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## FAIR VALUE AND HISTORICAL COST ACCOUNTING: EVIDENCE FROM INSURANCE COMPANIES IN INDONESIA

Antonius Diksa Kuntara and Lilis Setiawati

**Abstract:** *This study is aimed to identify whether fair value presentation enunciates better representation to company's value compared to historical cost. We used the data of insurance companies in Indonesia which present both values for their investment securities. The study used the model of Barth (1994) to analyze the data. We observed 88 company-years data of insurance companies listed in Indonesian Stock Exchange. The analysis was done using SPSS 19. We find that the fair value accounting is better in explaining the stock price of the company compared to the historical cost.*

**Keywords:** *fair value, historical cost, investment securities, insurance companies, Indonesia.*

**JEL Classification:** *M41, M48*

### 1. INTRODUCTION

The controversy of fair value and historical cost accounting has been long time polemic between scholars. Some documented that the fair value accounting was better than the conservative accounting using historical cost method (Baran *et al.*, 1980; Bublitz *et al.*, 1985; Barniv, 1999). Some others have no evidence to determine which is better between the two (Murdoch, 1986; Bernard and Ruland, 1987; Lobo and Song, 1989). Olsen (1985) strongly argued that there were no additional information content of using fair value method relative to the historical.

Studies about the relevance of fair value and historical cost accounting in a certain context add another debate. In a country such as Israel, the fair value accounting is more meaningful than the historical cost (Barniv, 1999). In his study, he addressed the relevance is due to high inflation in Israel relative to this in the US. In another country with high inflation, Mexico, Gordon (2001) proves that replacement cost accounting is better than historical cost and price level accounting in explaining stock return. In Indonesia, Laksono and Isnalita (2001) find that the financial statement with fair value, e.g. *general price level adjusted accounting* give incremental information than that with historical cost accounting. They prove the

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difference between items measured with current value and those with historical cost but did not mention which is more relevant: the current value accounting or the historical cost accounting.

This paper tries to answer which is more relevant: the fair value or the historical cost accounting in explaining the company's value represented by the stock price in a certain setting: insurance companies in Indonesia. This paper is motivated by Barth (1994) that pursued a study in banking industries in the US. We replicate the study at insurance companies as they are in the same category as financial companies with banks. By pursuing a study in the context of late developing countries, Indonesia, with inflation ranging from 2.01% (in 1999) to 840.5% (1966), but enjoyed a stable period during the observation (with inflation rate around 10%), we will see if the result will support certain argument being disputed.

An understanding about which is more relevant between fair value and historical cost method is important e.g. for standard setters, business entity and not for profit organization to chose which method to use. As implied by International Financial Reporting Standards (IFRS) that have fully adopted by Indonesia in 2012, organization can choose to use the fair value method, the method that is more relevant but quite costly to comply with; or the historical cost method that is cheaper and more reliable, but is less relevant.

This study observed the items in insurance company's financial report that present them in both fair value and historical cost accounting. We evaluate which is more relevant between the two, and find that the current value is better than the historical cost.

## **2. THEORETICAL BACKGROUND**

Fair value estimates has several synonyms such as mark-to-market, market value-based and market value accounting (Barth, 1994), and current cost. Two big streams of measurement method: the fair value and the historical cost method emerged as a consequence of the instability problem in measuring assets using monetary unit. This fact caused difficulties in fulfilling good information characteristics such as the relevance as well as the reliable quality. The changing value of monetary unit becomes a "trade-off" issue between relevance and reliability quality in preparing financial statement. The presentation using historical cost accounting will fulfill the verifiability characteristic. Nevertheless, this will degrade the predictive quality of the statement, because the assets or liabilities presented do not reflect their current value at that time (Walk and Tearney 1997: 400).

