FAIR VALUE MEASUREMENTS AND EARNINGS FORECASTS ACCURACY: EVIDENCE FOR ROMANIAN LISTED COMPANIES

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ABSTRACT
The purpose of this paper is to explore the effect of the use of fair value on analysts’ forecasts accuracy for companies listed on Bucharest Stock Exchange (BSE). As the ongoing debates in the international accounting literature tend to favor fair value against the historical cost and conservatism model, we focus on the impact of the measures of these competing accounting behaviors. Based on a sample of 266 firm-month observations (predictions made in 2008 for 2009 and 2010), the paper shows that, for Romanian listed companies, forecast errors for earnings per share reported under local GAAP are positively correlated with a conservative approach and negatively associated with fair value based accounting policies.

INTRODUCTION
There is a large amount of literature investigating the impact of companies’ information environment on analysts’ forecasts accuracy. The information environment of a company is considered a key driver of forecasts’ accuracy, as the quantity and quality of the information available may reduce uncertainty about future prospects and thus contribute to smaller forecast errors.

One of the main attributes of the information environment of an entity is the level of financial disclosure, and several recent papers have shown that financial reporting is an important source of information used by financial analysts for predictive purposes (e.g. Peek, 2005). However, it is not yet clear whether it is the

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quantity or rather the quality of financial information that drives analysts’ forecasts, and although there is empirical evidence showing that increased financial disclosure leads to lower forecasting errors, there are authors, such as Pope (2003), arguing that it is difficult to assume that financial disclosure is a fundamental determinant of forecasts accuracy, or rather a complement of the recognition and valuation rules operating in different accounting regimes. Thus, the quality of the information environment may significantly depend on the accounting policies adopted by various companies, as different valuation and recognition models may lead to different properties of analysts’ forecasts.

In this context, the purpose of this paper is to investigate the effect of different valuation policies on analysts’ forecasts accuracy, based on a sample of listed Romanian companies.

1. DISCLOSURE QUALITY AND ANALYSTS’ FORECASTS ACCURACY

Financial reporting was documented to be an important source of information employed by analysts for earnings forecasts (e.g. Peek, 2005), and there is an increasing body of literature analyzing the impact of financial reporting on analysts’ forecast accuracy.

For instance, Vanstraelen et al. (2003) or Hope (2004) showed that a high volume of disclosure leads to a decrease in analysts’ forecast errors. Based on a sample of 1,553 firm-years from 22 countries, Hope (2003) used the CIFAR index of the level of annual report disclosure to analyze the impact of the quantity of information disclosed on analysts’ forecasts accuracy, showing that increased disclosure leads to a decrease in forecasting errors.

However, Pope (2003) argued that, despite the evidence provided by Hope (2003), it is not yet clear whether financial disclosure is a fundamental determinant or just a complement of the valuation and recognition rules operating in different accounting regimes.

There is also an increasing body of literature showing that the International Financial Reporting Standards (IFRS) adoption has lead to an increase in forecasts accuracy. For instance, Brown et al. (2009) based on a sample of 40,123 monthly observations for companies operating within 13 European countries, that forecast errors decreased after the IFRS mandatory implementation. Ernstberger (2008) has also provide empirical evidence for the German capital market, showing that analysts’ forecast accuracy improved after the IFRS adoption. Tan et al. (2009) obtained similar results on a sample of 38 countries, including several European countries.
The IFRSs are high quality standards, requiring both extensive disclosure, but also being equipped with evolved valuation methods and recognition criteria. And it is not yet established what exactly makes earnings forecasts based on IFRS more accurate. One of the most important features that distinguish the IFRSs from the continental European accounting systems, is the endorsement of fair value as a measurement bases. There is currently an international debate focusing on two competing valuation models, one based on historical cost and a prudent approach, and the second based on fair value. The IFRSs seem to embrace the second model, as prudence principle was eliminated from the conceptual framework, and more and more standards require fair value measurements. Accordingly, it might be the extensive recourse to fair value that makes forecasts of earnings per share computed under IFRS more accurate. However there are authors, such as Basu et al. (2003), arguing that “the matching and historical cost principles reduce earnings variability, and hence, reduce analysts’ earnings forecast errors”.

