Journal of Contemporary Issues in Business and Government Vol. 27, No. 2, 2021
https://cibg.org.au/

P-ISSN: 2204-1990; E-ISSN: 1323-6903
DOI: 10.47750/cibg.2021.27.02.233

Examining the dominance of Comprehensive Income to Net Income as a Measure of Firm Performance

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Abstract : In this study we examine the relative ability of comprehensive income and net income to summarize firm performance as reflected in stock returns. We also examine which comprehensive income adjustments get better the aptitude of income to summarize firm performance. We also examine this claim that income measured on a comprehensive basis is a better measure of firm performance than other summary income measures. The results do not show that comprehensive income is superior to net income for evaluating firm performance on the basis of stock return and price. Except for investment industrial group, In Tehran Stock Exchange, we found no evidence that comprehensive income for firm performance evaluation on the basis of cash flows prediction is superior to net income. While, we 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, our results provide some weak evidence that show comprehensive income adjustments improve ability of income for reflecting firm performance.

Keywords: Net Income, Comprehensive Income, Performance Evaluation, Other Comprehensive Income Items

INTRODUCTION

Financial statements are the final product of accounting process. Income statement provides data for investment and other decisions. Income measurement and financial position of an economic entity has always been a challenge for accounting standard setting bodies. The main purpose of financial reporting is to provide information for user groups, especially stockholders and creditors to assist them in making decisions. Financial statements (including notes) are the main instruments in conveying the information to the users of financial information.

Market efficiency is based on the theory of competition, in which prices are competitively set and decisions reflect available economic information. One type of economic information used to promote market efficiency is financial statements information. Financial analysts are a primary catalyst in gathering and disseminating such information. When economic information is difficult to locate or is not consistently presented among companies, analysts are unable to perform their role optimally and efficiency suffers. Such a breakdown in efficiency before introducing comprehensive income statement existed for certain comprehensive income items included directly in stockholders equity (Smith and Reither, 1996). Comprehensive income is defined in FASB concepts statement NO 6, "Elements of financial statements", (FASB, 1985), as the change in equity of a business enterprise during a period from transactions and other events and circumstances except those resulting from investments by owners and distributions to owners.

Comprehensive income statement is a measure of firm performance (Basheer et al., 2019;Basheer et al., 2014). 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. Also, comprehensive income as a basic financial statement, should report in details all the recognized revenues and expenses of the firm. The focus of income statement is on the operating revenues and expenses. User groups of financial reports for decision–making require data related to all revenues and expenses (including gains and losses). Therefore, a basic financial statement to include such items and to show changes in owners equity related to those items is necessary.

Financial Accounting Standards Board in 1997 issued the Statement of Financial Accounting Standard No. 130 (SFAS, 130), **reporting comprehensive income**. The statement requires the disclosure of both net income and more comprehensive measure of income for fiscal years beginning after December 15, 1997. Four items that are recorded as owners' equity under previous FASB pronouncements, under SFAS, 130 should be recorded in comprehensive income. These items are: adjustments to unrealized gains and losses on available-for-sale marketable securities (SFAS, 115), foreign currency translation adjustments (SFAS, 52), minimum required pension liability adjustments (SFAF, 87), and changes in market values of certain future contracts as hedges (SFAS, 80).

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. For the above arguments see, kiger and Williams (1977), Robinson (1991), and Brief and Peasnell (1996).

In this study we use comprehensive income and net income to investigate the relative ability of comprehensive income to summarize firm performance. We take the performance as reflected in stock returns (Dechow, 1994; Dhaliwal et al, 1999). We also investigate, which types of adjustments on comprehensive income, would improve income's ability to summarize firm performance.

Previous empirical research provides contradictory and inconclusive evidence on the value relevance of comprehensive income disclosures promulgated in different countries. Thus, present study using comprehensive income of Iranian firm's data shed more lights on the issue.

In this research, we are going to investigate this question that income measured on the basis of all–inclusive concept, would be a better measure of firm performance, than other summary income measures.

LITERATURE REVIEW

From 1930's one of the important issues in setting accounting standards has been the all–inclusive concept of income measurement. A collection of papers related to the debate are present in Brief and Peasnell (1996). Although there has been a long debate on the all–inclusive concept, but little empirical studies have been conducted on the issue.

