1 = +8.73$; $\alpha_2 = -5.45$, both statistically significant at 1%) and increase the one of book value ($\alpha_6 = +0.04$, statistically significant at 1%). Both the quality of legal enforcement and the ownership diffusion act as moderating factors validating our last research hypothesis ($\alpha_3 = +0.58$; $\alpha_4 = +3.14$, both statistically significant at 1%). Using the return model, high discretionary accruals intensity reduces the timeliness of earnings ($\beta_1 = +0.49$; $\beta_2 = -0.41$, both statistically significant at 1%). The interaction terms β_3 and β_7 related to the quality of legal system are positive (+0.04 and +0.06) and statistically significant at 5%. The ownership diffusion has a similar effect but, like in the main analysis, weaker compared with the quality of legal systems. In fact, only the interaction terms β_4 is positive (+0.06) and statistically significant at 1%. In Spamann (2010) there is also a measure of ADRI that is calculated revising Djankov *et al.* (2008). Re-running regression using this variable as proxy of the quality of enforcement mechanisms results are perfectly replicated.

Also the second and the third sensitivities validate our research findings. In these tests, we re-run regressions using the McNichols (2002) model to identify the firms that experienced high discretionary accruals intensity or deflating the regression parameters by the market value at the reporting date.

In the last one, we use ordinal variables and not dummies to control for EM and for the quality of corporate governance and enforcement. Also in this case results are validated even if for book value we have not evidence of a higher value relevance in presence of high discretionary accruals intensity.

Conclusions

In this paper, we provide evidence that the solution to the problem of manipulation in reported financial information lies not in stricter accounting rules, but rather in issues related with the legal system and the structure of ownership, among others. Indeed, the development of appropriate enforcement mechanisms in the implementation of accounting rules is shown as a correction factor of EM. It needs to keep track of how responsible companies apply in practice the rules. These rules often allow managers to choose between various approaches all valid or must resort to alternative rules to cover certain regulatory gaps. Also, the diffusion of ownership, as a feature of the corporate governance of companies, is a variable to be considered to limit the negative effects that the EM, as we have noted, generated on the VR of the earnings. The existence of a more diffuse ownership structure, with lower concentration, can reduce the loss of VR of earnings in the presence of EM.

The paper makes the following contributions. First, considering the market value of a company a convex function of earnings and book value, it provides evidence on the different effect of EM in the VR of earnings and in the VR of book value, due to any loss of VR of earnings leads investors to place more weight to book value, increasing its VR. Second, the paper shows the ability of enforcement and corporate governance to mitigate the decrease of the VR of earnings in presence of EM, although they are not able to compensate completely the loss of VR. Prior research has shown, on the one hand, that good enforcement and corporate governance have a positive effect on VR. On the other hand, previous papers have provided evidence on the ability of such mechanism to reduce EM. However, there is not prior research on the ability of enforcement and corporate governance to obstruct the fall of VR due to EM.

The findings are relevant for the different economic agents: companies, investors, policy makers, etc. Companies often feel pressured to reach certain performance figures to meet the investor expectations. This pressure leads companies to manage earnings and, then, the VR of financial information decreases and the decisions taken by the investor may be wrong. Ultimately, this ends up affecting both the company and the investor. So, it is important for them to learn that the EM is detrimental for the VR of earnings and it should be avoided. Nevertheless, the reality teaches us that it is difficult to do away with EM, so the evidence on the effect of control mechanism in the loss of VR of earnings is relevant and has important implications, not only for companies and users but also for policy makers and institutions.

Institutions must ensure the proper functioning of markets and the economy. So, they should continue curbing the information practices that do not meet certain requirements, to reach a more value relevant financial information that provide a better functioning of markets and the economy. To generate a set of high quality accounting standards it is not enough. It is necessary that policy makers establish adequate enforcement mechanisms which ensure that accounting regulation is correctly applied by managers.

The institutions and companies should promote models of governance that effectively act as control mechanisms of EM and of its effect on VR and are consistent with the corporate culture and economic context of the country. Companies must be aware of the

importance of providing quality information and be ready to adopt the mechanisms that control it. In this context, the dispersion in the ownership of the company prevents the existence of large shareholders to adopt criteria for information to benefit their interests at the same time that reduce the usefulness of accounting information. The responsibility for control measures of the performance of the organization involves different groups of shareholders and is not polarized in one.

Meanwhile, investors and other users should pay more attention to both the deficiencies of information as to the mechanisms, institutional and business, which are taken to limit them, especially in those environments and companies in which it is more likely to be EM.

Despite the implications of our findings, a limitation of this study is having considered the ownership diffusion as proxy of the quality of corporate governance. The development of databases will facilitate the collection of other kind of data (e.g., board diversity), and will avoid small sample size and single-country context that are necessitated by manual data collection. Another future line of research could analyse the effect of EM in VR of earnings and the power of the different control mechanism by country. It would be interesting to know if the conclusions obtained for the countries considered as a whole are the same or not for each country in the sample individually considered. We cannot forget that economic, legal, social and cultural environment is not exactly the same in all countries, although they are all belonging to the EU. So, although accounting rules are the same in all countries, how the companies apply the rules in each country may be different, the vision of EM practices could also be different, as well as the enforcement, the ownership structure or corporate governance features.

