THE USEFULNESS OF COMPREHENSIVE INCOME IN PREDICTING FUTURE PERFORMANCE: EVIDENCE FROM THE DEVELOPING MARKET

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Abstract

Based on the original study of Dhaliwal et al. (1999), this study examines empirically the usefulness of comprehensive income (CI) in predicting firms' future performance comparing to net income (NI), using Jordanian firms listed in the Amman Stock Exchange (ASE) during the period 2010–2018. Two measures of company' performance are employed, leading NI and cash flow from operation (CFO). We hypothesize that NI is more useful than CI in predicting future earnings and firm future CFO. Similarly, the empirical findings by Biddle and Choi (2006) also indicate that both measures NI and CI are significantly and positively associated with firm's future performance measured by leading NI and CFO. However, the results show that NI is superior to CI in predicting future earnings and firm future CFO. These results hold for the alternative performance measures used in the analysis. Our findings also show a larger standard deviation for CI than NI indicating higher volatility of CI than NI. The superiority of NI is likely to be due the higher volatility of CI and the transitory nature of other comprehensive income (OCI) components included in CI but not included in NI. This study adds to the literature by examining the value relevance of NI and CI in an emerging market.

Keywords: Comprehensive Income, Net Income, Cash Flow From Operations, Value Relevance

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1. INTRODUCTION

There has been a recent surge in discourse surrounding the efficacy of comprehensive income (CI) and other comprehensive income (OCI) in informing decision-making processes, particularly in relation to the pre-mandatory reporting of net income (NI) without consideration of CI. The intensity of the debate escalated following the release of SFAS 130 by the Financial Accounting Standards Board (FASB) in 1997. The aforementioned standard necessitated the disclosure of CI as well as OCI. Several scholarly articles have explored the subject matter, such as the works of Biddle and Choi (2006), Chambers et al. (2007), as well as Wang et al. (2006).

Approximately a decade subsequent to the aforementioned events, the International Accounting Standards Board (IASB) issued a response to the actions undertaken by the FASB. This response entailed the requirement for companies to disclose CI and other OCI in alignment with the revised edition of the International Accounting Standard (IAS) 1, which was implemented in the year 2007. The International Accounting Standards Board (IASB) implemented the inclusion of OCI in financial reporting with the primary objective of providing financial statement users with a more comprehensive, consistent, and pertinent set of information (IASB, 2013). Moreover, this debate has mainly focused on whether CI and OCI include useful information to users in making investment decisions beyond what included in traditional performance measures (i.e., net income) by providing relevant information to predict future firms' performance.

In addition to academics, many professionals question the usefulness of OCI to financial statement users. They argue that OCI is not as useful as it was first argued by the FASB. Some professionals and researchers argue that OCI does not necessarily provide incremental information to users beyond that already included in NI. Instead, it introduces complexity and confusion to interpret financial information. Holt (2014) posits that the disclosure of items in OCI by companies has the potential to erode the credibility of their NI and potentially facilitate the manipulation of earnings. The capacity to exercise discernment in determining the inclusion of items in OCI and subsequently integrating them into net income presents companies with avenues for earnings management. Divergent interpretations regarding the appropriate classification of NI and OCI frequently arise between users and preparers. This discrepancy can be attributed to the presence of numerous distinct OCI components, which often lack clear guidelines for their categorization.

To engage with these arguments, a multitude of empirical studies have been undertaken to evaluate the feasibility of CI. Various studies have been conducted to examine the efficacy of CI and OCI. Several studies have been conducted to investigate the relationship between the reaction of share price or share returns and CI or OCI. Several studies have been conducted on this topic, including the research conducted by Agnes et al. (1993), Biddle and Choi (2006), Chambers et al. (2007), Dhaliwal et al. (1999), Kanagaretnam et al. (2009), Kubota (2011), Mechelli and Cimini (2014), and Pronobis and Zülch (2011). Several other studies have examined the predictive power of CI and OCI in relation to future earnings and future operating cash flows. Notable studies in this field include the research conducted by Choi and Zang (2006), Cotter (2012), Goncharov and Hodgson (2011), and Jones and Smith (2011). Dechow et al. (1998) posit that a firm's performance can be discerned through its forthcoming cash flows, income, and stock returns. Expanding upon the aforementioned contention, Dhaliwal et al. (1999) posit that in the event CI proves to be a superior gauge of a firm's performance relative to alternative summary income metrics, subsequent operating cash flows and income should exhibit a more robust association with CI as opposed to NI. Upon examining prior research, two noteworthy observations become apparent. The majority of studies that have examined the value relevance of CI and OCI in comparison to NI have consistently found that NI exhibits greater value relevance, as evidenced by its stronger association with share price or share returns. Several studies have yielded inconclusive results regarding the superiority of CI or OCI over NI in this context (Cotter et al., 2012; Dhaliwal et al., 1999; Kanagaretnam et al., 2009; Kubota et al., 2011). Nevertheless, alternative research has yielded contrasting findings, suggesting that CI or OCI might possess greater significance (Biddle & Choi, 2006).

