

Comprehensive or Net Income in Performance Evaluation of Insurance Firms: Evidence from GCC Countries

Seref Turen

*Corresponding Author, PhD, University of Bahrain, College of Business Administration
Department of Economics and Finance, P. O. Box 32038 Kingdom of Bahrain*

E-mail: sturen@uob.edu.bh

Tel: +973 1743 8592 Fax: +973 1744 9776

Fatima S. Abbas Al Hussiny

MBA, University of Bahrain, College of Business Administration

Department of Economics and Finance, P. O. Box 32038 Kingdom of Bahrain

E-mail: fatma_alhussiny@yahoo.com

Abstract

In this paper, we attempt to (a) examine the relative ability of comprehensive income and net income to determine Gulf Cooperation Council (GCC) insurance companies performance as reflected in stock returns; (b) test if income measured on a comprehensive basis is a better measure of the GCC Insurance Companies performance as reflected in average share prices, than other summary income measures; (c) investigate the relative ability of comprehensive income and net income to review the GCC Insurance Companies performance as reflected in operating cash flow. The results do not show that comprehensive income is superior to net income for evaluating GCC Insurance firms' performance based on stock return, stock price and operating cash flow prediction.

Keywords: Comprehensive income (COMP), Net income (NI), Performance Evaluation, Insurance firms, GCC

Introduction

In June 1997, the FASB issued Statement of Financial Accounting Standards (SFAS) No. 130, Reporting Comprehensive Income, which requires firms presenting a full set of financial statements to report **comprehensive income (CI)**. The standard came into effect in 1998. In essence, CI comprises traditional net income plus or minus these special components affecting owners' equity but not net income; these special components are commonly referred to as items of **other comprehensive income (OCI)**. So the difference between **net income** and **comprehensive income** is known as **other comprehensive income**. CI and its components, including net income, must be presented in a financial statement that is given equal prominence with other financial statements.

Comprehensive income statement is a measure of firm performance. The purpose of issuing this statement is to make firms to disclose some certain elements of financial performance to help user groups of financial reports in making better financial performance evaluation.

Advocates of the "all-inclusive concept" argue that comprehensive income statement provide better measures of firm performance, than other summary income measures. On the other hand, those

who advocate "current operating performance" view of income argue that net income without inclusion of extraordinary and nonrecurring items, got better ability to reflect the firm's future cash flows.

The main purpose of this paper is to find out that income measured based on all-inclusive concept, would be a better measure of firm performance, than other summary income measures for insurance firms largely active in GCC. In another saying, which measure of income, "net or comprehensive", is the better way in order to evaluate the performance of insurance firms as reflected instock returns, average share prices, operating cash flows prediction?

For this purpose, the paper is structured as follows: The next section briefly discusses the previous studies; Section 3 develops hypothesis and describes data and method whereas, Section 4 explains the results of regression analysis. Section 5 is assigned to final remarks together with limitations.

1. Review of the Literature

Since decades, one of the most important issues in setting accounting standards has been the all-inclusive concept of income measurement. While there has been a long debate on the concept, little empirical studies have been conducted (Saeedi, 2008). Cheng et al. (1993) examined the relation between abnormal returns and three measures of income; operating, net, and comprehensive incomes. Comparing the adjusted R square for the three models, they found evidence that supports two alternative scenarios: (a) net income and/or operating income are superior to comprehensive income as a measure of performance, or (b) that investors are "fixated" on net income, thus ignoring comprehensive income. Dastgir and Velashani (2008) investigated the relative ability of comprehensive income and net income to summarize firm performance as reflected in stock returns. They also examined if comprehensive income adjustments improve the ability of income to summarize firm performance. The results did not support that comprehensive income is superior to net income for evaluating firm performance based on stock return and price. Except for investment industrial group, in Tehran Stock Exchange, they found no evidence that comprehensive income for firm performance evaluation based on cash flows prediction is superior to net income. While, they found the better results for the state companies (only in other companies group), i. e., firm performance evaluation on the basis of cash flows prediction using comprehensive income is superior to net income. Collectively, their results provided some weak evidence that show comprehensive income adjustments improve ability of income for reflecting firm performance. Choi and Zang (2006) examined the relationship of comprehensive income with subsequent period net income as well as analysts' earnings forecasts. Their results supported the notion that comprehensive income is incrementally useful in predicting subsequent period changes in net income. They also documented that comprehensive income is associated with analysts' earnings forecast revisions and forecast errors. Kanagaretnam et al., (2004) in their study, which investigated usefulness of reporting comprehensive income in Canada, examined the relationship between market value of equity returns and the components of other comprehensive income in order to assess the information content of the new disclosures. The researchers also explored the predictive ability of the aggregate comprehensive income relative to net income. The study provided evidence that each of the four components of other comprehensive income is value relevant in explaining either the market value or the stock returns or both. They also showed however, that net income is a better predictor for future firm's performance than aggregate comprehensive income. Biddle and Choi (2006) found that among income definitions, comprehensive income defined by FASB 130, dominates both traditional net income and fully comprehensive income in explaining equity returns, but that net income dominates the more comprehensive measures in explaining chief executive compensation. Kaewprapa, and Ussahawanitchakit (2011) investigated the effect of comprehensive income reporting on decision-making quality through accounting information usefulness and examined if voluntary disclosure and environmental dynamism moderate the influence between the comprehensive income reporting-decision making quality relationships. Some listed firms on Thailand stock exchange are chosen as the sample of their study. The results indicated that

