



The Role of Current Cash Flows and Earnings in Predicting Future Cash Flows in Indian Capital Markets

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Abstract

This study examines the ability of current cash flows and earnings to predict future cash flows in the Indian stock market. A total of 14,739 firm-year observations from non-financial firms listed on the Bombay Stock Exchange (BSE) from 2002 to 2014 were used. The regression models, as propounded by Dechow, Kothari and Watts (1998), were employed to assess the predictive ability of current cash flows and earnings to forecast future cash flows and their trends over time. The results reveal that both current cash flows and earnings are strong predictors of future cash flows. Additionally, the findings of the study demonstrate that current cash flows outperform earnings in predicting future cash flows of an entity. Moreover, the findings show that the linear trend of the incremental explanatory power of cash flows in predicting future cash flows increased over the sample period, while the incremental ability of earnings to predict future cash flows declined over the same time. Furthermore, the findings disclose that the non-linear incremental explanatory power of current cash flows increased over the sample period. In general, the findings of this study suggest that current cash flows are better predictors of future cash flows than earnings. Hence, the use of current cash flows to forecast future cash flows is recommended. The results provide essential information to investors, analysts and other capital market participants regarding the role of current cash flows and earnings in predicting future cash flows.

Keywords: Current cash flows, earnings, future cash flows

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Introduction

One of the key objectives of financial reporting is to disseminate information to stakeholders to help them evaluate the timing, uncertainty and magnitude of expected cash flows of an entity. Accurate prediction of future cash flows assists investors in assessing the entity's ability to repay creditors and distribute dividends to shareholders, thereby enabling them to decide whether to increase or reduce their holdings in that entity. Properly forecasting future cash flows has never been easy for many investors, given that there is no single method universally agreed upon by all investors or analysts for predicting the future cash flows of an entity (Dechow et al., 1998; Efayena, 2015; Greenberg et al., 1986).

Recognising the importance of predicting future cash flows, a number of parameters and models have been developed over time to make such predictions (Dechow et al., 1998; Greenberg et al., 1986; Lorek & Willinger, 2009). Variables such as current earnings, cash flows and accruals have been extensively used by many studies to predict future cash flows of an entity. However, numerous studies have shown the superiority of current cash flows from operations over earnings in forecasting future cash flows, as they are less susceptible to manipulation compared to earnings (Al-Attar & Hussain, 2004; Farshadfar et al., 2008).

Likewise, univariate and multiple regression models have been employed over time to assess the ability of current cash flows from operations and earnings to predict future cash flows (Kim & Kross, 2005; Barrak, 2011; Greenberg et al., 1986). Moreover, these models have been used by previous researchers to establish trends in the relationship over time (Dechow et al., 1998; Kim & Kross, 2005).

This study aims to examine the predictability of future cash flows using current cash flows and earnings in India. Currently, more than 166 countries have adopted the International Financial Reporting Standards (IFRS) for financial reporting. Unlike many other countries that directly adopted IFRS, India chose a unique roadmap for conducting reforms to align its Indian Accounting Standards (Ind AS) with IFRS. The convergence process aimed to develop standards that suit the needs of Indian financial and accounting reporting.

However, it is still not well-documented whether Ind AS provides information similar to IFRS, enabling analysts to use current cash flows and earnings to predict future cash flows, as in other countries where IFRS are fully adopted. Therefore, conducting this study in India will shed light on useful information regarding the role of Ind AS in assisting analysts and market participants in predicting the future cash flows of an entity.

Section two provides a literature review, while section three presents the methodology. Section four highlights the presentation and discussion of the findings and finally, section five concludes the study.

Literature Review

Many studies have utilised current operating cash flows, earnings and accruals to predict future cash flows of entities (Kim and Kross, 2005; Chen et al., 2011; Luo, 2008; Lev et al., 2010; Li et al., 2015). However, contradicting results have emerged over time regarding which variable surpasses the others in predicting the relationship and the trend of this relationship.

For instance, Greenberg et al., (1986) investigated the ability of current earnings and operating cash flows to predict future cash flows. Using 157 firms from 1963 to 1982, the authors documented that both earnings and cash flows predict future cash flows. However, they affirmed that current earnings surpassed current operating cash flows in predicting future operating cash flows. Similarly, Dechow et al. (1998) developed and tested a model for predicting future cash flows using earnings and current cash flows. They used 1,337 firms spanning from 1963 to 1992 and found that earnings predict future cash flows better than current cash flows.

Also, Al-Attar and Hussain (2004) examined the predictive ability of current operating cash flows and earnings on future operating cash flows from 1991 to 2000. Their research revealed that current operating cash flows have greater explanatory power than earnings in predicting future operating cash flows over the sample period. Kim and Kross (2005), on the other hand, assessed the association between both current cash flows from operations as well as earnings and future cash flows from operations (a year ahead). Based on 266 firm-year

observations of US companies from 1972 to 2001, Kim and Kross noted an association between future cash flows and both current earnings and cash flows from operations. Their study revealed that the association between current earnings and future cash flows from operations has increased over time.