References

- Alves, S. 2012. Ownership structure and earnings management: evidence from Portugal, *Australasian Accounting, Business and Finance Journal* 6(1): 57–74.
- Ali, S. M.; Salleh, N. M.; Hassan, M. S. 2008. Ownership structure and earnings management in Malaysian listed companies: the size effect, *Asian Journal of Business and Accounting* 1(2): 89–116.
- Ararat, M.; Aksu, M.; Tansel Cetin, A. 2015. How board diversity affects firm performance in emerging markets: evidence on channels in controlled firms, *Corporate Governance: An International Review* 23(2): 83–103.
- Azofra, V.; Castrillo, L.; Delgado, M. M. 2003. Ownership concentration, debt financing and the investment opportunity set as determinants of accounting discretion: empirical evidence from Spain, *Spanish Journal of Finance and Accounting* 32(115): 215–255.
<http://dx.doi.org/10.1080/02102412.2003.10779480>
- Barth, M. E.; Landsman, W. R.; Lang, M. H. 2008. International accounting standards and accounting quality, *Journal of Accounting Research* 46(3): 467–498.
<http://dx.doi.org/10.1111/j.1475-679X.2008.00287.x>
- Böcking, H.-J.; Gros, M.; Worret, D. 2015. Enforcement of accounting standards: how effective is the German two-tier system in detecting earnings management?, *Review of Managerial Science* 9: 431–485. <http://dx.doi.org/10.1007/s11846-014-0159-z>
- Burgstahler, D. C.; Dichev, I. D. 1997. Earnings, adaptation and equity value, *The Accounting Review* 72(2): 187–215.

- Callao, S.; Jarne, J. I. 2010. Have IFRS affected earnings management in the European Union?, *Accounting in Europe* 7(2): 159–189. <http://dx.doi.org/10.1080/17449480.2010.511896>
- Christensen, H. B.; Hail, L.; Leuz, C. 2013. Mandatory IFRS reporting and changes in enforcement, *Journal of Accounting & Economics* 56: 147–177. <http://dx.doi.org/10.1016/j.jacceco.2013.10.007>
- Djankov, S.; La Porta, R.; Lopez-de-Silanes, F.; Shleifer, A. 2008. The law and economics of self-dealing, *Journal of Financial Economics* 88(3): 430–465. <http://dx.doi.org/10.1016/j.jfineco.2007.02.007>
- Easton, P. D.; Harris, T. S. 1991. Earnings as an explanatory variable for returns, *Journal of Accounting Research* 29(1): 19–36. <http://dx.doi.org/10.2307/2491026>
- EU Regulation 1606/2002. *Application of international accounting standards*. European Parliament and of the Council.
- Fan, J.; Wong, T. J. 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia, *Journal of Accounting and Economics* 33: 401–425. [http://dx.doi.org/10.1016/S0165-4101\(02\)00047-2](http://dx.doi.org/10.1016/S0165-4101(02)00047-2)
- García, B.; Gill de Albornoz, B. 2005. *El gobierno corporativo y las prácticas de “earnings management”: evidencia empírica en España*. Working papers series EC 11. Instituto Valenciano de Investigaciones Económicas.
- Hayn, C. 1995. The information content of losses, *Journal of accounting and economics* 20(2): 125–153. [http://dx.doi.org/10.1016/0165-4101\(95\)00397-2](http://dx.doi.org/10.1016/0165-4101(95)00397-2)
- Healy, P. M.; Wahlen, J. M. 1999. A review of the earnings management literature and its implications for standard setting, *Accounting Horizons* 13(4): 365–383. <http://dx.doi.org/10.2308/acch.1999.13.4.365>
- Hope, O.-K. 2003. Disclosure practices, enforcement of accounting standards, and analysts’ forecast accuracy: an international study, *Journal of Accounting Research* 41: 235–272. <http://dx.doi.org/10.1111/1475-679X.00102>
- Hung, M.; Subramanyam, K. R. 2007. Financial statement effect of adopting international accounting standards: the case of Germany, *Review of Accounting Studies* 12(4): 623–657. <http://dx.doi.org/10.1007/s11142-007-9049-9>
- Jaggi, B.; Tsui, J. 2007. Insider trading, earnings management and corporate governance: empirical evidence based on Hong Kong firms, *Journal of International Financial Management & Accounting* 18(3): 192–222. <http://dx.doi.org/10.1111/j.1467-646X.2007.01012.x>
- Kent, P.; Routledge, J.; Stewart, J. 2010. Innate and discretionary accruals quality and corporate governance, *Accounting and Finance* 50(1): 171–195. <http://dx.doi.org/10.1111/j.1467-629X.2009.00321.x>
- La Porta, R.; Lopez-de-Silanes, F.; Shleifer, A.; Vishny, R. W. 1998. Law and finance, *Journal of Political Economy* 106: 1113–1155. <http://dx.doi.org/10.1086/250042>
- Lang, M.; Raedy, J. S.; Wilson, W. 2006. Earnings management and cross listing: are reconciled earnings comparable to US earnings?, *Journal of Accounting and Economics* 42(1): 255–283. <http://dx.doi.org/10.1016/j.jacceco.2006.04.005>
- Larcker, D. F.; Richardson, S. A. 2004. Fees paid to audit firms, accrual choices, and corporate governance, *Journal of Accounting Research* 42(3): 625–658. <http://dx.doi.org/10.1111/j.1475-679X.2004.t01-1-00143.x>
- Lee, S.; Kim, M.; Davidson, W. N. 2015. Value relevance of multinationality: evidence from Korean firms, *Journal of International Financial Management & Accounting* 26(2): 111–149. <http://dx.doi.org/10.1111/jifm.12025>
- Leuz, C.; Nanda, D.; Wysocki, P. D. 2003. Earnings management and investor protection: an international comparison, *Journal of Financial Economics* 69(3): 505–527. [http://dx.doi.org/10.1016/S0304-405X\(03\)00121-1](http://dx.doi.org/10.1016/S0304-405X(03)00121-1)

