

## **Comparative Study Analysis Of Financial Statements Based On Historical Cost Accounting With General Price Level Accounting**

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**ABSTRACT:** *The 2004 Statement of Financial Accounting Standards (SFAS) by Indonesian of Accounting Association states the financial statement is historical. It means, that the data used as the basis of presentation of financial statement are prices existing at the times the transactions being accrued. Consequently, the SFAS applies the method of Historical Cost Accounting (HCA) as a presentation basis of financial statement. The advantages of historical financial statement are reliable, reflecting objective data, and can be verified by interested parties. Addition, that the application of this method should enclose the assumption that monetary unit purchasing power is stable. Under high inflation, however, this financial statement cannot provide any relevant financial information to meet the users need who want to make financial decision. To solve the problem, the experts propose a method of General Price Level Accounting (GPLA) as the basis financial statement which considers the main financial statement based on HCA method. The inflation rate in Indonesia is tending upward. There is a possibility, therefore that the historical financial statement presented cannot provide relevant financial information to meet the users needs. In such condition, however, no a single company in Indonesia which provide supplementary financial statement based on the GPLA method. The aim of this research is to obtain the empirical evidence, whether there is any differences between the result of the financial analysis based on HCA method and one based on GPLA method. The population of this research is financial statements issued at 2010 by go public companies in Indonesia. The sample size is determined based on the formula of Frank Lynch (1974) totaling 23 financial statements. The statistical analysis instrument used to test the hypothesis is t-test. The instrument is frequently widely applied to hypothesis testing to know the difference of research object group which is expose by two different treatments. The result of the hypothesis testing using t-test come to the conclusions that: (1) of 23 financial statement set analyzed using 17 accounting ratios indicated that there are only 5 accounting ratios computed based on GPLA method are significantly found different from accounting ratios computed based on HCA method, (2) there of 5 accounting ratios which significantly different include in profitability ratios group, while the two other accounting ratio are in the cash position ratios group.*

**KEYWORDS:** *Financial statement, HCA method, GPLA method.*

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Date of Submission: 13-07-2017

Date of acceptance: 28-07-2017

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### **I. INTRODUCTION**

The financial statements are basically presented to provide the financial information of an enterprise to an outside party as a basis for making decisions regarding their relationship with the business entity concerned. As one source of information for outsiders, financial statements have a significant role, because some of the information presented by the enterprise is financial accounting information. Therefore, the availability of reliable, comparable, and relevant financial statements to the needs of the users, greatly facilitates the realization of appropriate decisions for the purposes of the parties making the decisions. The financial statement here is the balance sheet, income statement, statement of changes in financial position, and notes to the financial statements (IAI, 2016).

Financial Accounting Standards Entity Without Public Accountability (SAK ETAP) issued by the Institute of Indonesia Chartered of Accountants (IAI) states that financial statements are historical. It means, the data used as the basis for the preparation of financial statements is the prices that arise after the transactions that the company is a party involved in it. This means that Indonesian GAAP uses the Historical Cost Accounting (HCA method) as the basis for the preparation of the financial statements.

The reason for using HCA as the basis for the preparation of financial statements is because of the information contained in it: (1) reliable, (2) reflects objective, (3) unbiased, and (4) easily checked by

independent parties(Kam, 1990). Therefore, for the purpose of management accountability to investors and creditors and to provide information to outsiders, the financial statements of this type have been able to fulfill its function. But in inflation, financial statements prepared under the HCA lose their ability to provide information relevant to the needs of outsiders who will make decisions about their relationship with the company. Meanwhile, financial statements based on HCA data are historical and assume the purchasing power of money has not changed(Littleton, 1970).

In relation to the above matters, some experts propose the General Price Level Accounting (GPLA method) to serve as the basis for the preparation of additional financial statements. With the presentation of additional financial statements based on GPLA it is expected that outside users will be able to know the effect of inflation on financial statements(Sugiarto, 1990);(Leng, 2002).Nevertheless, according to the authors' observations, there is no study to suggest that the GPLA can actually overcome the effect of changes in the purchasing power of money, so the resulting financial statements are different from those presented under HCA. Accordingly, this study aims to get the answer to the question: Is there a significant difference in the results of the analysis of financial statements between those based on the GPLA and those based on HCA?