Seng (2006) studied the predictive ability of both current earnings and cash flows to predict future operating cash flows in the New Zealand Stock Exchange. Based on a small sample of 52 firms from 1989 to 1992, the study established that cash flows from operations can predict future operating cash flows better. Moreover, the study revealed that the predictive ability of current cash flows to predict future cash flows increased over the sample period. In another research, Chen et al. (2011) evaluated the effect of introducing fair value measurement in the US in relation to accounting information and market information. Utilising a large sample of 43,908 firm-year observations from 1984 to 2003, they revealed that the association between current accounting numbers—as proxied by current earnings and book value of equity and future cash flows from operations—has not improved since the introduction of fair value measurement.

Subramanyam and Venkatachalam (2007) examined the correlation between both cash flows from operations and earnings with the post-intrinsic value of equity. Based on a large sample of 45,395 firm-year observations, they found that earnings explain the post-intrinsic value of equity better than cash flows from operations. Moreover, Farshadfar et al. (2008) investigated the forecasting ability of current earnings and operating cash flows in predicting future operating cash flows in Australia. Based on a sample of 323 listed Australian firms from 1992 to 2004, they revealed that current operating cash flows outperformed earnings in predicting expected operating cash flows.

Similarly, Luo (2008) assessed the relationship between unusual operating cash flows and future operating cash flows. Based on 500 companies listed on US stock markets from 1988 to 2000, Luo revealed that unusual operating cash flows predict future cash flows of firms better. Likewise, Brochet et al. (2011) examined the predictive ability of current operating cash flows and accruals on future cash flows in the US. Using 16,549 firm-year observations, they found that both current cash flows and accruals predict future cash flows. Brochet et

al. further noted that error estimation for accruals is lower compared to current operating cash flows, indicating that accruals predict future cash flows better in relation to current operating cash flows.

Dawar (2015) investigated the predictive ability of current cash flows and earnings to forecast future cash flows. The study used a small sample of CRISIL NSE Index (CNX) Nifty Shariah Index companies as its sample for a period of 10 years to examine the predictiveness of current cash flows and earnings. The study found that both current cash flows and earnings predict next year's cash flows. Moreover, the study uncovered that current cash flows have superior predictive ability for future period cash flows than current earnings.

In assessing the predictability of future cash flows, Lev et al. (2010) examined the ability of current operating cash flows and accruals to forecast future operating cash flows. Based on a sample of companies listed in the US from 1988 to 2004, they revealed that current operating cash flows explain future cash flows better than current accruals. Moreover, Al-Debi'e (2011) investigated the association between both current operating cash flows and earnings and future cash flows in Jordan from 2000 to 2009. The study found that current operating cash flows predict future cash flows of entities better than current earnings. The study also found that the predictive ability of current cash flows on future cash flows has increased over the sample period.

Similarly, Arnedo et al. (2012) examined the role of accruals and current cash flows in predicting future cash flows in Spain. Based on 4,397 firms listed in Spain from 1997 to 2003, they found that both accruals and current cash flows enhance the predictability of cash flows, but accruals have a more significant impact on prediction than the current cash flows. Dowraghia (2014) assessed the ability of earnings and accruals to predict future cash flows. Based on a sample of 142 firms listed on the Tehran Stock Exchange, Dowraghia reported that both earnings and accruals influence future cash flows of entities. However, Li et al. (2014) investigated cash flow prediction for companies listed on the Johannesburg Stock Exchange in South Africa. Using 623 firm-year observations from 1994 to 2012, they noted that decomposing cash flows into various components like financing, operating and investment increase the prediction of the future cash flows.

Kim and Key (2014) assessed the predictability of future cash flows in Korea using the model developed by Dechow et al. (1998). Based on a sample of 12,109 firm-year observations of firms listed on the Korean Stock Exchange from 1982 to 2011, they revealed that current earnings predict future cash flows from operations better than current operating cash flows of an entity. Moreover, Efayena (2015) examined the role of both current operating cash flows and accruals in forecasting future operating cash flows in the Nigerian stock market. Based on 520 firm-year observations from 2001 to 2015, the study found that both current operating cash flows and accruals predict future operating cash flows. However, the same study revealed that current operating cash flows are more superior to accruals in predicting future cash flows.

In a similar study, Peyman et al. (2010) investigated the use of accounting data, cash flows and earnings to forecast future cash flows. They revealed that current cash flows surpass earnings in forecasting future cash flows. They also affirmed that the linear and non-linear predictive ability of current cash flows increased over the sample period. Likewise, Aktas and Kargin (2012) conducted a study to examine the predictive ability of current cash flows and earnings for firms listed on the Istanbul Stock Exchange in Turkey from 2008 to 2010. They discovered that both current cash flows and earnings are associated with future cash flows. However, they documented the superiority of current cash flows over earnings in predicting future cash flows.

