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Net income, other comprehensive income & total comprehensive income on firm valuation in the Philippines

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Abstract: IAS 1, *Presentation of Financial Statements,* requires the presentation of comprehensive income on the face of the financial statements. The requirement made the statement of income to be more useful by presenting the total comprehensive income - the sum of net income and changes in other comprehensive income. This now provides dilemma to users of financial statements in which income item to be used in their analysis. This paper aimed to determine whether the net income, other comprehensive income and total comprehensive income (independent variables) significantly affect firm value (dependent variable) among 44 publicly-listed industrial companies for the periods 2014-2016. The data about firm value were extracted from the Global Security Prices in Compustat database while the income figures were from the firm's respective financial statements from Philippine Stock Exchange. Fixed-effect panel data regression was used to observe the behavior of the variables. The results showed that none of the income figures were significantly related to the firm value. The result for other comprehensive income and total comprehensive income is consistent with previous literature while for net income, it is in contrary with literature telling that net income is directly associated in the determination of firm value. However, other literature about firm value concluded that there are other factors that drive firm value and such literature support the result of this study.

Key Words: Net income; Other comprehensive income; Comprehensive income; Firm value

1. INTRODUCTION

For many years, accounting information served as a language of business which connects business processes, transactions and results to their users. Users of the accounting information (investors, creditors, suppliers, regulators, employees and the general public) are interested about an entity's ability to operate on a going concern assumption with emphasis on its performance during a certain period of time. Historically, results of company's operation was solely measured by reference with net income.

In June 1996, the Financial Accounting Standards Board (FASB) has released an exposure draft of Statement of Financial Accounting Standard (SFAS) 130 entitled Reporting Comprehensive income. This accounting standard officially required the preparation of statement of comprehensive income which presents total comprehensive income on top of the traditional net income. Currently, SFAS is no longer in used in the Philippines since the adoption of IFRS in 2005. However, IFRS still requires a similar statement of comprehensive income found in IAS 1, Presentation of Financial Statements *(par. 81A - 105)*.

2.REVIEW OF RELATED LITERATURE

2.1 Net income

Net income is an accounting figure that denotes how much the company has earned in any given year. For a long-time, analysts of financial statements have been using this amount to determine if a firm is operating well and worth to be invested for primarily because earnings proved to provide value relevance together with book value. In US, the value relevance of earnings and book values maintained a stable increasing pattern and did not decline (Clout & Willett, 2016). They have noted though, that value relevance of losses is lower than in profits. Gaio and Raposo, (2010) proved that net income or earnings quality has a positive and significant relationship with firm valuation. Aside from the bare amount of earnings,

its pattern are also significant in determination of market price of stocks. A firm with increasing pattern of earnings has increasing price-earnings multiple compared to other firms (Barth, Elliott, & Finn, 1999). This explains why a lot of traders and investors are waiting for the release of the audited net income of companies which they plan to invest into.

But for Ball & Brown (1968), net income appears to be "meaningless" because this an aggregation of components that are not homogenous. Not homogenous in the sense that items reported in net income are result of different accounting methods for different transactions which includes and not limited to mergers & consolidations, leases, research & development, price-level changes and taxation. Moreover, annual net income is not timely because 85% to 90% of its content is captured already in the interim reports (Ball & Brown, 1968). However, the market is not looking to other sources that is more promptly than the annual net income figure (Ball & Brown, 1968). This is because net income is better is better predictor of future net income (Kanagaretnam et al., 2009).

2.2 Other comprehensive income

Other comprehensive income (IAS1) comprises items of income and expenses that are not recognized in profit or loss as required or permitted by other IFRSs. This include changes in revaluation surplus, remeasurements in defined benefit plan, gains and losses from translating the financial statements of foreign operation, unrealized gain or loss from changes in fair value of financial assets at fair value through other comprehensive income (formerly available-for-sale securities), etc.

