CEO OVERCONFIDENCE AND CASH FLOW MANAGEMENT

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ABSTRACT

This paper examines the relation between CEO overconfidence and the management of Cash Flow from Operations (CFO). More specifically, author analyzed whether the firms with an overconfident CEO are more likely to engage in cash flows management. I found that even after controlling for industry and year fixed effect, and other determinants, firms with an overconfident CEO are more likely to inflate CFO. The research also found that overconfident CEOs are more likely to manage CFO by shifting items. These findings suggest that overconfident CEOs could have an incentive to inflate cash flows from operations to signal to meet the requirements of shareholders and attract the attention of market investors. This study provides a direct evidence for the relation between CEO overconfidence and cash flow management as a way of earnings management.

Keywords: CEO Overconfidence, Earnings Management, CFO Management.

INTRODUCTION

There is a growing body of relatively recent literature on the misclassification of items in financial statements. Many managers have been found to inflate core or operating earnings by shifting operating expenses to income-reducing special items in the income statement (Mcvay, 2006; Fan et al., 2010; Cain et al., 2012). Managers use various methods to inflate core earning or operating earnings, depending on the costs, constraints, and timing relating to each strategy. Additionally, managers have also been found to manipulate operating cash flows. Zhang (2006) finds that cash flow manipulation is more likely when the magnitude of accruals is high, firms are capital-intensive, and firms consider cash dividend targets important. Lee (2012) suggests that firms overstate operating cash flows by shifting classifications in the cash flow statement when they are in financial distress, or when the company has a long-term credit rating approaching the investment/noninvestment grade cut-off; firms also consider analysts' cash flow forecasts. Additionally, shifting can occur whenever there is stronger correlation between a firm's stock returns and its Cash Flow from Operations (CFO).

Cash from operations and earnings are complementary measures of firm performance. Cash Flow from Operating (CFO) indicates the amount of money a firms brings in from the ongoing regular business activities, such as manufacturing and selling goods or providing a service. That is, CFO focuses on the core business. Therefore, cash flows from operations are considered sustainable and have related to valuation of business. Recent studies document that a growing and economically significant proportion of firms' analysts and managers issue cash flow forecasts (Defond & Hung, 2003; Wasley & Wu, 2006; Call, 2008). As greater numbers of firms and analysts are now issuing cash flow forecasts, the probability that operating cash flow figures will be manipulated has increased. For this reason, investors have started to pay more attention to the CFO. Emerging cases of cash flow misreporting have raised concerns about whether

managers exercise discretion in financial reporting and in the timing of transactions, in order to inflate reported CFO (Lee, 2012).

According to the results of earlier research, overconfidence could impact financial reporting, as overconfident Chief Executive Officers (CEOs) would tend to overestimate the predicted future cash flow of projects but underestimate the likelihood and impact of adverse events (Heaton, 2002; Malmendier & Tate, 2005; Lin et al., 2005). Overconfident CEOs are likely to be less conservative in accounting (Ahmed & Duellman, 2013), they are also more likely to exhibit an optimism that leads to intentional financial misstatement (Schrand & Zechman, 2012), issue a financial restatement (Presley & Abbott, 2013), and engage in real earnings management (Hsieh et al., 2014; Dechow et al., 1995).

Overconfident CEOs are more likely to undertake hubristic takeovers and to spend more resources internally. However, if internal funds are not sufficient, they do not issue new equity to increase investment in new projects. Overconfident CEOs consider external financing costly, and they tend to create financial slack for future investment by reducing dividends (Deshmukh et al., 2013). Additional cash flow provides an opportunity for overconfident CEOs to invest at levels more in line with their desired levels (Malmendier & Tate, 2008).

Overconfident CEOs have incentives to manipulate firm earnings (e.g., to meet shareholder requirements and attract the attention of market investors) (Graham et al., 2005). Overconfidence about future earnings can create the anticipation of greater financial slack, and may lead to borrowing from future earnings for use in the current period something that also suggests a greater likelihood of current earning management (Schrand & Zechman, 2012).

