AGENCY COST OF TYPE I AND ACCOUNTING NUMBERS IN AUSTRALIA AND INDIA

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Abstract

This paper has as objective to assess the agency cost of type I on the value relevance of accounting numbers (earnings and book value) for all listed firms in the manufacturing, retailing and service industries in Australia and India from 2005 to 2012 using the modified version of the Ohlson' model in Faud and Mohd, (2008) where price is express as a linear function of earnings, book value and various accounting numbers. As predicted, the results show that both earnings and book value are value relevance for the manufacturing, retailing and servicing industry in Australia and India. The presence of the free cash flow agency problem caused the value relevance of earnings and book value to decline in Australia and India. However, the effect is not stable across the difference industries. The results show that in the manufacturing industry, the effect caused by the free cash flow agency problem is relatively higher for Australia and India than in the retail and service industries. As a result, the firms in the manufacturing with free cash flow agency problem have lower earnings (book value) coefficients than those without free cash flow agency problem.

Keywords: Free cash flow, agency cost of Type I, Earnings, Book value, Stock price
JEL Classification: G1, G38, G32

1. INTRODUCTION

Competition in the capital markets have been the core source of driving share prices towards minimum average cost in an activity (Cheng et al., 2005; Kothari and Zimmerman, 1995; Thomas and Zhang, 2002). Thus, the results of these studies suggest that managers must therefore motivate their organizations to increase efficiency so as to enhance the problem of survival. Contrary to capital market disciplinary forces are often weaker in new activities and activities that involve substantial economic rents or quasi. In such scenario, monitoring of firm´s financial statements have become a crucial source of relevant information to investors and financial analyst (Godfrey et al., 2006).

As a matter of fact, stakeholders depend highly on financial report to assess managers´ stewardship responsibilities, investors' decisions and their earnings. In effect, the payout of cash to shareholders creates a major conflict that has received little attention (Jensen, 1986; Myers and Majluf, 1984). This payout to shareholders reduces the resources under manager's control: reducing manager's power and making it more likely that they will incur the monitoring of the capital market when the firm must obtain new capital (Rozeff, 1982; Cheng et al, 2005). And as such, financial project internally avoids this monitoring and the possibility the funds will be unavailable or available only at high explicit prices. This conflict becomes more complex as a firm grows globally (Kothari et al, 2006). Thus, the demand for accounting subculture causes difference in accounting principles between countries which have widen the conflict between shareholders and managers (Godfrey et al., 2006; Hofstede 1980; Gray, 1988).

In the first place, the fundamental objective of a business is to increase real shareholder value, (Jensen, 1986), this means increasing the net present value (NPV) of the future stream of free cash flows. He believed that free cash flow is the cash flow available to the company's suppliers of equity capital after all operating expenses and principal repayment have been paid, and necesIndiary investments into short-term assets and long-term assets have been made. Jensen identifies free cash flow as a major source of agency problems. He argued that shareholder desire free cash flow to be release in the form of dividend while managers believe that could grow their managerial strength by investing it in an alternative venue. That's managers think that investing the pay-outs to shareholder in an alternative venue will causes the firm to grow. Thus, increase in growth will enable manager to gain more control over the resources.

Also, Chung, Firth and Kim, (2005) find out that the agency problem increase when managers earned personal benefits or rewards from activities and projects that are self-gratifying. Gul and Tsui, (1998) argued since the existence of agency problem for firms with high FCF and low growth opportunity is high, auditors may react by judging those firms as having higher probability of misstatements as requiring bigger effort and as such there exist a positive association between FCF agency problem and audit fees. They concluded that most firms with such characteristics using income discretionary accruals to inflate reported earnings.

In Jensen's world, he believes that bad managers use income discretionary accruals method to deflate reported income and invest the excess of cash flow in projects with marginal or negative NPV, while good managers are those who redistribute the excess of cash flow to shareholders as dividend. Chen and Zhiguo, (2012) argued that investment behaviour and enterprise financial pressure are often influence by the presence of excess of free cash flow. They added that free cash flow is responsible for strengthening the tendency of managers engaging in risky behaviour, thus, increase the controllable resources of internal management and enable them to get personal interest for over-investment behaviour. Consequently, companies with sufficient free cash flow and increased desirability of management investing in other business activity will enhance the agency problem.

As in Fuad and Mohd, (2008), this paper assumes that the presence of agency problem is when a firm has high free cash flow and low growth opportunities. Investors will react aversely to firms' market price when there is excess of free cash flow and low growth opportunities. This study examines principally the FCF agency problems and the value relevance of accounting information using a modified version of the Ohlson's, (1995) model assumed in Fuad and Mohd, (2008) where stock price is identified as a linear function of earnings, book value of equity and various accounting numbers under the IFRS. It also checks if there exist any systematic differences among investors decision on share price given the FCF agency problems across manufacturing, retailing and service industries across Australia and India.

This paper is organized as follows. Section II discusses our literature review. Hypothesis development, data collection and empirical model are discussed in section III. In section IV, we present the result of the empirical analysis and in section V we conclude. With respect to the contribution, it attempts to provide new insights to the exiting theory by investigating the value relevance of accounting information in the context of the FCF agency problem.

