

## Discussion of “The Effect of Fair Value Accounting on the Performance Evaluation Role of Earnings”<sup>1</sup>

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### Abstract

Using the setting of IFRS adoption, DeFond, Hu, Hung, and Li (2020) examine the impact of fair value accounting on the usefulness of earnings in executive performance evaluation and compensation. In this discussion, we review the research design, discuss the implications of the findings, and provide suggestions for future research. In particular, DeFond et al.’s measure of the impact of fair value accounting may contain substantial measurement error, which calls for additional analyses. We believe that DeFond et al. address an important question motivated by recent developments in accounting standard setting. Yet, the broader question of whether and how IFRS fair value provisions affect the way compensation contracts are written and the usefulness of *accounting information*, not just that of *earnings*, has not been fully understood.

Keywords: Fair value accounting; Compensation contracting; Usefulness of accounting information

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## **1. Introduction**

Performance measurement is considered to be a primary purpose of audited financial reporting (e.g., Kothari, Ramanna, Skinner 2010). Studies since Healy (1985) have shown that accounting information is widely used in compensation contracts, especially for bonus plans. Kothari et al. (2010) suggest that, under the assumption that “complete contracting outside of GAAP is too costly to be feasible” in the presence of significant market frictions such as information costs and transaction costs (p. 249), GAAP has developed as a contracting solution to alleviate agency problems. As performance measurement is a principal role of the income statement, it is important to understand the contracting demand for earnings for the purpose of management performance evaluation and compensation. Such demand can influence the nature of GAAP and has important standard-setting implications (Ball, 2001; Holthausen and Watts, 2001; Kothari et al., 2010). In particular, a number of studies are concerned that the expanded use of fair values, which is an important feature of current standard setting agendas at the FASB and IASB, can reduce the value of financial reporting in efficient contracting due to potential misuse when fair values are not verifiable (e.g., Ball, Li, and Shivakumar 2015; Kothari et al. 2010).

Using the setting of IFRS adoption, DeFond, Hu, Hung, and Li (2020) (DHHL hereafter) provide much needed evidence regarding the impact of fair value accounting on the usefulness of earnings in executive performance evaluation and compensation. Measuring the magnitude of the fair value impact with the reconciliations of related accounts from local GAAP to IFRS that are reported in the transition year, DHHL find that firms most affected by fair value provisions exhibit a decrease in the association between pre-tax income and cash pay and conclude that fair value accounting may reduce the usefulness of earnings in evaluating management performance. The paper makes a unique and valuable contribution to the literature on performance evaluation and

fair value accounting as well as that on IFRS. However, every study has its limitations. The remainder of this discussion will comment on some of the more relevant limitations and future research opportunities.

## **2. Usefulness of earnings versus usefulness of accounting information for compensation contracting**

Reporting a decrease in the association between executive cash compensation and pre-tax income around IFRS adoption for firms that are likely most affected by fair value provisions, DHHL conclude that the evidence is consistent with fair value accounting reducing the usefulness of earnings in evaluating management performance due to noise and/or opportunism. This conclusion is relevant and important in the framework of Kothari et al. (2010), where reported earnings are expected to be used in compensation contracts and thus the compensation demand for performance measurement is expected to provide direct guidance for standard setting.<sup>2</sup> However, implications of DHHL's findings may be constrained and the impact of IFRS fair value provisions on compensation contracting can be interpreted differently if we relax the assumption and allow for the possibility that the board does not limit its choice of performance measures to reported earnings. Considering this scenario, a broader question that arises is whether the usefulness of accounting information changes around IFRS adoption. Accounting information refers to all earnings components reported in the income statement and possibly information in other financial statements that may provide incremental information for compensation contracting; it includes, but is not limited to, the bottom-line earnings. DHHL's results do not provide a clear answer to this important question. They acknowledge it as a caveat that their analysis does not speak to other

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<sup>2</sup> Throughout the paper, the term "reported earnings" refers to earnings that are reported according to the relevant accounting standards, including US GAAP, foreign local GAAP, or IFRS.

income statement components (or combinations of components) that companies may use to evaluate management performance.