Rao and Walsh (1999) study the impact of applying the SFAF No. 130 to a sample of 103 Multinational firms from 11 industries for the 1997 fiscal year. The results indicate that the potential effect is that total comprehensive income is lower than the traditional net income number for a majority of firms studied. A majority of the firms are affected negatively by foreign currency translation adjustments.

Dhaliwal, Subramanyam, and Trezevant (1999) investigate the relative ability of comprehensive income and net income to summarize firm performance as reflected in stock returns. They find no evidence that comprehensive income is more strongly associated with returns/market value or better predicts future cash flows/income than net income. Their results do not support the claim that comprehensive income is a better measure of firm performance than net income. They raise questions about the appropriateness of items included in SFAS 130, comprehensive income, as well as, the need for mandating uniform comprehensive income disclosures for all industries.

Maines and McDaniel (2000) study the judgments of nonprofessional investors on different ways of disclosing comprehensive income, i.e., comprehensive income statement and owners' equity. They find that financial–statement format for presenting comprehensive income did not significantly affect nonprofessional investors' acquisition and evaluation of that information, but generally did significantly influence their information weighting and resulting performance judgments.

Cahan, Courtenay, Gronewoller and Upton (2000) study the usefulness of comprehensive income disclosures in a Statement of Changes in Equity (SCE) in New Zealand. Their results suggest that separation of revaluation increments and foreign currency translation adjustments in a SCE are unnecessary. To be exact, they find no evidence that the individual Other Comprehensive Income (OCI) items provide information that is incrementally value relevant above comprehensive income, and they find no evidence that the incremental value relevance of the OCI items relative to net income increased after the SCE was required.

Biddle and Choi (2003) investigate the relevance of comprehensive income for decision-making. Their results reveal that among income definitions, comprehensive income defined by Financial Accounting Standards Board Statement 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.

Louis (2003) presents an economic analysis of the foreign translation adjustment as another comprehensive income item. He examines the association between change in firm value and the foreign translation adjustment for a sample of manufacturing firms. His study shows that, for firms in the manufacturing sector, the translation adjustment is associated with a loss of value instead of an increase in value.

Kanagaretnam, Mathieu and Shehata (2004) investigate usefulness of reporting comprehensive income in Canada. They examine the association between market value of equity/returns and the components of other comprehensive income to assess the information content of the new disclosures. They, also investigate the predictive ability of the aggregate comprehensive income relative to net income. They provide 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 find, however, that net income is a better predictor for future firm's performance than aggregate comprehensive income.

Arab Mazar Yazdi and Radmehr (2003) by launching questionnaire ask the opinions of Iranian different financial information users and academics on each item of comprehensive income. They also studied the necessity of reporting such items in separate reports. Their findings indicate that from the respondents' points of view, disclosure of different items of comprehensive income is required in external reporting, but they find it unnecessary to report each item in a separate report.

Mojtahead Zaheh and Momeni (2003) using a questionnaire investigate the effects of comprehensive income statement on users' decision-making. They report that, users of financial information use some measures for management efficiency, investment returns and future cash flows prediction, in their decision-making process. Disclosure of comprehensive income paves the way for evaluation of those measures.

Hypotheses

For studying the superiority of comprehensive income to net income for firm performance, we test the following hypotheses:

H1: The association between returns and comprehensive income is stronger than that of net income.

H2: There is a significant association between current period other comprehensive income items and future period's net income.

H3: The association between stock market price and comprehensive income is stronger than that of net income.

H4: The association between comprehensive income and operating cash flows is stronger than that of net income.

Research Method:

For the purpose of estimating the research models for hypotheses testing first, a sample of companies listed in Tehran Stock Exchange for the time period of 2001-2003 is used. Second, a sample of state companies is used. We estimate the research models with pooled data for three years, and overall 647 years-firm. Then, similarly the models are estimated for sample companies in different industrial groups. Finally, we estimate the research models using cross-sectional data for each year (2001 to 2003). We estimate the research models for the sample of state companies in the same way.

Hypothesis Testing

Testing Association of Alternate Measure 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 dependent variables.

As discussed by Harris and Muller S(1999), a return model is less potentially affected by scale and heteroscedasticity problems relative to a market value model. Also, Kothari and Zimmerman (1995) argue that the inclusion of both market value and returns models potentially provide more convincing evidence. As noted in Subramanian (1996), the use of earnings levels as a proxy for unexpected earnings in a regression of returns and earnings has theoretical and empirical support (e.g., Ohlson and Shroff, 1992; Kothari, 1992; Easton and Harris, 1991; Ali and Zarowin, 1991;1992). Tests that use first differences in earnings as a proxy for unexpected earnings yield qualitatively similar results (Dhaliwal et al, 1999).