Similarly, Jemaa et al. (2015) examined the ability of current operating cash flows and accruals in predicting future operating cash flows in Tunisia. Utilising a sample of 37 firms listed in Tunisian Capital Markets from 1998 to 2012, they revealed that both earnings and operating cash flows predict future operating cash flows. Moreover, El-Sayed (2011) examined the comparative prediction ability of both current cash flows and earnings in predicting future cash flows in Egypt and discovered the superiority of earnings over current cash flows in predicting future cash flows. Further, the study disclosed that earnings surpassed operating cash flows in predicting future operating cash flows. Badu and Appiah (2018) studied the trend of earnings prediction ability in Ghana and found that earnings prediction ability declined after the introduction of IFRS.

Overall, the review of literature reveals that the influence of current cash flows and earnings in predicting future cash flows has mixed findings. Both large and small sample studies provide these mixed findings regarding the ability of current cash flows and earnings in predicting future cash flows. However, the question of which variable surpasses the other in predicting the future cash flows remains unresolved. Therefore, this study examines the ability of operating cash flows and earnings in predicting future cash flows and the trend of this relationship over time in the Indian Capital Markets.

Methodology

This section covers hypothesis development and specifies the research techniques used to investigate the relationship between both current earnings and cash flows with future cash flows of the entity.

Hypothesis Development

Several prior studies have documented the superiority of current cash flows and earnings in predicting future cash flows of entities (Chen et al., 2011; Kim and Key, 2014; Lev et al., 2010; Li et al., 2014; Luo, 2008). Based on these theoretical findings, the study proposes the first hypothesis:

***Hypothesis 1:** Current cash flows and earnings are associated with future cash flows.*

Several studies, such as Jemaa et al., (2015) and Efayena (2015), have documented the positive association between current cash flows and future cash flows. Based on this claim, the study hypothesised:

***Hypothesis 2:** There is a positive association between current cash flows and future cash flows.*

Studies, such as those by Kim and Kross (2005) and Dowraghia (2014), have documented a strong positive association between earnings and future cash flows. The third hypothesis is developed based on the referred theoretical claims as hypothesised:

***Hypothesis 3:** Earnings and future cash flows are positively related.*

Previous studies, such as Al-Attar and Hussain (2004) and Farshadfar et al. (2008); Aktas and Kargin (2012); Kim and Key (2014), have documented the

superiority of current cash flows over earnings in forecasting future cash flows. The referred theoretical claim leads to the fourth hypothesis as given below:

Hypothesis 4: *Current cash flows surpassed earnings in forecasting future cash flows over the sample period.*

Several studies, such as Seng (2006), Lev et al., (2010) and Al-Debi'e (2011)—which assess the trend of prediction of future cash flows by using current cash flows—have reported an increase in the prediction ability of current cash flows over time. Therefore, such a theoretical finding leads to the fifth hypothesis:

Hypothesis 5: *The prediction ability of current cash flows on future cash flows has increased over time.*

Likewise, studies like Barrick (2011) and Kim and Kross (2005) reported that the prediction ability of earnings on future cash flows has increased over the sample period. Based on this claim, it is hypothesised that:

Hypothesis 6: *The prediction ability of earnings on future cash flows has increased over time.*

Previous studies, such as Al-Attar and Hussain (2004), Eng et. Al. (2005) and Seng (2006), have studied the trend of non-linear association between current cash flows and future cash flows over time. However, they reported inconsistent non-linear relationships over time between the two. Based on those assertions, the following hypothesis is suggested:

Hypothesis 7: *There is an increase in the non-linear association between current cash flows and future cash flows over the sample period.*

Moreover, several studies, such as Kim and Kross (2005) and Barrak (2011), revealed that the non-linear association between earnings and cash flows increased over the sample period. Hence, the report hypothesised:

Hypothesis 8: *There is an increase in a non-linear relationship between earnings and future cash flows over the sample period.*

Research Technique and Model Specification

A combination of multiple and univariate regression models was employed to investigate the association between both current cash flows and earnings and future cash flows, similar to prior studies such as Greenberg et al. (1986), Kim

and Kross (2005), and Barrak (2011). Specifically, the models developed by Dechow et al. (1998) were utilised to estimate the association and the trend of the relationship. Equations 1-7 were used to estimate the association between future cash flows and both current cash flows and earnings.

$$CFO_{i,t+1} = \phi_0 + \phi_1 CFO_{i,t} + \phi_2 E_{i,t} + \nu_{i,t} \quad (1)$$

$$CFO_{i,t+1} = \alpha_0 + \alpha_1 CFO_{i,t} + \psi_{i,t} \quad (2)$$

$$CFO_{i,t+1} = \chi_0 + \chi_1 E_{i,t} + \sigma_{i,t} \quad (3)$$

$$R_{cfo}^2 = \beta_0 + \beta_1 Time_t + \theta_t \quad (4)$$

$$R_{cfo}^2 = \delta_0 + \delta_1 Time_t + \delta_2 Time_t^2 + \delta_t \quad (5)$$

$$R_E^2 = \mu_0 + \mu_1 Time_t + \pi_t \quad (6)$$

$$R_E^2 = \lambda_0 + \lambda_1 Time_t + \lambda_2 Time_t^2 + \eta_t \quad (7)$$

Where:

CFO_{t+1} = Cash flows from the operation scaled by average assets for the firm I during the period t+1.