when they separate dimensions of comprehensive income reporting, the non-owner change has a significant positive association with accounting information usefulness while both economic income and realized/unrealized gain or loss have not a potential positive influence on accounting information usefulness. In contrast, all of its dimensions have a significant positive association with accounting information usefulness. In addition, voluntary disclosure is a direct effect of accounting information usefulness; hence, it is not as a moderator of the comprehensive income reporting-accounting information usefulness. Hirst and Hopkins (1998) showed that display matters and stated that comprehensive income in a single statement is more effective in communicating value relevant information than reporting comprehensive income in a statement of change in equity. In another research, Zadeh and Momeni (2003) investigated the effects of comprehensive income statement on users' decision-making. According to the study, users of financial information utilize some measures for management efficiency, investment returns and future cash flows prediction, in their decision-making process.

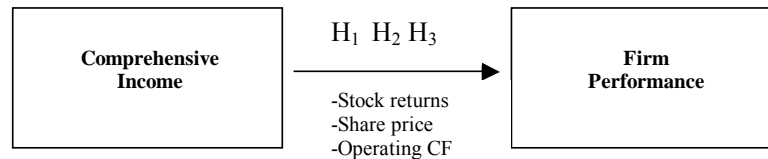
2. Hypothesis Development, Data and Methodology

In order to study on the superiority of comprehensive income to net income to measure the performance of insurance firms in GCC, the following hypotheses are developed and tested:

- H1:** The association between stock returns and comprehensive income is stronger than that of net income of insurance firms in GCC.
- H2:** The association between average share price and comprehensive income is stronger than that of net income of insurance firms in GCC.
- H3:** The association between comprehensive income and operating cash flows is stronger than that of net income of insurance firms in GCC.

Figure 1: Illustrates the hypothesized research model:

Figure 1: Hypothesized Research Model



In order to test the hypotheses, the data is gathered from the Gulf Database about sample insurance firms listed on Qatar, Kuwait, Bahrain, Oman, Dubai and Abu Dhabi Stock Exchanges shown below for the time period of 2003-2007.

Table 1: Insurance Firms Listed on the GCC Stock Markets

No	The Market	Company Name	No.	%
1	Qatar	Qatar Insurance Company	5	15%
2		Doha Insurance Company		
3		Qatar Insurance and Reinsurance		
4		Al Khaleej Insurance and Reinsurance		
5		Qatar Islamic Insurance		
6	Kuwait	Kuwait Insurance	7	21%
7		Gulf Insurance		
8		Warba Insurance		
9		Kuwait Reinsurance		
10		Firrst Takaful Insurance		
11		Wethaq Takaful Insurance		
12		Al Ahleia Insurance company		

Table 1: Insurance Firms Listed onthe GCC Stock Markets - continued

13	Bahrain	Al Ahlia Insurance Company	5	15%
14		Arab Insurance Group		
15		Bahrain and Kuwait Insurance		
16		Bahrain National Holding		
17		Takaful International Company		
18	Oman	Dhofar Insurance Company	2	6%
19		Oman United Insurance		
20	Dubai	Arab Insurance Group	5	15%
21		Dubai Insurance Co.		
22		Dubai National Insurance		
23		National General Insurance Co.		
24		Oman Insurance Co.		
25	Abu Dhabi	Al Buhaira National Insurance Co. - ABNIC	9	27%
26		Abu Dhabi National Insurance Co. - ADNIC		
27		Al Khazna Insurance Co. - AKIC		
28		Al Ain Al Ahlia Insurance Co. - ALAIN		
29		Al Wathba National Insurance Co. - Awnic		
30		Al Dhafra Insurance Co. - DHAFRA		
31		Emirates Insurance Co. - EIC		
32		United Insurance Co. - UICO		
33		Union Insurance Co. - UNION		
Total			33	100%

