Abstract

Introduction: FASB assertion (1978) which pointed out that “enterprise earnings based on accrual accounting generally provides a better indication of an enterprise’s present and continuing ability to generate favorable cash flows than information limited to cash flows alone” is one of the most debatable views towards predicative power of accounting data to predict future cash flows regarding to help the current and potential investors who want to price the shares based on estimated future cash flows.

From the 1980s, researchers in developed and developing countries were questioned this assertion, both directly and indirectly, in research that compared the predictive ability of accrual-based information to that of cash flow information in three different settings: (1) Bankruptcy prediction, (2) Predicting security returns, and (3) Predicting operating cash flows.

Prior studies have led to conflicting results. Some researches in a single variable testing model have concluded that the predictive ability of earnings outperforms that of cash flows in forecasting future cash flows. In contrast, some findings showed conflicting results in which cash flows are the better predictor of future cash flows. However a study rejected both conclusions and claimed that neither earnings nor cash flows are a good predictor of future cash flows. In addition, some researchers have focused on multiple variables. They concluded that each accrual component reflected different information relating to future cash flows. In contrast of them a study concluded that accruals do not improve upon current cash flow in predicting future cash flows. Moreover, most research has focused narrowly on operating cash flow, earnings and accrual components of earnings. Those previous studies have ignored the potential of other cash flow variables, particularly cash flow ratios.

Prior studies did not concern about some questions such as whether predictive ability of the variables are the same across the different industries, and also whether predictive ability of the variables are different in the indexed companies (small-cap, mid-cap,…) in compare with no indexed companies. Moreover no study focused on different predictive accuracy measures to compare their capabilities to test of hypothesis, and prior studies did not concern about cyclical manners of models as tools or clue to show turning points of industries or economic conditions.

FASB assertion, assessing predicative power of accounting data to predict future cash flows and assess other potential capabilities of them in the context of Indian companies have not been studied so far.

Objectives: The purpose of this study was to assess the ability of past aggregated earnings alone (first hypothesis), past cash flows from operations alone (second hypothesis), combined of past cash flows from operation and accrual components of earnings (third hypothesis), and cash flows ratios (fifth hypothesis) to predict future cash flows and comparing the first three models (forth hypothesis) by comparing predictive accuracy of these competing models in and out of sample tests to address the FASB assertion (1978) and also focus on the split industrial wise sample to check the predictive power of these models among the selected industries in the context of Indian listed companies. Moreover explore the other potential capabilities of them which would help the current and potential investors who want to price the shares based on estimated future cash flows of Indian companies listed on Bombay Stock Exchange.
Methodology: A pooled year and yearly study based on pool cross-sectional, spilt index wise, and spilt industrial wise data and sampling of study conducted on Indian companies listed on Bombay Stock Exchange (BSE). Simple, multivariable, and stepwise regressions were developed for four prediction models using past value of aggregated earnings, cash flows from operation, combined of cash flows from operation and accrual components of earnings, and cash flows ratios as independent variables. Accounting data were collected from 1894 companies listed on BSE which had records on Center for Monitoring Indian Economy (CMIE) database. Data was entered using Excel and analyze using SPSS software (version 11.5) which the accuracy of cash flow prediction is examined in sample (the $R^2$) and out of sample [The mean absolute percentage errors of prediction (MAPE), Theil’s U which used by Kim and Kross (2005), Voung’s test to select the more accurate model based on the explanation of Dechow (1994) about non nested model selection] for the 1998-2008 period.

Results: This study that assessed and compared the ability of past aggregated earnings; past cash flows from operations; past combined of past cash flows from operation and accrual components of earnings, and ratios calculated based on past cash flows to predict future cash flows (operating cash flows) in the context of Indian companies listed on Bombay Stock Exchanges (BSE) in the line to asses the first three mentioned variables was found that:

- In the pooled year and yearly analysis, in overall, and in context of Indian sample, past aggregated earnings and past cash flows from operations (which incorporated in the first and second objectives and hypothesizes) have significant predictive power for predicting at least one year ahead of cash flows from operations (accept of first and second hypothesizes).
- The results of pooled year(two-year lags) and yearly analysis , in overall, and in context of Indian sample, combined of past cash flows from operation and accrual components of earnings (which incorporated in the third objective and hypothesis) have significant predictive power for predicting cash flows from operations(accept of third hypothesis).