The drawback of monetary unit has been realized since it was chosen as means of measurement in a financial reporting. The instability of purchasing power of money triggered problems that follow its usage as unit of measurement (Accounting Principles Board no. 4, 1970: paragraph 69, 165-168). In physics, measurement unit

such as weight and length could be standardized so they can be used consistently overtime everywhere. This quality cannot be fulfilled by historical cost concept that employ monetary unit as mean of measurement of financial transaction. What can be done so far is just assuming the stability of monetary unit.

The changing value of currency generates various methods of measurement. FASB provides five methods of measurement. In general, the measurement method can be categorized into two big groups: the current (fair) value method and historical cost method. The historical cost method is a measurement and presentation of financial statement item based on the monetary unit value (such as Dollars) when transaction occurred. For example, under this method 1,000 square meter of land costing USD 20,000 at 1990 will be presented USD 20,000 in 2015 financial statement, even though its market price had increased to USD 100,000. With the fair value method, the land will be presented at USD 100,000 in the 2015 balance sheet.

Accounting information use monetary unit to measure all item in financial report. Information such as accounting report is relevant if it effects investor's decision. The primary qualities that determine the relevance of information are its predictive ability, feedback value and timeliness of its presentation. Financial reporting should provide information useful for investors and creditors as well as for other users intended to make rational decision (FASB 1978: paragraph 34). Two qualities that distinguish "better" or more useful information from "inferior" or less useful are relevance and reliable (FASB 1980: paragraph 15). On the other hand, information is reliable if it represents fact and can be verified by other parties. The reliability of information is determined by its verifiability, neutrality and the representational faithfulness.

Historical cost accounting as a basis for financial reporting has two limitations in inflation situation as suggested by Walk and Tearney (1997). They are the irrelevance numbers in financial report and that the figures are accrual and measured in different time. For example, in total assets, various assets that were purchased in different years are added together. Toting up cash in 31 December 2015 with land acquired in 1990 is improper operation because the two numbers significantly different in term of purchasing power. The drawbacks of using historical cost accounting then prompted idea of using alternative method in measuring items of financial reporting, that is the current cost, or fair value accounting.

Studies to review on which is more relevant between historical cost and fair value did not give a robust result. Several researches in the US documented that fair value was better than historical cost accounting (Baran *et al.* 1980; Bublitz *et al.* 1985). Baran *et al.* used 242 companies as sample to test whether price level data content more information relative to historical cost. The investigation was

conducted by observing the correlation between systematic risks with accounting beta. They proved that price level content more information than historical cost. Bublitz *et al.* (1985) investigated US companies from 1978-1983 as sample and find that during the period the  $R^2$  of the regression with the current value as independent variable was higher than that with the historical cost as independent variable. Alternatively, other study cannot prove that current value has significant additional information relative to historical cost (Olsen 1985). Other research in the US stock market gave results that were quite difficult to conclude (Murdoch 1986; Bernard and Ruland 1987; Lobo and Song 1989). Murdoch (1986) evaluating incremental value of return on equity (measured with FAS 33) in explaining securities return rate compared to the return on equity measured with historical cost concept. FAS 33 (Financial Accounting Standard No. 33) stipulating the disclosure of four versions of profit that are calculated under following methods: *purchasing power*, *constant dollar*, *current cost*, and *net holding*. Murdoch uses cross-sectional data from 388 companies in the US and finds that only return that were calculated under purchasing power concept has incremental information content relative to those under the historical cost. Bernard and Ruland (1987) use 133 time-series data of US companies examine additional information content of current cost relative to historical cost. In the 23 out of 27 industries that were observed, they find a strong correlation between current cost and historical cost profit. For the rest of the industries, they find that current cost definitely hold additional information content compared to historical cost profit.