CFO_t = Cash flows scaled by average assets for the firm I during the period t

E_t = Earnings for scaled by average assets for the firm I during the period t

R_{cfo}^2 = Year-wise R-square obtained from equation 2

R_E^2 = Year-wise R-square obtained from equation 3

$Time_t$ = The time variable representing the sample period of 12 years from 2002 to 2014

$\nu_{i,t}, \psi_{i,t}, \sigma_{i,t}, \theta_t, \delta_t, \pi_t, \eta_t$ = Error terms

In assessing the ability of both current cash flows and earnings to predict future cash flows, equation 1 is used. It is expected that ϕ_1 and ϕ_2 will be positive and significant, indicating that both current cash flows and earnings can predict future cash flows. Similarly, α_1 and χ_1 from equations 2 and 3 are expected to be positive and significant. To compute the incremental explanatory cash flows and earnings, equations 1, 2 and 3 are also used. Moreover, equation 4 examines

the linear increase in explanatory power for cash flows in relation to future cash flows over the sample period and β_1 is expected to be positive and significant.

Furthermore, equation 5 assesses the non-linear incremental relationship between current cash flows and future cash flows. The coefficient δ_2 is expected to be positive and significant. Equation 6 also examines the linear increase in the predictive ability of earnings in relation to future cash flows over the sample period. μ_1 is expected to be positive and significant to reflect the increase in the predictive ability of earnings over the sample period. Finally, equation 7 examines the non-linear association between earnings and future cash flows over the sample period. The coefficient λ_2 is expected to be positive and significant, indicating a non-linear increase in the explanatory power of cash flows and earnings over the sample period.

Data and Sample Selection

The data for the current study were extracted from prowest database which is maintained by the Centre for Monitoring Indian Economy (CMIE). The referred database is commonly used by many researchers in India (Ansari and Khan, 2012; Purkayastha, 2013). Moreover, the units of measurement of the referred data are Rs. Million for total assets earnings after-tax and cash flows operation. The unit of analysis is composed of non-banking firms listed in BSE.

The sample period for this study is twelve years, covering the period from 2002 to 2014. The criteria used to select the sample include: i) Firms must be listed in BSE; ii) Firms must have accounting information (operating cash flows and earnings); iii) Accounting information must be extracted from consolidated financial statements. Table 1 presents the sample size which is arranged year-wise after considering the above criteria.

Moreover, a total of 14,739 firm-year observations of non-financial firms listed in BSE were used to examine the ability of current cash flows and earnings to predict future cash flows in the Indian stock market.

Table 1: Number of Firm Observations from 2002 to 2014

Year	Firms Observations
2002	474
2003	722
2004	763
2005	823
2006	953
2007	1114
2008	1219
2009	1312
2010	1416
2011	1509
2012	1515
2013	1513
2014	1406

Notes: Sample size arranged in year-wise

Results and Discussion

Descriptive Statistics

Table 2 depicts the results of descriptive statistics for cash flows and earnings. The mean value of the cash flows one year ahead scaled by average assets is 0.048, which is slightly low compared to the mean of 0.09 reported by Barrak (2011) in Saudi Arabia. Similarly, the mean value of the current cash flows scaled by average assets is 0.046. The mean value of the current value of earnings as deflated by the average assets is 0.017.

Table 2: Descriptive Statistics for Cash Flows and Earnings

Descriptive Statistics								
Variables	μ	$q50$	δ	Kurtosis	Skewness	Min	Max	N
CFO_{t+1}	0.048	0.049	0.117	7.797	-0.440	-0.776	0.689	14,739
CFO_t	0.046	0.049	0.117	7.881	-0.644	-0.776	0.689	14,739
E_t	0.017	0.018	0.093	22.557	-1.769	-0.950	0.834	14,739

Notes: N = a number of observations, $q50$ = median, μ = mean, δ = standard deviation

Pair-wise Correlation

Table 3 reports the pair-wise correlation amongst the key variables of the present study. The current cash flows are significantly correlated with the cash flows one year ahead as predicted. Likewise, the current level of the earnings is significantly correlated with the cash flows one year ahead as projected. Moreover, the current cash flows and earnings are significantly correlated. However, earnings and operating cash flows are insignificantly correlated with coefficient of 0.247 which is far less than the cut off of 0.8, which is recommended by Field (2006). Likewise, earnings and cash flows one year ahead are insignificantly correlated with coefficient of 0.174 which is less from cut off of 0.8. Therefore, there is no serious problem of multi-collinearity among the variables except for current cash flows and cashflows one year ahead. Moreover, a superior test named Variance Inflation Factor (VIF) is conducted to check for potential of the multi-collinearity problem.