- Lin, Y. C.; Yung, K. 2014. Earnings management and corporate spinoffs, *Review of Quantitative Finance and Accounting* 43(2): 275–300. <http://dx.doi.org/10.1007/s11156-013-0372-x>
- Marquardt, C. A.; Wiedman, C. I. 2004. The effect of earnings management on the value relevance of accounting information, *Journal of Business Finance & Accounting* 31(3–4): 297–332. <http://dx.doi.org/10.1111/j.0306-686X.2004.00541.x>
- McNichols, M. F. 2002. Discussion of the quality of accruals and earnings: the role of accrual estimation errors, *The Accounting Review* 77(S1): 61–69. <http://dx.doi.org/10.2308/accr.2002.77.s-1.61>
- Mechelli, A.; Cimini, R. 2012. L'effetto dell'introduzione dei principi IAS/IFRS sull'earnings management nei Paesi dell'Unione Europea, *Rivista Italiana di Ragioneria e di Economia Aziendale* 112(11–12): 582–595. <http://dx.doi.org/10.19030/jabr.v30i1.8288>
- Miloud, T. 2013. Earnings management and initial public offerings: an empirical analysis, *Journal of Applied Business Research* 30(1): 117–134. <http://dx.doi.org/10.19030/jabr.v30i1.8288>
- Nguyen, C. N.; Alikaj, A.; Ning, W. 2015. The moderating effect of ownership concentration on the book-tax conformity-earnings persistence relationship, *Journal of Global Business Issues* 9(1): 39–45.
- Olsen, B.; Elango, B. 2005. Do multinational operations influence firm value? Evidence from the Triad regions, *International Journal of Business and Economics* 4(1): 11–29.
- Ohlson, J. A. 1995. Earnings, book values, and dividends in equity valuation, *Contemporary Accounting Research* 11(2): 661–688. <http://dx.doi.org/10.1111/j.1911-3846.1995.tb00461.x>
- Song, C. J.; Thomas, W. B.; Yi, H. 2010. Value relevance of FAS No. 157 fair value hierarchy information and the impact of corporate governance mechanisms, *The Accounting Review* 85(4): 1375–1410. <http://dx.doi.org/10.2308/accr.2010.85.4.1375>
- Spamann, H. 2010. The “antidirector rights index” revisited, *Review of Financial Studies* 23(2): 467–486. <http://dx.doi.org/10.1093/rfs/hhp067>
- Stefanescu, C. A. 2012. Ownership concentration and corporate governance disclosure. The case of financial institutions, *Annals of the University of Oradea, Economic Science Series* 21(1): 830–836.
- Sunder, S. 1997. *Theory of accounting and control*. Cincinnati, OH: South-Western Publishing.
- Zahedi, J.; Talebi, E.; Aval, S. L. 2015. Ownership concentration, cash holding and firm value, international, *Journal of Management, Accounting and Economics* 2(8): 902–912.

Susana CALLAO is a researcher of business administration in the University of Zaragoza (Spain). Her main areas of research are international accounting, financial analysis and earnings management. She has published several papers in journals such as, *The International Journal of Accounting*, *European Accounting Review*, *Advances in Accounting*, *International Journal of Accounting*, *Auditing and Performance Evaluation*, *Spanish Journal of Finance and Accounting*.

Riccardo CIMINI is a researcher of business administration in the University of Tuscia (Italy). His research topics are accounting quality and financial reporting. His main papers have been accepted by *Accounting in Europe*, *Applied Economics*, *Finance Research Letters*, *Public Money and Management*, *Spanish Accounting Review*.

José Ignacio JARNE is a researcher of business administration in the University of Zaragoza (Spain). His main areas of research are international accounting, financial accounting, capital markets and earnings management. He has published several papers in journals such as, *The International Journal of Accounting*, *European Accounting Review*, *Advances in Accounting*, *The Journal of Accounting*, *Auditing and Taxation*, *Spanish Journal of Finance and Accounting*.