To date, there have been multiple studies on earnings management (Athanasakou et al., 2011). Nonetheless, there has been little evidence with regard to cash flow management. CEOs may manipulate to inflate reported cash from operations in the statement of Cash Flows (CFO). However, CFO management differs from earnings management. Unlike the earnings management based on accruals, managers can't manage cash flow with biased estimations, so they have no choice but to resort to classification and timing. Specifically, CEOs manage operating cash flows by shifting items between categories of the cash flows statement within Generally Accepted Accounting Principles (GAAP), or by timing certain transactions such as delaying payments to suppliers or accelerating collections from customers (Lee, 2012). This study examines the relation between CEO overconfidence and Cash flow management. More specifically, author analyzed whether firms with an overconfident CEOs are more likely to manipulate operating cash flows by misclassifying cash flows. I found that even after controlling for industry and year fixed effects and other determinants, firms with an overconfident CEO are more likely to inflate cash flow from operating. The research also found that overconfident CEOs are more likely to manage cash flow from operating by shifting items. This study found evidence that firms with an overconfident CEO are more likely to shift cash flows between operating and financing categories in order to inflate cash flow from operating. These findings suggest that overconfident CEOs could have an incentive to inflate Cash flow, to signal to investors that the firm has enough cash for new project investments.

This study contributes to the cash flow literature by providing evidence that overconfidence is associated with Cash flow management. However, in investigating whether overconfident CEOs use timing to manage CFO, this study finds no evidence through any additional analysis involving the cash conversion cycle. Collectively, this study provides a direct evidence of the relation between CEO overconfidence and cash flow management as a means of

earnings management. These findings could prove useful to investors and regulators in understanding financial information and the behavior of overconfident CEOs.

LITERATURE REVIEW

CEO Overconfidence

Overconfidence is defined as the tendency of individuals to overestimate their knowledge and abilities, or the precision of their information, and which leads them to expect and seek to achieve more desirable outcomes than a realistic evaluation would otherwise suggest (Bhandari & Deaves, 2006).

According to prior research, overconfidence can impact financial reporting, as overconfident CEOs tend to overestimate the projected future cash flow of projects but underestimate the likelihood and impact of adverse events (Heaton, 2002; Malmendier & Tate, 2006). Gong et al. (2009) suggest that overconfident managers tend to underestimate decision risks and use lower discount rates, and that their optimism may lead to certain irrational behaviors (Lin, 2005) and intentional financial misstatement (Schrand & Zechman, 2012). Additionally, as mentioned, overconfident CEOs are likely to be less conservative in accounting (Ahmed & Duellman, 2013), and they are more likely to exhibit an optimism that leads to intentional financial misstatement (Schrand & Zechman, 2012). They are also more likely to issue a financial restatement (Presley and Abbott 2013) or engage in real earnings management (Hsieh et al., 2014). Overconfident CEOs overestimate the returns of their investment projects as being more responsive to cash flow (Malmendier & Tate, 2005), and they inflate CFO by using certain classifications and timing when the incentives to do so are particularly high (Lee, 2012). Overall, overconfident CEOs are more likely to engage in earnings management so as to meet the expectations of investors and earnings forecasts.

Cash Flow Management

There is a sizeable body of earnings management literature. Nonetheless, there is a scarcity of research on cash flow manipulation and classification shifting in cash flow statements. Zhang (2006) reports that cash flow manipulation is more likely to occur when the magnitude of accruals is high, firms are capital-intensive, or firms consider cash dividend targets important. Hollie et al. (2011) suggest that firms overstate operating cash flows by shifting classifications. Lee (2012) examines how managers use classifications and timing to inflate reported CFO, to investigate CFO management as a phenomenon separate from earnings management. She finds that firms are more likely to upwardly manage operating cash flow when they are in financial distress, have a long-term credit rating approaching the investment/noninvestment grade cut-off, or have analysts' cash flow forecasts; she also finds that there is strong association between a firm's stock returns and its CFO. Managers manipulate operating cash flows by using various misclassification strategies. Nagar & Sen (2013), for example, find evidence that Indian firms shift operating cash outflows to investing and financing cash flows, and investing and financing cash inflows to operating cash inflows.