Furthermore, several studies have been conducted to examine the predictive ability of CI and OCI in relation to future NI and future CFO. Nevertheless, the results obtained from these studies have displayed a lack of consistency. Multiple studies have revealed that NI possesses greater reliability as a predictor of forthcoming earnings and operating cash flows when contrasted with CI or OCI. For example, scholarly investigations conducted by Goncharov and Hodgson (2011), Jones and Smith (2011), and Kanagaretnam et al. (2009) have presented empirical findings that substantiate this assertion. Several additional studies have yielded findings that indicate the superiority of CI over NI in terms of its predictive ability for a company's future performance, particularly with regard to future NI and cash flow from operations (CFO). Previous studies conducted by Choi and Zang (2006) as well as Pronobis and Zülch (2011) have explored the subject matter in question. The existing literature on the predictive capacity of CI in relation to future NI and CFO has yielded varying and inconclusive findings. This has served as a catalyst for researchers to pursue additional investigations on this matter, with a particular focus on emerging capital markets. The significance of this matter lies in the scarcity of research conducted on this subject within emerging economies.

Given the transient nature of OCI, it is our contention that the predictive capacity of NI in forecasting future NI and CFO surpasses that of CI. The findings of this study provide empirical evidence in support of our initial hypothesis, suggesting that the utilisation of NI as a predictor yields superior results compared to the use of CI in forecasting future NI and CFO. Furthermore, the findings indicate that OCI does not yield any supplementary predictive capability in relation to NI for future NI and CFO.

This study has made significant contributions to the existing literature in the following manners: It is noteworthy to mention that a significant portion of prior research has concentrated on the United States (US) and European nations. There exists a scarcity of research that has specifically investigated this matter within developing nations. As the ongoing adoption of OCI reporting in developing markets persists, the inclusion of empirical evidence from emerging markets would prove beneficial in augmenting the current body of literature surrounding this contentious matter. Furthermore, in contrast to prior research that relied on hypothetical scenarios, the present study employed actual reported data on CI to examine its

hypothesis. Kanagaretnam et al. (2009) argue that prior research employing the "as if methodology" to construct a pre-event measure of CI may have inadvertently introduced measurement errors, potentially leading to biased outcomes.

The rest of the paper is structured as follows: In Section 2, an extensive examination of the pertinent literature will be conducted, followed by the presentation of our research hypothesis. Section 3 is dedicated to an in-depth exploration of the research methodology employed, wherein comprehensive information is presented regarding the sample selection process and the data utilised for the study. Section 4 encompasses the presentation of the results. In Section 5, an in-depth analysis of the findings will be conducted. Section 6 presents a concise overview and draws a conclusion based on the information presented.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Extensive attention has been devoted within the field of accounting research to examining the value relevance of CI and its various constituents. The objective of this study is to ascertain the predictive ability of CI and its individual components in relation to future earnings and operating cash flows, particularly in comparison to net income. In the realm of empirical research, scholars have commonly adopted two distinct methodologies in order to investigate the efficacy of CI A specific domain of scholarly inquiry has been dedicated to investigating the significance of CI through a comparative analysis of its correlation with share prices or returns, in relation to NI. Numerous scholarly investigations have been conducted on the subject matter, encompassing the works of Anderson et al. (2023), Biddle and Choi (2006), Dhaliwal et al. (1999), Djaballah and Fortin (2021), Kanagaretnam et al. (2009), Khan et al. (2018), Kubota et al. (2011), Mechelli and Cimini (2014), and Tsuji (2013). Scholars have conducted investigations to assess the efficacy of CI in forecasting forthcoming organisational performance. The researchers conducted a comparative analysis between CI and NI in terms of their respective associations with future net income and operating cash flows, with the aim of assessing the predictive capacity of net income. Several scholarly investigations have examined the subject matter, including Choi and Zang's (2006) study, Goncharov and Hodgson's (2011) research, Jones and Smith's (2011) analysis, Kanagaretnam et al.'s (2009) study, Kusuma's (2021) investigation, Kusuma et al.'s (2021) research, Pronobis and Zülch's (2011) study, and Wang et al.'s (2019) research.