Table 3: Pair-wise Correlation of CFO and Earnings

Simple Pair-wise Correlation			
Variables	CFO_{t+1}	CFO_t	E_t
CFO_{t+1}	1		
CFO_t	0.9342**	1	
E_t	0.1774**	0.2471**	1

Notes: Table 3 depicts pair-wise correlation of cash flows and earnings and*, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Multi-Collinearity Test

To ensure that there is no problem of multi-collinearity, an additional test was employed. Table 4 reports the results of Variance Inflation Factor (VIF) for independent variables. The VIF of the current level of cash flows is 1.07, which is below the cut-off of 10 (see Gujarat (2003) and Hair et al. (1995)). Likewise, for the current level of earnings, the VIF is 1.07, which is also less than the cut-off of 10. Therefore, the results confirm that the independent variables do not suffer from the problem of multi-collinearity.

Table 4: Multi-collinearity Test

Variance Inflation Factor		
Variable	VIF	1/VIF
CFO_t	1.07	0.938952
E_t	1.07	0.938952
Mean VIF	1.07	

Heteroskedasticity Results

Table 5 depicts the results of heteroskedasticity using Breusch-Pagan and Cook-Weisberg test. The probability which is associated with chi-value is 0.00. Therefore, the null hypothesis of constant variance indicating the presence of the problem of heteroskedasticity was rejected. To mitigate this problem, the heteroskedasticity consistent standard error estimator was utilised (Hayes and Cai, 2007; Baltagi, 2008; Gow et al., 2010).

Table 5: Heteroskedasticity Results

Breusch-Pagan/Cook-Weisberg test
Ho: Constant variance
Variables: CFO_t, E_t
chi2(2) = 886.44
Prob > chi2 = 0.0000

Predictive Ability of Current Cash Flows and Earnings: Regression Analysis

Table 6 reports the year-wise results of regressing future cash flows on both current cash flows and earnings. The findings from the F-test for year-wise observations show the F-value that is greater than the critical value of 3.09, indicating that there is an association between future cash flows and both current cash flows and earnings in each year.

The results show that the current cash flows from the operation are significantly associated with future cash flows in each of the 13 years covered by the sample data. The current level of earnings is also significantly associated with future cash flows in 10 out of 13 years. The results show that both current cash flows and earnings are good forecasters of the future cash flows. These results support the first hypothesis in that the current cash flows and earnings are associated with future cash flows.

Such results reflect the effect of common law countries whereby the accounting standards are investors oriented. These results are similar to those of the prior studies that investigated the role of the current cash flows and earnings in forecasting the future cash flows in the countries that adopted IFRS. For instance, Efayena (2015) reported that the current cash flows and earnings were positively associated with future cash flows in Nigeria. Likewise, Farshadfar et al. (2008) reported a strong association between the future cash flows and both current cash flows and earnings.

Table 6: Association between One Year Ahead Cash Flows and Both Current Cash Flows and Earnings

Year	N	ϕ_0	CFO_t	E_t	R-square	F-test
2002	474	0.047*** (0.00)	0.332*** (0.00)	0.226*** (0.00)	0.22	29.99
2003	722	0.055*** (0.00)	0.258* (0.05)	0.264*** (0.00)	0.15	39.12
2004	763	0.048*** (0.00)	0.327*** (0.00)	0.133*** (0.006)	0.14	30.46
2005	823	0.022*** (0.001)	0.53*** (0.00)	0.111* (0.09)	0.18	35.36
2006	953	0.024*** (0.00)	0.212*** (0.00)	0.456*** (0.00)	0.16	45.77
2007	1114	0.023*** (0.00)	0.461*** (0.00)	0.019 (0.73)	0.13	25.92
2008	1219	0.028*** (0.00)	0.352*** (0.00)	0.269*** (0.00)	0.16	37.12
2009	1312	0.03*** (0.00)	0.289*** (0.00)	0.22*** (0.00)	0.13	31.51
2010	1416	0.018*** (0.00)	0.379*** (0.00)	0.092 (0.10)	0.14	33.73
2011	1509	0.021*** (0.00)	0.339*** (0.00)	0.174*** (0.001)	0.12	33.01
2012	1515	0.028*** (0.00)	0.273*** (0.00)	0.192*** (0.00)	0.14	48.34
2013	1513	0.029*** (0.00)	0.432*** (0.00)	0.212*** (0.00)	0.21	74.57
2014	1,406	0.006** (0.04)	0.94*** (0.00)	-0.068 (0.215)	0.88	2018.2

Notes: Year-wise regression of future cash flows on both current cash flows and earnings. Values in parentheses indicate p-values attached to the coefficient. *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Results of Regressing Future Cash Flows on Current Cash Flows

Table 7 portrays the year-wise regression of future cash flows on the current cash flows. The results reveal that there is a strong and statistically significant positive association between the future cash flows and current cash flows in each year. The results in question support the second hypothesis in that there is a positive association between the current cash flows and future cash flows. The results imply that the current cash flows predict better the future cash flows of the companies in India and may be used by investors in forecasting the future cash flows. The prior studies have documented the findings that support the current study. For example, Aktas and Kargin (2012) in Turkey, Kim and Kross (2005) in US and Jemaa et al. (2015) in Tunisia all reported that there is a positive association between the current cash flows and future cash flows.