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

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

R is annual return, **NI** is net income, $\mathbf{COMP}_B$ is change in comprehensive retained earnings plus common stock dividend. For estimating the above models, we use data that deflated for scale effect using beginning stock market price. Lev (1989) argues that R^2 in earnings-returns regressions is "too low" to be economically relevant. Brown, Lo, and Lys (1999) suggest that some (if not all) of the differences between the "too low" R^2 in returns regressions and the (higher) R^2 in levels regression are caused by scale effects (bin Hidthiir et al., 2019).

Test of the Components of Iranian SFAS No.6 (H2)

The second hypothesis is stated based on suggestion of Bernard (1993) in his discussion of Easton et al (1993). Prior research focuses on testing the relationship between asset revaluation, one of the other comprehensive income items based on Iranian GAAP, and expectations about future performance, as reflected in share prices and returns. Prices and returns reflect not only investors' expectations about future operating performance, but also, the valuation implications of managements' financing and investing decisions.

Bernard (1993) points out; market-based tests provide only indirect evidence about the relation between asset revaluations and future operating performance. Relating revaluations to future realized operating income and/or cash from operations provides direct evidence on the association between revaluations and future operating performance and complements findings from price and returns specifications. For the purpose of drawing inferences about the appropriateness of current and potential items of comprehensive income, it is important to examine which components of the Iranian Statement of Financial Accounting Standards, No.6 improve ability of income to summarize firm performance. To provide evidence on this issue, we estimate the following models:

$OPINC_{i,t+1} = \alpha_0 + \beta_1 * COMP_{RV,it} + \varepsilon_{it}$ (Model 3)

$OPINC_{i,t+1} = \alpha_0 + \beta_1 * COMP_{FC,it} + \varepsilon_{it}$ (Model 4)

Where, $\mathbf{OPINC}_{i,t+1}$, is operating income of future period of company i, $\mathbf{OPINC}_{RV,it}$ is adjusted net income for tangible fixed assets revaluation of company i in period t, and $\mathbf{OPINC}_{FC,it}$ is adjusted net income for foreign currency adjustments of company i in period t.

Analysis of Barth and clinch (2001) highlights that scale effects that cause spurious inferences do not simply result from size differences across firms. Thus, in this research, we estimate the models using deflated data only for return and market price models.

Testing Association of Alternate Measures of Income with Stock Market Price (H3)

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 more definitive inferences (Dhaliwal et al, 1999). Thus, in this study, we estimate the models in which market value of stockholders' equity is dependent variable and net income and comprehensive income are independent variables. In the models, performance is based on stock market price.

$PRICE_{it} = \alpha_0 + \beta_1 * NI_{it} + \varepsilon_{it}$ (Model 5)

$PRICE_{it} = \alpha_0 + \beta_1 * COMP_{B,it} + \varepsilon_{it}$ (Model 6)

Brown et al (1999) suggest that some (if not all) of differences between the "too low" R^2 in returns regressions and the (higher) R^2 in levels regression are caused by scale effects. Thus, for the purpose of estimation of the above models, we use the deflated data using fiscal year-end number of stocks.

Testing Association of Alternate Measures of Income with Future Operating Cash Flows (H4)

Performance of firm should be reflected in future operating cash flows and income, as well as, in stock returns (Dechow et al., 1998). 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 the purpose of testing this prediction, we estimate cross- sectional and pooled-data regressions.

In the models of this test the dependent variable is operating cash flows in year t+1 (t=2001,2002,2003) for a given firm and the independent variable is alternately **NI** or $\mathbf{COMP}_B$ in year t for the corresponding firm. We estimate the following models:

$CASH\ FLOW_{i,t+1} = \alpha_0 + \beta_1 * NI_{it} + \varepsilon_{it}$ (Model 7)

$CASH\ FLOW_{i,t+1} = \alpha_0 + \beta_1 * COMP_{B,it} + \varepsilon_{it}$ (Model 8)

The Other Test

For the purpose of testing H4 for state companies, we use another model in which $\mathbf{COMP}_6$ is dependent variable. We compute $\mathbf{COMP}_6$ with adjusting net income for other comprehensive income items based on Iranian GAAP.