2. FAIR VALUE MEASUREMENTS AND THE QUALITATIVE CHARACTERISTICS OF ACCOUNTING INFORMATION

The traditional way for valuing assets and liabilities is based on the historical cost model, that is assets and liabilities are carried at their past entry values, equal to the amount or consideration given or received at the time of the acquisition of assets, or when the liabilities were incurred (IASB, 2010). The historical cost is considered to be reliable and verifiable, as it is based on actual transactions, and free from bias. However, historical cost was also alleged to lack relevance for the decision-making process, as it does not reflect current market conditions. To cope with current market expectations, the historical cost paradigm was traditionally paired with prudence principle, which allowed for adjustments in the value of assets and liabilities, but only for incorporating bad news. This eventually led to understatements of assets and overstatements of liabilities and, accordingly, to bias.

The flows of the historical cost lead to the growing importance of a different valuation method endorsed by IFRS, that is fair value. As defined by IASB (2011), fair value is "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". This definition replaced an older version with a similar content, and is now identical to the one advanced by FASB (2006). The current definition and the measurement techniques adopted by IASB (2011) are the result of the international accounting convergence process, and are currently much in line with those operating under the United States Generally Accepted Accounting Principles (US GAAP).

Although fair value is becoming more and more important as a valuation model, it is not yet generalized for all assets and liabilities (i.e. full fair value model). Under
both IFRS and US GAAP there is a mixed valuation model including both fair value and historical cost, which continues to be applied together with the prudence principle. Starting in 2011, the prudence principle was eliminated from the conceptual framework as it was found to be “inconsistent with neutrality” (IASB, 2010: BC3.27).

However, the principle is still operational with the IFRS system, such as in the case of impairment of assets (IASB, 2004c). Whittington (2008) underlines that although the prudence principle is eliminated, an impairment test “reduces the carrying amount of an asset to its current recoverable amount, when that is less than the carrying amount. It does not increase the carrying amount if the recoverable amount is higher. Hence, it is fundamentally a biased approach to measurement; it is, however, a prudent one.”

Fair values measurements apply mainly for financial assets and liabilities, although there are fair value options allowed for non-financial items, such as revaluation models permitted for tangible and intangible fixed assets (IASB, 2004a: 29; IASB, 2004b: 72).

The major, alleged, strong point of the fair value paradigm is an increase in relevance of accounting information, as subsequent measurements at fair values for assets and liabilities allow for the recognition of both unrealized gains and losses that can be estimated based on current market conditions, either in profit or loss, or as other comprehensive income in equity.

And there is a growing body of literature showing that fair value accounting information is more value relevant than historical cost information (e.g. Khurana & Kim, 2003; Barth et al., 2001; Barth, 1994, Bernard et al., 1995; Aboody et al., 1999).

A high level of reliability and verifiability, but also lack of bias are intended for fair value accounting information, as it is thought of as ”a market-based measurement, not an entity-specific measurement” (IASB, 2011: 2), the targeted value for fair values being quoted prices in active markets (i.e. mark-to-market accounting). However, for some assets and liabilities observable market transactions or other market information may not be available, and in such cases an entity should rely on other valuation techniques. IASB (2011) establishes a fair value hierarchy that classifies into three levels the inputs to different valuation techniques employed for fair value measurements. According to IASB (2011: 72) “the fair value hierarchy gives the highest priority to quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1 inputs) and the lowest priority to unobservable inputs (Level 3 inputs)”. 
However, although in all cases fair value should be determined as an “exit price at the measurement date from the perspective of a market participant that holds the asset or owes the liability”, in some cases subjective level 3 inputs such as “a financial forecast (eg of cash flows or profit or loss) developed using the entity’s own data” (IASB, 2011: 2, B36e) may also be used (mark-to-model accounting), which raises the issue of neutrality.