2. 1. Testing Association of Alternate Measures of Income with Returns (H1)

We investigate this claim that income measured on a comprehensive basis is a better measure of firm performance than other summary income measures. For this purpose, we estimate the models in which, return is dependent variable and comprehensive income and net income are independent variables. As discussed by Harris and Muller (1999), a return model is less potentially affected by scale and heteroscedasticity problems relative to a market value model. In addition, Kothari and Zimmerman (1995) argue that the inclusion of both market value and returns models potentially provide more convincing evidence. Tests that use first differences in earnings as a proxy for unexpected earnings yield qualitatively similar results (Dhaliwal et al, 1999).

$$R_{it} = \alpha_0 + \beta_1 * NI_{it} + \varepsilon_{it} \quad (\text{Model 1})$$

$$R_{it} = \alpha_0 + \beta_1 * COMP_{it} + \varepsilon_{it} \quad (\text{Model 2})$$

Where, R is stock return (which calculated as the differences between Started Average Share Price minus Ended Average Share Price plus dividends per share divided by Average started Share Price), NI is net income, COMP is change in comprehensive retained earnings plus common stock dividend.

2. 2. Testing Association of Alternate Measures of Income with Average Share Price

Due to both econometric and theoretical problems with the returns model, Kothari and Zimmerman (1995) suggest that researchers should use additional models in their empirical analysis, such as the price model, to draw further definitive inferences (Dhaliwal et al, 1999). Thus,they estimated the models in which market value of stockholders' equity is dependent variable (Average Share Price) and net income and comprehensive income are independent variables. In the models, performance is based on Average Share Price.

$$PRICE_{it} = \alpha_0 + \beta_1 * NI_{it} + \varepsilon_{it} \quad (\text{Model 3})$$

$$PRICE_{it} = \alpha_0 + \beta_1 * COMP_{it} + \varepsilon_{it} \quad (\text{Model 4})$$

2. 3. Testing Association of Alternate Measures of Income with Future Operating Cash Flows

According to Dechow et al., (1998), performance of the firms should be reflected in future operating cash flows and income, as well as, in stock returns. Thus, if comprehensive income is a better measure of firm performance than other summary income measures, then future operating cash flows and income should be more strongly associated with comprehensive income than with net income (Dhaliwal et al., 1999). For testing this prediction, we estimate cross-sectional and pooled-data regressions. To test this Models the dependent variable is operating cash flows in year t+1 (t=2003,2004,2005,2006) for a given insurance firm and the independent variable is alternately NI or COMP in year t for the corresponding insurance firm. I estimate the following models:

$$\text{CASH FLOW}_{i,t+1} = \alpha_0 + \beta_1 * \text{NI}_{it} + \varepsilon_{it} \quad (\text{Model 5})$$

$$\text{CASH FLOW}_{i,t+1} = \alpha_0 + \beta_1 * \text{COMP}_{it} + \varepsilon_{it} \quad (\text{Model 6})$$

3. Results

3. 1. The Results of Hypotheses Testing

In this section, we present the analysis of research results of hypotheses. The following subsections provide analysis of results of hypotheses testing at total sample level for H1, H2 and H3. Furthermore, it provides analysis of results of H3 testing at stock exchange market level, and year level.

3. 2. Results of Testing H1

The results of the estimation of the models of H1 at a total sample level (with pooled data), are shown in Table 2. As can be seen in the table, p-value of coefficient of NI for the **Model 1** is significant (0. 001), however, p-value of coefficient of **COMP** for the **Model 2** is not significant (0. 636). Also, F statistics of **Model 1** of H1 is significant (10. 819), but for **Model 2** of H1 is not significant (0. 226). The results of estimating the two models show that reporting comprehensive income for GCC Insurance firms performance evaluation (based on stock returns) is not superior to net income.

Table 2: Results Summary of H1

<i>Regression Statistics</i>	<i>Model 1</i>	<i>Model 2</i>
R Square	0. 077	0. 042
Observations	131	131
<i>F</i>	10. 819	0. 226
<i>P-value</i>	0. 001	0. 636

3. 3. Results of Testing H2

In testing this hypothesis, we investigate whether comprehensive income reflects GCC Insurance firms performance (based on share price) better than net income. The results of estimating the two models of this hypothesis are shown in Table 3. As seen, F statistics of the estimated models at total sample level are not significant. P-values of the coefficients of the two models are not significant. Overall, the results of estimating the models at total sample do not show that, comprehensive income for GCC Insurance Companies performance evaluation is superior to net income.

