# THE IMPACT OF COMPREHENSIVE INCOME REPORTING ON FINANCIAL PERFORMANCE OF GHANAIAN FIRMS WITH PUBLIC ACCOUNTABILITY

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**Abstract**

*Companies listed on the Ghana Stock exchange have complied with the requirements of IAS 12 (revised) in presenting the statement of comprehensive income using the two alternative choices provided by the standard with the objective of providing information that is useful to users. EPS is a useful indicator for measuring financial performance. With the new format the issue is whether reporting comprehensive improves the financial performance of entities. The objective of this study was to find out whether there is significant difference between EPS calculated using the NI and CI. We did not find any statistically significant differences between the two figures in the case of Ghanaian companies.*

*Keywords: financial performance, comprehensive income, net income, earnings per share, Ghana, listed firms*

## INTRODUCTION

The June 2011 IASB amendment to IAS 1 titled Presentation of Items of Other Comprehensive Income, was intended to improve the consistency and clarity of items recorded in other comprehensive income. Other comprehensive income items are grouped according to whether or not they are subsequently reclassified to profit or loss. The Board emphasized the why it is importance to present profit or loss and other comprehensive together and with equal prominence. So the name of the statement of comprehensive income was changed to statement

of profit or loss and other comprehensive income (IFRIC, 2013). Among others, the reasons for the change made by the IASB included: (1) increasing the prominence of items reported in other comprehensive income, (2) facilitating the convergence between US GAAP and IFRS (Henry, 2011).

IAS 1 provided entities the choice of whether to present all items of income and expense recognized in the period: either in a single statement of comprehensive income, or in two statements; i.e., a statement displaying components of profit or loss, together with another statement starting with profit or loss and displaying components of "other comprehensive income." (para, 81).

Mohammed and Issah (2014) found that out of a sample of 34 companies quoted on the Ghana Stock Exchange, 76% opted for the single separate income statement approach and 24% adopted two statements approach. They showed that the possible reasons could be that Ghanaian companies are familiar with the single approach and perhaps the fact that it is more easy to use. Also, the approach was consistent with the typical measurement basis of Ghanaian accounting doctrine (GNASs and Company Code 1963) built on the historical cost antecedents, that is, with the net profit/profit after tax method which placed emphasis on performance of an entity.

Contrary to Agostini and Marcon (2012) who concluded that studies pointed out the tendency by entities to reduce the significance of Comprehensive Income (CI) as measure of performance by not adopting the single statement of CI; Mohammed and Issah (2014) concluded that Ghanaian companies still place greater emphasis on net profit and hence the wide adoption of this approach.

The presentation of comprehensive income is required only if the company has items specified in the standard as qualifying to be included as other comprehensive income. Such items include: Changes in revaluation surplus (see IAS 16 and IAS 38); Actuarial gains and losses on defined benefit plans recognized in accordance with paragraph 93A of IAS 19; Gains and losses arising from translating the financial statements of foreign operation (see IAS 21); Gains and losses on remeasuring available-for-sale financial assets (see IAS 39); The effective portion of gains and losses on hedging instruments in a cash flow hedge (see IAS 39).

The overriding objective of reporting the items of other comprehensive income is to present an *all-inclusive* situation of a company's economic events during a period, where items included as other comprehensive income items are generally considered to be *temporary* in nature and are more likely reverse before the ultimate realization of the currently recognized gains and losses. Just as with net income, reliance on comprehensive income as a summary measure of financial performance is not emphasized as much as an understanding of the

components. The primary interest in examining the components is to assess situations in which certain components are unlikely to persist.

Conventionally, the income statement was considered the primary mechanism to report the financial performance of a company, whilst net income was considered the last figure or "bottom line" of the statement. However, with the passage of time, accounting standards setters came to believe that net income on its own was not a sufficient measure, and was possibly even not a useful measure of financial performance.

In 1987, for, instance, the FASB stated that: "it is important to avoid paying too much attention to net income as 'the bottom line,' earnings per share, or other highly simplified condensations" (Statement of Financial Accounting Concepts (SFAC) No. 5, "Recognition and Measurement in Financial Statements of Business Enterprises"). As recently as 2007, both the FASB and the IASB gave serious consideration to abolishing net income from income statements completely (Reilly, 2007). This may be an indication that net income had lost its value to the standards setters, and comprehensive income had taken its place as the new measure of financial performance.