$CASH\ FLOW_{i,t+1} = \alpha_0 + \beta_1 * COMP_{6,it} + \varepsilon_{it}$ (Model 9)

Non-nested model selection

The research question addressed in this study is: which measure of income, net income or comprehensive income, is a "better" measure of firm performance as reflected in stock returns, stock market price, operating cash flows prediction? Therefore, net income and comprehensive income are set up as competing (non-nested) models to explain stock returns, stock market price, operating cash flows prediction. A recent development in model selection techniques is Vuong (1989). Vuong has provided a likelihood ratio test for

model selection to test the null hypothesis that the two models are equally close to explaining the "true data generating process" against the alternative that one model is closer. In this case, we use the following approach to estimating the Z-statistic. In this approach, we can calculate likelihood ratio for each observation i as:

$$LR_i = \log[L(R_{COMPi})] - \log[L(R_{NIi})]$$

$$= \frac{1}{2}\log\left(\frac{2\pi}{n} RSS_{NI}\right) - \frac{1}{2}\log\left(\frac{2\pi}{n} RSS_{COMP}\right) + \frac{n}{2RSS_{NI}}(e_{NIi})^2 - \frac{n}{2RSS_{COMP}}(e_{COMPi})^2$$

Simplifying we can obtain m_i for each observation:

$$m_i = \frac{1}{2}\log\left[\frac{RSS_{NI}}{RSS_{COMP}}\right] + \frac{n}{2}\left[\frac{(e_{NIi})^2}{RSS_{NI}} - \frac{(e_{COMPi})^2}{RSS_{COMP}}\right]$$

which if summed results in the likelihood ratio statistic. The next step is to estimate the standard deviation of LR. Vuong notes (see p. 318) instead of estimating the standard deviation of LR directly to form a Z-statistic, in this simple case we can obtain the Z-statistic by regressing m_i on unity. The coefficient in this regression will equal $\frac{1}{2}\log[RSS_{NI}/RSS_{COMP}]$ and tells us the mean difference in explanatory power between comprehensive income and net income. The standard error from the regression tells us whether the relationship is unusual, i.e., if the difference is significant. The Z-statistic can be obtained by multiplying the t-statistic from the regression by $((n-1)/n)^{1/2}$. Note that a positive Z-statistic implies that the residuals produced by the net income regression are larger in magnitude than those from the comprehensive income regression. Hence, a positive and significant Z-statistic indicates that comprehensive income is the model of choice (Dechow, 1994).

Scope of the research

In this research, we investigate companies listed in Tehran Stock Exchange and state companies. We study the companies listed in TSE because of, ease of access to the data of these companies, as wall as, regulations of the TSE cause the more harmonious financial statements information. And, we study state companies because of ease of access to their data throughout the Accounting Practices and Accounts Consolidation Agency. All state companies required to send their financial statements to this Agency. The other reason for studying the state companies is the frequency of fixed assets revaluations, and foreign currency adjustments (other comprehensive income items based on Iranian GAAP). The Iranian companies have been required to issue the comprehensive income statement since 2001. At the time of this study the financial statements for three years are available, therefore, the time period of the study restricted to 2001-2003.

Sample

The sample used to estimate returns models consists of all 2001 to 2003 years-firm that have data needed for calculating returns, operating cash flows, net income, **COMP**$_B$, and **COMP**$_6$. The sample of companies listed in Tehran Stock Exchange for the time period of 2001-2003 is shown in the table 1, and the sample of state companies is shown in table 2.

Source of Data

For the sake of gathering the needed data related to financial statements of sample companies, we use the electronic archival data provided by TSE. In some cases that, the needed data is incomplete we use the manual archive existed in the TSE's library. We also, acquire a part of needed data from Tadbirpardaz and Sahra (two Iranian Softwares).

For gathering the data about state companies we use manual archival data of Accounting Practices and Accounts Consolidation Agency.