Table 3: Results Summary of H2

<i>Regression Statistics</i>	<i>Model 3</i>	<i>Model 4</i>
R Square	0. 018	0. 016
Observations	131	131
<i>F</i>	2. 319	2. 157
<i>P-value</i>	0. 130	0. 144

3. 4. Results of Testing H3

In this subsection, we present the result of estimating the models of H3 (**Model 5 and Model 6**) at total sample and stock market level and year level. The results of models at total sample are shown in Table 4. F statistics of the two models, as well as, p-values of coefficients are significant and comparing the result for the two models do not show that comprehensive income is superior to net income for GCC Insurance Companies performance evaluation, bases on operating cash flows prediction.

Table 4: Results Summary of H3 (Total Sample)

<i>Regression Statistics</i>	<i>Model 5</i>	<i>Model 6</i>
R Square	0.172	0.113
Observations	131	131
F	26.867	16.379
P-value	8.1889E-07	8.8834E-05

From the result of testing the six models, we find that predicted cash flow is the most important dependent variable can be explained by net income and comprehensive income of GCC insurance firms, which is **Model 5 and Model 6**, Therefore we attempt to perform further analysis based upon year's and stock exchange levels.

As mentioned above, we estimate the last two research models (**Model 5 and Model 6**) at four years level. The results are shown in Table 5. The F statistics for the estimated models are significant for year 2006, 2005, and 2004 but year 2003. About superiority of comprehensive income to net income for GCC Insurance firms performance evaluation, the results for year 2006 show that R^2 of the model five (0.341) is higher than of the model six (0.038), and p-values of independent variables for the model five (0.000) is significant, but p-values of independent variables for the model six (0.279) is insignificant. Therefore, the net income superior to comprehensive income in measuring the GCC insurance firms performance (based on cash flow predication). Our results for year 2005 show that R^2 of the **Model 5** (0.323) is higher than of the **Model 6** (0.309), and p-values of independent variables for the two models are significant. However, for **Model 5** the p-values (0.0005) is more significant than the **Model 6** p-values (0.0007). So, the net income superior to comprehensive income in measuring the GCC insurance firms performance (based on cash flow predication) at year level of 2005. For year 2004, the result shows that R^2 of the **Model 5** (0.344) is higher than of the **Model 6** (0.246), and p-values of independent variables for the two models are significant. Nevertheless, for **Model 5** p-values (0.000) is more significant than the **Model 6** p-values (0.0003). As a result, the net income superior to comprehensive income in measuring the GCC insurance companies performance (based on cash flow predication). The results for years 2003 totally ignored, because the P-value is insignificant for both Models.

To explore whether reporting comprehensive income is different in stock market level, we estimate the models for the six market of GCC. The results of estimating models at stock exchange market level show that, F statistics and their p-values of the models for Qatar, Dubai, and Abu Dubai are significant. The results for these markets show that, p-values of coefficients of NI (**Model 5**) is significant. The results for these markets show that, p-values of coefficients of Comprehensive Income (**Model 6**) are significant in all countries of GCC, but Dubai.

At **Qatar stock market level** (20 observations), R^2 of the **Model 5** (in which, NI is as independent variable) is (0.749), and for the **Model 6** (which in, the independent variable is Comprehensive Income) is (0.247). P-values for the independent variables of the **Model 5** (0.000) is significant. P-values for the independent variables of the **Model 6** (0.026) is significant also, but **Model 5** is more significant so **H3** can be rejected because Net Income for GCC Insurance companies performance evaluation (based on predicted cash flow) is superior to Comprehensive Income. At **Dubai stock market level** (20 observations), R^2 of the **Model 5** (in which, NI is as independent variable) is (0.278), and for the **Model 6** (in which, the independent variable is COMP) is (0.083). P-values for the independent variables of the **Model 5** (0.017) is significant. P-values for the