Recently, many managers and analysts have issued cash flow forecasts (Defond & Hung, 2003; Wasley & Wu, 2006; Call, 2008). As the number of cash flow forecasts has increased over the years, so too has the probability of manipulating operating cash flow. Investors have started to pay more attention to CFO, and various cases of cash flow misreporting have raised concerns

that managers are exercising discretion in financial reporting and in the timing of transactions, in order to inflate reported CFO (Lee, 2012).

HYPOTHESES DEVELOPMENT

CEOs make managerial decisions based on past firm's performance and economic environment. Such manager's behaviors may be affected by personal characteristics. According to prior studies, overconfidence affects corporate investment, financing and dividend policies, as well earnings management. Overconfident CEOs are more likely to exhibit an optimism that leads to intentional financial misstatement. They have incentives to manipulate firm earnings namely, to meet shareholder requirements and attract the attention of market investors (Graham et al., 2005). Overconfidence with regard to future earnings can create the anticipation of greater financial slack, and this may lead to borrowing from future earnings for use in the current period; this would, in turn, suggest a greater likelihood of current earnings management (Schrand & Zechman, 2012). Overconfidence also increases the optimistic bias in earnings forecast, and it leads to both an increased likelihood of missing management forecasts and more intensive earnings management (Hribar et al., 2012).

Operating Cash flow and earnings are complementary measures of firm's performance. Cash Flow from Operating (CFO) indicates the amount of money a firms brings in from the ongoing regular business activities, such as manufacturing and selling goods or providing a service. That is, CFO more focuses on the core business. Therefore, cash flows from operations are considered sustainable and have related to valuation of business. Many financial advisors advocate that cash flow from operations is more real that earnings (Lee, 2012). Recently, investors have started paying more attention to CFO (Schilit & Perler, 2010). Consequently, more numbers of firms and analysts now issue cash flow forecasts (DeFond & Hung, 2003, Wasley & Wu, 2006; Defond & Hung, 2007; Call, 2008), the probability of operating cash flows being manipulated has increased over the years. Hence, firms manipulate not only the reported earnings but also the reported cash flow from operations. However, CFO management is distinct from earnings management. Unlike the earnings management through accruals, they manage operating cash flows by shifting items between categories of the cash flows statement within Generally Accepted Accounting Principles (GAAP), or by timing certain transactions such as delaying payments to suppliers or accelerating collections from customers without biased estimations (Lee, 2012).

Overconfident CEOs who overestimate the returns of their investment projects are more responsive to cash flow (Malmendier & Tate, 2005). Overly optimistic expectation about future performance cause CEOs to intentionally engage in cash flow management. Also, they may be more likely to report to have enough cash to invest for future investment to shareholders and stakeholders. Because sufficient cash flow provides an opportunity for overconfident CEOs to invest at levels more in line with their desired levels (Malmendier & Tate, 2008).

Another strand of the cause of CFO management is an agency problem. Self-interested manager could divert company funds for consumption of value-reducing private profits (Jensen & Meckling, 1976). For instance, overconfident CEOs could waste firm's cash on empire-building, value-reducing project owing to overly conviction of future investment. In other words, they try to justify their current privileges by managing cash flows from future earnings.

Ceteris paribus, author predict that overconfident CEOs are more likely to engage in cash flow from operations as well as earnings management to meet shareholder expectations, attract

the attention of market investors and to justify their financial decision and privileges. Therefore set the following hypothesis.

H1: There is a positive relation between CEO overconfidence and CFO management.

METHODOLOGY

Sample Selection

Table 1 outlines the sample selection procedure of the current study. Sample data from the 1992-2014 period were drawn from the Compustat, CRSP, and Execucomp databases. (The study period starts in 1992, because data pertaining to the measurement of overconfidence has been available through Compustat only since then.) First, researchers included all firms that have a distribution code in the CRSP database; started with 280,244 firm-year observations, and then excluded some records. To estimate unexpected CFO, this study requires at least 15 observations for each industry year group. Researchers excluded 1,832 firm-year observations that have insufficient information, and also excluded firms in the financial industry (SIC codes 6000-6999). Finally, after excluding firm-year observations that lack sufficient information for measuring the independent variables, the study obtain a final sample of 30,486 firm-year observations. To calculate ΔCC, author eliminated 5,689 firm-year records that lack quarterly Compustat data. The study used 24,797 firm-year observations in the cash conversion cycle analysis.