Landsman (2007) reviews the literature investigating the usefulness of fair value accounting information to investors and suggests that “disclosed and recognized fair values are informative to investors, but that the level of informativeness is affected by the amount of measurement error and source of the estimates - management or external appraisers”.

Internally generated models used for fair value measurements (level 3 inputs) were blamed for big accounting scandals (e.g. Enron), as they permit overstatements of assets and revenues (Beston & Hartgraves, 2002; Benston, 2006; Gwilliam & Jackson, 2008).

Another alleged shortcoming of the fair value model is that it induces an increased volatility of earnings that can trigger share prices’ volatility and increased forecasts’ errors. Barth et al. (1995) provide empirical evidence that “fair value-based earnings are more volatile than historical cost earnings”, however “share prices do not reflect the incremental volatility”. In addition, it is argued that fair value measurements only reflect the volatility of market conditions, and do not actually create it, and, furthermore, masking it within financial statements would not serve users needs (Barth, 2004).

The recent financial crisis has once again questioned the fair value model (Bath & Landsman, 2010; Bignon et al., 2009; Laux & Leuz, 2010; Magnan, 2009). Fair value measurements are considered as one of the drivers of the financial crisis (Kothari & Lester, 2011) and one of the factors that could have worsen its severity (Laux & Leuz, 2009).

Laux and Leuz (2009) argue that, although they do not consider fair value accounting as responsible for the crisis, they cannot also considered it as a simple messenger that is now being shot (as advanced by Turner, 2008 and Veron, 2008, Bonaci et al., 2010), but as a measurement system that produces economic effects on its own.

In this sense, Laux and Leuz (2009) comment on the shortcomings of the fair value model, but argue that the main issue in debates lies in the tradeoff between relevance and reliability, which is considered inevitable for standard setters, except for rare circumstances.
Laux and Leuz (2009) acknowledge that assets and liabilities measured at fair value show the present market conditions and, accordingly, there is an increase in transparency and, thus, an encouragement for prompt corrective actions. But they also acknowledge that there are legitimate concerns about mark-to-market accounting in times of financial crisis as it may trigger market reactions over the short term. However, a return to historical cost accounting is not seen as a solution either, due to its own flaws, and especially the lack of transparency within the historical cost model could make things worse during the crisis.

Kothari and Lester (2011) and Laux and Leuz (2009) agree that there could be implementation problems in practice which could give rise to unintended consequences. Kothari and Lester (2011) argue that inconsistent implementation and subsequent misapplication of the standards by originators and securitizers of subprime loans, but also by investors, were contributors to the financial crisis, and not the standards per se.

Ionaşcu (2012) argues that a discussion about the role plaid by fair value accounting in inducing the financial crisis is only relevant for hyper-financialized economies, such as the American one. On less developed markets, as in the case of the emergent market of Romania, the current financial crisis has external determination, by means of a contagion effect, and there is no role plaid by financial reporting. On the contrary, in the economic turmoil that followed the impact of the financial crisis in Romania, the quality of accounting information could have served to decrease uncertainty about companies’ future performance and could have contributed to an increase in forecasts accuracy.

In respect to fair value measurements, Romanian accounting regulations (Ministerul Finantelor Publice, 2005), relevant for the period 2008-2010, allowed revaluations for tangible and intangible assets and also included a fair value option for financial instruments but only for consolidated accounts. And there is already empirical evidence showing that on the emergent market of Romanian fair value revaluations of tangible assets are value relevant (Deaconu et al., 2010).

In this context, the paper investigates the effect of conservative/subjective accounting policies as opposed to the ones embracing fair value measurements on analysts’ forecasts accuracy for listed Romanian companies, trying to anticipate whether a potential switch to IFRS would lead to a decrease in forecasts errors.