At international level, the debate on the relevance of CI as a measure of company financial performance as against the traditional concept of income still continues. Theoretical approaches overemphasize the potential of CI to provide reliable answers for users, whereas the significance of the results of the empirical investigations undertaken on this issue is still mix and unclear (Van Cauwenberge & De Beelde, 2007; Cheng, Cheung, & Gopalakrishnan, 1993; Dhaliwal, Subramanyam, & Trezevant, 1999; O'Hanlon & Pope, 1999; Dee, 2000; Isidro, O'Hanlon, & Young, 2006; Wang, 2005; Wang, Buijink, & Eken, 2006; Francis & Schipper, 1999; Obinata, 2002; Giner & Pardo, 2004).

It is considered important that accounts should measure the global performance which is results not only of the internal decisions, but also the influence of many externalities such as interest rate, inflation rate etc. Cahan et al. (2000) demonstrated that comprehensive income is more strongly correlated to the profit of the Stock Market than to the net result. Similarly, Biddle and Choi (2003) demonstrated that the net result is the best explanatory variable for the remuneration of the managers. Although these conclusions do not give prominence to the concept of comprehensive income, they suggest that many other different indicators can be used to measure the financial performance of an entity.

The standard setters desire that practioners actually put into practice, the comprehensive income concept, whereas the practitioners and the users, rather attach more importance to the traditional net income and do not want a new definition of the result and

demand an empirical authentication of the comprehensive income's superiority as a performance indicator over net income.

At the moment the main issues of contention are whether there should be a single or a double performance statement of comprehensive income, and whether earning per share should be calculated on the basis of comprehensive income and, therefore, whether recycling should be a requirement or to decide whether to allow it or to refrain from it (Cauwenberge & Beelde, 2007). The issue of whether to use net income or comprehensive income in the computation, may not be as important as which figure to give preference over the other. If the comprehensive income approach is given more weight, then there might create a problem for users, who may be not able to extract the different diagnostic characteristics of its components (Tarca, 2006); and if other comprehensive income is not considered and reported less in financial statements, its visibility is diluted and that in turn increases its chances of being overlooked (Robinson, 1991).

Several studies conducted, examined whether the usefulness of comprehensive income depends upon how it is disclosed. Hirst and Hopkins (1998) used an experimental approach, and reported that comprehensive income is useful for analysts only when it is reported as a separate statement, but less useful when it is reported as part of the statement of changes in stockholders' equity. Hunton et al. (2006) also conducted a similar study and found that more transparent format (i.e., single statement of comprehensive income) reduces the likelihood of managers engaging in earnings management. Contrary to these findings, Maines and McDaniel (2000), also used same approach, and reported that comprehensive income is useful irrespective of it manner of presentation.

Despite these advantages mentioned above, there is the danger of assigning a secondary role to comprehensive income, and thereby defeating the goal set by the IASB with the publication of the revised version of IAS 1, i.e., to give greater importance to comprehensive income in order to provide the public and analysts with more reliable and relevant information on current as well as the future financial performance of entities(Ferraro, 2013).

According to Ferraro (2013), irrespective of the direction (negative or positive), OCI assumes a certain importance in the estimation of the overall comprehensive value in all the Italian financial statements analyzed and, therefore, the difference in income is significant. Consequently, the impact on one of the key indicators for measuring company performance (i.e., EPS), would appear to be significant. For example, the study found that, for 66 companies studied, the inclusion of OCI would have a negative effect on EPS, while for 69 the effect would be positive. Moreover, for 24 companies the impact—be it positive or negative—is over 50%.Indeed, in seven cases the percentage variation was over 100%. The conclusion drawn

was that even though net income remains the base value for estimating EPS, the estimates reported in the study pointed out the fact that the analysts' conclusions would change in many cases, if they based the estimations of performance on OCI. That is not all; Bhamornsiri and Wiggins (2001) assessed the impact of the components of CI on earnings per share (EPS). They concluded that EPS of 60 companies would have a negative effect when OCI is included, whereas only 35 companies would be positively affected. The inclusion of OCI components could have a strong impact on EPS; i.e., some companies' EPS would change by more than 100%.

According to (IAS 33, para. 66) reporting entities are required to present the basic as well as the diluted EPS on the face of the statement of profit or loss and other comprehensive income for each class of ordinary share entitled to participate in a share of profit for the period; with equal prominence; and for all periods presented. If an entity presents only a statement of comprehensive income, EPS is reported in that statement. If it presents items of profit and loss in a separate statement, EPS is reported only in that statement.