Dhaliwal et al. (1999) conducted one of the initial studies that examined this particular matter. The authors undertake an analysis to assess the significance of CI in relation to the valuation of US firms within the time frame of 1994–1995. It has been determined that the measure of CI does not exhibit superior performance when compared to the conventional measure of NI. In addition, it was found that, with the exception of financial institutions, no substantial evidence was uncovered indicating that CI exhibit a more robust association with stock returns and prices, or possess superior predictive capabilities for future income and cash flows, relative to net investments. The study revealed a significant association between CI and stock price, specifically within the financial sector. However, this relationship was not observed across the entire sample, which encompassed both financial and nonfinancial firms. Moreover, upon conducting supplementary examinations to evaluate the predictive capacity of OCI in relation to future earnings, it is revealed that future income and future cash flows from operations exhibit a stronger association with net income as opposed to comprehensive income. Net income is considered to be a more dependable forecaster of future incomes and/or impending operating cash flow in comparison with the current income. These findings of this study cast doubt on the necessity of mandating the disclosure of the CI by SFAS 130. Cahan et al. (2000) found no empirical support for the notion that individual components of the OCI provide any supplementary or meaningful insights beyond those offered by the CI construct. Additionally, no evidence was discovered to suggest that the value relevance of OCI items have experienced an increase relative to the NI subsequent to the implementation of CI requirements in New Zealand standards.

In their research, Goncharov and Hodgson (2011) conducted an analysis of data collected from a sample of 16 European countries, covering the period from 1991 to 2005. The objective of this study was to assess the efficacy of CI as a tool for analysts in forecasting future earnings using income data. Recent research has indicated that NI carries greater significance than CI in the context of predicting future cash flows. Additionally, the research conducted by Jones and Smith (2011) investigates the juxtaposition of gains and losses as reported in OCI and special income. The primary emphasis lies in assessing the worthiness and predictive capacity of the entities under consideration. The research findings indicate that the predictive ability of future income and cash flows is superior for gains and losses reported as special income in comparison to OCI.

Cotter et al. (2012) conducted a study examining the performance of Australian firms over a period spanning from 2004 to 2007. The researchers aimed to investigate the potential benefits that analysts may have derived from the implementation of International Financial Reporting Standards (IFRS). Additionally, they examined the influence of companies' disclosures on the overall adoption process. The findings suggest that analysts have exhibited improved predictive abilities subsequent to the implementation of IFRS. Nevertheless, the study does not offer any empirical evidence pertaining to the impact of IFRS disclosure on forecast errors in the year of implementation.

While the aforementioned studies suggest that NI exhibits greater predictive power compared to CI, alternative studies present contrasting findings. Choi and Zang (2006) conducted a study examining the relationship between current CI and future NI. It has been found that CI exhibits superior predictive capabilities for future net income in comparison to the sole consideration of NI. In addition,

the researchers investigate the extent to which financial analysts employ CI data in order to forecast future earnings. It has been determined that CI is intricately connected to projected earnings, revisions in forecasts for future periods, and inaccuracies in analysts' predictions. Deol (2013) evaluated the overall relationship, which exist between the total NI, CI, and analysts' earnings forecasts as well as the forecast errors: within the Canadian firms, drawing parallels with previous research. The findings suggest that forecast errors are impacted by adjustments made for foreign currency translations as well as gains and/or losses incurred from the hedges of the cash flows.