Table 1
SAMPLE SELECTION

Sample Selection Criteria	Firm-years
Total number of firm-years between 1992 and 2014 that have distribution code on Compustat	280,244
(-) Firms-years without at least 15 observations for each industry-year to estimate UCFO	1,832
(-) Firms-years of financial institutions(SIC 6000-6999)	15,749
(-) Firms-years that do not have information from ExecComp	216,886
(-) Firms-years have insufficient information to measure independent variables	15,291
Total number of firm-years in final sample for UCFO	30,486
(-) Firm-years without data from Compustat quarterly to compute ΔCC	5.689
Total number if firm-years in final sample for Cash Conversion Cycle	24,797

Research Model

This study used two proxies to measure overconfidence. The first measure is based on executives' option-exercising behavior (Holder67); the other is based on companies' investment decisions (CAPEX). First, Malmendier & Tate (2005) suggest that overconfident CEOs tend to believe that their competencies are helpful in increasing firm value, and so they will frequently disclose good information or be strongly motivated to hold stock options. Based on this inference, it may be appropriate to measure overconfidence through detailed information with regard to CEOs' disclosures and options holdings. Following Campbell et al. (2011), the study used the following process to measure the overconfidence (Holder67). Overconfidence is measured based on whether CEOs exercise their option after the end of the vesting period. First, researcher collected the average realizable value per option from ExecuComp. Second, estimated the average exercise price of options by using the average realizable value per option and the

contemporaneous stock price. Third, calculated the average percentage of extent to which options are in the money. Lastly, the study set Holder67 as being equal to 1 if the average value per option divided by the average exercise price option exceeded 0.67 for the CEO at least twice during the sample period, and 0 otherwise. Consistent with Malmendier & Tate (2005) and Campbell et al. (2011), CEOs are considered overconfident during the first year in which they exhibit this option-exercising behavior, and as overconfident for the remainder of the sample period. This paper estimates CEO Overconfidence from Execucomp by following Campbell et al. (2011).

$$\bar{C}\ (average\ per\ option) = \frac{The\ value\ of\ exercisable\ unexercied\ options}{The\ number\ of\ exercisable\ unexercied\ options} \quad (1)$$

$$\bar{X}\ (average\ exercise\ proce\ per\ option) = The\ stock\ price(\bar{S}) - \bar{C} \quad (2)$$

$$\text{Holder } 67 = \frac{\bar{C}}{\bar{X}} \quad (3)$$

The second measure of CEO overconfidence relies on companies' investment decision. Ben-David et al. (2007) find that companies with overconfident CEO have larger capital expenditure than other companies. Malmendier & Tate (2005) reported that overconfident CEOs are more likely to overinvest in capital projects. Research set investment based proxy for overconfidence, CAPEX, equal to one if capital expenditure deflated by total assets is greater than the median in the company's industry, and zero otherwise. This paper used Fama & French 48 industry categories, if capital expenditure is larger than median of same industry, CEOs are classified as overconfidence. This study used CAPEX for proxy of overconfidence (Ahmed & Duellman, 2012).

$$\frac{The\ capital\ expenditure}{lagged\ total\ assets} > \frac{The\ median\ capital\ expenditure}{lagged\ total\ assets} \quad (4)$$

Following prior literature (Roychowdhury, 2006; Cohen et al., 2008; Cohen & Zarowin, 2010; Kim et al., 2012), Research estimates the unexpected operating cash follow from Equation (5). This paper requires at least 15 observations in a two-digit SIC code for a given year. For every firm-year, unexpected cash flow from operations is the residuals from Equation (5). Unexpected CFO is the difference between actual and expected CFO.

$$\frac{CFO_t}{TA_{t-1}} = \beta_0 + \beta_1\left(\frac{1}{TA_{t-1}}\right) + \beta_2\left(\frac{Sales_t}{TA_{t-1}}\right) + \beta_3\left(\frac{\Delta Sales_t}{TA_{t-1}}\right) \quad (5)$$

Where,
CFO=Cash Flow from Operation; TA=Total Assets; Sales=Sales in given year; ΔSales=change of sales.