2. LITERATURE REVIEW

2.1. Value Relevance of Accounting Numbers

Barth, Beaver, and Landman, (2001) argued that value relevance researches are formulated to examine whether particular accounting number reflect information that is used by investors in valuing firms' equity. Especially, financial statements are Indiaid to be value relevance if they are associated with equity prices, values or returns (Faud and Mohd, page 77, 2008).

Under the clean surplus based valuation framework of Ohlson (1995), book value provides an anchor role in valuation by measuring the net assets of the firm that generate future "normal" earnings (also in Penman et al, 2002; Penman, 1996; Easton, Harris and Ohlson, 1992; and Collins, Pincus and Xie, 1999, Lious et al., 2015). Ohlson, (1995) developed a valuation framework wherein book value plays an integral role in valuation. Using the clean surplus relation, Ohlson reformulated the dividend discount model by expressing price as the sum of book value and the present value of expected future abnormal earnings. In this framework, the role for book value is mechanically determined and does not depend upon the stochastic (or informational) properties of accounting data. Rather, book value plays an anchor role in valuation by representing the stock of resources that generates future normal earnings that are expected to persist forever into future.

Some empirical researchers have suggested that book value measures the net realizable of firm´s assets which assumes prominence in the event of firm´s liquidation or when firms are in financial distress (Barth et al., 1997; Berger et al., 1996). Another explanation for the value relevance of book value is that it reflects the liquidation value of a firm especially when a firm is in financial distress (see Barth, Beaver and Landsman, 1997 and Berger, Ofek and Swary, 1996). The origins of this idea comes from the "liquidation option" proposed by Hayn (1995) wherein shareholders are expected to liquidate a firm if the liquidation value of its assets exceeds the value-in-use. Under this framework, book value which reflects the net realizable value of a firm's assets will become value relevant when a firm's liquidation probability is high. Barth, Beaver and Landsman, (1999) provided evidence that is consistent with this claim. Indeed, Burgstahler and Dichev, (2001) argued that book value may be relevant for valuation when the firms' net assets are likely to be adapted to superior alternative use.

Heckel and Livnat, (1992) provided specific shortcomings and limitations that involve earnings approach for investment purposes. They indicated that earnings are subject to managerial discretion such as having some latitude in applying accounting standards to their specific situation. Firms may have different approaches to revenue recognition, expense recognition and the allocation of costs across periods. Some firms estimate the depreciation expense by predicting the useful lives of depreciable assets and their Indialvage values. These estimates can contain errors and furthermore, when firms update their estimates of useful lives of fixed assets the result can be an increase or decrease in earnings (Hackel and Livnat, 1992).

Equally, the findings of Lev's, (1989) study have supported that the earnings relation shows considerable instability over time, meaning that the usefulness of quarterly and annual earnings to investors is very limited. This evidence is also supported by the low correlation between earnings and returns. Lev has showed that earnings have low information content because of the discretion of managers regarding the valuation principles, the accounting measurement, and the manipulation of earnings. Jennings et al., (2001) illustrated that earnings excluding goodwill amortization are more useful as an indicator of share value than earnings including goodwill amortization. Consequently, Moehrle et al., (2001) added that informative earnings excluding goodwill amortization are compared to the traditional measures of earnings before extraordinary items and cash flow from operations. The result of this study suggests that both earnings measures are equally informative, and

have more information value than cash flow from operations.

Manzano et al., (2014) employed empirically analysis to investigate whether a change from the Mexico GAAP to the International financial Reporting Standards has an effect on earnings management. Using Sample of non-financial firm listed on the Mexican Stock Exchange (BMV) over 1997 to 2009, affirmed that there was lower earnings management associated with firms that prepared the financial statement according to the new accounting regulations. According these authors, Mexican companies with Big 4 auditors have higher quality of accounting information and thus, the new accounting standard are sufficient and effective in countries with weaker investor protection rights.

On the other hand, a number of reasons have been accounted for the apparent decline in the value relevance of earnings. Possible reasons for this include the arbitrary nature of the accounting techniques used to measure earnings, manipulation of earnings figures by management and the raise of the reliability and relevance of book values (Collins et al., 1997; Francis and Oswald, 2000). Most research in value-relevance of earning and book value has predominantly used data from the GAAP, and no study have provided recently evident under the IFRSs adoption across countries. The use of the mandatory IFRS adoption across countries in this study will provides also an opportunity to investigate the generalizability of past results to another market using difference accounting standards. Using the price model assumed in Ohlson, it is expected that both earnings and book value-relevant as indicated by a positive association with price.

Hypothesis 1 posits that earnings and book values exhibit strong and positive interaction on share prices across Australia and India.

Hypothesis 2 posits that earnings and book values exhibit strong and positive interaction on share prices across manufacturing, retail and service industries.

2.2. FCF Agency Problem and Accounting Numbers

Following Gul, (2001), it is evident that managers with excess of cash flow and low growth opportunities are most likely to engage in risky behaviour pattern in the absent of any disciplinary measure such as paying off debts and redistribution of dividend. Meanwhile, Wu, (2004) reported that even when investments cannot maximise shareholders' wealth, managers are willing to invest as long as in order to gain more prestige being manager in big firms and gain control over resources.