Table 1:A Sample of Companies Listed in Tehran Stock Exchange

Industry Groups	Year 2001		Year 2002		Year 2003		Total Sample	
	Num.	%	Num.	%	Num.	%	Num.	%
Mines	4	1/8	6	2/6	4	2	14	2/2
Food	29	13	36	15/7	28	14/4	93	14/4
Pharmaceutical & Chemical	50	22/4	39	17	35	18	124	19/2
Rubber & Plastic	10	4/5	9	3/9	9	4/6	28	4/3
Cement	29	13	35	15/3	36	18/5	100	15/5

Metals & Metal Products	24	10/8	27	11/8	10	5/1	61	9/4
House Appliances & Equipments	15	6/7	12	5/3	13	6/7	40	6/2
Electrics & Television	12	5/4	12	5/3	12	6/2	36	5/6
Auto	21	9/4	22	9/6	15	7/7	58	9
Investments	12	5/4	17	7/4	18	9/2	47	7/2
Textile	5	2/2	2	0/9	4	2	11	1/7
Wood & Paper	8	3/6	6	2/6	6	3/1	20	3/1
Others	4	1/8	6	2/6	5	2/6	15	2/3
Total	**223**	**100**	**229**	**100**	**195**	**100**	**647**	**100**

For companies Slisted in Tehran Stock Exchange, in addition to data collected from financial statements, the other data are also needed to calculate stock returns. We collect the data for calculating stock returns from companies' stock transaction information and information about decisions of annual meeting of stockholders.

Table 2:A Sample of State Companies

Industry Groups	**Year 2001**		**Year 2002**		**Year 2003**		**Total Sample**	
	Num.	**%**	**Num.**	**%**	**Num.**	**%**	**Num.**	**%**
Mines	13	7/9	24	12/8	8	13/6	45	10/9
Business Affairs	18	11	15	8	5	8/5	38	9/2
Agriculture & Natural resources	9	5/5	8	4/3	0	0	17	4/1
Banks	7	4/3	8	4/3	3	5	18	4/4
Power	13	8	5	2/6	5	8/5	23	5/6
Energy Affairs	35	21/3	55	29/3	16	27	106	25/8
Insurance Companies	6	3/6	5	2/6	2	3/4	13	3/2
Telecommunications & Post	14	8/5	26	13/8	5	8/5	45	11
Companies in disposal	20	12/2	17	9	6	10/2	43	10/5
Others	29	17/7	25	13/3	9	15/3	63	15/3
Total	**164**	**100**	**188**	**100**	**59**	**100**	**411**	**100**

The Results of Hypotheses Testing

In this section of paper we present analysis the results of research hypotheses. As mentioned before, for testing H2 and H4, we also use a sample of state companies. The following subsections provide analysis of results of hypotheses testing at total sample level, industrial group level, and year level. Results of Testing H1

The results of the estimation of the models of H1 at total sample level (with pooled data), are shown in the first raw of table 3. As shown in the table, p-value of coefficient of NI for the first model, as well as, p-value of coefficient of $COMP_B$ for the second model is significant. Also, F statistics of the two models are significant. The adjusted R^2 of the model one (0.352) and the model two (0.353) are not too different. Voung's Z-statistic for these two models is not significant. The results of estimating the two models show that reporting comprehensive income for firm performance evaluation (based on stock returns) is not superior to net income. To investigate whether reporting comprehensive income is different at industries level, we estimate the models for industrial groups. For this purpose, we estimate the models for ten major industry groups. The results of estimating models at industrial level groups show that, F statistics and their p-values of the models for the food, pharmaceutical and chemical, metal and metal products, auto, and investments industrial groups are significant. The results for these industry groups show that, p-values of coefficients of NI and $COMP_B$ for all of the models are significant. In food industry, adjusted R^2 of the model one (in which, NI is as independent variable) is 0.260, and for the model two (which in, the independent variable is $COMP_B$) is 0.327. P-values for the independent variables of the two models are significant. As shown in the table 3, adjusted R^2 for the model two is higher than for the model one, but vuong's Z-statistic is not significant. Our results show the same conditions for drug and chemical, mine and cement, and investment industries. While, Vuong's Z-statistic for mine and cement industry is significant. Collectively, the results of estimating of the models at industrial group level show that, only in mine and cement industry, comprehensive income for firm performance evaluation (based on stock return) is superior to net income.