In the old setting, companies have flexibility to present other comprehensive income items. Some present it in item by item while some in aggregate with details in the notes to financial statements (Smith et al., 1996). Thus, financial statement users criticized the previous reporting standard of other comprehensive income lacking uniformity between and among different companies (Bhamornsiri & Wiggins, 2001). In order for the investors to assess the effect of those decisions made, changes to these items were included as part of the financial performance measures (Smith et al., 1996). For these reasons, SFAS 130 took effect leading to easier comparability of performance among companies (Smith et al., 1996).

In a study of usefulness of comprehensive income reporting in Canada, Kanagaretnam et al., (2009) found that of all items of other comprehensive income, unrealized changes in fair value of FVOCI investments and cash flow hedge derivatives are significantly associated in the determination of stock prices and return.

2.3 Total comprehensive income

Total comprehensive income is the change in equity during a period resulting from transactions and other events, other than those changes resulting from transactions with owners in their capacity as owners. Hence, comprehensive income is broader than net income as the former includes all items affecting the firm's equity except those transactions with owners in their capacity as owners (Bhamornsiri & Wiggins, 2001).

The study made by Dhaliwal et al., (1999) on measuring firm performance using comprehensive income and net income showed that that the former has no clear evidence of being strongly associated with returns and performance. Moreove, it was documented that comprehensive income predicts future operating cash flows worse than net income. On the other hand, Maines & Mcdaniel, (2000) found that the judgment of nonprofessional investors about the corporate and management performance of a company shows the volatility of comprehensive income only when it is presented in statement of comprehensive income (than in statement of changes in equity only).

Cheng et al., (1993) studied the usefulness of three income items namely; operating income, net income and comprehensive income, and their effect on security returns. The study revealed that operating income dominates net income while both operating income and net income dominates comprehensive income. Furthermore, difference between net income and operating income has incremental relevant information while difference between net income and comprehensive income does not have.

2.4 Effect of presenting other comprehensive income and comprehensive income

The requirement of presenting comprehensive income has brought changes on how users view the financial statements. A firm may have reported a net loss during a year but may report a total net increase in the total equity because of positive change in other comprehensive income items. Also, prior studies have been made on exploring the possibility of using comprehensive income in the calculation of firm's earnings per share instead of net income and see whether different results will be achieved. One is the study of Bhamornsiri & Wiggins, (2001) which examined financial statements of S&P 100 companies for fiscal years 1997-1999 consisting of manufacturing, transportation, retail, trade, finance, services, mining and construction. Their paper documented the changes in EPS if comprehensive income will be used instead of net income. The results shown that there were 60 companies negatively affected and 35 affected positively. Given 10% materiality threshold, 46 companies were materially affected (captured exhibit 5). The study revealed that some companies' EPS change more than 100% after including other comprehensive income.

Another effect is that the face of financial statements provides more meaningful information on top of net income. Biddle & Choi, (2006) found that disclosing items of other comprehensive income is useful. Reporting other comprehensive income enhances transparency of financial statements and provides more relevant accounting information than net income alone (Kanagaretnam et al., 2009).

2.5 Firm value and valuation

Firm value is the measure of company's total economic value. Various researchers made studies about the factors that drives the value of the firm. Earnings management, as one of these factors, concluded that when management is entrenched, earnings management has a negative impact on the value of the firms (Di Meo, García Lara, & Surroca, 2017).

Another factor that drives the value of the firm found in the literature is being risk-taker. Imhof & Seavey, (2014) noted that prior research is suggest that there is a positive relationship between firm value and the firm being a risk-taker.

Some companies involve themselves with different corporate social responsibility not only to extend help to society but also to improve the external image of the company in the eyes of the public. Thus, providing high earnings and firm valuation (Gao & Zhang, 2015).

For the purpose of this paper, we used the market value of the firm's stock price to measure firm value as used in previous studies. (Cahan et al. 2000; Chang, Hsiao, Tsai 2013.pdf," n.d.; Clout & Willett, 2016; Feltham, Gerald A., Ohlson, 1995; Imhof & Seavey, 2014; Stark, 1997).