Chen and Zhiguo, (2012) argued that investment behaviour and enterprise financial pressure are often influence by the presence of excess of free cash flow. They added that free cash flow is responsible for strengthening the tendency of managers engaging in risky behaviour, thus, increase the controllable resources of internal management and enable them to get personal interest for over-investment behaviour. Consequently, companies with sufficient free cash flow and increased desirability of management investing in other business activity will enhance the agency problem. Jensen, (1986) added that the tendency of managers of high FCF and low growth opportunity firms to invest in marginal or even negative NPV can enlarge agency problem by creating shareholder's non-wealth-maximizing investment. Non-wealth-maximizing investments eventually could result in lower stock prices and may trigger shareholder actions to remove directors and senior executives. Chung et al., (2005) further claimed that companies with high FCF and low growth opportunity tended to use income-increasing discretionary accruals to increase reported earnings.

In a similar spirit, Gul and Tsui, (1998) found that there exists an association between FCF agency problem and audit fees. That's managers of firms with high free cash flow and low growth opportunities masked non-optimal expenditures by accounting manipulation and auditors responded to the higher probability of accounting misstatements or irregularities by exerting greater audit effort and thus charging higher audit fees. Gul, (2001) concluded that managers of firms with high free cash flow and low growth opportunities are trapped with agency problem in the sense that they tend to invest the excess cash in alternative venue that result to marginal or negative NPV and generally claimed as acting on the behalf of shareholders' interest. Managers' choice to increase reported earnings resulting from FCF agency problem through earnings management may affect the value relevance of accounting information.

In the light of Myers and Majluf, free cash flows will be retained in a form where they are readily accessible; i.e. as cash or short-term financial assets. Management would be willing to store the excess free cash flow in these assets despite their low returns because of their ease of recover ability. From an empirical perspective, both the Jensen and Myers and Majluf approaches suggest a similar behaviour pattern; i.e. managers do not distribute free cash flows but rather invest/hoard them in alternative venues. Given the identical outcome, distinguishing the underlying motivation from the behaviour pattern itself is not always feasible.

Lastly, Teoh et al., (1998a; 1998b) show that firms with income-increasing abnormal accrual in the year of a seasoned equity offer had significant subsequent stock underperformance. This is because prior to public equity offers, some managers inflate reported earnings in an attempt to increase investors' expectations about future performance and subsequently would increase the offer price. As firms with high FCF agency problem have the tendency to camouflage their reported earnings, the market negatively reacts to this information when it is known. Therefore the value relevance of earning and book value may be less for firms with FCF agency problems compared to firms without such problem.

Hypothesis 3 posits that earnings and book values relation with share prices is weaker for firms with free cash flow agency problem across countries such as such as Australia and India.

Hypothesis 4 posits that earnings and book values relation with share prices is weaker for firms with free cash flow agency problem across manufacturing, retail and service industries.

3. METHODOLOGY

3.1. Data

We Sampled all firms in *COMPUSTAT* over the period 2005 to 2012 with sufficient data available to calculate the *COMPUSTAT*-based variables for every firm-year. We identify 2 countries with mandatory IFRS in 2005 such as Australia and India. We eliminate firms in regulated industries (SIC codes between 4400 and 4999) and banks and financial institutions (SIC codes between 6000 and 65000). We took the Sample media of firm's free cash flow for every year and compared it with the firm's price to book ratio. Any firm's free cash flow below the price to book ratio and above the Sample median is characterized of having free cash flow agency problem. This control was necesIndiary in order to check agency problem associate with high free cash flow. Firm with free cash flow agency problem were identified with a dummy variable 1 (have high FCFS but low growth opportunity) and 0 otherwise. Growth opportunity is proxied by the price to book ratio. High PBR indicate that investors expect firm facing high growth opportunity (Faud and Mohd, 2008 and Lious et al., 2015).

Lastly, in order to avoid the misrepresentation of our result through the concept of extraordinary items, we use earnings before extraordinary and exceptional items. It should be noted that the perceived lack of value relevance earnings can be attributed to the concept of extraordinary items; therefore using earnings before extraordinary items is best for this study.

3.2. Models

The study basically uses the theoretical framework applied in Ohlson, (1995) and Feltham and Ohlson, (1995) to develop and test whether accounting numbers reflect information that is used by investors in firms' equity valuation. That is, it tests the relevance of accounting numbers in firms with free cash flow agency problems. It further takes into consideration the importance of the price model as illustrated in Kothari and Zimmerman (1995) where the slope or earnings response coefficients are substantially less biased in the price model than in the return model. This is due to the fact that current earnings reflect both surprise to the market and stale component that the market had anticipated in an earlier period and therefore are relevant to explain current stock price.

Consistent with Francis and Schipper, (1999) results show that the value relevance of the price model has increased while the value relevance of return model have declined from the period 1952-1994. He concluded that the decline for the return model could be due to increases in the volatility of the market returns during the Sample period. In a similar spirit, Lev and Zarowin, (1999) argued even though book values and earning are value relevant for the period 1977-1996, there is a decline in the value relevance for both the price and return models over the examined period. However, Collins et al. (1997) found that the combined book values and earnings are value-relevant whereas the value relevance of book value and earnings had slightly increased over period using the price model for listed firms from 1953-1993.