Table 3:Results Summary of H1

Industry Groups	Model 1		Model 2		[Vuong's Z-statistic], (P-value)	H1 Results
	Adj. R^2	P-value	Adj. R^2	P-value		
Total Sample	0.352	(0.000)	0.353	(0.000)	[-0.211], (0.833)	Reject
Food	0.260	(0.000)	0.327	(0.000)	[1.425], (0.154)	Reject
Wood & Paper	0.135	(0.151)	0.098	(0.190)	[-1.364], (0.173)	Reject
Pharmaceutical & Chemical	0.234	(0.000)	0.307	(0.000)	[-0.991], (0.322)	Reject
Rubber & Plastic	0.085	(0.089)	0.095	(0.078)	[1.002], (0.316)	Reject
Mine & Cement	0.005	(0.237)	0.256	(0.000)	[2.668], (0.007)	Accept
Metal & Metal Products	0.551	(0.000)	0.479	(0.000)	[-1.484], (0.138)	Reject
House Appliances & Equipments	0.009	(0.122)	0.022	(0.089)	[-1.664], (0.096)	Reject
Electrics & Television	0.017	(0.267)	0.036	(0.212)	[0.909], (0.363)	Reject
Auto	0.489	(0.000)	0.378	(0.000)	[-0.079], (0.973)	Reject
Investments	0.298	(0.048)	0.315	(0.023)	[1.008], (0.314)	Reject
Year 2001(total sample)	0.527	(0.000)	0.689	(0.000)	[1.633], (0.103)	Reject
Year 2002(total sample)	0.124	(0.154)	0.117	(0.255)	[0.797], (0.425)	Reject
Year 2003(total sample)	0.075	(0.008)	0.068	(0.012)	[-0.282], (0.778)	Reject

We also, estimate the first two research models at three years level that, their results are shown at the last three raws of the table 3. The F statistics for the estimated models are significant. While, explanatory power of independent variables in year 2001 is high, it has a declining trend in years 2002-2003. About superiority of comprehensive income to net income for firm performance evaluation, our results for year 2001 show that adjusted R^2 of the model two (0.689) is higher than of the model one (0.527), and p-values of independent variables for the two models are significant. But, Vuong's Z-statistic is not significant and do not show that comprehensive income is superior to net income. Also, the results for years 2002 and 2003 do not show that comprehensive income is superior to net income.

The Results of Testing H2

We estimate the models of this hypothesis only at total sample and year level. The result of estimating the models are shown in table 4. As the results at total sample show, the F statistics of the models, as well as, p- values of coefficients of variables $\mathbf{COMP}_{FC}$ and $\mathbf{COMP}_{RV}$ are significant. Overall, the results suggest that, presenting fixed assets revaluation and foreign currency adjustments for state companies, as "other comprehensive income items", have information content. The result of estimating the models at year level show that, the model three and its coefficient for year 2002 is significant. The results of the model for year 2003 maybe due to, a few companies in the sample for this year show that, the model and its coefficient is not significant.

Table 4:Results Summary of H2

Industry Groups	Model 3			Model 4		
	Adj. R^2	F (P-Value)	Coefficient's P-value	Adj. R^2	F (P-Value)	Coefficient's P-value
Total Sample	0.784	490.41 (0.000)	(0.000)	0.786	199.53 (0.000)	(0.000)
Year 2001(total sample)	0.309	6.51 (0.018)	(0.018)	0.816	85.52 (0.000)	(0.000)
Year 2002(total sample)	0.857	274.12 (0.000)	(0.000)	0.789	44.26 (0.000)	(0.000)
Year 2003(total sample)	-0.111	0.153 (0.859)	(0.573)	0.687	20.76 (0.002)	(0.002)

About the model 4 that related to foreign currency adjustments, the results show that the models and their coefficients for year 2001 to 2003 are significant. The results suggest that presentation of foreign currency adjustments for state companies is appropriate.

The Results of Testing H3

In testing this hypothesis, we investigate whether comprehensive income reflects firm performance (on the basis of stock market price) better than net income. The results of estimating the two models of this hypothesis are shown in table 5. As shown in the table, F statistics of the estimated models at total sample level are significant. Adjusted R^2 for the model 5 and 6 are 0.418 and 0.422, respectively. P-values of the coefficients of the two models are significant. But, Vuong's Z-statistic is not significant. Overall, the results of estimating the models at total sample do not show that, comprehensive income for firm performance evaluation (on the basis of stock market price) is superior to net income.