2. METHODOLOGY

The sample was comprised of 19 companies listed on the Bucharest Stock Exchange (BSE) followed by financial analysts according to Thomson Reuters’ I/B/E/S data base. We used monthly predictions made in 2008 for 2009 and 2010.
The sample was reduced to 266 firm-month observations by the following: absolute analyst forecast error in the corresponding month of the previous year cannot be calculated due to missing consensus forecast, eliminating financial entities.

The analysis focuses on forecasts made in 2008, the year in which financial crisis was first severely felt on BSE, which lost 69% of its market capitalization that year, reaching 5% of the GDP in 2008, compared to 17% in 2007 (Ionaşcu & Olimid, 2011).

The following regression model (firm, month and year subscripts omitted for convenience) are used to investigate the properties of analysts’ forecasts:

\[ \text{ERROR} = \alpha_0 + \alpha_1 \text{IndCONS} + \alpha_2 \text{IndFV} + \alpha_3 \text{IndGOV} + \alpha_4 \text{SIZE} + \alpha_5 \text{IFRS} + \alpha_6 \text{FOLLOWING} + \alpha_7 \text{HORIZON} + \alpha_8 \text{PREV ERROR} + \varepsilon \]

Where:

- **ERROR** The absolute difference between actual EPS computed under local GAAP and the monthly median consensus forecast scaled by stock price at the middle of the month.
- **IndCONS** An index for conservatism based on the natural log of a mean value of the provisions ratio in total liabilities for 2006 and 2007.
- **IndFV** An index for fair value based accounting policies based on the natural log of a mean value of the revaluations reserves ratio in total owner’s equity for 2006 and 2007.
- **IndGOV** An aggregate index for corporate governance computed by Olimid et al. (2009) for listed Romanian companies based on three characteristics of the board of administrators (board size, proportion of non-executive directors, duality for the Chairman and Director General).
- **SIZE** Natural log of the market value of equity at the middle of the month.
- **FOLLOWING** The number of analyst earnings forecasts included in the median consensus forecast.
- **HORIZON** The number of months between the announcement of the median consensus forecast and the earnings announcement date.
- **PREV_EPS** The absolute value of last year’s forecast error scaled by price, measured at the corresponding month in the previous year.

We expect the coefficient of IndCONS to be positive, as a conservative approach may signify a greater subjectivity of accounting measurements, which may lead to a decrease in earnings forecasts accuracy. However, increased values of IndFV may be associated with smaller forecasts errors, as future economic benefits expected by listed companies are anticipated by fair value measurements embodied within accounting figures.
We use two variables to control for the effect of the quantity of financial information available to analysts, IndGOV and SIZE, as larger firms as well as those which are better governed are more likely to provide additional disclosures, and thus increase forecast accuracy. Accordingly, we expect the coefficient on IndGOV and SIZE to be negative, consistent with a reduction in analysts’ forecast errors.

The model used three control variables: FOLLOWING was used, as the literature documents that more competition between analysts makes them forecast future earnings more accurately (Hodgdon et al. 2008). We also controlled for the number of months between the announcement of the consensus forecast and the announcement of actual earnings (HORIZON) to control for the fact that earnings forecasts tend to become more accurate near the announcement of actual earnings date (Clement 1999; Brown et al., 1999). And we also controlled for the previous errors effect (PREV_ERROR), as the current period’s forecast error is expected to be positively correlated with the previous period’s forecast error (Brown et al., 1999).