Thus, the Ohlson model expresses the value of firm's equity as a function of its earnings and book values as follows:

$$P_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVSP_{it} + \varepsilon_{it} \tag{1}$$

Where:

P_{it} is stock price of firm *i* at balance sheet date (t);

EPS_{it} is the earnings per share of firm *i* during the year (*t*);

$BVPS_{it}$ is the book value per share of firm *i* at the end of year (*t*) and;

ε_{it} is the error term at time t.

Hypotheses 1 and 2 stated that that earnings and book values exhibit strong and positive relation with share price across manufacturing, retail and service industries in Australia and India, thus value-relevant. These hypotheses will be supported when the coefficients β_1 and β_2 are positive and statistically significant.

We follow the modification of the Ohlson model as illustrated in Faud and Mohd, (2008).

Where an additional variable FCFAP is set as a dummy variable equal to 1 if the free cash flow is above the Sample median for the year and the price to book ratio is below the Sample median for the year, otherwise FCFAP is set equal to 0.

The additional variable in the Ohlson model capture the presence of free cash flow agency problem in firms. That is, we labeled firms as 1 when there is the possibility of having a high free cash flow agency problem (those firms with high free cash flow and low growth opportunities) and 0 otherwise. We used price to book ratio as a proxied for growth opportunity since investors expect firm facing high growth opportunity to have high price to book ratio. Thus, the regression model is shown as follows:

$$P_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVSP_{it} + \beta_3 FCFAP_{it} + \beta_4 FCFAP*EPS_{it} + \beta_5 FCFAP*BVSP_{it} + \beta_6 Manufacturing_{it} \tag{2}$$
$$+ \beta_7 Retailing_{it} + \beta_8 Servicing_{it} + \varepsilon_{it}$$

Where:

P_{it} is stock price of firm *i* at balance sheet date (t);

EPS_{it} is the earnings per share of firm *i* during the year *t*;

BVPS$_{it}$ is the book value per share of firm *i* at the end of year *t* and;

FCFAP$_{it}$ is 1 for firm-year with free cash flow agency problem and 0 otherwise. Firm-year with free cash flow agency problem is identified when the free cash flow is above the Sample media for the year and the price to book value ratio is below the Sample median for the year;

FCFAP$_{it}$*EPS$_{it}$ captures the interaction between free cash flow (*FCFAP$_{it}$*) and book value (*EPS$_{it}$);*

FCFAP$_{it}$*BVPS$_{it}$ captures the interaction between free cash flow (*FCFAP$_{it}$*) and book value (*BVPS$_{it}$);*

Manufacturing$_{it}$ captures industry effect of all listed firms in the manufacturing industry

Retail$_{it}$ captures industry effect of all listed firms in the retailing industry

Servicing$_{it}$ captures industry effect of all listed firms in the servicing industry

ε$_{it}$ is the error term at time t.

In equation 2, *β$_1$* and *β$_2$* coefficients represent the value relevance of earnings and book value in the absence of free cash flow agency problem. The coefficient *β$_3$* shows the presence of free cash flow agency problem. Finally, the coefficients *β$_4$* and *β$_5$* show the impact of the free cash flow agency problem on the value relevance of earnings and book value, respectively. It expected that the coefficients *β$_4$* and *β$_5$* to be negative and statistically significant. Therefore, we can conclude that the presence of free cash flow agency problem causes the value relevance of earnings and book value to decline across firms. The coefficients *β$_6$*, *β$_7$* and *β$_8$* represent the industry-specific effect for all listed firms in the manufacturing, retailing and servicing industry.

3.3. Variable Measurement

Free cash flow: According to Chung et al. (2005) and Gul (2001), free cash flow (FCF) can be measure as follows:

$$FCF_{it} = (INC_{it} - TAX_{it} - INTEXP_{it} - PSDIV_{it} - CSDIV_{it})/TA_{it-1} \qquad (3)$$

Where:

FCF is free cash flow

INC is operating income before depreciation;

TAX is total taxes;

INTEXP is interest expense;

PSDIV is preferred stock dividends;

CSDIV is common stock dividends;

TA is total assets at the beginning of the fiscal year.

Growth opportunity: Price to book ratio (PBR) is judged as the best measurement of growth opportunity since it is the difference between market and book value of equity and it reflects the value of the firm's future investment opportunities. Thus, the higher the price-to-book ratio, the greater growth opportunities (Chung et al. 2005; Gul and Tsui, 1998).

PBR$_{it}$ = PRICE$_{it}$ / BVSP$_{it}$

PBR$_{it}$ Price-to-book-ratio of firm *i* during the year *t;*

P$_{it}$ is stock price of firm *i* at balance sheet date (t);

BVPS$_{it}$ is the book value per share of firm *i* at the end of year *t*.

Earnings per share: Earnings before extraordinary items in period t, divided by the total number of share outstanding. Lastly, in order to avoid the misrepresentation of our result through the concept of extraordinary items, we use earnings before extraordinary and exceptional items.

4. EMPIRICAL RESULTS

4.1. Descriptive Statistics

Table 1 shows the descriptive statistics of share price, earnings per share, book value per share, free cash flow and price-to-book ratio for full Sample, free cash flow agency problem firms and other firms across Australia and India from 2005-2012.