A study was conducted by Tsuji (2013) to investigate the informational value of CI under IFRS in predicting the future performance of electric appliance companies in Japan. The objective of the study was to assess the predictive capacity of CI in relation to earnings or cash flow variables with regards to future performance. The results indicate that the use of CI as a metric for evaluating earnings or cash flow performance exhibits superior predictive capabilities in relation to future stock returns, in comparison to alternative measures. Bratten et al. (2016) conducted a study to examine the predictive capacity of various comprehensive components on future bank performance. The researchers directed their attention towards Bank Holding Companies during the period spanning from 2010 to 2013. Their findings indicate that fair value adjustments, which are incorporated in OCI, possess the ability to forecast earnings for the subsequent one to two years. The study also highlights that there exist distinct implications pertaining to unrealized gains or losses that are incorporated within CI. In particular, there exists a negative correlation between unrealized gains or losses on cash flow hedges and future earnings, while there is a positive correlation between unrealized gains or losses on available-for-sale securities and future earnings. Additionally, it was discovered that fair values exhibit greater reliability, thereby enhancing their predictive capacity.

In a recent study, Kusuma (2021) investigated the predictive capacity of return on assets (ROA) in forecasting future investment returns within Indonesian firms. The study encompassed both pre- and post-COVID-19 periods. Two return on assets (ROA) ratios are computed, one utilising NI and the other employing cash inflows. Based on the empirical evidence, it is evident that a considerable number of companies encountered a decline in their operational effectiveness amidst the global pandemic. Nevertheless, the findings suggest that the attributable net income ROA exhibits greater efficacy in forecasting future investment returns when compared to the attributable comprehensive income ROA.

The primary differentiation between NI and CI lies within the components of OCI. The durability of these components is comparatively lower than the items included in NI. Several studies have demonstrated the presence of these components, as evidenced by the works of Bao et al. (2020), Kusuma et al. (2021), and Lucchese et al. (2020). Unrealized gains and losses from investment evaluations, gains and losses from currency translation, and gains and losses from pension plans can be encompassed within the scope of these factors. The transitory characteristic of the OCI has several implications. The aforementioned factors have been observed to have an impact on credit risk, debt costs, equity valuation models, and the accuracy of analysts' forecasts. The aforementioned findings have been examined and analysed by multiple scholars (Bao et al., 2020; Lucchese et al., 2020; Elshamy et al., 2019; Anderson et al., 2023).

Based on prior empirical investigations indicating the transitory nature of CI relative to NI elements, it is posited that CI exhibits inferior efficacy compared to NI in forecasting future NI and CFO. Thus, the research hypothesis can be formulated as follows:

H1: NI has a higher predictive value than CI in forecasting future accounting performance figures.

H1a: NI has a higher predictive value than CI in forecasting future NI.

H1b: NI has a higher predictive value than CI in forecasting future CFO.

3. RESEARCH METHODOLOGY

Following prior related studies (see for example, Dhaliwal et al., 1999; Graham et al., 2005; Harris & Muller, 1999; Kanagaretnam et al., 2009), we examine the predictability of *CI* compared to *NI* in forecasting future firm earnings and future cash flow. We hypothesize that *NI* has a better predictive ability in forecasting future *NI* as in *H1a*. To test the hypothesis, we regress the next year *NI* on the current year *NI* and the current year *CI* as follows:

$$NI_{it+1} = b_{it} + b_{1NI_{it}} + e_{it} \quad (1)$$

$$NI_{it+1} = b_{it} + b_{1CI_{it}} + e_{it} \quad (2)$$

$$NI_{it+1} = b_{it} + b_{1NI_{it}} + b_{2OCI_{it}} + e_{it} \quad (3)$$

where,

– NI_{it+1} = total net incomes for firm (i) in year ($t + 1$) adjusted by the number of common shares outstanding;

– NI_{it} = the annual net incomes for the firm (i) in year (t) adjusted by the exact number of common shares outstanding;

– CI_{it} = the total comprehensive income for the firm (i) in year (t) adjusted by the number of common shares outstanding;

– OCI_{it} = the total other comprehensive income for the firm (i) in year (t) adjusted by the number of common share outstanding.

If NI has a batter predictive power than CI, then we the R^2 of the first regression model is expected be higher than the one of the second regression model. In addition, the coefficient of CI in the third (b_2) model is expected to be insignificant or negative, i.e., has no incremental explanatory power over NI.

Similarly, to test the second part of the hypothesis, we use the same regression models but by regressing the future CFO on the independent variables as follows:

$$CFO_{it+1} = b_{it} + b_{1NI_{it}} + e_{it} \quad (4)$$

$$CFO_{it+1} = b_{it} + b_{1CI_{it}} + e_{it} \quad (5)$$

$$CFO_{it+1} = b_{it} + b_{1NI_{it}} + b_{2OCI_{it}} + e_{it} \quad (6)$$

where, CFO_{it+1} = the operating cash flows for firm (i) in year ($t + 1$) adjusted by the number of common shares outstanding.