Table 5:Results Summary of H3

Industry Groups	Model 5		Model 6		[Vuong's Z-statistic], (P-value)	H3 Results
	Adj. R^2	P-value	Adj. R^2	P-value		
Total Sample	0.418	(0.000)	0.422	(0.000)	[0.357], (0.721)	Reject
Food	0.430	(0.000)	0.462	(0.000)	[0.644], (0.519)	Reject
Wood & Paper	0.630	(0.000)	0.622	(0.000)	[-0.295], (0.768)	Reject
Pharmaceutical & Chemical	0.424	(0.000)	0.398	(0.000)	[-1.126], (0.260)	Reject
Rubber & Plastic	0.457	(0.000)	0.619	(0.000)	[1.949], (0.051)	Accept
Mine & Cement	0.418	(0.000)	0.503	(0.000)	[1.005], (0.315)	Reject
Metal & Metal Products	0.196	(0.000)	0.226	(0.000)	[0.552], (0.581)	Reject
House Appliances & Equipments	0.150	(0.050)	0.137	(0.171)	[-0.534], (0.593)	Reject
Electrics & Television	0.984	(0.000)	0.971	(0.000)	[-2.618], (0.009)	Reject
Auto	0.123	(0.004)	0.030	(0.048)	[-1.328], (0.184)	Reject
Investments	0.505	(0.000)	0.547	(0.000)	[0.711], (0.477)	Reject
Year 2001(total sample)	0.469	(0.000)	0.513	(0.000)	[1.384], (0.166)	Reject
Year 2002(total sample)	0.326	(0.000)	0.307	(0.000)	[-1.093], (0.274)	Reject
Year 2003(total sample)	0.515	(0.000)	0.504	(0.000)	[-0.637], (0.524)	Reject

For the sake of examining the superiority of comprehensive income to net income at industrial group level, we test the H3 at 10 different industry groups. We do not estimate the models at textile, and metal-non metal mine industry groups, because of, a few companies in these industrial groups and the lack of needed data for estimation of the models. The results of estimation of the models of H3 at 10 alternate industrial groups are shown at the raws of two to eleven of the table 5. As it shows, F statistics of all of the models are significant. The results show that, in rubber and plastic adjusted R^2 for model 6 in which, independent variable is comprehensive income is larger than adjusted R^2 for model 5 in which, independent variable is net income. Overall, the results show that only in rubber and plastic industry group, comprehensive income is superior to net income for firm performance, based on stock market price. Also, Vuong's Z-statistic associated with these two models is significant and show this superiority.

The results of the estimated models at year level show that, the models and their coefficients of independent variables for three years are significant. But, about superiority of comprehensive income to net income, our results do not show this superiority. Also Vuong's Z-statistics do not show this superiority.

The Results of Testing H4 (TSE Companies)

In this subsection, we present the result of estimating the models of H4 (models 7 and 8) at total sample and industrial group level. The results of models at total sample is shown at the first raw of the table 6. F statistics of the two models, as well as, p-values of coefficients are significant. Adjusted R^2 of model 7 and 8 are 0.747 and 0.705, respectively, and also Vuong's Z-statistic for the models do not show that comprehensive income is superior to net income for firm performance evaluation, bases on operating cash flows prediction.

Table 6:Results Summary of H4 (Companies Listed in TSE)

Industry Groups	Model 7		Model 8		[Vuong's Z-statistic], (P-value)	H4 Results
	Adj. R^2	P-value	Adj. R^2	P-value		
Total Sample	0.747	(0.000)	0.705	(0.000)	[-0.438], (0.661)	Reject
Metal & Non-Metal Mines	0.953	(0.000)	0.947	(0.000)	[-5.205], (0.000)	Reject
Food	0.756	(0.000)	0.374	(0.000)	[-2.550], (0.011)	Reject
Wood & Paper	0.232	(0.000)	0.196	(0.000)	[-1.942], (0.052)	Reject
Pharmaceutical & Chemical	0.848	(0.000)	0.849	(0.000)	[0.343], (0.731)	Reject
Rubber & Plastic	0.799	(0.000)	0.611	(0.000)	[-3.878], (0.000)	Reject
Mine & Cement	0.547	(0.000)	0.512	(0.000)	[-0.876], (0.381)	Reject
Metal & Metal Products	-0.002	(0.351)	-0.016	(0.774)	[-0.253], (0.800)	Reject
House Appliances & Equipments	0.607	(0.000)	0.479	(0.000)	[-1.992], (0.046)	Reject
Electrics & Television	0.138	(0.015)	0.114	(0.025)	[-0.506], (0.612)	Reject
Auto	0.803	(0.000)	0.816	(0.000)	[0.108], (0.914)	Reject
Investments	0.690	(0.000)	0.721	(0.000)	[1.807], (0.070)	Accept