The descriptive statistics of the full Sample is reported in Panel A in Table 1 while the FCF agency problem Sample and other firms are reported in Panel B and Panel C, respectively.

In Panel A, the overall mean of price, earnings and book value per share for Australia (India) are 4.206 (1.953), 0.058 (0.718), 2.102 (1.046), respectively. The average of price and book value are higher for Australia compare to those figures in India. However, average of earnings is higher in India than in Australia. The average of earning per share for FCF agency problem firms 0.091 (0.372) is lower than other firms 0.365 (0.450) for Australia (India). However, the average of earning per share for FCF agency firms and other firms are larger in India than in Australia. This indicates that FCF agency firms and other firms are performing better in India than in Australia, even though, across both countries, other firms performed better than FCF agency problem firms. Also, the mean of share price for other firms 5.921 (1.350) is higher than the mean of FCF agency problem firms 1.825 (1.012) for Australia (India).

The mean of the share price for both FCF agency problem firms and other firms are higher in Australia than in India. This suggests that the firms' market value is higher for Australia although the performance in term of the earnings per share is lower and Indian firms' market value are lower even though the performance is higher in term of earnings per share. In Australia and India, the firms' market value is higher for firms without FCF agency problem than FCF agency problem firms. This suggests that firms without FCF agency problem perform better than FCF agency problem firms.

Moreover, the mean of book value 2.954 (1.873) is larger for other firms than FCF agency problem firms 1.034 (0.983) for Australia (India). Consistent with PBR as a proxied for growth opportunity, the price-to-book ratio is higher for other firms 1.684 (1.006) than FCF agency problem firms 0.435 (0.282) for Australia (India).

Table 1. Descriptive Statistics

Panel A: Full Sample for Australia (N=903); India (N=864)

	Mean		Median		Std. Deviation		Maximum		Minimum	
	Australia	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*
P	4.206	1.953	2.837	2.061	5.730	2.702	29.435	15.02	0.023	0.015
EPS	0.058	0.718	0.0829	0.473	0.082	0.830	8.940	9.981	-7.45	-2.93
BVPS	2.102	1.046	1.906	1.479	1.893	1.581	15.890	10.30	-9.02	-6.75
FCF	0.097	0.029	0.0485	0.014	0.985	0.046	5.935	3.083	-0.68	-0.89
PBR	1.982	0.935	0.951	0.625	2.674	1.023	26.850	17.05	-8.01	-4.01

Panel B: FCF Agency problem for Australia (N=256); India (N=174)

	Mean		Median		Std. Deviation		Maximum		Minimum	
	Australia	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*
P	1.825	1.012	1.046	1.632	0.998	0.469	9.012	3.925	0.011	0.015
EPS	0.091	0.372	0.128	0.481	0.526	0.039	4.885	2.037	-8.48	-3.84
BVPS	1.034	0.983	1.827	2.024	1.375	1.005	5.094	2.565	-5.95	-1.93
FCF	0.086	0.113	0.028	0.081	0.042	0.039	2.045	1.023	0.029	-0.26
PBR	0.435	0.282	1.450	0.049	1.657	1.318	3.928	0.848	-8.01	-0.89

Panel C: Other Sample for Australia (N=647); India (N=690)

	Mean		Median		Std. Deviation		Maximum		Minimum	
	Australia	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*	*Australia*	*India*
P	5.921	1.350	2.043	1.023	5.892	1.035	29.435	15.02	0.023	0.015
EPS	0.365	0.450	0.048	0.048	0.356	0.091	8.940	9.981	-7.45	-2.93
BVPS	2.954	1.873	1.849	0.850	2.049	1.002	12.675	10.30	-9.02	-6.75
FCF	0.015	0.044	0.007	0.010	0.105	0.005	5.935	3.083	-0.68	-0.89
PBR	1.684	1.006	1.034	0.793	3.019	0.821	26.850	17.05	-8.01	-4.01

Table 1 illustrates the mean, median standard deviation, maximum, and minimum of stock price, earnings before extraordinary and exceptional items per share (EPS), book value per share (BVPS), free cash flow (FCF) and price-to-book ratio (PBR) derived from the COMPUSTAT database for all listed firms in Australia and India from 2005 to 2012. Source: Lious N. A. T.'s PhD thesis, (2015).

4.2. Pearson Correlation

Analysing Table 2, revealed that the correlation between stock price (P), earnings per share (EPS), book value per share (BVPS), and FCF agency problem (FCFAP) were highly significant ($p<0.001$) for Australia and India. The Pearson correlation coefficients between stock price, earnings, book value and FCF agency problem are relatively higher for Australia than in India. First, among these countries, the correlation coefficient between earnings and stock price is highest for listed firm in Australia (0,680) than in India (0.398), while the correlation coefficients between price and book value is higher in Australia (0.591) than in India (0.373). These correlation coefficients are relatively higher than those found in Faud and Mohd, (2008) in Malaysia. Their results show that the correlation coefficient between stock price and earnings is 0.416 while the coefficient of stock price and book value is 0.433. However, the correlation coefficient between book value and earnings is 0.459 which relatively lower than those in our Sample. This shows differences in the background of the Spanish, India and Malaysia stock exchange market add great contribution to the differences in the strength of the Pearson correlation analysis.