independent variables of the **Model 6** (0. 219) is not significant. So **H3** can be rejected because Net Income for GCC insurance companies performance evaluation (based on predicted cash flow) is superior to Comprehensive Income. At **Abu Dubai stock market** level (36 observations), R^2 of the **Model 5** (in which, NI is as independent variable) is (0. 254), and for the **Model 6** (in which, the independent variable is COMP) is (0. 149). P-values for the independent variables of the **Model 5** (0. 002) is significant. P-values for the independent variables of the **Model 6** (0. 020) is significant as well. So, **H3** can be rejected because Net income for GCC Insurance firms performance evaluation (based on predicted cash flow) is superior to Comprehensive income. At **Kuwait stock market** level (28 observations), R^2 of the **Model 5** (in which, NI is as independent variable) is (0. 040), and for the **Model 6** (in which, the independent variable is COMP) is (0. 213). P-values for the independent variables of the **Model 5** (0. 310) is not significant. However, P-values for the independent variables of the **Model 6** (0. 013) is significant. So, **H3** can be accepted at Kuwait stock market level because Comprehensive Income for GCC Insurance companies performance evaluation (based on predicted cash flow) is superior to Net income. At **Bahrain stock market** level (20 observations), R^2 of the **Model 5** (in which, NI is as independent variable) is (0. 198), and for the **Model 6** (in which, the independent variable is COMP) is (0. 377). P-values for the independent variables of the **Model 5** (0. 049) is not significant. Nevertheless, P-values for the independent variables of the **Model 6** (0. 004) is significant. So, **H3** can be accepted at Bahrain stock market level because Comprehensive Income for GCC Insurance companies performance evaluation (based on predicted cash flow) is superior to Net Income. At **Oman stock market level** (8 observation), R^2 of the **Model 5** (in which, NI is as independent variable) is (0. 003504), and for the **Model 6** (in which, the independent variable is COMP) is (0. 055967). P-values for the independent variables of the **Model 5** (0. 889) is not significant. However, P-values for the independent variables of the **Model 6** (0. 573) is not significant due to insufficient sample of the market. In sum, the results of estimating of the models at stock market level point out that, only in Bahrain and Kuwait Stock Markets, as a performance evaluation way (based on cash flow prediction) Comprehensive Income is superior to Net Income of GCC insurance companies.

Table 5: Results Summary of H3 (Year level)

Regression Statistics	Year 2006 (Total Sample)		Year 2005 (Total Sample)		Year 2004 (Total Sample)		Year 2003 (Total Sample)	
	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6
R Square	0. 341	0. 038	0. 323	0. 309	0. 344	0. 246	0. 000	0. 009
Observations	33	33	33	33	33	33	33	33
F	16. 008	1. 216	14. 789	13. 870	16. 287	10. 095	0. 011	0. 277
P-value	0. 000	0. 279	0. 0005	0. 0007	0. 000	0. 003	0. 918	0. 602
Result	Reject		Reject		Reject		-----	

Table 6: Results Summary of H3 (Stock Exchange market level)

Regression Statistics	Qatar		Kuwait		Bahrain		Oman		Dubai		Abu Dhabi	
	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6	Model 5	Model 6
R Square	0. 749	0. 247	0. 040	0. 213	0. 198	0. 377	0. 004	0. 056	0. 276	0. 083	0. 254	0. 149
Observations	20	20	28	28	20	20	8	8	20	20	36	36
F	53. 584	5. 899	1. 074	7. 031	4. 456	10. 877	0. 021	0. 355	6. 922	1. 623	11. 579	5. 935
P-value	0. 000	0. 029	0. 310	0. 013	0. 049	0. 004	0. 889	0. 573	0. 017	0. 219	0. 002	0. 020
H3 result	Reject		Accept		Accept		--		Reject		Reject	

4. Conclusion

Regardless of the statement method is chosen, the main goal of reporting remains the same, that is, to report more comprehensive and useful financial information in order to meet the users' investment, credit, and other decision-making needs. In this paper, we attempt to examine (a) the relative ability of comprehensive income and net income to determine Gulf Cooperation Council (GCC) insurance firms performance as reflected in stock returns; (b) test if income measured on a comprehensive basis is a better measure of the GCC Insurance Companies performance as reflected in average share prices, than other summary income measures; (c) investigate the relative ability of comprehensive income and net income to review the GCC Insurance Companies performance as reflected in operating cash flow. The results seem consistent with Biddle and Choi (2003), Kanagaretnam, Mathieu and Shehata (2004), Dastgir and Velashani (2008). There are also some limitations of the study, one of which for instance, all other comprehensive income items should have been identified to build improved models. Another one is that we only consider an industry that uniquely has a fairly significant percentage of firms reporting comprehensive income on a Income Statement. The increased prevalence of performance reporting may be due to the nature of property-liability insurers' investment portfolios. Solvency regulation limits the types of assets that an insurer can legally use for investment purposes. For example, insurers are restricted in their ability to invest in risky assets such as junk bonds. Because of regulatory limits on the riskiness of investments that insurers can hold, the average volatility of insurers' other comprehensive income may be lower than the average of other industries. This may make net income more suitable for insurance firms' performance evaluation. This may explain why we did not find that comprehensive income is not superior to net income. Therefore, the results may not be generalized to the other industries.

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