In arriving at the bottom-line earnings, the accounting system aggregates various earnings components by assigning them equal weights on the basis of dollar amounts (Lambert, 2001); however, the equal weights may not always be optimal for compensation contracting. To the extent that various earnings components do not all have the same information properties, considering them separately can improve the effectiveness of compensation contracts (Holmstrom, 1979; Lambert 2001). In practice, the board often includes a modified version of earnings (e.g., non-GAAP earnings in the U.S.), cash flows, or even multiple earnings components as performance measures in the bonus formula (e.g., Dechow et al. 1994; Shalev et al. 2013; Potepa 2020). In choosing the performance measure(s) to include in the bonus formula, the board is likely to consider the properties of earnings components, such as persistence (Lambert 2001; Potepa, 2020). Ultimately, performance measures need to capture managers' contribution to firm value. Even without the issue of reliability, less persistent earnings components, compared to their more persistent counterparts, are less associated with firm value. A possible decision by the board may be to exclude earnings components that are low in persistence and thus have a low association with firm value.<sup>3</sup> Consistent with this conjecture, Potepa (2020), using actual performance measures in bonus plans for a sample of U.S. firms, finds that compensation committees are more likely to include a component of income that can predict future earnings in their CEO bonus performance measures. If the board removes low-persistence earnings components from the bottom-line earnings in performance measurement, researchers, when regressing compensation over the

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<sup>3</sup> The inference is not affected if the board, instead of fully excluding low-persistence earnings components, still keeps them in the bonus formula as a part of the performance measures but assigns a lower weight, i.e., awarding a smaller amount of cash bonus to the executives for each dollar of low-persistence earnings components, compared to the same dollar of high-persistence earnings components.

bottom-line earnings, will find a relatively low association. This association will decrease with the relative magnitude of low-persistence earnings components that are excluded from the performance measure actually employed in the bonus formula.

Fair value gains and losses are transitory by construction and naturally of low-persistence, even when they are measured accurately (that is, free from any reliability or measurement issues).<sup>4</sup> Thus, the evidence provided by DHHL can be a joint product of: (1) the board consistently (both before and after IFRS adoption) excluding fair value gains and losses from earnings-based performance measures and, (2) the magnitude of fair value gains and losses increasing around IFRS adoption. In this situation, the board's use of accounting information (various earnings components) for performance evaluation and compensation have not changed from pre- to post-IFRS adoption. It is thus unclear whether the board would view IFRS fair value provisions as having an impact on the usefulness of accounting information and compensation contracting. While DHHL provide evidence regarding the usefulness of *earnings* in performance evaluation and compensation, it does not necessarily speak to the usefulness of *accounting information*.

In summary, the usefulness of bottom-line earnings and the usefulness of accounting information are two different concepts. While both pose important research questions that can help enrich our understanding of the practices of performance evaluation and compensation, they offer different interpretations of DHHL's results and potentially different standard-setting implications. In Section 5, we explain how the expansion of fair value accounting could lead to changes in the usefulness of accounting information for performance evaluation and discuss related research questions that are potentially interesting.

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<sup>4</sup> One may also argue that certain types of fair value gains and losses are likely to result from events out of management control and thus may receive a smaller weight in performance evaluation and compensation.

### 3. Measurement of impact of fair value provisions

Different from prior studies that mostly rely on small samples of firms that report specific fair-valued items or use country-level measures of the differences between IFRS and local GAAP, DHHL construct a firm-level measure of the aggregate impact of fair value accounting,  $\Delta FV$ , based on the magnitude of reconciliation adjustments made to fair-value-related accounts upon IFRS adoption. Following Ball et al. (2015), they identify accounts subject to IFRS fair value provisions, including short-term investments, long-term investments, property, plant, and equipment (PP&E), intangibles, provisions, post-retirement benefits, stock options, and discontinued operations.

While DHHL's measure allows for the use of a larger sample in the test of the impact of fair value accounting, it is important to note that reconciliation adjustments can reflect various other changes unrelated to a move towards fair value accounting. These other changes may include changes in consolidation criteria, reclassifications, derecognition of certain accounts, or even a switch from fair value to historical cost accounting, confounding the interpretation of their analyses.

Take as an example the adjustments to PP&E, the account with the second largest number of nonzero adjustments among the eight fair-value-related accounts. DHHL's Table 2 reports nonzero reconciliation adjustment to PP&E for about 69% of the sample, or 14,880 out of the 21,462 observations. In contrast, Christensen and Nikolaev (2013) find that only 3% of their sample firms in Germany and U.K. use fair value accounting for at least one asset class of PP&E following the IFRS adoption. In fact, Christensen and Nikolaev report that, of companies that used fair value under local GAAP, 44% switch to historical cost accounting upon the IFRS adoption; among companies that previously recognized all PP&E asset classes at historical cost under the local GAAP, only 1% switches to fair value for at least one asset group. While DHHL find their