Table 2. Pearson Correlation Matrix

Australia				
Variables	*P*	*EPS*	*BVPS*	*FCFAP*
P	1			
EPS	0.680***	1		
BVPS	0.191***	0.426***	1	
FCFAP	0.753***	0.425***	0.576***	1

India				
Variables	*P*	*EPS*	*BVPS*	*FCFAP*
P	1			
EPS	0.398***	1		
BVPS	0.373***	0.206***	1	
FCFAP	0.234***	0.307***	0.485***	1

*Table 2 illustrates the Pearson correlation coefficients of stock price, earnings before extraordinary and exceptional items per share (EPS), book value per share (BVPS), free cash flow (FCF) and price-to-book ratio (PBR) derived from the COMPUSTAT database for all listed firms in Australia and India from 2005 to 2012. *, **, *** Pearson Correlation is significant at the 0.1, 0.05, 0.001 levels. Source: Lious N. A. T.'s PhD thesis, (2015).*

4.3. Regression results

Table 3 shows that the regression analysis of stock price against earnings and book value are positive and statistically significant at $p<0.001$ for all listed firms under the manufacturing, retailing and servicing industries in Australia and India from 2005 to 2012. It also provides a separate industry

regression analysis as well as a pooled regression analysis. As far as the adjusted R^2 is concerned, in Australia (India), the adjusted R^2s for the separate industry Sample and pooled Sample indicate that earning and book values explain the variation in stock prices about for manufacturing industry 48.3% (49.3%), for retailing industry 45.1% (38.4%), for servicing industry 63.5% (26.2%) and for the pooled industry Sample 67.7% (52.1%). This means that any proportional increase in the value relevance of earnings and book value will result to relatively increase in stock price. Thus, this result supports with hypotheses 1 and 2; and it is consistent with prior studies such as Faud and Mohd, (2008), Collins et al., (1997), Whelan and McNamara, (2004).

Table 4a and 4b show that the regression analysis of FCF agency problem and the value relevance of earnings and book value are positive and statistically significant at p<0.001 for all listed firms under the manufacturing, retailing and servicing industries in Australia and India from 2005 to 2012. It shows repression analysis for both the pooled Sample and the separate industry ample. Consistent with the hypothesis, the results show that the value relevance of earnings and book value decline in the presence of FCF agency problem associated among firms across all industries in Australia and India. Thus, our variables of interest are EPS, BVPS, FCFAP, FCFAP*EPS, and FCFAP*BVPS.

Table 3. Value Relevance of Accounting numbers

$P_{it} = \beta_0 + \beta_1 EPS_{it} + \beta_2 BVSP_{it} + \varepsilon_{it}$					
Australia					
Sample	Adj. R^2	β_1	β_2	Durbin-Watson	N
Pooled	67.7%	0.641	0.595	2.062	903
		(5.995)***	(3.680)***		
Manufacturing	48.3%	0.430	0.311	2.007	379
		(2.086)***	(1.928)***		
Retailing	45.1%	0.251	0.275	1.983	325
		(2.995)***	(2.680)***		
Servicing	63.5%	0.438	0.175	1.998	199
		(6.419)***	(1.706)***		

India					
Sample	Adj. R^2	β_1	β_2	Durbin-Watson	N
Pooled	52.1%	1.734	0.826	2.084	864
		(8.762)***	(6.910)***		
Manufacturing	49.3%	0.842	0.692	2.047	491
		(3.035)***	(4.945)***		
Retailing	38.4%	0.352	0.583	1.779	221
		(2.381)***	(2.524)***		
Servicing	26.2%	0.172	0.356	1.852	152
		(1.926)**	(2.184)***		

*Table 3 illustrates the regression analysis of value relevance of earnings per share (EPS) and book value per share (BVPS), derived from the COMPUSTAT database for pooled Sample as well as across the manufacturing, retailing and service industries in Australia and India from 2005 to 2012. *, **, *** is significant at the 0.1, 0.05, 0.001 levels. Source: Lious N. A. T.'s PhD thesis, (2015).*

Table 4a and 4b show that the regression analysis of FCF agency problem and the value relevance of earnings and book value are positive and statistically significant at p<0.001 for all listed firms under the manufacturing, retailing and servicing industries in Australia and India from 2005 to 2012. It shows repression analysis for both the pooled Sample and the separate industry Sample. Consistent with the hypothesis, the results show that the value relevance of earnings and book value decline in the presence of FCF agency problem associated among firms across all industries in Australia and India. Thus, our variables of interest are EPS, BVPS, FCFAP, FCFAP*EPS, and FCFAP*BVPS.

Analysing the pooled Sample revealed that the coefficient β_3 of FCFAP dummy variable is not statistically significant at p<0.001 for all listed firms in Australia (β_3 = 0.732, t = 1.077) and for India (β_3 = -3.294, t = 1.270), respectively. This result indicates that FCF agency problem is not value relevance in its own right for all listed firms in Australia and India. Moreover, in the separated industry Sample, the coefficient β_3 of FCFAP dummy variable is not statistically significant at p<0.001 for all listed firms in Australia (β_3 = 0.411, t = 0.894 for manufacturing

industry; β_3 = 0.652, t = 0.329 for retailing industry; β_3 = 0.071, t = 0.699 for servicing industry) and for India (β_3 = -0.815, t = -0.309 for manufacturing industry; β_3 = 0.249, t = 0.465 for retailing industry; β_3 = 0.309, t = 0.311 for servicing industry), respectively. Even though the coefficient of the FCF agency problem is not statistically significant across the difference industries, its interaction with earnings and book value has significant impact on the value relevance of earnings per share and book value per share.

