The usefulness of fair value estimates for financial decision making – a literature review

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Abstract

The objective of this discussion is to answer the fundamental question: ‘Are Fair Value estimates currently useful for financial decision making?’ Through a systematic review we analyse the qualitative secondary data from dedicated scientific articles, based on the relevance and reliability of Fair Value estimates, and find out that there are still ongoing problems with reliability of information mainly because of the managerial estimation process and the ‘human factor’ in general. We identify 3 problem areas that are closely interconnected: (1) the business entity, (2) auditing, and (3) financial regulators and accounting academics. Each area has its own set of challenges and several suggestions are given to improve the reliability and relevance of Fair Value estimates, but a lot of those propositions require dedicated attention from accounting academics, financial regulators, and standard-setters. All in all, there is a clear trend that the situation with Fair Value estimates (especially those of Level 3) has been improving recently, and Level 3 estimates can indeed be used in the current financial decision process, but with some level of scepticism.

Keywords: Fair Value Accounting, Fair Value estimates, Fair Value hierarchy, relevance, reliability, faithful presentation.

Streszczenie

Użyteczność szacowania wartości godziwej dla podejmowania decyzji finansowej – analiza literatury

Celem dyskusji naukowej jest znalezienie odpowiedzi na pytanie fundamentalne: „Czy szacowanie wartości godziwej jest użyteczne dla podejmowania decyzji finansowych?” Analiza wtórnych danych jakościowych z artykułów naukowych stanowiących o wiarygodności oraz poprawności doboru metod szacowania wartości godziwej pozwoliła nam ustalić, że wiarygodność tych szacunków może być zachwiana poprzez procesy zarządcze oraz czynnik ludzki. Zidentyfikowaliśmy trzy obszary problemowe, które są ze sobą ściśle powiązane: (1) jednostka biznesowa, (2) audyt, (3) regulacje finansowe i rachunkowość akademicka. Dla każdego obszaru wyznaczyliśmy wyzwań i sformułowaliśmy sugestie w celu poprawy wiarygodności szacunków wartości godziwej. Jednakże wiele z tych propozycji wymaga uwagi akademików z rachunkowości ustawodawców przepisów rachunkowości oraz standardów. Jasne jest, że można zauważyć trend poprawy jakości szacunków wartości godziwej (głównie na poziomie 3), jednakże 3. poziom może być użyty w procesie podejmowania bieżących decyzji finansowych, ale z pewną dozą sceptycyzmu.

Słowa kluczowe: rachunkowość wartości godziwej, szacunki wartości godziwej, hierarchia wartości godziwej, istotność, wiarygodność, rzetelna prezentacja.

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Introduction

From its formation in 1973 until a comprehensive reorganisation in 2000, the structure for setting International Accounting Standards was known as the International Accounting Standards Committee (IASC). In 2002, the International Accounting Standards Board (IASB), the independent standard-setting body of the IFRS Foundation, which was formed in 2001 to replace the IASC, first prepared and issued International Financial Reporting Standards (IFRS) as the required financial reporting standards for the consolidated financial statements of all European companies listed on the exchanges of EU member states, effective from 2005. The aim of IFRS is to provide a global and easily understandable language so that company accounts are understandable and comparable across the globe. IFRS are currently replacing national accounting standards in many countries.

The American equivalent of IFRS is called Generally Accepted Accounting Principles (GAAP). US GAAP are the generally accepted accounting principles adopted by the US Securities and Exchange Commission (SEC). The Financial Accounting Standards Board (FASB) has been publishing US GAAP since 1973. From 2009, the FASB Accounting Standards Codification (ASC) is the sole source of authoritative GAAP other than SEC-issued rules and regulations that apply only to SEC registrants.

One of the Standards, IFRS 13 Fair Value Measurement, published in 2011, applies to IFRSs that require or permit Fair Value measurements or disclosures. The Standard defines Fair Value per market-based “exit price” and uses a “Fair Value hierarchy” (Levels 1, 2, and 3). The American counterpart of IFRS 13 is FAS 157 Fair Value Measurements, adopted at the end of 2007.