As shown in the table 6, these two models and their coefficients are significant at industrial group level. But, only for investment industry, comprehensive income is superior to net income. As shown in the last two raw of table 6, in auto industry, adjusted R^2 of model 7 is 0.803 and p-value of coefficient of independent variable (NI) is significant. While, adjusted R^2 for model 8 is 0.816, but, Vuong's Z-statistic is not significant and do not show that, in this industry comprehensive income is superior to net income. In investment industry for model 7, adjusted R^2 is 0.690 and p-value of coefficient of independent variable is significant. While, adjusted R^2 for model 8 is 0.721 and show that, in this industry comprehensive income is superior to net income. Also, Vuong's Z-statistic shows this issue The Results of Testing H4 (State Companies)

The results of estimating models 7 and 8 to test hypothesis 4 are shown in the table 7. As shown in the table 7, F statistics of the two models at total sample level are significant. Also, p-values of coefficients of model 7 and 8 are significant. Adjusted R^2 of model 8 (0.585) is larger than adjusted R^2 of model 7 (0.497). But, Vuong's Z-statistic of the two models at the first raw of table 7 is not significant, and do not show that for state companies comprehensive income is superior to net income for firm performance evaluation, based on operating cash flows prediction.

Table 7:Results Summary of H4 (State Companies)

Industry Groups	Model 7		Model 8		[Vuong's Z-statistic], (P-value)	H4 Results
	Adj. R^2	P-value	Adj. R^2	P-value		
Total Sample	0.497	(0.000)	0.585	(0.000)	[1.029], (0.303)	Reject
Mines	0.788	(0.000)	0.321	(0.000)	[-1.689], (0.091)	Reject
Business Affairs	0.928	(0.000)	0.874	(0.000)	[-1.132], (0.258)	Reject
Agriculture & Natural resources	-0.055	(0.575)	-0.062	(0.687)	[-0.364], (0.716)	Reject
Banks	-0.049	(0.272)	0.241	(0.157)	[0.674], (0.500)	Reject
Power	0.042	(0.330)	0.046	(0.241)	[0.171], (0.864)	Reject

Energy Affairs	0.933	(0.000)	0.911	(0.000)	[-1.428], (0.153)	Reject
Insurance Companies	0.788	(0.000)	0.595	(0.001)	[-0.546], (0.585)	Reject
Telecommunications & Post	0.067	(0.049)	0.244	(0.000)	[0.777], (0.437)	Reject
Companies in disposal	0.213	(0.000)	0.647	(0.000)	[0.961], (0.337)	Reject
Others	0.626	(0.000)	0.977	(0.000)	[3.321], (0.000)	Accept

To investigate whether reporting comprehensive income superiority for firm performance evaluation is different at industrial group level, we estimate the models at this level. The results of the models show that, all of them are significant, except at agriculture and natural resources, banks, and power industry groups. Our results show the superiority of comprehensive income, only at other companies group.

The Results of the Other Test

The results of estimation of model 9, is compared to model 7, in which the independent variable is net income, show that adjusted R^2 of model 9 (0.607) is larger than adjusted R^2 of model 7 (0.497). Also, p-values of coefficients of the two models and Vuong's Z-statistic are significant, and based on them we accept H4. Overall, the results show that income measured based on Iranian GAAP is superior to net income for firm performance evaluation, based on operating cash flows prediction.

Summary and Concluding Remarks

The Results of the study do not show that comprehensive income is superior to net income for firm performance evaluation, based on stock return. The same results prevailed at total sample and some industrial group level. Also, the result at total sample level do not show the superiority of comprehensive income to net income for firm performance evaluation, based on stock market price.

About "Other Comprehensive Income items" our results show that in state companies, adjusting net income for fixed assets revaluation and foreign currency adjustments, improves the ability of income to summarize firm performance. It is also appropriate for predicting operating net income.

In companies listed in Tehran Stock Exchange, except for investment industry group, we found no evidence that comprehensive income for firm performance evaluation on the basis of cash flows prediction to be superior to net income. We found 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, to be superior to net income.

Collectively, our results provide some weak evidence that show, comprehensive income adjustments improve ability of income for reflecting firm performance.

We propose further study of the issue in another research with the same methodology applied in this research, except that, first, the estimation of the best models that fit the data to be done, and second, using the best competing models to investigate the superiority of comprehensive income to net income.

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