On the other hand, the coefficient β_1 of earnings is positive and statistically significant at p<0.001 for pooled Sample in Australia (β_1 = 2.144, t = 8.960) and for India (β_1 = 1.037, t = 5.573), respectively. This represents market's reaction to earnings in the presence of FCF agency problem. However the market's reaction to earnings in the absence of FCF agency problem is significantly lower. This can be seen from a negative and statistically significant coefficient on the FCFAP*EPS interaction variable in Australia (β_4 = -1.912, t = -3.116) and for India (β_4 = -0.979, t = -14.932), respectively. The presence of the FCF agency problem causes the value relevance of earnings to

decline from 2.144 to 0.232 (2.144 – 1.912) for Australia and from 1.037 to 0.058 (1.037 – 0.979). This result is consistent to hypothesis 3.

At the industry level, the coefficient β_1 of earnings is positive and statistically significant at p<0.001 for all listed firms in Australia (β_1 = 1.837, t = 5.573 for manufacturing industry; β_1 = 1.405, t = 4.268 for retailing industry; β_1 = 1.085, t = 2.473 for servicing industry) and for India (β_1 = 0.939, t = 10.715 for manufacturing industry; β_1 = 0.519, t = 6.162 for retailing industry; β_1 = 0.462, t = 10.671 for servicing industry), respectively. This represents market's reaction to earnings in the presence of FCF agency problem across the manufacturing, retailing, and service industries in Australia and India. However the market's reaction to earnings in the absence of FCF agency problem is significantly lower in the manufacturing industry than in the service and retailing industries.

For instance, this can be seen from a negative and statistically significant coefficient on the FCFAP*EPS interaction variable in Australia (β_4 = -1.478, t = -6.036 for manufacturing industry; β_4 = -1.243, t = -2.234 for retailing industry; β_4 = -1.303, t = -1.962 for servicing industry) and for India (β_4 = -0.549, t = -5.984 for manufacturing industry; β_4 = -0.701, t = -4.593 for retailing industry; β_4 = -0.385, t = -2.311 for servicing industry), respectively. In the manufacturing industry, the presence of the FCF agency problem causes the value relevance of earnings to decline from 1.837 to 0.359 (1.837 – 1478) for Australia and from 0.939 to 0.390 (0.939 – 0.549) for India. The negative impact of FCF agency problem supports free cash flow

hypothesis that claims managers of firms with high free cash flow and low growth opportunity tend to engage in investment with negative NPV or non-wealth maximizing investment. As such, they use accounting accrual activity to manage earnings which result to a decline in the value relevance earning and book value, more especially in the manufacturing industry. This result is consistent to hypothesis 4.

Furthermore, the coefficient β_2 of book value is positive and statistically significant at p<0.001 for pooled Sample in Australia (β_2 = 3.979, t = 14.932) and for India (β_2 = 2.083, t = 25.202), respectively. This represents market's reaction to book value in the presence of FCF agency problem. However the market's reaction to book value in the absence of FCF agency problem is significantly lower. This can be seen from a negative and statistically significant coefficient on the FCFAP*BVPS interaction variable in Australia (β_5 = -2.621, t = -10.404) and for India (β_5 = -0.719, t = -19.219), respectively. The presence of the FCF agency problem causes the value relevance of book value to decline from 3.979 to 1,358 (3.979 – 2.621) for Australia and from 2.083 to 1,364 (2.083 – 0.719). This result is consistent to hypothesis 3. At the industry level, the coefficient β_2 of book value is positive and statistically significant at p<0.001 for all listed firms in Australia (β_2 = 2.149, t = 9.984 for manufacturing industry; β_2 = 1.015, t = 3.594 for retailing industry; β_2 = 1.582, t = 6.311 for servicing industry) and for India (β_2 = 0.917, t = 5.348 for manufacturing industry; β_2 = 0.659, t = 7.346 for retailing industry; β_2 = 0.254, t = 5.115 for servicing industry), respectively.

Table 4a. FCF Agency Problem and Accounting numbers across Australia

Variables	All industries[1]	Manufacturing[2]	Retailing[2]	Servicing[2]
	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)	Coefficient (t-statistic)
β_0	0.585***	0.378**	0.255***	0.328**
	(4.813)	(2.441)	(3.504)	(2.982)
β_1	2.144***	1.837***	1.405***	1.085**
	(8.960)	(5.573)	(4.268)	(2.473)
β_2	3.979***	2.149***	1.015***	1.582**
	(14.932)	(9.984)	(3.594)	(6.311)
β_3	0.732	0.411	0.652	0.071
	(1.077)	(0.894)	(0.410)	(0.699)
β_4	-1.912***	-1.478**	-1.243**	-1.303***
	(-3.116)	(-6.036)	(-2.234)	(-1.962)
β_5	-2.621***	-1.739***	-1.647***	-1.582***
	(-10.404)	(-5.327)	(-3.402)	(-3.168)
β_6	0.593***			
	(3.472)			
β_7	0.385***			
	(4.104)			
β_8	0.427***			
	(2.997)			
Adj R²	78.1%	63.2%	45.9%	52.4%
F-Stat	89.245***	49.096**	81.025***	33.791***
Durbin-Watson	1.928	2.041	1.807	1.749
N	903	379	325	199

Table 4a illustrates the regression analysis of the free cash flow agency problem and the value relevance of earnings per share (EPS) and book value per share (BVPS), derived from the COMPUSTAT database for pooled Sample as well as across the manufacturing, retailing and service industries in Australia from 2005 to 2012. . *, **, *** is significant at the 0.1, 0.05, 0.001 levels. Source: Lious N. A. T.'s PhD thesis, (2015).