To assess the effect of comprehensive income on a number of indicators most commonly used for measuring company performance, such as Return on Equity (ROE) and Earnings per Share (EPS), Ferraro (2011) compared ROE (NI), calculated as the ratio between Net Income and Equity, and ROE (CI), calculated as the ratio between Comprehensive Income and Equity. A further comparison was made between EPS (NI), calculated using net income of the group in question and EPS (CI), calculated on the comprehensive income of the group in question. Depending on the percentage variation of EPS (NI) in the change to EPS (CI), the impact was then assessed. The number of shares used as denominator, constituted by the average number of shares outstanding at the reporting date, is that reported in the supplementary note of each of the financial statements studied (Ferraro, 2011).

The main motivation of this paper is to assess the impact of comprehensive income as a new indicator for measuring company financial performance, by calculating Earnings per Share (EPS) of entities included in the sample. It will also contribute to the ongoing international debate on the relevance of CI as a measure of company financial performance as against the traditional concept of income by highlighting the situation in Ghana.

**Hypotheses**

From the review of current literature on the topic, we decided to replicate the hypotheses tested by Ramona Neag, Irina-Doina Păscan, Ema Masca (n.d.). These are as follows:

*Hypothesis 1*: The comprehensive income reported by listed Ghanaian entities is not a better method for measuring financial performance compared to net income.

*Hypothesis 2*: There are not significant differences between net income and comprehensive income for the entities in this sample.

## RESEARCH METHODOLOGY

The methodology is to use secondary data of annuals reports of companies that are listed and file their reports with the Ghana Stock Exchange (GSE). This type of study requires that the statement of profit or loss and other comprehensive income be prepared using the two stage approach. So we had to reconstruct financial statements of some of the companies included in the sample.

Ramona Neag, Irina-Doina Păscan, Ema Masca (n.d.) used the t-test to test the hypotheses. Although, we have replicated their hypotheses, we used the *p*-value approach for our tests. The *p*-value is defined as the probability of the observed sample result occurring, given that the null hypothesis is true, and this probability is then compared to the designated level of significance. The use of this approach is consistent with the critical value approach, the idea is that a low *p*-value indicates the sample would not be likely to occur when the null hypothesis is true; therefore, obtaining a low *p*-value leads us to reject the null hypothesis. Readers are to take note that the *p*-value is not the probability that the null hypothesis is true given the sample result. Rather, it is the probability of the sample result given that the null hypothesis is true (Kazmier, 2004).

The *p*-value approach has become popular because the standard format of computer output for hypothesis testing usually includes *p*-values. The reader of the output determines whether to reject the null hypothesis by comparing the reported *p*-value with the desired level of significance (Kazmier, 2004). "The *p*-value of a test provides valuable information because it measures the amount of statistical evidence that supports the alternative hypothesis." (Keller & Warrack, 2014, p. 356).

### Sample Selection

The sample for our analysis included thirty four (34) companies out of the thirty six (36) quoted on the Ghana Stock Exchange (GSE), who had filed their annual audited financial statements for 2013 financial year. Those who did not report other comprehensive items were dropped from the sample because for those companies we could not compute the earnings per share. Companies that did not have complete data for the financial year 2013 were also dropped; reducing the number of companies eligible for inclusion in the sample to only 20 companies.

## ANALYSIS & FINDINGS

First of all, in respect of the components of other comprehensive income as reported by the entities sampled, we observed that:  thirteen entities, representing 42% of the total reported gains and losses on available-for-sale financial asset, 6 entities representing 19% of the sample reported actuarial gains and losses on defined benefit plans, 5 entities each representing 16% reported changes in revaluation surplus and gains and losses arising from translating the financial statement of foreign operations and finally only 2 entities representing 7% reported effective of gains and losses on hedging in a cash flow hedge. These are depicted in figure 1.