The data in all models is represented using panel data, and the relationship between variables is examined using the ordinary least square (OLS) method. In prior research (Kanagaretnam et al., 2009), adjustments were made to all variables in accordance with the number of common shares outstanding at the conclusion of the fiscal year.

The sample comprises all the companies that were officially listed on the Amman Stock Exchange (ASE) throughout a span of nine years, specifically from 2010 to 2018. This encompasses companies across diverse sectors, encompassing both financial and non-financial industries, provided that the requisite data for calculating the variables in the study is accessible. The researcher manually gathered data pertaining to control variables, including *comprehensive income* (*CI*), *other comprehensive income* (*OCI*), *net income* (*NI*), *cash flow from operations* (*CFO*), and other relevant financial indicators, from the financial statements of the selected firms in the sample. The information was obtained from the official website of the ASE. Firms with missing data are excluded from our analysis. In order to mitigate the influence of atypical data points on the ultimate outcomes, we exclude the upper and lower 1% of observations pertaining to each variable under investigation. The statistical analysis was conducted using a final sample comprising 1,981 firm-year observations.

When considering the predictive value of comprehensive income for future performance, particularly in emerging markets, it is crucial to acknowledge the constraints imposed by the study period. A significant issue arises when considering the potential discrepancy between the data collected during a specific study period and its ability to accurately reflect the current state of affairs. It is crucial to take into account the potential impact of external factors, such as the COVID-19 pandemic, on the performance of companies and economies.

The COVID-19 pandemic has had a profound and unparalleled influence on the global business landscape. Amidst the global pandemic, numerous businesses, irrespective of their prior performance, encountered significant disruptions in their routine operations. Conventional financial indicators may not comprehensively encompass the nuanced strategies employed by these organisations to adapt, endure, or rebound amidst a crisis. This underscores the significance of incorporating contemporary data into historical records to attain a comprehensive comprehension of a company's present condition.

Moreover, emerging markets exhibit a higher degree of economic volatility and susceptibility to external factors. The dynamic nature of economic conditions in these regions necessitates a comprehensive analysis that is characterised by flexibility and adaptability. Therefore, it is imperative to take into account that the data gathered over a brief study duration may not comprehensively capture the dynamic nature of the economic landscape and its impact on businesses.

In order to address these constraints, it is advisable for researchers to consider employing more contemporary and regular data updates. In addition, an alternative approach could involve employing rolling analyses while considering qualitative factors. By implementing this methodology, the results of the study will remain current and significant. The analysis accounts for unforeseen events, such as the COVID-19 pandemic, which can significantly influence the operational outcomes of firms operating in developing economies. In conclusion, despite the potential limitations inherent in the study period, researchers can still derive valuable insights from the data by acknowledging these limitations and adapting their research methodologies accordingly.

4. RESULTS

The results are based on the variables of the descriptive statistics presented in Table 1. The average *net income* (*NI*) reported, which stands at 0.06387, exhibits a statistically significant increase compared to the average *comprehensive income* (*CI*) of 0.055. Based on the findings, it is evident that the *other comprehensive income* (*OCI*) items of the sample firms predominantly exhibited negative values throughout the duration of the study. This is mainly consistent with the findings of the research conducted by Günther (2015) and Mechelli and Cimini (2014). The findings of this study also indicate that the various components of *other comprehensive income* (*OCI*) were primarily influenced by the fair value adjustments made to equity and debt investments, leading to a net unrealized loss over the specified time frame.

The *OCI* value of -0.010 indicates that the sample firms have incurred a cumulative unrealized loss. The observed cumulative loss can be attributed to the economic downturn experienced by the Jordanian economy for the majority of the study's duration. The duration of the study spanned a period of nine years, commencing in 2010 and concluding in 2018. During this period, there was a notable economic downturn that transpired in the subsequent years after the global financial crisis. Moreover, the Jordanian economy encountered supplementary adverse consequences due to the political instability prevailing in neighbouring countries and the broader region.

Moreover, it can be observed that the negative mean value for OCI is predominantly impacted by the fair value adjustments. Based on the financial data disclosed by ASE, it is apparent that the cumulative alteration in fair value has consistently exhibited a negative trend, leading to the accumulation of losses over the majority of the analysed timeframe. The cumulative loss has experienced a notable increase, rising from JD121 million in 1914 to JD147 million in 2016.

