

# WHAT IS “FAIR VALUE”?

## AN IN-CLASS EXERCISE FOR ACCOUNTING STUDENTS USING THE CASE OF ZOO DOO

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### ABSTRACT

*Since the late 1980s, there has been a progression toward the use of fair values to value balance sheet items. Both accounting professionals and accounting academics have been debating the benefits of this trend, particularly given the uncertainty and variation in the measurement of fair values. Students have become comfortable using the term ‘fair value’, but examples and problems in textbooks assume the fair value is known, thus giving students a false impression regarding the ease of developing fair values. Students may not fully understand the array of measures that the term ‘fair value’ encompasses or the uncertainty surrounding many of these measurements. This paper describes an in-class exercise developed for use in a graduate level accounting research course for masters of accounting students. The goals of the assignment are to (1) introduce students to the controversy surrounding the move toward fair values, (2) help students understand how difficult it is to place a current or fair value on an asset especially when there is not an active market, and (3) encourage critical thinking and creativity as students collaborate to develop a methodology to value a balance sheet asset. The exercise helps students understand the challenges of fair valuing assets, knowledge they can take with them into their careers as practicing accountants.*

### INTRODUCTION

Historically, the focus of the financial statements was the income statement, with the balance sheet viewed as the bridge from one year’s income statement to the next. Deferrals and accruals were hung up on the balance sheet, until a transaction occurred to move them off the balance sheet, impacting the income statement or the statement of cash flows. Assets were purchased to be used in the business, used until they were hauled to the trash and replaced by more productive assets. A.C. Littleton, editor of *The Accounting Review* in the 1940s, stated that profitability was a more important concept in accounting than solvency, which necessarily means that the goal of accounting is to properly match revenue with expenses and calculate net income. Littleton states (1953), “The central purpose of accounting is to make it possible for men to reach a calculated judgment of the success of the enterprise in rendering its service.....The income statement therefore is the report of critical importance. It alone talks of results. The balance sheet on the other hand speaks of the remaining means to future results.” (p. 34-35).

Historical cost was the primary method of valuing assets, elevated to that status because of the critical underlying going concern principle. Historical cost relates to transactions that have occurred; it is verifiable and objective. In an accounting text from the 1960s the authors write:

Unless there was evidence to the contrary, it is customary to assume that the business will continue to operate for an indefinitely long future period. This assumption justifies the accounting practices applicable to long-lived assets. Long-lived assets are recorded at acquisition cost and depreciated in a systematic manner without reference to market values. The net value at which a long-lived asset is carried on the balance sheet is the cost applicable to its estimated remaining productive life. Thus, the going concern concept indicates that depreciation is a process of periodic allocation of the cost of assets over their expected productive life. No reference is made to current market value, since there is no immediate expectation to sell the asset. (Cerepak & Geier, 1968, p. 477)

There is no mention of fair valuing assets and liabilities, determining the price that would be received to sell an asset or paid to transfer a liability. Why should long lived assets be fair valued if these values only matter if the firm will be sold? If the firm is expected to continue in its current form and the focus of the financial statements is on profitability, then the fair market value of the assets, a measure of solvency, is somewhat irrelevant.

While the accounting profession has long discussed the idea or concept of fair values, the uncertainty in measuring assets and liabilities using hypothetical future measures has been problematic. Accounting theorist Yuji Ijiri wrote that defining the rules to be used in developing fair values “.....is a difficult task, yet without rules the resulting figures will likely be too soft to be used effectively in accounting measurement. This problem does not exist in historical cost accounting because there the mode of exchange is well defined by the exchange transaction itself” (Ijiri, 1975, p. 93).

So what has changed since the 1960s? What is behind the move to a focus on the balance sheet and fair value? There are several potential explanations. First, the accounting profession has long recognized that using mixed measurements to value assets and liabilities creates a great deal of difficulties for the users of financial statements. Barth (2006) points out that the use of multiple measurement schemes results in financial statements that summarize data which is measured differently, obscuring the usefulness of the data in the financial statements. Some items are recorded at historical cost, others at depreciated historical cost, and others at fair value, with fair value determined in multiple ways. Accounting academics and professionals have recognized and debated these issues as they try to move toward more relevant valuation methods.

A second explanation for the rise of the use of fair value accounting is that the concept of efficient markets, along with the notion that prevailing prices generated by an efficient market are reliable measures of value, had a significant

influence on accounting research and standard setting in the 1980s and 1990s (Ramanna, 2013). The professional background of the members of the Financial Accounting Standards Board (FASB) shifted, with more than one quarter of the FASB having a financial service background in 2013 compared with no members having such a background in 1993 (Ramanna, 2013). There is evidence that standard setters with a background in financial services (principally investment banking and investment management) are more likely to propose and support the use of fair value methods in accounting standards (Allen & Ramanna, 2012).