Figure 1: The frequency with which other comprehensive income items are reported
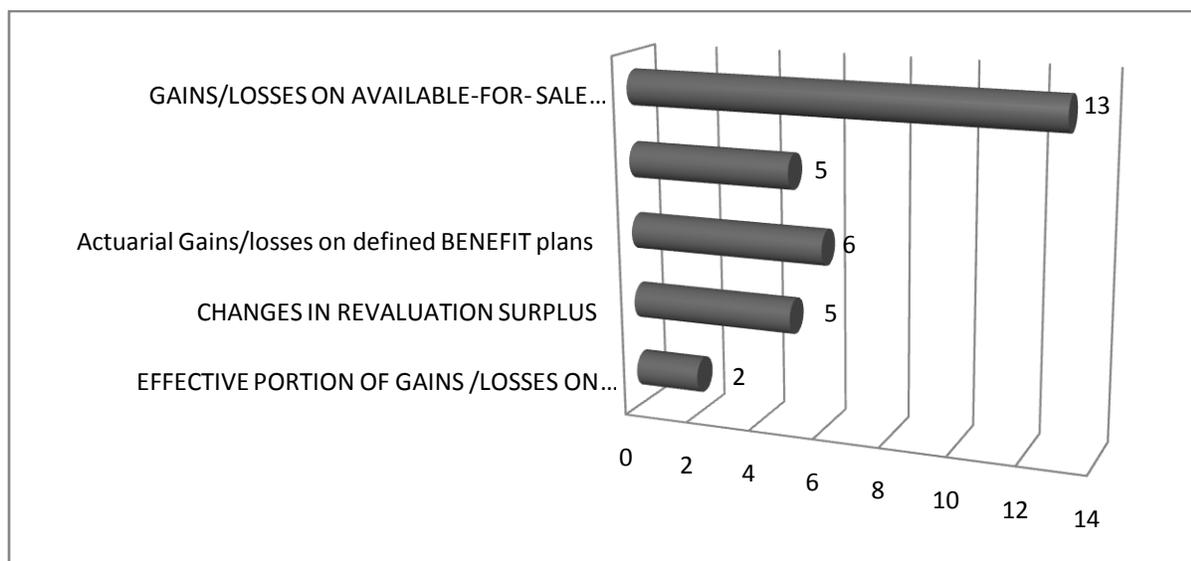


From the results obtained above, majority of the entities in Ghana reported at least more than two other comprehensive income items signifying the level of compliance with IAS 1. It was also observed the more entities rather reported much on available-for-sale financial instrument. We did not this surprising since in a developing country like Ghana, investing in government security is more prominent, as for the past two or so years the government of Ghana had borrowed heavily from the domestic market and one finds majority of entities capitalizing on this to also invest.

Also, we observed that hedging is not so prevalent in developing because of the immature nature of their markets. Thus the 7% observed is not surprising. Finally, most entities do not opt to revalue their tangible and intangible assets as required by IAS 16 (Non-current assets) and IAS 38 (Intangibles).

We also tried to ascertain whether there is any significant difference between comprehensive income and net income by computing the percentage variance between the two variables as shown in the table 1.

Table 1: Variance between Comprehensive income per share and net income per share.

| Variance (%) | Number of Entities | Percentage of Entities |
|---|---|---|
| < -100% | 1 | 5.00% |
| Between -100% and -25% | 2 | 10.00% |
| Between -25% and 0% | 2 | 10.00% |
| Between 0% and +25% | 11 | 55.00% |
| Between +25% and +100% | 3 | 15.00% |
| > 100% | 1 | 5.00% |
| Total | 20 | 100.00% |

We observed that, in about 65% of the entities sampled, the variance between comprehensive income per share and net income per share is small and is situated in the interval -25% and +25%.

To test the significant difference between CI/share and NI/share, carry out the tests to compare the means of two paired samples. To do this we have to first observe whether the observations are normally distributed by analyzing the mean, median, skewness and kurtosis (Table 2).

Table 2: Descriptive statistics

| | NI/Share | CI/share |
|---|---|---|
| **Mean** | 0.897091871 | 0.778421449 |
| Standard Error | 0.547046737 | 0.654941072 |
| **Median** | 0.077444316 | 0.086205524 |
| Standard Deviation | 2.44646738 | 2.928985517 |
| Sample Variance | 5.985202639 | 8.578956159 |
| **Kurtosis** | 16.95666143 | 17.05490507 |
| **Skewness** | 4.019947745 | 3.961277004 |
| Range | 10.93458979 | 15.1784662 |
| Minimum | 0.000170611 | -2.379826189 |
| Maximum | 10.9347604 | 12.79864001 |
| Sum | 17.94183743 | 15.56842898 |
| Count | 20 | 20 |

Skewness is an indicator used in distribution analysis as a sign of symmetry and deviation from a normal distribution. The coefficient of skewness can range from -3 to 3. Kurtosis is an indicator used in distribution analysis as a sign of whether the distribution is flatter or peaked. The coefficient of skewness can range from -3 to 3.Our findings showed that the kurtosis value is above 3 (excess kurtosis). This was the result of the CI/share and NI/share of Anglo Gold Ashanti which could be considered extreme. In spite of the presence of extreme value brought about by data set from Anglo-Gold Ashanti, the data set does not to lack validity for our purposes.