Table 1. The descriptive statistics for the study variables

Variables	*Min*	*Max*	*Mean*	*Std. Dev.*
NI_{it}	-1.0926	3.7373	0.06387	0.30293
NI_{it+1}	-1.0926	3.5969	0.05942	0.28460
CFO_{it}	-6.843	10.209	0.13450	0.62310
CFO_{it+1}	-6.843	10.209	0.13820	0.61929
CI_{it}	-7.993	3.7364	0.05509	0.36973
OCI_{it}	-7.9169	1.6213	-0.01015	0.20636

Note: NI_{it} = the yearly net income of firm (i) in year (t) is modified in accordance with the quantity of common shares currently in circulation; NI_{it+1} = the net income of firm (i) in year (t+1) is subject to adjustment in accordance with the number of common shares that are currently outstanding; CFO_{it} = the operating cash flows of firm (i) in year (t) are subject to adjustment in accordance with the number of common shares that are currently outstanding; CFO_{it+1} = the operating cash flows for firm (i) in year (t+1) adjusted by the total number of common shares outstanding; CI_{it} = the total comprehensive income for firm (i) in year (t) adjusted by the number of common shares outstanding; OCI_{it} = the total other comprehensive income for firm (i) in year (t) adjusted by the number of common shares outstanding.

A notable observation from the results reported in Table 1 is that the reported standard deviation for CI (0.369) is substantially higher than that of NI (0.302) indicating higher volatility in CI compared to NI during the study period. This is likely to be due primarily to the transitory nature of OCI components included in CI but included in NI. The mean reported value for *NI* and *CFO* are positive but relatively low, however, the average value for OCI is negative. Several comparable studies report negative average value for OCI. For example, Mechelli and Cimini (2014) report negative OCI, on average, for European firms.

Table 2 presents the pair wise correlation coefficients for the study variables. In line with Mechelli and Cimini (2014), the results show high and statistically significant positive correlation between NI and CI. The correlation coefficient for the two variables (0.729) is less than the one (r = 0.82) reported by Mechelli and Cimini (2014) study which covered European firms. Both NI and CI are positively correlated with future performance measures (NI_{t+1} & CFO_{t+1}). All of the correlation coefficients that are related to the study are deemed statistically significant at the standard significance level of α = 0.01. This indicates that both summary measures are useful in predicting future earnings and future cash flows. However, the magnitude of correlation coefficients varies as NI is more associated with future performance measures (NI_{it+1} & CFO_{it+1}) than CI. The correlation coefficients of NI with NI_{it+1} (0.729) and CFO_{t+1} (0.291) are substantially higher than the comparable correlation confections of CI with NI_{it+1} (0.545) and CFO_{it+1} (0.252). This result is consistent with our argument that NI is more useful in predicting future performance than CI due to the transitory component that is usually included in CI but not in NI.

Table 2. Correlations results (binary Pearson)

Variables	NI_{it}	NI_{it+1}	CFO_{it}	CFO_{it+1}	CI_{it}	OCI_{it}
NI_{it}	1					
NI_{it+1}	0.729**	1				
CFO_{it}	0.383**	0.308**	1			
CFO_{it+1}	0.291**	0.359**	0.334**	1		
CI_{it}	0.722**	0.545**	0.132**	0.252**	1	
OCI_{it}	0.002	0.008	-0.319**	0.008	0.463**	1

*Note: *. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed); NI_{it} = the annual net income for firm (i) in year (t) adjusted by the number of common shares outstanding; NI_{it+1} = net income for firm (i) in year (t+1) adjusted by the number of common shares outstanding; CFO_{it} = the operating cash flows for firm (i) in year (t) adjusted by the number of common shares outstanding; CFO_{it+1} = the operating cash flows for firm (i) in year (t+1) adjusted by the number of common shares outstanding; CI_{it} = the total comprehensive income for firm (i) in year (t) adjusted by the number of common shares outstanding; OCI_{it} = the total other comprehensive income for firm (i) in year (t) adjusted by the number of common shares outstanding.*

Table 3 reports the regression results for testing *H1a* using the first three models that employ NI_{t+1} as the measurement of the future performance of the firm. The reported F-values indicate that all the three models are statistically significant at α = 0.01. The adjusted R^2 varies substantially across the three models. In general, the regression results reported in Table 3 support the superiority of NI over CI in predicting future earnings. This conclusion is indicated by two findings, which reflects that although both measures (NI and CI) are positive and statistically significant, the regression coefficient of NI (0.685) is much higher than the regression coefficient on CI (0.425). Secondly, the adjusted R^2 for the NI model (0.531) is substantially larger than that of the CI model (0.297).