2.6 Results from prior researches

This study was conducted to determine which among net income, other comprehensive income and total comprehensive income provides a valuable impact on firm valuation. According to Ball & Brown, (1968), income numbers are useful if upon release of the income report, stock prices are changing significantly. In a study made by Bhamornsiri & Wiggins, (2001) about comprehensive income disclosures, a number of companies negatively affected by other comprehensive income is greater than those affected positively. Thus, EPS as one of the key performance measure is also affected. Analysts relying on EPS or net income might have come up with different decisions and conclusions if they will include other comprehensive income in their analysis. Dhaliwal et al., (1999), on the other hand, found that comprehensive income is less strongly associated with the determination of market value of equity and supported by Cahan et al., (2000) who found that other comprehensive income items does not provide additional relevant information above net income. However, both of their results are in contrast with Kanagaretnam et al., (2009), which conclude that aggregate comprehensive income is significantly associated to stock prices and returns than the net income.

The existing literature for comprehensive income includes an evaluation of comprehensive income disclosures (Bhamornsiri & Wiggins, 2001), the effect of reporting it (Smith et al., 1996) as well as effect to nonprofessional investors' judgment (Maines & Mcdaniel, 2000). The usefulness of

comprehensive income in general (Kanagaretnam, Mathieu, & Shehata, 2009) and as compared to net income and operating income in explaining stock returns (Cheng, Cheung, & Gopalakrishnan, 1993) was also studied. Dhaliwal, Subramanyam, & Trezevant (1999) on the other hand determined whether comprehensive income was superior to net income. Other comprehensive income was compared to special income or expense items in terms of value relevance, predictive value and persistence (Jones & Smith, 2011) while Cahan, Courtenay, Gronewoller and Upton (2000) studied the value relevance of other comprehensive income items individually.

As observed, most of these studies are conducted in other countries. A local study about the effects of net income, comprehensive income and other comprehensive income on firm valuation is yet to be published in the country.

3. METHODOLOGY

3.1 Data gathering

This paper analyzed the effect of net income, other comprehensive income and total comprehensive income over the firm value. The income numbers are extracted directly from the audited financial statements of all publicly-listed industrial companies in the Philippines as filed in the Philippine Stock Exchange (PSE). The study covered the periods 2014-2016 to have the most updated effect of income numbers over the firm value.

The firm value for each entity measured using the average market value of the firm's stock price from April 15th to April 30th following the end of accounting period because audited financial statements in the Philippines are normally filed to PSE in this particular period. The public is expected to react upon the availability of the information filed. Thus, this period shows the true firm value as affected by income figures.

The market value was computed by multiplying the outstanding shares as of the end of accounting periods by the average stock price. The number of outstanding shares and stock price from April 15th to April 30th following the end of accounting periods were generated from the Compustat Global Security Daily found in Wharton Research Data Services.

3.2 Research model

Since the data involved consists of cross-sectional and time series, panel data regression was used to observe the behavior of the variables over time. We followed the regression model used by Dhaliwal et al., (1999) in determining which is superior between net income and comprehensive income as measure of firm performance. The model used was be modified by changing the dependent variable from firm performance to firm value and adding another variable - other comprehensive income. This is also similar to the model used by Cahan (2000) is determining the value relevance of each other comprehensive income items to stock price. Hence, the model used is shown below:

$$MV_{it} = \alpha_i + \beta_1 NI_{it} + \beta_2 OCI_{it} + \beta_3 TCI_{it} + \varepsilon_{it}$$

Where MV_{it} is the market value of the firm's stock at a given time, $\beta_1 NI_{it}$ is the net income at time $_t$, $\beta_2 OCI_{it}$ is the other comprehensive income at time $_t$, and $\beta_3 TCI_{it}$ is the total comprehensive income at time $_t$.

4. RESULTS & DISCUSSION

Table 1 provides a summary of 132 observations before log transformation for each variable named market value (marketvalue/MVLog), net income (netincome/NILog), other comprehensive income (othercomp~e/OCILog) and total comprehensive income (comprehens~e/TCILog). The average market value of all the observations was P47,869 million with P264 million and P475,283 million as minimum and maximum value. The income figures were so stretched that the minimum values were expressed in negative amount or called loss. For this reason, the amounts are logged and the logged amounts are used in regression (see Table 2.)