The objective is to compare two samples; the data are interval and were produced from a matched pairs experiment. If matched pairs differences are normally distributed, we should apply the t-test of μD. To judge whether the data are normal with a symmetric distribution, we computed the paired differences and the descriptive statistics above which show that the data are not normally distributed. Since the distribution of the differences in the ratings does not approximate the normal distribution, the paired *t*-test would not be appropriate for our study purpose.

The Wilcoxon Signed Rank Sum Test which is the nonparametric counterpart of the *t*-test of μD, is therefore considered more appropriate in this circumstance. As we want to know whether the two observations differ, we perform a two-tail test whose hypotheses are:

Hypothesis 1: The comprehensive income reported by listed Ghanaian entities is not a better method for measuring financial performance compared to net income.

Hypothesis 2: There are no significant differences between net income and comprehensive income for the entities in this sample.

We used the 5% significance level for comparing the means of two paired samples, we computed the table 3 using The Wilcoxon Tests with Excel in 3 Simple Steps developed by Gwet, K. L. (2011).

From the table 3, there is strong evidence to conclude that there is no significant difference between the NI (EPS) and the CI (EPS). The reported *p*-value for the two-tailed test is 0.76.

Since this is the probability of the sample difference occurring by chance and is greater than the designated level of significance of 0.05, we fail to reject the null hypothesis and conclude that there is no difference between NI per share and CI per share.

Table 3: The Wilcoxon Rank-Sum Test (Two Independent Samples)

| | NI (EPS) | CI (EPS) |
|---|---|---|
| | *6.4092273* | *0.1619756* |
| Observations: | 19 | 19 |
| Mean: | 0.94 | 0.81 |
| Median: | 0.09 | 0.08 |
| Standard Deviation: | 2.50 | 3.01 |
| **The Test Procedure** | | |
| Hypothetical Mean Difference: | 0 | |
| Nb. of Tie Series: | 38 | |
| Average Nb. of Tie per Series: | 1 | |
| | | |
| Rank Sum: | 741 | |
| Rank Average: | 19.5 | |
| Test Statistic (W): | 381 | |
| Nominal Significance Level: | 0.05 | |
| | | |
| **Two-Tailed Test (Normal Approximation)** | | |
| Critical Values: | -1.95996 and 1.95996 | |
| Decision Rule: | Reject H0 if \|Z-Stat\| > 1.95996 | |
| Z Stat (Unadjusted): | 0.31 | |
| Z Stat (Continuity-Adjusted): | 0.29 | |
| Z Stat (Tie-Adjusted): | 0.31 | |
| Z Stat (Continuity- & Tie-Adjusted): | 0.29 | |
| P-Value(Z - Unadjusted): | 0.76 | |
| Final Decision: | The Null Hypothesis Cannot be Rejected due to Insufficient Evidence in the Sample | |

## CONCLUSION AND IMPLICATIONS

We conclude from the results obtained from the test that the null hypothesis is accepted in favour of the alternative, that the net income per share and comprehensive income per share do differ in significance terms. And that, from a statistical standpoint, the difference between NI and CI is not relevant in explaining financial performance, at least, for entities listed on the Ghanaian Stock exchange.

The acceptance of the null hypothesis can be explained by looking at the difference between net income and comprehensive income caused by the intermediate elements of comprehensive called 'other comprehensive income (OCI)': IAS 1 2007/2011 revised). From the sample we observed that some elements of OCI are not applicable to most of the entities in Ghana. Apart from gains and losses on re-measuring available-for-sale financial assets

representing the majority, reported by 13 entities (42% of the sample), only 2 entities (7%) reported the effective portion gains and losses on hedging instrument in a cash flow hedge. Five (5) entities each (16%) reported changes in revaluation surplus and gains and losses arising from translating the financial statement of a foreign operation. Actuarial gains and losses on defined benefit plans was reported by 7 entities (19%). There were instances entities reported high negative values in absolute terms for 'other comprehensive income', thus reducing the net income drastically to arrive at total comprehensive income.

The results of our investigation showed that the application of IFRS and the reporting of comprehensive income by the sampled entities listed on the Ghanaian Stock Exchange, does not provide more relevant additional information in terms of financial performance by those entities.

## LIMITATIONS OF THE STUDY

The limitation of our work is the fact not all the 35 entities listed on the Ghana Stock Exchange complied with the IFRS on the issue of reporting other comprehensive income especially in instances where we expect majority of the entities to comply such as revaluation, only 5 entities (representing 16%) out of the 20 entities investigated. This research work will open the lead for future research in the area of additional relevance of comprehensive income in explaining financial performance in Ghana and other developing countries exchanges.

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