Table 7: Results of Regressing Future Cash flows on Current Cash Flows

Year	N	α_0	CFO_t	R-square
2002	474	0.044*** (0.00)	0.409*** (0.00)	0.17
2003	722	0.049*** (0.00)	0.362*** (0.005)	0.0957
2004	763	0.049*** (0.00)	0.357*** (0.00)	0.1195
2005	823	0.023*** (0.001)	0.565*** (0.00)	0.1696
2006	953	0.033*** (0.00)	0.497*** (0.00)	0.1364
2007	1114	0.025*** (0.00)	0.466*** (0.00)	0.1253
2008	1219	0.042*** (0.00)	0.409*** (0.00)	0.131
2009	1312	0.034*** (0.00)	0.349*** (0.00)	0.1078
2010	1416	0.021*** (0.00)	0.399*** (0.00)	0.1359
2011	1509	0.025*** (0.00)	0.384*** (0.00)	0.1094
2012	1515	0.031*** (0.00)	0.309*** (0.00)	0.1095

Year	N	α_0	CFO_t	R-square
2013	1513	0.032*** (0.00)	0.471*** (0.00)	0.1892
2014	1,406	0.005** (0.043)	0.927*** (0.00)	0.8728

Notes: Year-wise regression of future cash flows on current cash flows. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Results of Regressing Future Cash Flow on Earnings

Table 8 presents the results on the association between the future cash flows and earnings. The results show that the future cash flows are significantly positively related to earnings with the coefficients that are statistically significant in 12 out of 13 years. These results support the hypothesised positive relationship between the earnings and future cash flows.

This finding may be attributable to the use of Indian Accounting Standards, which are high-quality accounting standards like IFRS. It is also characterised by fewer permitted options. Many studies conducted in countries with high-quality accounting standards like IFRS and US GAAP have shown that the aspect of earnings is a key component in forecasting future cash flows (Barrak, 2011; Dechow et al., 1998; Seng, 2006). The fact that the aspect of earnings is the better forecaster of future cash flows is supported by the prior studies by Dowraghia (2014) in Iran and Dawar (2015) in India using a small sample of Shariah index companies. El-Sayed (2011) also documented similar findings in Egypt.

Table 8: Results of Regressing Future Cash Flows on Earnings

Year	N	χ_0	E_t	R-square
2002	474	0.071*** (0.00)	0.337*** (0.00)	0.1175
2003	722	0.072*** (0.00)	0.342*** (0.00)	0.1106
2004	763	0.069*** (0.00)	0.196*** (0.00)	0.0413

Year	N	χ_0	E_t	R-square
2005	823	0.05*** (0.00)	0.261*** (0.001)	0.04
2006	953	0.039*** (0.00)	0.302*** (0.00)	0.0497
2007	1114	0.029*** (0.00)	0.198*** (0.00)	0.0137
2008	1219	0.031*** (0.00)	0.416*** (0.00)	0.0689
2009	1312	0.039*** (0.00)	0.36*** (0.00)	0.0649
2010	1416	0.026*** (0.00)	0.273*** (0.00)	0.0283
2011	1509	0.026*** (0.00)	0.298*** (0.00)	0.046
2012	1515	0.036*** (0.00)	0.27*** (0.00)	0.0554
2003	722	0.072*** (0.00)	0.342*** (0.00)	0.1106
2014	1,406	0.044*** (0.00)	0.209** (0.01)	0.0304

Notes: Year-wise regression of future cash flows on earnings. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Incremental Explanatory Power of Current Cash Flows and Earnings

In assessing an incremental explanatory power of the current cash flows, equations 1 and 2 were compared and the difference in R-square was calculated. Moreover, the incremental explanatory power of earnings was obtained by comparing equations 1 and 3 and finding the difference in the R-square of the two equations.

Table 9 reports the results of the incremental power of the cash flows and earnings in predicting future cash flows. The results show that the current cash flows surpassed earnings in predicting the future cash flows of the entity. Also, Figure 1 depicts the line chart that vividly shows that the current cash flows explain better future cash flows than earnings. The results support the fourth

hypothesis in that the current cash flows surpassed earnings in forecasting the future cash flows over the sample period.

Several studies conducted in the US and common law countries supported the findings in countries with high-quality accounting standards by reporting the superiority of current cash flows over earnings in predicting future cash flows. Using United Kingdom (UK) firms, Al-Attar and Hussain (2004) reported that current cash flows surpassed earnings in forecasting future cash flows. Al-Debi'e (2011) also revealed that current cash flows are superior to earnings in forecasting future cash flows in Jordan. Moreover, Aktas and Kargin (2012) documented the superiority of current cash flows over earnings in Turkey. Furthermore, Dawar (2015), using a small sample of Shariah index companies in India, found that current cash flows predict next year's cash flows better than current earnings.