Table 3. The regression results
(independent variable: leading net income (NI_{it+1}))

Variables	*B*	*T-value*	*Sign.*	*VIF*
Panel A				
Constant	0.015	3.084	0.00	-
NI	0.685	43.34	0.00	-
Adjusted R²	0.531			
F-value	178			
P	0.00			
Panel B				
Constant	0.035	5.902	0.00	-
CI	0.425	26.56	0.00	-
Adjusted R²	0.297			
F-value	70.5			
P	0.00			
Panel C				
Constant	0.015	3.097	0.00	
NI	0.685	43.32	0.00	1.07
OCI	0.007	0.32	0.748	1.25
Adjusted R²	0.530			
F-value	187			
P	0.00			

Note: NI_{it+1} = the net income of firm (i) in year (t+1) is subject to adjustment in accordance with the number of common shares that are currently outstanding. The yearly net income of a company (i) in a given year (t) is modified in accordance with the quantity of common shares that are currently in circulation. The comprehensive income of firm (i) in year (t) is subject to adjustment in accordance with the number of common shares that are currently outstanding. OCI refers to the aggregate of other comprehensive income for a given company (i) during a specific fiscal year (t), adjusted to reflect the prevailing number of outstanding common shares.

Panel C in Table 3 presents the regression results for Model 3. The results indicate that adding OCI to Model 1, which is restricted to NI, does not enhance the model explanatory power, and the regression coefficient on OCI is negative and statistically insignificant at the conventional level. Overall, the results in Table 3 supports $H1a$ and provide evidence that NI is a better predictive tool of future NI compared to CI.

Table 4 presents the regression results for Models 4 to 6 that test $H1b$ and employ the leading CFO as a measure of firm's future performance. In general, the regression results are qualitatively similar to the results of the previous regressions. The related adjusted R² and the magnitude of regression coefficients indicate that both variables (NI and CI) are useful in predicting future cash flows. However, both the related adjusted R² and the magnitude of regression coefficients indicate that NI is superior to CI in predicting future cash flows. The adjusted R² related to the NI model (0.084) is substantially larger than that of the CI model (0.063) and the regression coefficient on NI (0.598) is substantially larger than the regression coefficient on CI (0.408). Furthermore, adding the OCI to the NI model (Model 6) does not enhance the explanatory power of the model. The slight increase in the adjusted R² from 0.084 (Model 4) to 0.085 (Model 6) is statistically insignificant. Overall, the results in Table 4 supports $H1b$ and provide evidence that NI is a better predictive tool of future CFO compared to CI.

Table 4. The regression results
(independent variable: leading (CFO_{it+1}))

Variables	*B*	*T-value*	*Sign.*	*VIF*
Panel A				
Constant	0.098	6.632	0.00	-
NI	0.598	12.433	0.00	-
Adjusted R²	0.084			
F-value	154			
P	0.00			
Panel B				
Constant	0.115	7.811	0.00	-
CI	0.408	10.430	0.00	-
Adjusted R²	0.063			
F-value	113			
P	0.00			
Panel C				
Constant	0.099	6.639	0.00	
NI	0.291	43.32	0.00	1.06
OCI	0.008	12.430	0.730	1.247
Adjusted R²	0.085			
F-value	77.3			
P	0.00			

Note: CFO_{it+1} = the operating cash flows for firm (i) in year (t+1) are adjusted based on the number of common shares outstanding. The annual net income for firm (i) in year (t) is adjusted by the number of common shares outstanding. The total comprehensive income for firm (i) in year (t) is adjusted based on the number of common shares outstanding. OCI represents the overall other comprehensive income for company (i) in year (t), which is modified to account for the number of common shares that are currently in circulation.

5. DISCUSSION

The correlation and the regression results from the previous section show that there is sufficient empirical evidence supporting the superiority of *net income* over *comprehensive income* in predicting future earnings and future cash flows. This conclusion is supported by two empirical findings: in all regressions the reported adjusted R^2 associated with NI model is substantially larger than that of the CI model and the regression coefficient on NI is substantially higher than that of CI. And this result is consistent across the alternative measures of future performance measure used. Overall, the results support *H1a* and *H1b*.