The support to fair value is the study of Lobo and Song (1987). They documented that profit under current cost and constant dollar has incremental information content relative to historical cost profit. An observation of 409 company-year data in the US evaluating whether the four alternative methods in measuring profit under SFAS No. 33 (current cost, constant dollar, purchasing power gain or loss, and holding gain) give additional information relative to those under historical cost method and also operating cash flow under the method. Research using Israeli's stock market data proved that current value was more beneficial to investors compared to the historical cost (Barniv, 1999). Barniv was observing data of 106 companies using multiple regressions. He stated that the current value was more relevant to investors in Israeli's stock market because the inflation rate was higher than in the US, ranging from 16% until 444%. Other research, Gordon (2001) using Mexican stock market data – another country with high inflation rate – documents that replacement cost accounting is able to explain stock return better than historical cost accounting and price level accounting. Gordon analyzed 260 company year data that presented complete financial reports from 1989 until 1995. She uses multiple regressions to test if replacement cost provided more information for investors. It seems that hypothesis of Barniv (1999) concerning the relationship between inflation rate and the relevance of current value method used in measuring



financial report elements was supported by Gordon (2001). Hence, in a country with high inflation rate, current value measurement basis is more relevant relative to the historical cost basis.

Based on above explanation, we propose the research hypothesis as follows: the fair value presentation of investment in securities presented by insurance companies is more relevant to the investor than those with historical cost accounting. We observe Indonesia as our context and choose insurance companies as samples as they are categorized as financial sector, the same with sample of Barth (1994). The availability of the data was secured as the Financial Accounting Standard (*Standar Akuntansi Keuangan / SAK*) in Indonesia Statement No 28, 36 and 50 stipulates that insurance companies are obliged to disclose both fair value estimates and historical cost accounting for their investment securities.

### 3. EMPIRICAL TEST

To test the hypotheses we used the model of company valuation by Feltham and Ohlson (in Scott 1997: 144). They argue that the market value of the company can be expressed in the financial report variable. The same model was also used by Barth (1994:6) to review the relevance of some items in the financial report. To observe which is more relevant, we use the first and the second model of her. We modified the first model of Barth (1994) by omitting the FINV variable. This is done considered that there was multicollinearity between the BINV and the FINV variable (Barth 1994:7). Lately, it is indicated also by our sample (by a high correlation between those variables, See Table 1). To observe the fair value estimates we use the second model of Barth (1994).

Thus, to observe the ability of historical cost accounting or the book value of investment securities in explaining market value of the stock, we modify the formula of Barth (1994: 6) as follows:

$$MVE_{it} = \alpha_{0t} + \alpha_{1t} BVE_{bit} + \alpha_{2t} BINV_{it} + u_{1it} \quad (1)$$

Where,

- $i,t$  : company, year
- MVE : Market value of equity
- $BVE_b$  : Book Value of Equity before investment divided by outstanding stocks
- BINV : Book Value of Investment divided by outstanding stocks
- $u$  : disturbance factor

To observe the fair value of investment securities' ability to explain market value of the stock we use the formula of Barth (1994: 6) as follows:

$$MVE_{it} = \alpha_{0t} + \alpha_{1t} BVE_{Bit} + \alpha_{2t} FINV_{it} + u_{2it} \quad (2)$$

Where,

FINV : Fair Value of Investment divided by outstanding stocks.

The main object of this research was insurance companies listed in the Indonesian stock exchange (IDX) consecutively from 1999-2009. The period window was chosen as it was the stable economic condition in term of inflation rate in Indonesia. The data needed were market value of equity (MVE), book value of equity before investment (book value of equity without short term investment) ( $BVE_B$ ), book value of short term investment (BINV), and the market price of the stock and unrealized profit of short term investment. Those data were obtained from the financial report published by the Indonesian Stock Exchange (IDX).

Samples were taken using purposive technique. The criteria were insurance companies that provide the data needed as follows: book value of equity, book value of short term investment, market value of short term investment, profit, reserve for the diminishing value of short term investment, profit/ loss of diminishing value of short term investment, the amount of outstanding shares and the unrealized loss.