3. RESEARCH RESULTS

The values obtained after the operationalization of the variables are presented in Table 1 below.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Observations</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>IndCONS</td>
<td>266</td>
<td>-2.47</td>
<td>4.19</td>
<td>.47</td>
<td>1.5</td>
</tr>
<tr>
<td>IndFV</td>
<td>251</td>
<td>-6.4</td>
<td>3.91</td>
<td>2.85</td>
<td>1.10</td>
</tr>
<tr>
<td>ERROR</td>
<td>266</td>
<td>.0088</td>
<td>15.0796</td>
<td>.502168</td>
<td>1.5841630</td>
</tr>
<tr>
<td>IndGOV</td>
<td>266</td>
<td>.2222</td>
<td>1.0000</td>
<td>.661785</td>
<td>.2695070</td>
</tr>
<tr>
<td>SIZE</td>
<td>266</td>
<td>15.6529</td>
<td>24.0965</td>
<td>19.364842</td>
<td>1.8554278</td>
</tr>
<tr>
<td>FOLLOWING</td>
<td>266</td>
<td>1</td>
<td>7</td>
<td>1.73</td>
<td>1.341</td>
</tr>
<tr>
<td>HORIZON</td>
<td>266</td>
<td>13</td>
<td>41</td>
<td>24.91</td>
<td>6.760</td>
</tr>
<tr>
<td>PrevERROR</td>
<td>266</td>
<td>-.9625</td>
<td>19.7236</td>
<td>1.736109</td>
<td>4.8418358</td>
</tr>
</tbody>
</table>

We used stepwise regression analysis to avoid eventual collinearity problems and to find the best fitted model to explain forecasts errors. The index for conservatism and for fair value based accounting policies were analyzed separately, as they were significantly negatively correlated.
Regression results are summarized in Table 2 below.

<table>
<thead>
<tr>
<th>Table 2. Regression results: Conservative accounting policies</th>
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</thead>
<tbody>
<tr>
<td>Model 1</td>
</tr>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>IndCONS (+)</td>
</tr>
<tr>
<td>IndGOV (−)</td>
</tr>
<tr>
<td>SIZE (−)</td>
</tr>
<tr>
<td>FOLLOWING (+)</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>Adjusted R square</td>
</tr>
<tr>
<td>F statistic</td>
</tr>
</tbody>
</table>

As expected, the coefficient on IndCONS is positive suggesting a decrease in forecast accuracy. Contrariwise company size and the corporate governance index are negatively correlated with forecasts errors, as larger firms are more likely to disclose more information and thus reduce forecasts errors. Overall, the model accounts for 21.9% of the analysts’ forecast errors variations.

Table 3. Regression results – Fair value-based accounting policies

<table>
<thead>
<tr>
<th>Table 3. Regression results – Fair value-based accounting policies</th>
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</thead>
<tbody>
<tr>
<td>Model 2</td>
</tr>
<tr>
<td>Variables</td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>IndFV (−)</td>
</tr>
<tr>
<td>IndGOV (−)</td>
</tr>
<tr>
<td>SIZE (−)</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>Adjusted R square</td>
</tr>
<tr>
<td>F statistic</td>
</tr>
</tbody>
</table>

IndFV was found to be negatively correlated with forecast errors consistent with an increase in the analysts’ forecast accuracy for listed Romanian companies together with company size and the corporate governance index, the model explaining 34.8% of analysts’ forecast errors variations.
CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

The paper investigated two competing accounting valuation policies expected to affect analyst forecast accuracy for listed Romanian companies. As the international literature advocates the superiority of fair value based accounting policies, the analysis focused on the effect of conservative accounting policies as opposed to the ones embracing fair value measurements on analysts’ forecasts accuracy for listed Romanian companies, trying to anticipate whether a potential switch to IFRS would lead to a decrease in forecasts errors.

The results confirmed our hypothesis providing preliminary empirical evidence showing that listed Romanian companies with less prudent accounting policies benefit from more accurate analysts’ forecasts.

The main limitation of the paper comes from the small number of listed companies followed by financial analysts and the limited period covered. Furthermore, there was no data available on forecasted earnings per share reported under IFRS to compare their properties with those for earnings per share reported under local GAAP.

Consequently, research is needed in order to further clarify the effect of accounting policies on analysts’ forecast accuracy for Romanian listed companies with an emphasis on the role plaid by different valuation models.

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