## II. LITERATURE REVIEW

Inflation can disrupt the presentation and analysis of financial statements. Therefore, the issue of inflation should be the attention of parties such as: management, investors, creditors, financial analysts, accountants, and other parties concerned about financial statements. During the period of inflation the asset value initially recorded at acquisition cost rarely reflects its current value at the time the financial statements are made. Consequently, the recorded asset value is lower than the actual value will result in lower rated expenses and higher valued earnings. The inaccuracy of these measurements distorts: (1) financial projections based on historical time series data, (2) budgets underlying performance measurement, and (3) company performance reporting that cannot isolate the effects of inflation in reporting of financial statement items. An overstated earnings will in turn lead to: (a) an increase in the proportion of taxes, (b) more dividend demand from shareholders, (c) higher salary and wage demand than workers, and (d) tax imposition is greater(Na'im, 1998).

Failure to adjust the company's financial data to changes in the purchasing power of the monetary unit also creates difficulties for readers of financial statements to interpret and compare reported company operating performance. In the period of inflation, income is generally expressed in currencies with lower general purchasing power (i.e. the purchasing power of this period), which is then applied to related expenses. Costs are expressed in currencies with higher general purchasing power as they typically reflect the use of resources acquired in the past (e.g. depreciation of factories purchased 10 years ago) when the purchasing power of the monetary unit is higher. Reducing costs based on the historical purchasing power of revenue based on purchasing power is now causing profits not to be accurately measured(Schroeder, 1987).

Given that in conventional accounting the value of money is assumed to be stable, firms cannot afford the profit and loss of purchasing power arising from cash holdings (equivalent) during the inflation period. If the company holds cash for a year with a 100% inflation rate, by the end of the year the company will need twice as much cash to match the purchasing power of the cash balance at the beginning of the year. This can make it harder for a report reader to compare business performance.

To address the inherent weaknesses of the conventional accounting concept model, experts propose some concepts of Accounting for financial reporting that consider the effect of inflation on financial statement items. Accounting for a special price change is called the current cost model. The constant historical cost-dollar model takes into consideration the current price change by measuring the profit in such a way that the revenue reflects the maximum amount of resources that can be distributed to the various parties entitled for a certain period. At the same time retaining the ability of the company to obtain the same amount of goods and services, at the end of the period, by the amount of goods and services it can obtain at the beginning of the period. In short, the fixed currency (historical cost) is the number of currencies adjusted to the general price level change (purchasing power). The price index figure is used in the translation of the amount of money paid in the previous period into the purchasing power equivalent at the end of the period (i.e.the fixed cost of purchasing power). The formula used is:

$$PPE = \frac{GPL_c}{GPL_{dt}}$$

GPL : General Price Level  
c : Current Year  
dt : Date of Transaction  
PPE :PurchasingPowerEquivalent

To calculate the accounting ratios under the GPLA, the financial elements first based on HCA are multiplied by the conversion factor. The conversion factor is derived from the comparison of the end-of-year CPI CPI divided by the applicable CPI when the elements of the financial statements are obtained. This method of calculation is in accordance with the formula expressed (Robert F Meigs W. B., 1990), as follows:

$$\text{Number of Current Dollar} = \frac{\text{EquivalenFor Current Period}}{\text{Index at Date of Historical Cost}}$$

### III. ESEARCH METHODS

Specifically this study will examine whether the accounting ratios of the elements of financial statements presented under HCA differ significantly if they are restated under the GPLA. In this study it is used to assume that: (1) financial statements based on GPLA will be useful, if, the accounting ratios based on them differ significantly compared to the same ratios based on HCA, (2) seventeen accounting ratios calculated from the observed annual financial statements are useful to investors, creditors, and financial statement analysts (Sentosa, 1986). Formally there are 17 empirical hypotheses formulated in this study are:

**Table 1.1 Research Hypothesis**

H.E. 1	There is a difference (cash + securities): (current debt calculated based on GPLA with those calculated under HCA	H.E. 10	There is a difference (net income after tax): (sales) calculated under GPLA with those calculated under HCA.
H.E. 2	There is a difference (cash + securities): (sales) calculated based on GPLA with those calculated under HCA.	H.E. 11	There is a difference (net income after-tax): (total assets) calculated on the basis of GPLA calculated under HCA.
H.E. 3	There is a difference (cash + securities): (total assets) calculated based on GPLA with those calculated under HCA.	H.E. 12	There is a difference in earnings per share calculated under the GPLA with those calculated under HCA.
H.E. 4	There is a difference (current assets-inventory): (current debt) calculated on the basis of GPLA calculated under HCA.	H.E. 13	There is a difference (sales): (total assets) calculated under the GPLA with those calculated under HCA.
H.E. 5	There is a difference (current assets): (current debt) calculated under the GPLA with which is calculated under HCA.	H.E. 14	There are differences (sales): (accounts receivable) calculated on the basis of the GPLA calculated on the basis of HCA.
H.E. 6	There is a difference (long-term debt): (shareholder capital) calculated on the basis of GPLA calculated under HCA.	H.E. 15	There is a difference (cost of goods sold): (inventory) calculated under the GPLA with those calculated under HCA.
H.E. 7	There is a difference (total debt): (shareholder capital) calculated under the GPLA against those calculated under the HCA.	H.E. 16	There are differences (sales): (fixed assets) calculated on the basis of the GPLA calculated under the HCA.
H.E. 8	There is a difference (total debt): (total assets) calculated under the GPLA with those calculated under the HCA.	H.E. 17	There is a difference (sales): (current assets) calculated on the basis of the GPLA calculated under the HCA.
H.E. 9	There is a difference (gross profit):(sales) calculated based on GPLA with those calculated under HCA.		

The population of this study is the financial statements of various publicly listed companies in Indonesia published at the end of 2010. The sample size of the study is determined based on the formula of Frank Lynch (Lynch, 1974) which amounts to 23 reports. The selected financial statements to study samples after being collected are then presented under the GPLA. The steps to state the financial statements based on the GPLA are as follows: (1) Obtain financial statements prepared on historical cost (HCA), (2) Obtain the Consumer Price Index (CPI) that will be used for adjustment to the acquisition cost of assets and liabilities from the oldest to the most recent, (3) Classifying elements of financial statements by their sensitivity to changes in purchasing power of money, i.e. monetary elements and non-monetary elements, and (4) Multiplying non-monetary elements by conversion factor to express the value of assets and liabilities to the value of money at current prices.

Before calculating the accounting ratio under the GPLA, the financial elements first based on HCA are multiplied by the conversion factor. The conversion factor is derived from the comparison of the final CPI of 2010 divided by the applicable CPI when the elements of the financial statements are obtained. This method of calculation is in accordance with the formula expressed by Meigs & Meigs ((Robert F Meigs W. B., 1990)), as follows:

*EquivalenFor Current Period*

*Number of Current Dollar = -----*

*Index at Date of Historical Cost*

Statistical analysis tool used in this research is t-test (t-test). This tool is very well suited to the purpose of this study who want to prove the existence of different groups of financial statements subject to two different treatments.

#### IV. ESULTS AND DISCUSSION

The result of hypothesis testing using t-test (t-test) is presented in table form, as shown in Table 1.2 below.

**Table 1.2 Results of Testing Statistical Hypotheses with t-Test**

No.	t <sub>e.i</sub>	</>	t <sub>table</sub>	At α: 10%, Ha Accepted / Rejected
1.	+0,0972	<	+1,717	Rejected
2.	-3,0972	<	-1,771	Accepted
3.	-5,9806	<	-1,717	Accepted
4.	-1,0472	>	-1,717	Accepted
5.	-0,4299	>	-1,717	Rejected
6.	+1,2582	<	+1,717	Rejected
7.	-1,4080	>	-1,717	Rejected
8.	+0,5080	>	+1,717	Rejected
9.	+0,0001	<	+1,717	Rejected
10.	+2,2397	>	+1,717	Accepted
11.	+2,8130	>	+1,717	Accepted
12.	+5,1344	>	+1,717	Rejected
13.	-0,7730	>	-1,717	Rejected
14.	+0,0671	<	+1,717	Rejected
15.	+1,3490	<	+1,717	Rejected
16.	-1,1900	>	-1,717	Rejected
17.	-0,3077	<	-1,717	Rejected