Table 1
Descriptive statistics before log transformation

VAR	Obs	Mean	Std. Dev.	Min	Max
MV	132	47.87	86.64	2.657	4752.8
NI	132	2.957	6.912	-0.848	52.240
OCI	132	-0.130	1.186	-8.152	3.233
TCI	132	2.827	6.852	-1.749	55.190

Table 2
Descriptive statistics

VAR	Obs	Mean	Std. Dev.	Min	Max
MVlog	132	9.3514	1.838	5.5786	13.072
NIlog	132	7.4513	1.197	0.8325	10.880
OCIlog	132	8.9358	0.623	2.0794	9.3107
TCIlog	132	7.9200	1.054	0	10.950

Before performing panel regression, the variables were tested for multicollinearity. The result of the test (see Table 3) showed that all of the variables were below the threshold, thus, no multicollinearity exist.

Table 3
Test for Multicollinearity

Variable	VIF	1/VIF
NILog	1.81	0.553969
TCILog	1.72	0.852615
OCILog	1.07	0.936318
Mean VIF	1.53	

To determine whether fixed effect or random effect was to be used in panel regression, the Hauman test was used (see Table 4). The result of Hausman test showed that Prob > chi2 is less than 0.05 (significant) which means that time-invariant characteristics does not causes of the dependent variable, market value. Hence, fixed-income effect is used.

Table 4
Hausman Test

VAR	(b) re	(B) fixed	(b-B) Difference	Sqrt(diag(v_b-v_B)) S.E.
NILog	.0985	.0066	.9196	.023607
OCILog	.0186	.0400	-.021	.026774
TCILog	.0247	.0063	.0184	.0215029

Chi2(3) = (b-B)'[(v_b-v_B)^(-1)](b-B)
Prob>chi2 = 0.0000

The panel regression using fixed income effects (see Table 5) showed that for the periods 2014-2016, none of the income figures appeared to be significantly associated in the determination of value of the firm with p-values of more than 0.05 for all independent variables.

Table 5
Fixed income effects

MVLog	Coef.	Std Err	t-value	p-value
NILog	0.00658	0.05905	0.11	0.911
OCILog	0.03999	0.05549	0.72	0.473
TCILog	0.00631	0.04504	.014	0.889

The result for net income is contrary with previous literature which concluded that high income or earnings provides high firm valuation (Gao & Zhang, 2015) and a firm with increasing pattern of income has increasing price-earnings multiple compared to other firms (Barth et al., 1999).

For total comprehensive income and other comprehensive income, the result is consistent with the study of Dhaliwal et al., (1999) who found that comprehensive income is less strongly associated with the determination of market value. This is also supported by Cahan et al., (2000) who noted that other comprehensive income items does not provide additional relevant information above net income.

These findings tell us that profitability does not always drive a firm's value as there are other factors like earnings management (Di Meo, et. al., 2017); forecast of initial public offering ((Buchner et. al, 2017); firms seeking to be acquired (Anagnostopoulou & Tsekrekos, 2015); being risk taker (Imhof & Seavey, 2014); corporate social responsibility (Gao & Zhang, 2015); etc. These factors collectively affect valuation.

5. CONCLUSION

This study was made to determine if different income figures such as net income, other comprehensive income and total comprehensive income have a significant effect on firm valuation. This has been made to see whether the requirement of IAS 1 to present other comprehensive income and total comprehensive income in the statement of comprehensive income has an impact that affects valuation of the firm. The researchers used the income figures presented in the respective financial statements of each industrial publicly-listed company in Philippines while the firm value was measured using the market price of each shares of stock outstanding after the announcement of audited income amounts.

The results of the panel regression showed that none of the income figures were significantly related to the firm value.

In relation to the result, the researchers recommend that users not only rely and limit their evaluation of a company to the financial reports but also consider other non-financial factors like earnings management (Di Meo, et. al., 2017); forecast of initial public offering ((Buchner et. al, 2017); firms seeking to be acquired (Anagnostopoulou & Tsekrekos, 2015); being risk taker (Imhof & Seavey, 2014); corporate social responsibility (Gao & Zhang, 2015); etc.. The analysis of this other factors affecting firm valuation provides are for further research if analyzed collectively. In addition, the researchers urge the standard setting bodies to revisit the requirement of presenting comprehensive income as this may seem not too relevant for user's evaluation.