The accounting method which uses Fair Value measurements and captures the changes in value of assets and liabilities over time is called Fair Value Accounting (FVA). As an accounting method, FVA and its implementation have long been a topic of debate among academics, policymakers, and practitioners (e.g., Hodder et al. 2006, 2014; Landsman 2007; Laux and Leuz 2009; Zyla 2012; Marra 2016).

FVA fully exploits the “Fair Value hierarchy”, incorporating different levels of information: Level 1 (quoted prices in active markets for identical assets or liabilities), Level 2 (quoted prices in active markets for similar assets or liabilities) and Level 3 (values of assets and liabilities which are based on prices or valuation techniques that require inputs which are unobservable and significant to the overall Fair Value measurement). But the usefulness of those estimates (Level 2 and Level 3, often labelled “mark-to-model”) in financial reporting might be questionable. Especially when considering Level 3, since the lack of actual market prices necessitates the use of internally generated estimates, which might be difficult or impossible to verify in a timely fashion.

1 FAS 157 Fair Value Measurements has been codified into the FASB Accounting Standards Codification (ASC) 820 Fair Value Measurements and Disclosures.
With Fair Value Accounting, currently being the dominant accounting system, the objective of our work is to attempt to answer the principal question: “Is information based on Fair Value estimates currently useful for making financial decisions?”

In order to identify and review the relevant literature, an initial pool of studies was formed by searching databases such as the Web of Science (Thomson Reuters), Science Direct, and Research Gate for the available studies from 2003 to 2016 (including studies accepted for publication in 2017). The following keywords were used to search the databases: “Fair Value measurement” OR “Fair Value relevance” OR “Fair Value reliability” OR “Fair Value estimates”. The studies were further shortlisted on the basis of the following criteria: (1) published in English, (2) based on general practices particular for Europe or the United States of America, (3) focused on Level 3 estimates. All articles where the estimates or measurements of Fair Value were mentioned only briefly were excluded. As a result, 25 studies meeting the above criteria were selected for the review. The systematic review was performed to analyse and synthesise the evidence and results of the selected articles.

In our work, we try to concentrate on the most recent literature (2013-2017). However, if older articles are used, where possible there should be a follow up in more recent research to confirm or dispute the findings of those articles.

Although our work doesn’t bring any new research evidence to the table by itself, we see the usefulness of our review in (1) helping the broad spectrum of financial statement users to better evaluate the current state of Fair Value estimates while making financial decisions, and (2) drawing standard-setters’ and other financial regulatory authorities’ attention to the possible shortcomings of Fair Value estimates for the initialisation of possible changes in Fair Value Accounting.

This paper is organized as follows. In Section 1 we determine the boundaries for our discussion. We analyse possible problems with Fair Value estimates from the faithful representation perspective, while in Section 2 and Section 3 it is from the relevance perspective. In Section 4 we discuss the problematic areas, which are formed according to our review. We conclude our analysis of the dedicated literature in the last part of the article.

1. The Qualitative Characteristics of Information

Before moving to the systematic review of the literature, we need to define the boundaries for our analysis. Since information plays a crucial part in the decision-making process, the information itself, and ultimately its usefulness, will be our main targets.

The fundamental qualitative characteristics of information are defined by the IASB in the Conceptual Framework 2010 (paragraph QC 4):

*If financial information is to be useful, it must be relevant and faithfully represents what it purports to represent. The usefulness of financial information is enhanced if it is comparable, verifiable, timely and understandable.*
So, we have narrowed down our discussion to (a) relevance and (b) faithful representation, as both these fundamental qualitative characteristics of information deem its usefulness.

The usefulness of the first characteristic, „relevance”, is maintained if the financial information is capable of making a difference in the decisions made by users (Conceptual Framework 2010, Paragraph QC 6). The usefulness of the second characteristic, „faithful representation”, is secured if the financial information faithfully represents the information it is supposed to represent, all the better if that information is complete, neutral and free from error (Conceptual Framework 2010, Paragraph QC 12).