Ramanna (2013) hypothesizes that investment bankers prefer fair valuation of assets since (1) they are more accustomed to using fair values in merger and acquisition (M&A) deals and (2) that the use of fair values in GAAP reporting is supportive of M&A activity (a major revenue generator for investment banks) because it accelerates gains compared with historical cost accounting and does not drag down future earnings with amortization of assets. There has been a significant increase in M&A activity, which likely heightened the focus of the FASB on fair valuation methods. Boston Consulting Group reported that before the 1960s, both the number of M&A deals and the dollar value of the deals were negligible (Cools et al., 2007, p. 11). But M&A activity has been steadily increasing over the past 50 years with a huge increase in the number of annual deals since the mid-1980s. Between 1991 and 2006 there were more deals annually than ever before, averaging 21,000 transactions per year, and we recently have seen more frequent mega-consolidations (Cools et al., 2007, p.12). This change in the business model altered the perspective of accounting standard setters and users of financial statement information since financial information based on historical cost and depreciated historical cost was viewed as increasingly irrelevant, particularly when a buyer and seller were trying to negotiate a price.

Thus the focus turned to valuing assets and liabilities on the balance sheet and the accounting profession changed direction in how it viewed the relative importance of the individual financial statements. The balance sheet nudged the income statement off its pedestal and became the focus, with the comprehensive income statement bridging the change from the opening to the ending balance sheet values. The Conceptual Frameworks of both the International Accounting Standards Board (IASB) and the FASB in the United States defined income and expenses as resulting from changes in assets and liabilities. Attention turned to fair valuing assets and liabilities and how best to do that.

The FASB defines fair value as "...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." (FASB, 2006, p. 2) Users of financial information generally find the relevance of fair values outweighs the uncertainty (unreliability) surrounding their measurement. In order to improve the quality of fair value data and reduce the estimation error surrounding fair values, Statement of Financial Accounting Standard No. 157 (issued in 2006 and now codified as ASC820) sets forth guidance for meaningful disclosures which address the level of uncertainty inherent in fair value measures. This guidance recognizes that the reliability of a fair value measure is related to whether or not there is an active market for the item and requires that companies disclose the level of market activity for fair valued assets.

Accountants have considered the impact on balance sheet valuations when fair values differ from book values, such as the

use of the allowance for uncollectible accounts to take accounts receivable down to net realizable value, or the lower of cost or net realizable value test for inventory, or marking a portfolio of investment securities to market value, or writing down long lived assets that are impaired (even while ignoring write ups to fair value). But with the increased focus on fair value for reported assets and liabilities, how exactly should 'value' be determined?

The Institute of Chartered Accountants in England and Wales defined four overall bases of measurement which could be used to generate measures of current value: (1) value to the business (replacement cost, recoverable amount, net realizable value); (2) fair value as defined by the FASB/IASB (implies an exchange has taken or will take place so fair value would be somewhere between the buying/entrance and selling/exit price for items with an active market, and some other proxy for assets and liabilities without an active market); (3) realizable value which is the net amount that a business expects to get from the sale of an asset (not easily extended to liabilities); (4) value in use, calculated as the present value of the future cash flows which is not applicable to individual assets or liabilities, but rather to business units as a whole (ICAEW, 2006, p. 21-37). Both accounting professionals and accounting academics have been debating the cost effectiveness of continuing to move toward fair valuation of assets and liabilities, given the uncertainty and variation in the development of fair values.

So what does all of this mean for the study of accounting? Students have become comfortable using the term 'fair value', but examples and problems in textbooks assume the fair value is known or given. Students may have a false impression regarding the ease of developing fair values and it is unlikely they really understand the full array of measures that it encompasses and the uncertainty surrounding many of these measurements.

The remainder of this paper discusses an in-class exercise developed by the author for use in a graduate level accounting research course for masters of accounting students. Active learning has been shown to generally lead to better student learning outcomes than traditional lecture (Morgan et al., 2005) and experiential learning has been shown to have a positive, significant effect on student learning and the students' perceptions of their learning (Burch et al., 2014). The goals of the assignment are to (1) introduce students to the controversy surrounding the move toward fair values, (2) help students understand how difficult it is to place a current or fair value on an asset especially when there is not an active market, and (3) encourage critical thinking and creativity as students collaborate to develop a methodology to value a balance sheet asset.

## IN CLASS EXERCISE

### DESCRIPTION

Students had to complete several readings and short assignments prior to the date of the in-class exercise to ensure that all students understood the issues surrounding the valuation of balance sheet accounts and, in particular, assets. While students have heard the term 'fair value' they knew little if any of the background or history.