results robust to excluding German and U.K. firms, it is unclear to what extent firms in other countries account for PP&E similarly to firms in Germany and U.K. A casual search reveals some examples from the Netherlands and Australia. Heineken from the Netherlands stated in its 2005 annual report that its reconciliation adjustment in PP&E reflects “the change from statement at estimated replacement cost to historical cost.”<sup>5</sup> Woolworth from Australia explained that “certain items of property, plant and equipment that were previously revalued will be restated at cost on transition.”<sup>6</sup> Both examples suggest that firms in countries other than Germany and U.K. may also choose to use historical cost accounting for PP&E post-IFRS and may even switch from fair value to historical cost accounting upon IFRS adoption. Another example where reconciliation adjustments at IFRS adoption may not be driven by the impact of fair value accounting is intangible assets. While Christensen and Nikolaev (2013) find that all their sample firms use historical cost accounting for intangible assets post-IFRS, DHHL’s Table 2 reports the largest number of nonzero adjustments (81% of the sample, or 17,384 out of the 21,462 observations) upon IFRS adoption for intangible assets.<sup>7</sup> Thus, for both PP&E and intangible assets, it is questionable to what extent reconciliation adjustments made upon IFRS adoption capture the impact of a move toward fair value accounting.

DHHL’s Table 2 shows that reconciliation adjustments to provisions are the second largest in magnitude among the eight fair-value-related accounts, with the average adjustment amounting to 11% of equity. Prior research points out that substantial discretion is involved in recognizing loss provisions by European firms under their local GAAP prior to IFRS adoption, which can be used for earnings management and pose a major accounting quality problem (Ball 2004; Bae et al.

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<sup>5</sup> [https://bib.kuleuven.be/files/ebib/jaarverslagen/HEINEKEN\\_2005.pdf](https://bib.kuleuven.be/files/ebib/jaarverslagen/HEINEKEN_2005.pdf)

<sup>6</sup> [https://www.woolworthsgroup.com.au/icms\\_docs/183552\\_Annual\\_Report\\_2005.pdf](https://www.woolworthsgroup.com.au/icms_docs/183552_Annual_Report_2005.pdf)

<sup>7</sup> We note, however, that Christensen and Nikolaev (2013) exclude goodwill in their analysis, whereas goodwill is not excluded from the intangibles examined in DHHL.

2008). Such provisions are prohibited under IFRS; derecognition of loss provisions is expected to increase the informativeness and usefulness of earnings (Wu and Zhang 2019). To what extent do reconciliation adjustments to provisions reflect a change to fair value accounting, as opposed to the constraining effect of IFRS on the recognition of loss provisions?

In summary, both anecdotal evidence and the evidence provided by existing studies suggest that the firm-level measure of the aggregate impact of fair value accounting based on reconciliation adjustments, as used by DHHL, may include substantial measurement error. Such measurement error may increase the association between executive pay and earnings (e.g., derecognition of provisions), decrease the association due to the discretion allowed by IFRS principle-based standards, or have no impact on the association. It is probably most concerning when changes unrelated to fair value decrease the association between executive pay and earnings, which offers an alternative explanation of DHHL's results. Future research may look into the nature of the measurement error and its impact on the assessment of the usefulness of earnings in performance measurement and executive compensation.

Relatedly, if only a small fraction of the changes brought by IFRS, as reflected in the reconciliation adjustments, is due to a switch to fair value accounting (and if the changes sometimes involve a switch from fair value to historical cost accounting), we question whether it is correct to attribute the large decrease in the observed association between executive pay and earnings around IFRS adoption to fair value accounting. In other words, is the magnitude of *actual* fair value impact large enough to justify the magnitude of decrease in the association between executive pay and earnings in firms with greater  $\Delta FV$ ? In Table 4 Column (2), when the control sample is propensity score matched to remove covariate imbalances between the treatment and control firms, the decrease in the association between executive pay and earnings for the high fair



value impact group amounts to 0.234 (Change in the association =  $\Delta E * Post + \Delta E * Post * High\Delta FV$  =  $0.436 + (-0.670)$ ), which corresponds to a 96% decrease from the pre-IFRS level (Pre-IFRS association =  $\Delta E + \Delta E * High\Delta FV = 0.117 + 0.127 = 0.244$ ). In contrast, Table 6 shows that only 30% of firms report nonzero fair value gains and losses following IFRS adoption and, for these observations, the mean (median) absolute total revaluation gains and losses amounts to 0.611% (0.186%) of total assets. Are these fair value gains and losses sufficiently frequent and large to explain the 96% drop in the association between executive pay and earnings as shown in Table 4?