The trade-off between these two fundamental qualitative characteristics of accounting information, relevance and reliability, has been the central theme of the ongoing Fair Value debate (e.g., Laux and Leuz 2009; Hodder et al. 2014). On the one hand, relevant Fair Value information provides more transparency because Fair Value estimates are timely. On the other, there might be problems with faithful representation (reliability), since managers might bias the economic picture of the organisation while marking-to-model (instead of marking-to-market) their financial data.

In our further discussion, we will review the usefulness of the information from both these perspectives separately and draw conclusion afterwards.

### 2. Faithful Representation of Level 3 Estimates

The reliability of mark-to-model estimates has been in question for quite some time now (e.g., Nissim 2003; Martin, Rich, and Wilks 2006; Ronen 2008; Danbolt and Rees 2008; Fiecher and Meyer, 2010; Griffith, Hammersley, and Kadous, 2015). The absence of actual market-based „exit prices” makes organisations use their own estimates, which might be difficult or impossible to verify in a timely way. This creates an open field for dishonest managers to use the estimates in their favour.

Nissim (2003) and later on Fiecher and Meyer (2010) study the reliability problem with overstating the reported Fair Values in banks. Their findings showed that some banks indeed overstate the reported Fair Values in an attempt to affect the performance and risk in a favourable way, in particular, those banks that form smaller loan portfolios and for which the requirements for regulatory capital are lower. The evidence suggests that the disclosed estimates may not be reliable and advocates against using mark-to-model estimates. This directly impacts the matter of reliability, and the IASB considers reliability to be a major criterion for choosing from among the accounting alternatives. At the same time, we have to take into account that Nissim’s research was conducted using data from 1994–95 and there have been a lot of changes in Fair Value measurements and disclosure requirements since then.

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2 In IASB Conceptual Framework 2010, faithful representation replaced the previously used term „reliability”, as it was determined by the Board that there was a general lack of understanding of reliability, as many equated reliability with verifiability of information only (Paragraphs BC3.20–BC3.25 of Chapter 3). We use the terms „faithful representation’ and „reliability’ interchangeably throughout our work.
Another small group of researchers (Martin et al., 2006; Griffith et al., 2015) further examined the possible misleading nature of mark-to-model estimates, but from another angle – the auditors’, since auditors tend to be more concerned with verifiability of information than relevance or faithful representation. Fair Value measurements tend to include forward-looking information and future economic events, and market conditions cannot be predicted with certainty, so for the managerial estimation process an element of judgment is always incorporated. If the valuation is ambiguous, which normally is the case, it negatively affects the reliability by providing lower value relevance and a greater level of bias in the accounting in general (Danbolt and Rees, 2008). Therefore, there is indeed a valid concern that overstating or understating reported Fair Values caused by the managerial estimation process renders mark-to-model estimates potentially misleading, and the reliability of Fair Value estimates for financial statement users does not diminish only if the values are unambiguous.

For the main information users, the problem with managerial valuation can be overcome to a certain degree with a better auditor valuation (DiGabriele, 2016). But there is significant evidence of differences in the expectations of the financial valuation fitness of auditors between the main information users, accounting practitioners, and accounting academics. DiGabriele (2016) states that fair value concepts should be better aligned to global market situations, and additional training in financial valuation might be necessary to improve the fair value estimation process of auditors.

Ronen (2008) mentions the lack of reliability of Level 3 estimates because of the current flawed governance system, and agrees that those estimates can be used to bias and abuse the situation in favour of a given organisation. The problem, according to researchers, arises from the fact that neither directors nor managers face any serious consequences that would stop them from fraudulently falsifying their financial statements. Auditors do not help this situation either – their clients, and not the investors themselves, structure and pay audit fees. The scholar sees the possibility to overcome the reliability concerns only if the interests of managers and auditors are aligned with those of investors. Ronen also proposes an interesting idea of creating a market maker in each organisation to battle possible accounting manipulations. If there is a dedicated market maker (CEO, CFO, or a member of the board of directors) that would announce bids and ask for prices, and stick to buying or selling according to them, there would be no incentive to cook the books, since the organisation would either have to buy at a higher price (if the price was inflated in the beginning) to replenish the inventory, or sell at a lower price (if the price was deflated) if the inventory gets too large.