Table 9: Results of Incremental Explanatory Power of Current Cash Flows and Earnings

Year	N	Incremental CFO	Incremental E
2002	474	0.0993	0.0468
2003	722	0.0428	0.0577
2004	763	0.0967	0.0185
2005	823	0.1362	0.0066
2006	953	0.1102	0.0235
2007	1114	0.1117	0.0001
2008	1219	0.0885	0.0264
2009	1312	0.064	0.0211
2010	1416	0.1105	0.0029
2011	1509	0.0776	0.0142
2012	1515	0.0806	0.0265
2013	1513	0.1491	0.0197
2014	1406	0.2454	0.003

Notes: Incremental cash flows and earnings

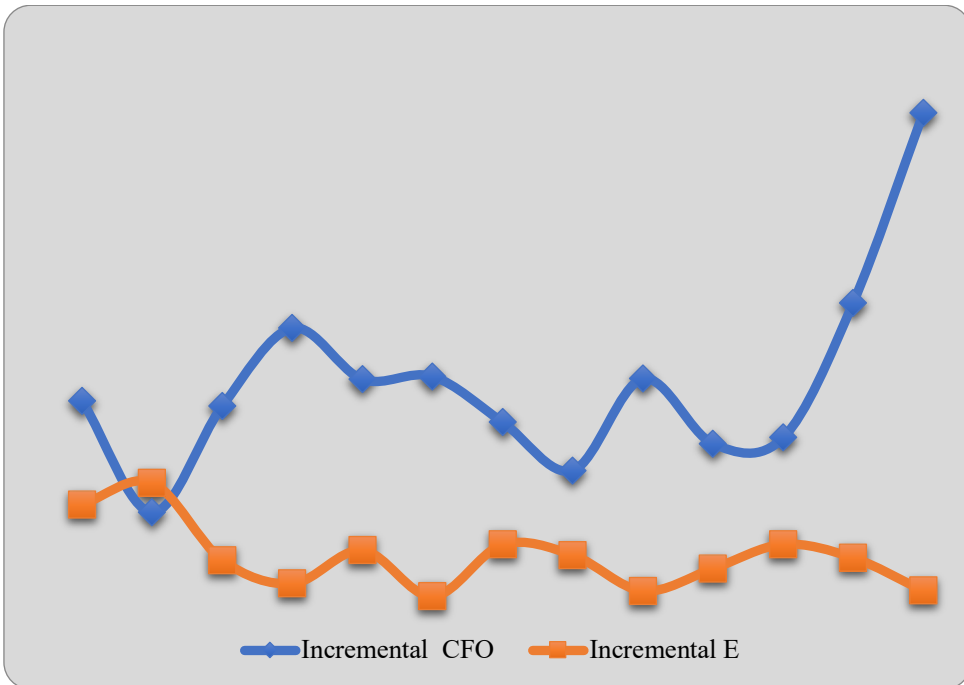


Figure 1: Incremental Explanatory Power of Cash Flows over Earnings Year-wise

Linear Trend of Incremental Explanatory Power of Current Cash Flows over Time

The prior studies that examined the linear trend of the incremental explanatory power of the current cash flows regressed the R-square obtained in equation 2 on time to document the trend (Kim and Kross, 2005; Barrak, 2011).

Table 10 depicts the linear trend of the incremental explanatory power of the cash flows and earnings over time. The coefficient for a time where regressing incremental power of cash flow on time is 0.026, p-value < 0.1; thus, indicating that the linear association between the current cash flows and future cash flows has been increasing over the sample period. This supports the fifth hypothesis in that the prediction ability of the current cash flows on future cash flows have increased over time.

An increase in the explanatory power of the current cash flows signals an ability of the accounting standards to provide high-quality accounting information to be relied upon by the market participants in forecasting the future cash flows. The results in question are supported by the studies conducted by Kim and

Kross (2005) in US and Seng (2006) in New Zealand in that the incremental explanatory power of the current cash flows increased over the sample period.

Table 10: Changes of the Incremental Explanatory Power of Current Cash Flows over Time

$$R_{cf0}^2 = \beta_0 + \beta_1 Time + v_t$$

Coefficient	β_0	β_1	R-square
	-0.027 (0.817)	0.026* (0.095)	0.23

Notes: The results of changes of incremental explanatory power of current cash flows over time. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Linear Trend of Incremental Explanatory Power of Earnings over Time

In line with the prior studies, the current study regressed the R-square obtained in equation 3 on time to investigate the linear trend of the incremental explanatory power of earnings over time (Barrak, 2011; Kim and Kross, 2005). Table 11 reports the changes in the incremental explanatory power of the earnings over time. The results reveal the coefficient of -0.002, p-value <0.1 when regressing the incremental explanatory power of the earnings over time. It shows that the prediction ability of the earnings on future cash flows has declined over time. These findings do not support the sixth hypothesis in that the prediction ability of the earnings on future cash flows has increased over time.

The results reveal the decline in the prediction ability of the earnings despite the convergence of the Indian accounting standards to IFRS. This may be attributable to increased options that are permitted by the converged standards when dealing with the earnings. These findings are supported by the prior studies that documented the decline in the prediction ability of earnings over time. For instance, Badu and Appiah (2018) reported a decline in the prediction ability of the earnings in Ghana.