#### 4. RESULTS

From the period of observation we got 88 company-years data to analyze. The descriptive statistics and the correlation between variables can be seen in Table 1.

**Table 1**  
**Descriptive Statistics and Pearson Correlation**

	<i>Mean</i>	<i>Std. Deviation</i>	<i>N</i>	<i>MVE</i>	<i>BVEb</i>	<i>BINV</i>	<i>FINV</i>
MVE	412.25	387.385	88	-			
BVEb	588.5138	544.12526	88	.781**	-		
BINV	241.1369	435.86609	88	.045	.249*	-	
FINV	294.3905	667.91976	88	.024	.319**	.961**	-

*Notes:*

\* : Significant at 0.05

\*\* : Significant at 0.01

The same with the data of Barth (1994), our data reveals high correlation between BINV and FINV variable. As suggested that there should be multicollinearity if the variables is formulated in a single formula, we try to separate them to two formulas. By this separation, the issue of multicollinearity between variables does not exist.

The comparison of the predictability of independent variable between the first and the second model can be seen in Table 2. Both models have significant F

statistics which means that both fair value and book value of investment are significant. The two models also have quite high *R squares*. It means that both fair value and book value of investment are able to explain the variation of insurance company's stock market price. However, the second model has better *R square*, so it can be considered that it is better than the first model suggesting that the fair value accounting is more relevant than the historical cost.

Consistent with the hypothesis, the result indicated that the second model is more reliable than the first model as can be seen with higher Adjusted *R square* and the *F statistic* (See Table 2). It can be said that the fair value estimates of the securities are able to explain the market value of equity better than the book value.

**Table 2**  
**Comparison of Regression of the First and the Second Model**

**Panel 1: Regression of the First model**

<i>Variable</i>	<i>Coefficient</i>	<i>t - statistic</i>	<i>Significance</i>
Constant	102.404	2.691	.009
BVEb	.585	12.131	.000
BINV	-.142	-2.362	.020
R square	.635		
Adj R square	.626		
F statistics	73.818		.000

**Panel 2: Regression of the Second model**

<i>Variable</i>	<i>Coefficient</i>	<i>t - statistic</i>	<i>Significance</i>
Constant	94.128	2.638	.010
BVEb	.614	13.055	.000
FINV	-.146	-3.810	.000
R square	.667		
Adj R square	.660		
F statistics	85.295		.000

To fortify the analysis, the difference of the residuals was also observed. The more residual to turn out from the model, the worse it is. The data revealed that the first model produced more residuals as indicated by the higher mean of the residual (See Table 3). It can be interpreted that the first is not better than the second model. However, the difference of the two is not significant (sign. 0.364). This indicates that the disturbance factor or measurement error of both models is similar.

If the second model is better, it should have less measurement error (significantly different). The mean of the residual (Table 3) still consistent with the observation of the regression (Table 2), the second model provide less error than the first model.

**Table 3**  
**The absolute residuals of the two models**

<i>Absolute Residual</i>	<i>Mean</i>	<i>N</i>	<i>Std. Deviation</i>
First Model	148.3981	88	180.43329
Second Model	144.8969	88	169.32383
Paired Difference	3.50121		35.97492

t - statistic: .913; Sign. (2-tailed): .364

Overall, the result is consistent with Barth (1994), Baran *et al.*(1980), Bublitz *et al.* (1985) and Barniv (1999). By modifying the first model of Barth (1994), we hinder the multicollinearity of the equation. By separating the model, we observed that the historical cost and the fair value estimates of the securities and the conclusion was made based on the comparison of the regression.

## 5. CONCLUSION

The study investigated which is more relevant between fair value and historical cost accounting of the investment securities presented by insurance companies in explaining company's value represented by the stock price. This research provides evidence that fair value estimates are more relevant and reliable to investors than the historical cost. This study support the research of Barth (1994), Baran *et al.*(1980), Bublitz *et al.* (1985) and Barniv (1999).

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