In 2009, trying to enhance the relevance of financial reporting, the IASB granted managers more flexibility to measure Fair Value assets at Level 2 and Level 3, even where active markets existed. As a step in the wrong direction, this relaxation of Fair Value rules facilitates the circumstances where managers tend to exploit it, which affects the quality of financial reporting in general (Baruch, Li, and Sougiannis 2010; Bushman and Landsman 2010; Fargher and Zhang 2014).

All the reliability concerns due to managerial estimates are indeed valid, yet we have to be fair: while there is a ‘human factor’ (and organisations are unlikely to be managed...
by artificial intelligence any time soon), estimated information will always bias the economic picture to some extent. The IASB itself concludes this in Conceptual Framework 2010, Paragraph QC 12:

> To be a perfectly faithful representation, a depiction would have three characteristics. It would be complete, neutral and free from error. Of course, perfection is seldom, if ever, achievable.

What any organization should do now is at least show that the reported information has been properly selected, applied and published without errors, with all the limitations of that information being thoroughly explained and clearly stated.

### 3. Relevance of Level 3 Estimates

Several authors, such as Kolev (2008), Song, Thomas, and Yi (2010), Du, Li, and Xu (2014), Goh, Li, and Ng (2014), Song (2015), Lawrence, Siriviriyakul, and Sloan (2016), and Chung, Goh, and Ng (2017) empirically researched the relevance of Fair Value estimates.

In his study of the association between stock price and reported value of net assets recognized at Fair Value, Kolev (2008) documented a positive and significant level of relevance between market prices and all three levels of Fair Value estimates. Furthermore, the author examines the correlation between investor assessments of the company-reported mark-to-model estimates and the weight that they attach to those Fair Values. His findings suggest that even though investors put less trust in Level 2 and Level 3 Fair Values compared to Level 1, the difference is significant (but does not exceed 35% at its peak) only for the Level 3 estimates, and those mark-to-model estimates can be used quite reliably and not discarded.

The empirical research performed by Song et al. (2010) also confirms that all levels of Fair Value estimates are relevant, with Level 3 assets and liabilities being less valued than those of Level 1 and Level 2. The findings of Song et al. (2010) resonate closely with the results of Kolev (2008) about the difference in weight that investors put into Level 3 estimates. It is suggested that investors, while making their equity pricing decisions, are likely to value mark-to-model estimates less, possibly because of information asymmetry and moral hazard problems. However, those problems can be made less severe with strong corporate governance (Song et al., 2010; Vyas, 2010).

A strong level of corporate governance is especially crucial for banks (e.g., Watson and Bauer 2005). Du et al. (2014) examined banks that make transfers of assets into and out of the Level 3 category when Level 1 and Level 2 inputs are not available, and banks that do not make such transfers. Their findings suggest that there is a significant increase in value relevance of all three levels of Fair Value estimates for all banks that make transfers compared to banks that do not make such adjustments. Furthermore, their findings provide useful information for different groups of users of financial information and help to alleviate concerns over Fair Value standards in general.
Besides the obligation for organisations to transfer their assets into and out of the Level 3 category when Level 1 and Level 2 inputs are not available, the level of equity capital also plays a crucial role in increasing the reliability of Fair Value estimates. The reliability of mark-to-model estimates can be greatly increased for investors when a company possesses a high level of equity capital, its Audit Committee consists of more than one financial expert, and when Level 3 Fair Value estimates are provided from outside of the company, by a third party (Kolev 2008). The influence of outside provision of estimates has been recently confirmed by the modern research of Chung et al. (2017). There is indeed an increase in reliability if the information is provided by an external independent party with the proper classification of estimates.