Based on Table 1.2, it turns out from 17 accounting ratios there are only 5 alternative hypothesis (Ha) received, while 12 Ha others rejected. This fact shows that based on statistical tests it is evident that: (1) there are five accounting ratios that are acceptable (significantly different), and there are 12 accounting ratios whose Ha is rejected (differed insignificantly), (2) fifth accounting ratios are significantly different is the ratio no. 2 (cash + effect: sales), ratio no. 3 (cash + effect: total assets), ratio no. 10 (net profit after tax: sales), ratio no. 11 (net income after tax: total assets), and ratio no. 12 (earnings per share), (3) the first two ratios include the cash position ratio, while the last three ratios include profitability ratios.

Accounting ratios whose Ha is rejected (not significantly different) are: (1) ratio no. 1 (cash + effect: current debt), (2) ratio no. 4 (current assets - inventory: current debt), (3) ratio no. 5 (current assets: current debt), (4) ratio no. 6 (long-term debt: shareholder capital), (5) ratio no. 7 (total debt: shareholder capital), (6) ratio no. 8 (total debt: total assets), (7) ratio no. 9 (gross profit: sales), (8) ratio no. 13 (sales: total assets), (9) ratio no. 14 (sales: accounts receivable), (10) ratio no. 15 (cost of goods sold: inventory), (11) ratio no. 16 (sales: fixed assets), and (12) ratio no. 17 (sales: current assets).

From the results of the tests on the 17 proposed hypotheses, the researchers came to the conclusion that under the conditions of: (a) the price index difference between the current period and the historical cost of goods is relatively small, and (b) the annual inflation rate below 10 or not until double-digit then it can be statistically proved that there is no significant difference between the ratio analysis of financial statements based on HCA with financial statements based on the GPLA.

In accordance with the statement of the Financial Accounting Standards Board No. 89 (FASB, 1986) that under conditions of relatively low inflation rates companies are not required to provide additional information on the effects of price changes. Accordingly, the results of this study directly justify or support the FASB statement No. 89 which is intended to replace the FASB statement No. 33 which requires large companies in the USA to provide additional information on the effects of price changes.

#### V. ONCLUSIONS AND RECOMMENDATION

Based on the results of the analysis of accounting ratios on 23 financial statements and statistical tests of 17 hypotheses, can be drawn conclusion: (1) Of the 17 accounting ratios studied, both presented under HCA and presented under the GPLA, there are 5 (29.40%) significant different accounting ratios, and 12 (70.60%) different accounting ratios are not significant, (2) under conditions: (a) the price index difference between the current period and historical cost is relatively small, and (b) the annual inflation rate is below 10 or not until it

has double-digits, statistically it is proved that there is no significant difference between the ratio analysis of financial statements based on HCA with financial statements based on the GPLA, (3) The results of this study directly justify or support the US-FASB statement. 89 which is intended to replace US-FASB no. 33 which requires large corporations in the United States to provide additional information on the effects of price changes.

With regard to the above conclusions, the following suggestions are submitted: (1) Although from time to time there is a decrease in the purchasing power of money, under conditions of low inflation, the financial statements presented under the HCA are not different from the financial statements presented under the GPLA. This means, financial statements based on HCA are still relevant as economic decision making materials. Therefore, to investors and potential investors, creditors and creditor candidates, tax authorities, financial analysts, and other interested parties are advised to keep using financial information presented under the historical cost accounting (HCA) accounting method, (2) Under conditions of high inflation (double digits) and significant increases in prices, it may be that financial information presented under historical cost accounting methods is irrelevant for economic decision-making material. It is therefore necessary to conduct further research into cases where the rate of inflation of a country has increased significantly, so it can be proven whether under such circumstances financial statements based on HCA are not different from those based on the GPLA, or vice versa.

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Dr. Sunupriyawan "Comparative Study Analysis Of Financial Statements Based On Historical Cost Accounting With General Price Level Accounting." *International Journal of Business and Management Invention (IJBMI)* , vol. 07, no. 07, 2018, pp. 55-59.