Table 11: Changes of the Incremental Explanatory Power of Earnings over Time

$$R_E^2 = \mu_0 + \mu_1 \text{Time} + \sigma_t$$

Coefficient	μ_0	μ_1	R-square
	0.04*** (0.002)	-0.002* (0.063)	0.28

Notes: The results of changes of the incremental explanatory power of earnings over time. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Non-linear Trend of Incremental Explanatory Power of Current Cash Flows

Several studies, such as Peyman et al. (2010) and Aktas and Kargin (2012), have regressed the R-square obtained from equation 2 on both time and time square to examine the non-linear trend of the predictive ability of the current cash flows over the sample period.

The results of the changes of the non-linear incremental explanatory power of the current cash flows over the sample period are depicted in Table 12. They reveal that the non-linear trend of incremental explanatory power current cash flows in relation to future cash flows has increased over the sample period (0.008, $p=0.049$). These findings support the seventh hypothesis in that there is an increase in a non-linear relationship between the current cash flows and future cash flows over the sample period. Such results are similar to those reported by Al-Attar and Hussain (2004) and Peyman, et al., (2010) that discovered the increase in non-linear association between current cash flows and future cash flows.

Table 12: Changes of the Non-linear Incremental Explanatory Power of Current Cash Flows over Time

$$R_{cfo}^2 = \delta_0 + \delta_1 \text{Time} + \delta_2 \text{Time}^2 + \nu_t$$

Coeff	δ_0	δ_1	δ_2	R-square	F-test
	0.26 (0.13)	-0.089 (0.122)	0.008** (0.049)	0.49	4.8

Notes: The results of changes of non-linear incremental explanatory power of cash flows. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Non-linear Trend of Incremental Explanatory Power of Earnings

The prior studies such as Barrak (2011) and Badu and Appiah (2018) have investigated the non-linear predictive ability of earnings over time and found an insignificant non-linear association between earnings and future cash flows.

Table 13 reports the results of the changes in the non-linear incremental explanatory power of earnings over the sample period. The findings reveal an insignificant increase in non-linear trend of the incremental explanatory power of earnings over the sample period (0.001, $p=0.132$). These results do not support the eighth hypothesis. The findings are similar to the findings by Barrak (2011) and Badu and Appiah (2018) who documented an insignificant increase of non-linear predictive ability of the earnings over time.

Table 13: Changes of the Non-linear Incremental Explanatory Power of Earnings over Time

$$R_E^2 = \lambda_0 + \lambda_1 Time + \lambda_2 Time^2 + \sigma_t$$

Coeff	λ_0	λ_1	λ_2	R-square	F-test
	0.054*** (0.00)	-0.009* (0.061)	0.001 (0.132)	0.43	3.82

Notes: The results of changes of non-linear incremental explanatory power of earnings. Values in parentheses indicate p-values attached to the coefficient and *, ** and *** indicate significant coefficient at 10%, 5% and 1% levels respectively.

Conclusion

This study investigated the predictive ability of current cash flows and earnings on future cash flows. To achieve this, the association between future cash flows and current cash flows as well as earnings was examined. The investigation also focused on whether current cash flows outperformed earnings in forecasting future cash flows. Moreover, the investigation assessed whether the relative predictive ability of current cash flows and earnings on future cash flows increased over the sample period. Finally, the investigation explored whether the linear and non-linear incremental explanatory power of current cash flows and earnings in relation to future cash flows increased over the sample period.

The commonly used model developed by Dechow et al. (1998) was employed to investigate the association and trend of the predictive ability of current cash flows and earnings. The findings showed that both current cash flows and earnings are strong predictors of future cash flows in the Indian capital markets.

These findings are supported by prior studies conducted by Kim and Kross (2005), Greenberg et al. (1986), Jemaa et al. (2015) and Efayena (2015), who documented that both current cash flows and earnings are reliable estimators of future cash flows.

Regarding which variable performed better in predicting future cash flows, it was found that current cash flows outperformed earnings in forecasting future cash flows for entities. Similarly, these findings corroborate the prior studies that highlighted the superiority of current cash flows over earnings in forecasting future cash flows (Al-Attar and Hussain, 2004; Farshadfar et al., 2008; Al-Debi'e, 2011; Aktas and Kargin, 2012; and Efayena 2015; Dawar, 2015).

It was also reported that the linear trend of the incremental explanatory power of cash flows in forecasting future cash flows increased over the sample period. However, the linear trend of the incremental predictive ability of earnings on future cash flows declined over time. Moreover, the increase in the non-linear trend of the incremental explanatory power of cash flows was observed over the sample period. However, the findings revealed the insignificant increase in the non-linear trend of the explanatory power of earnings over the sample period.

The overall findings suggest that current cash flows are better predictors of future cash flows than earnings; hence, analysts may prefer to use current cash flows for forecasting future cash flows in the Indian Capital Markets.

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