These results are having similarity with the hypothesis of the research findingss and with prior studies' findings (Goncharov & Hodgson, 2011; Jones & Smith, 2011; Kanagaretnam et al., 2009; Kanagaretnam et al., 2009; Jone & Smith 2011; Goncharov & Hodgson, 2011; Kusuma, 2021) that provide evidence indicating that NI is more useful than CI in predicting future earnings and cash flow. The results of this of study are also in line with prior studies' findings (Dhaliwal et al., 1999; Kanagaretnam et al., 2009; Kubota et al., 2011; Mechelli & Cimini, 2014; Elshamy et al., 2019) which report evidence indicating that NI is more associated with firm value than CI or at least, failed for providing evidence support the superiority of CI over NI. It is also consistent with argument that the reporting of OCI is not likely to enhance the predictability of CI over NI. Skinner (1999) question whether OCI components have implication for the firm's future operating performance. For example, one of the major components of OCI is the unrealized gain or loss on available for securities investments. Past value changes in this portfolio have no implication for future changes in prices because these changes (unrealized gain or loss) are completely transitory. Skinner (1999) posits that additional significant elements within the context of OCI encompass the gains or losses associated with minimum pension liabilities and foreign currency translation adjustments. Nevertheless, these accounting adjustments are often regarded as complex to comprehend from an economic standpoint. Consequently, discerning analysts frequently opt to disregard these factors when formulating forecasts pertaining to forthcoming earnings and cash flows.

6. CONCLUSION

This study examines empirically the usefulness of net income vs. comprehensive income in predicting firm future performance. Two accounting-based measures of performance are used; next year's NI and next year's cash flow from potation. The study employs correlations and regression analysis to test the study's predictions. Empirical findings indicate that both NI and CI are useful in predicting future performance. Correlation and regression results indicate that NI and CI are positively and significantly associated with the two performance measures.

The findings also indicate that NI is more useful in predicting future earnings and future cash flows than the CI. This conclusion is supported by two findings: First, the magnitude of correlation and regression coefficients on NI are higher than those of CI. Second, the adjusted R^2 for the NI models are substantially larger than those of the CI models. This result, which hold across the alternative measures of future performance, is associated with the predictions of the research findings and prior studies' findings (see for example, Goncharov & Hodgson, 2011; Jones & Smith, 2011; Kanagaretnam et al., 2009) which provide evidence supporting the superiority of NI over CI in predicting future firm's future NI and CFO.

Aside from the major findings of this study, the study reports higher standard deviation for CI than NI, confirming the prior belief that CI tends to be more volatile than NI due to transitory nature of OCI components. Furthermore, empirical evidence indicts that NI income outperforms CFO in predicting future cash flows, a result which confirms early studies findings in this regard (e.g., Dhaliwal et al., 1999; Goncharov & Hodgson, 2011).

This study has implications for the users of financial statements and helps them to choose the right figures as input to predict future performance, and therefore helps in assessing the investment decisions, lending decisions, and other decisions that relies on the future performance of the company. In addition, this study provides an input to the regulatory bodies in Jordan regarding the addition of OCI components and the classification of special items that have not been regulated in accounting standards.

Although the sample time covers an important time after the financial crises of 2008, it is not extended to include the years affected by COVID-19 pandemic. This represents a limitation to the study. However, the results can hold over COVID-19 period because both the sample time and the time of COVID-19 is characterized by decline in firm performance (Shen et al., 2020). This study presents a potential avenue for future investigation. In subsequent investigations, scholars may explore the potential influence of confidence intervals (CI) and overconfidence intervals (OCI) on the precision of analysts' predictions. There remains considerable untapped research potential within this domain, particularly in the context of emerging markets. This study would make a valuable contribution to the current body of literature on the relevance of value. Subsequently, future investigations may delve into the predictability and significance of specific constituents within the organisational culture inventory (OCI), while also ascertaining whether the utility of such information varies across distinct OCI elements. Furthermore, it would be advantageous for future research endeavours to investigate the potential of utilising financial ratios derived from comprehensive income (CI) as opposed to net income (NI) for the purpose of forecasting financial performance and bankruptcy.

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