The examination of banks by Goh, Li, Ng, and Yong (2014) confirms the importance of the high level of equity capital for Fair Value estimates. Their empirical research elaborates on investors’ concerns that when banks have lower levels of equity capital, they might opt to sell their assets for lower than expected (fire-sale) prices instead of their reported Fair Value estimates. And by contrast, for those banks with higher capital adequacy, investors do not discount Fair Values, thus treating them as a reliable source of information.

Song (2013) analytically, and Goh et al. (2014) and Song (2015) empirically provide results on the pricing of Level 3 estimates compared to Level 1 and Level 2. Their findings suggest that while Level 3 estimates are generally priced lower (especially during periods of market volatility) than Level 1 and Level 2 estimates, the difference is more because of the general market conditions (during financial crises, for instance, the differences would be bigger) or market limitations as a whole and not because Level 3 estimates are less reliable or relevant on their own.

The pricing aspect of Level 3 Fair Values is further elaborated by modern research performed by Lawrence et al. (2016). Using both a closed-end mutual fund and banking settings, they find that all three levels of Fair Values are priced well over 90 cents on the dollar: Level 1 Fair Values are priced at 95 cents on the dollar, Level 2 – at 91 cents, and Level 3 - at 97 cents. This stands in vivid contrast to Song et al. (2010), who found that Level 3 Fair Values are priced at only 68 cents on the dollar. Lawrence et al. (2016) explain that the difference in results between the current and previous research was caused by the correlated omitted variable bias, which arose due to the unrecognized losses of banks that failed during the financial crisis, and biased the Level 3 coefficient in Song et al. (2010) in a significant way. The modern findings of Lawrence et al. (2016) prove that Level 3 Fair Value estimates provide similar usefulness to investors as Level 1 and Level 2 Fair Value estimates.

The usefulness of relevant financial information can be further increased if it has predictive value, confirmatory value or both (Conceptual Framework, Paragraph QC 7).

A separate body of research, such as Altamuro and Zhang (2013), Magnan, Menini, and Parbonetti (2015), Barron, Chung, and Yong (2016), or Bratten, Causholli, and Khan (2016), concentrated on the predictive value of relevance. According to Kieso, Weygandt, and Warfield (2010), financial information possesses a predictive value only if
it has value as an input to the predictive processes of the investors, who form their own expectations about the future. So, examining the predictive aspect of the relevance might give an extra insight into the relevance and usefulness of Fair Value estimates.

Altamuro and Zhang (2013), and later Bratten et al. (2016) investigating the banking sector confirm the high predictive ability of Fair Value estimates. While Bratten et al. (2016) concentrate more on the influence of Fair Value adjustments embedded in other comprehensive income for predicting future bank performance, Altamuro and Zhang (2013) analyse the results of banks’ classifications of mortgage servicing rights (MSRs). The results of the latter study suggest that Level 3 inputs of those banks that classify their MSRs as Level 3 assets are more positively associated with the persistence of future servicing fees compared with the Fair Value of MSRs based on Level 2 inputs, and in general they provide higher quality Fair Value estimates than those of Level 2. Magnan, Menini, and Parbonetti (2015) do not agree with this conclusion. Using the multivariate model, they conclude that the accuracy of analyst forecasts depends on the proportions between Level 2 and Level 3 assets and the liabilities that a firm possesses. The higher the proportion of assets and liabilities measured at Level 2, the more accurate analyst forecasts are. By contrast, the bigger the part of assets and liabilities measured at Level 3, the more dispersed those forecasts become.

The high predictive value of Level 3 Fair Values is also confirmed by Barron, Chung, and Yong (2016). Through the analysis of the consequences of adopting FAS 157 Fair Value Measurements, their results revealed that the gains and losses from Fair Value changes in Level 3 measurements convey useful information about a business entity’s future earnings to analysts. Thus, the adoption of FAS 157 not only reduces uncertainty but it also confirms the informativeness of Level 3 estimates. Besides, with the introduction of FAS 157, several firms started providing additional disclosures of their techniques and models that were used in measuring the Level 3 estimates. Those voluntary “reliability disclosures” show that voluntary provision of those disclosures is positively associated with a higher credibility of information, higher market pricing, and lower information risk of Level 3 estimates (Chung et al., 2017).