#### **4. Revaluation gains and losses and the association between pay and earnings**

DHHL directly examine the relation between cash pay and separately reported fair value components of earnings post-IFRS adoption in Table 6. Given the measurement issues with  $\Delta FV$ , this test has the potential to provide important additional evidence regarding the usefulness of fair value components of earnings for compensation. While the analysis is restricted to separately reported fair value components, these items are likely to be the most significant fair value items. This analysis, however, provides at best weak support for the prediction that the board assigns a lower weight to the fair value components of earnings, which can be driven by the test lacking power. A few observations/thoughts arise from the analysis.

At least some of the revaluation gains and losses are not new to IFRS in some countries, for example, those related to investment properties in the U.K. An analysis of changes in revaluation gains and losses around IFRS adoption may produce some interesting insights. First, what is the frequency of reporting revaluation gains and losses prior to IFRS adoption? While the pre- and post-IFRS disclosure requirements may differ, evidence of an increase in the frequency of reporting revaluation gains and losses will be helpful to evaluate the claim that IFRS results in

an expansion of fair value accounting and shed light on the categories in which fair value accounting exhibits the largest impact. Second, it would be interesting to use the pre-IFRS data and examine changes in the sensitivity of cash pay to different components of earnings from pre- to post-IFRS adoption. If IFRS fair value provisions introduce more discretion to already-fair-valued accounts, revaluation gains and losses of the same accounts would be less relevant for compensation. Relatedly, this pre- vs. post-IFRS analysis can be conducted for earnings components unaffected by IFRS fair value provisions but affected by other provisions, which can provide evidence on whether other non-fair-value-related provisions help to increase the usefulness of earnings components, corroborating the main analyses.

Different from the specification in the main analysis, where change in cash pay is regressed on change in earnings, DHHL measure the sensitivity of pay to earnings in the earnings component analysis by regressing the level of cash pay on components of earnings. Is it possible to connect the two analyses? At the minimum, it would be interesting to replace the main measure of fair value impact, *High  $\Delta FV$* , by a measure based on ex post reported fair value gains and losses, for example, by whether there are revaluation gains and losses reported post-IFRS or by the magnitude or the change in the magnitude of revaluation gains and losses reported. One would expect firms that start to report nonzero revaluation gains and losses or start to report more revaluation gains and losses post IFRS to be more affected by IFRS fair value provisions; the association between cash pay and earnings should therefore exhibit a greater decrease in these firms. Such evidence will help alleviate concerns about  $\Delta FV$  capturing other important IFRS changes unrelated to fair value accounting.

## **5. Thoughts on future research**

We believe that the research by DHHL leads to potentially interesting questions regarding the use of accounting information and fair value accounting in performance evaluation and compensation. Specifically, to the extent that fair value measurement may lack verifiability and allow for management opportunism, does it affect the reliability of other earnings components and their treatment in the compensation process? McVay (2006) provides evidence that managers opportunistically shift expenses from core expenses to special items in order to overstate core earnings. Similarly, managers could attempt to shift expenses between core earnings and fair value gains and losses. Would the expanded application of fair value allow for more classification-shifting between core earnings and fair value gains and losses provisions post IFRS? How would this classification-shifting affect the properties and the reliability of core earnings (or subcomponents of core earnings) post IFRS? And how would the board respond to such a possibility when they consider core earnings and fair value gains and losses in performance evaluation and compensation? As pointed out by Lambert (2001), when managers can increase one performance measure at the expense of another, an interesting question is how the board would aggregate or weight these performance measures.

Furthermore, the relevance and reliability tradeoff of fair value accounting is likely to vary across accounts with the extent to which fair value measurement is verifiable. Fair values can reflect management effort in a timely manner but are subject to managerial discretion in measurement. Thus, some revaluation gains and losses are likely to be more relevant to contracting than others. Although DHHL get to this question in the earnings component analysis, their results are inconclusive and further analyses are warranted. Would the presence of external valuation experts help enhance the reliability and usefulness of fair value accounting for PP&E and intangibles?

## 6. Concluding remarks

DHHL provide intriguing evidence suggesting that IFRS fair value provisions may reduce the usefulness of *earnings* for executive compensation. We believe that they address an important question motivated by recent developments in accounting standard setting. Yet, the impact of fair value accounting on contracting has not been fully understood. Their research can be extended to answer the broader question of whether and how IFRS fair value provisions affect the usefulness of *accounting information* and the way compensation contracts are written. Further analyses in this regard can help us better understand the consequences of fair value accounting.

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