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7. REFERENCES

Anagnostopoulou, S. C., & Tsekrekos, A. E. (2015). Earnings management in firms seeking to be acquired. *British Accounting Review*, *47*(4), 351–375.

Ball, R., & Brown, P. (1968). An Empirical Evaluation of Accounting Income Numbers Author (s): Ray Ball and Philip Brown Published by : Blackwell Publishing on behalf of The Institute of Professional Accounting , Graduate School of Business , University of Chicago Stable URL : http: *Journal of Accounting Research*, *6*(2), 159–178.

Barth, M. E., Elliott, J. A., & Finn, M. W. (1999). Market Rewards Associated with Patterns of Increasing Earnings. *Journal of Accounting Research*, *37*(2), 387.

Bhamornsiri, S., & Wiggins, C. (2001). Comprehensive Income Disclosures. *The CPA Journal*, (October), 54–56.

Biddle, G. C., & Choi, J.-H. (2006). Is Comprehensive Income Useful? *Journal of Contemporary Accounting & Economics*, *2*(1), 1–32.

Cahan, S. F., Courtenay, S. M., Gronewoller, P. L., & Upton, D. R. (2000). Discussion of value relevance of mandated comprehensive income disclosures. *Journal of Business Finance and Accounting*, *27*(9–10), 1303–1309.

Chang, Hsiao, Tsai 2013.pdf. (n.d.).

Cheng, C. S. A., Cheung, J. K., & Gopalakrishnan, V. (1993). On the Usefulness of Operating Income, Net Income and Comprehensive Income in Explaining Security Returns. *Accounting and Business Research*, *23*(91), 195–203.

Clout, V. J., & Willett, R. J. (2016). Earnings in firm valuation and their value relevance. *Journal of Contemporary Accounting and Economics*, *12*(3), 223–240.

Dhaliwal, D., Subramanyam, K. R., & Trezevant, R. (1999). Is comprehensive income superior to net income as a measure of firm performance? *Journal of Accounting and Economics*, *26*(1–3), 43–67.

Di Meo, F., García Lara, J. M., & Surroca, J. A. (2017). Managerial entrenchment and earnings management. *Journal of Accounting and Public Policy*, *36*(5), 399–414.

Feltham, Gerald A., Ohlson, J. A. (1995). Valuation and clean surplus accounting for operating and fin.

Gaio, C. & Raposo, C. (2010). Earnings quality and firm valuation: International evidence. *Accounting and Finance*

Gao, L., & Zhang, J. H. (2015). Firms' earnings smoothing, corporate social responsibility, and valuation. *Journal of Corporate Finance*, *32*, 108–127.

Imhof, M. J., & Seavey, S. E. (2014). Corporate risk-taking, firm value and high levels of managerial earnings forecasts. *Advances in Accounting*, *30*(2), 328–337.

Jones, D. A., & Smith, K. J. (2011). Comparing the

value relevance, predictive value, and persistence of other comprehensive income and special items. *Accounting Review*, *86*(6), 2047–2073.

Kanagaretnam, K., Mathieu, R., & Shehata, M. (2009). Usefulness of comprehensive income reporting in Canada. *Journal of Accounting and Public Policy*, *28*(4), 349–365.

Maines, L. a, & Mcdaniel, L. S. (2000). Effects of Comprehensive- Nonprofessional Judgments : Characteristics on Investors â€™ The Role of Financial-Statem Presentation Format. *The Accounting Review*, *75*(2), 179–207.

Smith, P. A., Reither, C. L., Smith, P. A., & Reither, C. L. (1996). Comprehensive Income and the Effect of Reporting It Comprehensive Income and the Effect of Reporting It, *52*(6), 14–19.

Stark, A. W. (1997). Linear Information Dynamics, Dividend Irrelevance, Corporate Valuation and the Clean Surplus Relationship. *Accounting and Business Research*, *27*(3), 219–228.