One more global aspect of Fair Value estimates is that the value relevance of fair values varies across investor protection environments (Siekkinen, 2015). In countries with a medium or strong investor protection environment, fair values (all 3 levels) are relevant for the investors. And respectively, in countries with a low investor protection environment – only Level 1 Fair Values are relevant. Thus, increasing the level of the investor protection environment (making the information more transparent) can increase the relevance of Fair Value estimates (Levels 2 and 3) at the international level.

4. Areas of Fair Value Estimation Process

According to our systematic review of the dedicated literature, we can highlight 3 main current problem areas of the Fair Value estimation process that are closely interconnected: (1) the business entity, (2) auditing, and (3) financial regulators and accounting academics.
For a business itself, as long as there is a „human factor” there will always be problems with reliability. And the main problem with the reliability of financial information here is that the management of the company does not face any serious consequences of its actions, thus, national legislation should be brought into line to deal with it. As a possible addition to that legislation, there should be a dedicated „market maker – insider” in each company and some sort of a national registry, which might further improve the reliability of Fair Value estimates. In this case, bid and ask prices would be publicly available, and it would remove or lessen the intentions of managers to cook the books. Besides controlling the managers, steps to improving corporate governance should be made in each organisation if there is a lack of it. Only organisations with strong corporate governance are less likely to suffer from problems with the relevance of information.

Auditing faces several problems with reliability as well. There seems to be a demand for additional training in the financial valuation of auditors, since there is a clear gap between the expectations of investors (and other information users) and auditors. Additionally, investors and their attitude towards the reliability of Fair Value estimates might benefit from a change in audit „practice”, where the interests of managers and auditors align with those of investors (instead of shareholders only). This change in practice is only possible if financial regulators and accounting academics can stipulate the process.

Besides the change in audit practice, standard-setters and other national financial regulators should really pay attention to imposing the rules in FVA. All interested parties (i.e., managers, auditors) would benefit from clear rules for Fair Value evaluations instead of general principles only, thus increasing the reliability of the financial information. To increase the relevance of financial information, national regulators might impose that Level 3 Fair Value estimates be provided externally from third parties only, effectively forbidding companies from using their own estimates.

**Conclusions**

Fair Value measurement and Fair Value estimates in particular continue to be a debatable issue, especially following the recent financial crisis. The ability of Fair Value measurements to ensure that published estimates truly and faithfully represent the economic information they are intended to represent, particularly when there is no active market for the assets or liabilities, is still a fundamental concern.

Unfortunately, there is no simple answer to our fundamental question: „is the information based on Fair Value estimates currently useful for making financial decisions?”

We cannot deny the fact that currently we have no real alternative to Fair Value measurement that would be both timely and reliable (i.e., not using any managerial estimates as inputs). Yet, there is a clear trend that several aspects of Fair Value estimates (especially Level 3) have been improving recently: Level 3’s have been pricing more adequately, they possess higher predictive value, and they are now seen as being
a lot more useful by investors. But several possible changes, such as (1) the imposition of higher equity capital required by default; (2) fair punishment for managers for cooking the books; (3) clear rules instead of principles for the estimation process; (4) better investor rights protection; (5) the provision of Fair Values externally, by third parties only, are definitely not easy to implement and require attention and thoughtful consideration from accounting academics, financial regulators, and standard-setters, who should be working in tandem to make Fair Value estimations as relevant and reliable as possible.

Still, it is quite clear, that there is no better accounting alternative for situations where rapid financial decisions are needed, but for the current financial decision-making process, Fair Value estimates should be used freely but with some level of scepticism.

An important caveat to our systematic review is that our conclusions might be driven by the relatively small subset of articles in the sample that have a substantial influence on Fair Value estimates. As an idea for possible future research, we could propose further analysis of the level of impact and in-depth connections in the triangle between „business entity” – „auditing” – „financial authorities and academics” in accordance with the Fair Value estimation process.

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