Table 4b. FCF Agency Problem and Accounting numbers across Australia

Variables	All industries[1] Coefficient (t-statistic)	Manufacturing[2] Coefficient (t-statistic)	Retailing[2] Coefficient (t-statistic)	Servicing[2] Coefficient (t-statistic)
β_0	1.692***	0.828*	0.729	0.514***
	(12.297)	(5.668)	0.989	(2.449)
β_1	1.974***	0.939***	0.519***	0.462***
	(22.633)	(10.715)	(6.162)	(10.671)
β_2	2.083***	0.917***	0.659***	0.254***
	(25.202)	(5.348)	(7.346)	(5.115)
β_3	-3.294	-0.815*	0.249	0.309
	(1.270)	(-0.309)	(0.465)	(0.311)
β_4	-0.979***	-0.549**	-0.701**	-0.385***
	(-14.932)	(-5.984)	(-4.593)	(-2.311)
β_5	-0.719***	-0.846***	-0.177***	-0.546***
	(-19.219)	(-6.841)	(-8.608)	(-3.776)
β_6	0.394***			
	(2.341)			
β_7	0.249***			
	(6.398)			
β_8	0.285***			
	(4.465)			
Adj R^2	52.9%	41.8%	50.2%	29.4%
F-Stat	93.581***	106.045***	62.744***	70.512***
Durbin-Watson	2.026	1.851	1.924	1.708
N	864	491	221	152

Table 4b illustrates the regression analysis of the free cash flow agency problem and the value relevance of earnings per share (EPS) and book value per share (BVPS), derived from the COMPUSTAT database for pooled Sample as well as across the manufacturing, retailing and service industries in India from 2005 to 2012. . *, **, *** is significant at the 0.1, 0.05, 0.001 levels. Source: Lious N. A. T.'s PhD thesis, (2015).

This represents market's reaction to book value in the presence of FCF agency problem across the manufacturing, retailing, and service industries in Australia and India. However the market's reaction to book value in the absence of FCF agency problem is significantly lower in the manufacturing industry than in the service and retailing industries. For instance, this can be seen from a negative and statistically significant coefficient on the FCFAP*BVPS interaction variable in Australia (β_5 = -1.739, t = -5.327 for manufacturing industry; β_5 = -1.647, t = -3.402 for retailing industry; β_5 = -1.582, t = -3.168 for servicing industry) and for India (β_4 = -0.846, t = -6.841 for manufacturing industry; β_5 = -0.177, t = -8.608 for retailing industry; β_5 = -0.546, t = -3.776 for servicing industry), respectively. In the manufacturing industry, the presence of the FCF agency problem causes the value relevance of book value to decline from 2.149 to 0.410 (2.149 – 1.739) for Australia and from 0.917 to 0.068 (0.917 – 0.849) for India. This result is consistent to hypothesis 4.

5. CONCLUSIONS AND IMPLICATIONS

Free cash flows have been identified by prior studies as source of causing conflict between managers and shareholders. This is due to the fact that managers of this big corporation with relatively high free cash flow and low growth opportunities have the tendency of engaging in project with marginal or negative NPV. As a result, they employ income increasing discretionary accruals to camouflage the impact of the non-wealth maximizing investments.

Therefore, this paper has as objective to assess the free cash flow agency problem on the value relevance of accounting numbers (earnings and book value) for all listed firms in the manufacturing, retailing and service industries in Australia and India from 2005 to 2012 using the modified version of the Ohlson' model in Faud and Mohd, (2008)

where price is express as a linear function of earnings, book value and various accounting numbers. As predicted, the results show that both earnings and book value are value relevance for the manufacturing, retailing and servicing industry in Australia and India. The presence of the free cash flow agency problem caused the value relevance of earnings and book value to decline in Australia and India.

However, the effect is not stable across the difference industries. The found that in the manufacturing industry, the effect caused by the free cash flow agency problem is relatively higher for Australia and India than in the retail and service industries. As a result, the firms in the manufacturing with free cash flow agency problem have lower earnings (book value) coefficients than those without free cash flow agency problem.

Moreover, the results show that the effect free cash flow agency problem on the value relevance on earnings and book value is lesser in the retailing and service industries. One possible reason might be due to the fact that in these industries, there is less use of heavy machinery and other equipment which might limit the use of accrual discretional activity to manipulate accounting figures. Thus, the value relevance of earnings and book value is less influence by the presence of free cash flow agency problem in the retail and service industries compared with the manufacturing industry across Australia and India.

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