The Woodland Park Zoo (a non-profit organization) in Seattle, Washington earns revenue from composting the manure of its zoo animals into a marketable fertilizer called Zoo Doo. Assume that the Woodland Park Zoo has to prepare financial statements for an investor and creditor group, as if it were a for-profit company, and has been asked to prepare a balance sheet

listing its assets. The class is instructed to watch the video, linked below, and think about ways to value the Zoo Doo.

<http://www.zoo.org/zoodoo#.Vp-061LEQXg>

In small groups of 2 or 3 students, the groups develop several suggestions for how the zoo should determine the value of the compost on its balance sheet. The students are instructed to not be constrained by USGAAP and to bring in everything they know from accounting and economics to develop methods to value the compost. Each group must write two unique ideas on the board and be able to explain the idea. If the idea is already written on the board by another group, the group has to develop more ideas. Once all groups have posted valuation ideas on the board, the class discusses each idea and then discusses the inherent difficulty of determining fair value and the interplay of relevance and reliability. More detail on the in class exercise is included in Appendix A. The entire in class exercise will require approximately 1 to 1.5 hours, depending on the enrollment.

### DISCUSSION TEACHING NOTES

Students need to be encouraged to actively critique all valuation methods proposed by all groups. Should the zoo value the Zoo Doo at the selling price (exit price), cost to produce determined in some way (and this generated a lively discussion of how to identify costs, such as should animal feed or the salary of the zookeeper be part of the cost as well as involving questions about how to value in-process compost vs. compost that is already in the zoo store ready to be sold), replacement cost (entrance price) based on a similar product, value in use (including a discussion of whether zoo admission attendance has been positively impacted by people coming to the zoo for the day with the idea of buying some Zoo Doo or bulk compost), opportunity cost for the land used for the compost operation or opportunity cost for another use for the manure, and present value of the future cash flows (which is very difficult to evaluate).

At the close of this discussion, the instructor may want to ask the students what circumstances could cause the Woodland Park Zoo to want to value the Zoo Doo on the balance sheet as 'inventory'. What circumstances would make this information more relevant to users of the financial statements? Students should also be encouraged to apply the concept of cost vs. benefit to the decision to value the Zoo Doo and place a value on the balance sheet, focusing on the inherent difficulties of arriving at a meaningful value. It is important that students leave the unit with an understanding that imperfect fair values with a great deal of noise around them (less reliability) are often encountered in business and that accounting information is often expected to describe business transactions which are occurring in a complex and uncertain dynamic business environment.

### CONCLUSION

On a practical level, this exercise highlights the need to develop more useful text and case material on fair value issues. A weakness of this exercise is that student learning was not compared to student learning of the material delivered through a more traditional lecture format, but the anecdotal evidence suggests that students enjoy this exercise and easily recall it well after the course ends. The learning objectives are achieved since this exercise is very entertaining and there are no clear answers which causes heated discussion both within groups and across groups, enabling students to retain deeper knowledge. This entertaining and simple active learning exercise helps students understand the differences in some of the terminology related to valuation of assets and also helps them to understand the challenges of fair valuing assets (especially those without a very active market) in a richer way than just memorizing terms. This is knowledge they can take with them into their careers as practicing accountants.

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## APPENDIX A

### In Class Exercise and Teaching Notes: Fair Value Accounting

#### Exercise Set Up

Ask students to watch this video and to assume that the Woodland Zoo has to prepare financial statements for an investor and creditor group, similar to those prepared for a for profit company. How could the zoo value the compost and components of the compost while on hand before it is sold? What are their options? Direct students to think outside the box and to not be constrained by USGAAP financial accounting rules.

<http://www.zoo.org/zoodoo#.Vp-061LEQXg>

Ask students to work in groups of 2 or 3 students and come up with at least 2 ways to value the compost. Each group must write the methods on the board. Do not repeat the methods proposed by another group.

#### Discussion

Start the discussion with a statement similar to the following:

*In your careers you will encounter business circumstances which are outside of normal operations, situations with unusual byproducts or previously unused byproducts which now have market value or use to the business. You need to be able to apply some conceptual foundation to these problems.*

Then discuss the efficacy and difficulty of each student proposal. Make sure that direct costing, byproduct costing, entry fair value, exit fair value, replacement cost, and net realizable value are discussed. Make sure to discuss the opportunity costs of using the square footage for composting rather than for some other zoo activity, perhaps even a revenue generating activity. Encourage students to explore all the options presented.

In conclusion, stress the difficulty of “valuing” this asset on the balance sheet and the difficulty in conceptualizing the idea of “fair value” in asset valuation. Finally, discuss whether knowing the fair value of the compost is useful or relevant for the users of the financial statements.