And also the study in the line to compare these three variables was found that:

- The results of in-sample and out-of-sample comparisons of the models according to a pooled year analysis method which have suggested by prior studies and based on whole (pool cross sectional) sample have showed that past cash flows from operations had more predictive power in compare to past aggregated earnings and combined of past cash flows from operation and accrual components of earnings. This findings is consistent with Bowen, Burstahler and Daley (1986 in USA), Arnold and et al (1991 in UK), Percy and Stokes (1992 in Australia), Finger (1994 in USA), Seng (1997 in New Zealand), Black (1998 in USA), Quirin and et al (1999 in US), Hadi (2005 in USA & Kuwait); Chotkunakitti (2005 in Thailand); Zhao and et al (2006 in Australia), Farshadfar and et al (2008 in Australia),Lorek and Willinger (2009 in USA).
- However based on whole (pool cross sectional) sample a yearly analysis which have introduced by this study ( like Chotkunakitti 2005) have demonstrated that combined of past cash flows from operation and accrual components of earnings (third model) had more predictive power in compare


to past aggregated earnings and cash flows from operations which is consistent with Supriyadi (1998 in Indonesia); Barth, Cram & Nelson (2001 in USA); Stammerjohan and Nassiripour (2000/2001 in USA); Al-Attar and Hussain (2004 in UK); Yoder (2007 in USA); Hollister and et al (2008 in USA) conclusions.

In contrast with Greenberg and et al (1986 in USA), Murdoch and Krause (1989 in USA), and Kim and Kross (2005 in USA), the results of pooled year and yearly analysis of a pool cross sectional sample of selected Indian companies listed on Bombay Stock Exchanges have not supported the FASB assertion. Moreover, in the line to asses the ratios calculated based on past cash flows was found that:

- The results of pooled year analysis demonstrated that in overall, and in context of Indian sample, most of ratios calculated based on past cash flows (which incorporated in the fifth objective and hypothesis) had not significant predictive power for predicting cash flows from operations. Therefore the whole procedure and results of the study in consist with Chotkunakitti (2005 in Thailand) that is the only study which addressed the fifth hypothesis of the current study (cash flows ratios) have led to reject the fifth hypothesis.

The results in this study are consistent with hypothesis that combined of past cash flows from operation and accrual components of earnings is the best predictor of the future cash flows in a pooled cross sectional sample analysis.

**Conclusion:** Identification of these variables as reported in this study has several practical applications. whilst these observation need to be replicated in further studies, and that merely showing a correlation does not mean that it is causal in nature, nonetheless, these observation offer a potential platform for the possible avoidance of making under optimize or wrong investment decisions. Whilst the combined model was found to be the best predictor for predicting the future cash flow, past aggregated earnings and past cash flows are equally important.

From a finance perspective, the positive correlation between future cash flow and accounting variables suggest that investors can access future cash flows of companies they are interested in for estimating future return, by using the prediction model; creditors can employ the prediction model to determine their customers’ ability to pay interest and repay amounts borrowed, and other related parties, such as company managers can apply the findings of this research to decision making. For example, the prediction model can be applied to forecast future cash flows of a reinvestment project. It is important in reducing the risks which inherent in the financial markets. Moreover, the stock exchange policy setters can use the findings of this research to regulate policy in financial information disclosures of Indian listed companies, and accounting Standard setters should continually develop Indian accounting standards to promote quality and reliable accounting information based on these findings.

The tests of the models in an out-of-sample period suggested that the combined of cash flow and accrual component of earnings model (third model) is a better predictor of future cash flows than the other models in the context of Indian companies listed on BSE. Furthermore, additional year lags of accounting data can improve the predictive power of the model. However, the results indicate that most of cash flow
ratios which incorporate in the study are not a good predictor of future cash flows. Moreover the results of pooled year and yearly analysis of a pool cross sectional sample of selected Indian companies listed on Bombay Stock Exchanges have not supported the FASB assertion.

Some of the findings in this study have been reported in earlier studies from across the world, and therefore reiterate the importance of these variables to predict future cash flows in an Indian context. Moreover, this study also demonstrated other findings based on industrial wise sample, which have not been reported earlier. These observations indicate that predictive power of past aggregated earnings (earnings model), past cash flows from operations (cash flows model), and combined of past cash flows from operation and accrual components of earnings (model) to predict future cash flows (operating cash flows) in the context of Indian companies are vary in different industries. These observations have shown that the earnings model had the best result in transport equipment industry and the worse one in diversified industry. Cash flows model had shown the best result in chemicals industry and the worse one in construction industry. Cash flows and accrual components of earnings model had the best result in mining and services other than finance industries and the worse one in machinery industry. The reason(s) for these observations need to be explored in future studies.

Finally, this study finds that there are cyclical manners in three models which reveal new capacity for the explanatory power evaluation and predicting future cash flows studies that the previous studies did not mention about it. This observation suggested that earnings and cash flows are not substitute variables in predicting future cash flows otherwise they can use as complementary variables in the procedure of predicting future cash flows. Moreover regression analysis on accounting variable could use as a method to give early warning about turning points of industries and economic condition which helps the players in share markets and money market as well.