In line with the previous literature (Roychowdhury, 2006; Cohen et al., 2008; Cohen & Zarowin, 2010, Kim et al., 2012), The research estimates the unexpected operating cash flow through Equation (5). For a given year, this study requires at least 15 observations in a two-digit standard industrial classification (SIC) code. For every firm year, unexpected CFO is the residual from Equation (5). Unexpected CFO is the difference between the actual and expected CFO.

To test the hypothesis that there is a relation between CEO overconfidence and CFO management, this study uses the following three regression models (Equations (6)–(8)). We will look at each of these, in turn.

$$UCFO_{it} = \alpha + \beta 1 Overconf_{it} + \beta_2 Size_{it} + \beta_3 MTB_{it} + \beta_4 Leverage_{it} + \beta_5 Ab\_ACC_{it} + Year\ \&\ IND\ Indicators + \varepsilon_{it} \quad (6)$$

Next, author used the model of Nagar & Sen (2013) to examine whether firms with an overconfident CEO shift investing or financing cash flow to operating cash flow. According to Nagar and Sen, if managers make either of these two shifts, the Cash Flow from Financing (CFF) and Cash Flow from Investing (CFI) values will be negative. They also use an interaction term with a Z-score (multiply-1). They suggest that a negative coefficient is evidence that managers are more likely to shift cash flow when their firm is in financial distress. The current study uses Equation (7) to examine whether overconfident CEOs use classification shifting to inflate operating cash flows.

$$\begin{aligned} UCFO_{it} = {} & \alpha + \beta_1 Overconf_{it} \\ & + \beta_2 CFF_{it} + \beta_3 CFI_{it} + \beta_4 Overconf * CFF_{it} + \beta_5 Overconf * CFI_{it} \\ & + \beta_6 SIZE_{it} + \beta_7 MTB_{it} + \beta_8 Leverage_{it} + \beta_9 Ab_{ACC_{it}} \\ & + Year\ \&\ IND\ Indicators + \varepsilon_{it} \end{aligned} \quad (7)$$

The third set of tests examines whether overconfident CEOs use timing to manage CFO. Following Lee (2012), the current study uses the cash conversion cycle, which measures how long it takes a firm to collect cash on accounts receivable after the firm pays cash for its inventory. Author used Equation (8) to examine whether overconfident CEOs use timing to manage CFO.

$$\Delta CC_{i,t+1} = \alpha + \beta 1 Overconf_{it} + \beta_2 Size_{it} + \beta_3 MTB_{it} + \beta_4 Leverage_{it} + \beta_5 Ab\_ACC_{it} + Year\ \&\ IND\ Indicators + \varepsilon_{it} \quad (8)$$

Control Variables

Several of the control variables were included which were identified in the previous literature as determinants of unexpected CFO and the cash conversion cycle. Studies within the literature control for firm size by including the natural log of total assets (SIZE); they also control for leverage (LEV), which is the ratio of total debt to total assets. The research included the ratio of Market-to-Book of equity (MTB); The research also include the absolute value of discretionary accruals (Kim et al., 2012; Lee, 2012) so that two earnings management proxies namely, accrual-based and real activities manipulation have a substitutive relation.

RESULTS

Descriptive Statistics and Univariate Analysis

Table 2 provides descriptive statistics of the variables used in this study. It shows that the mean of overconfident CEOs is 73.7% when Holder67 is used; that number is 49.7% when

CAPEX is instead used as a proxy for overconfidence. The mean and median values of UCFO are 0.074 and 0.058, respectively. The mean value of the cash conversion cycle between Q1 of year t and Q4 of year t-1 is about eight days.

Table 2
DESCRIPTIVE STATISTICS

Variables	Mean	Std. Dev.	Min	25%	Median	75%	Max
Holder67	0.737	0.440	0.000	0.000	1.000	1.000	1.000
CAPEX	0.497	0.500	0.000	0.000	0.000	1.000	1.000
UCFO	0.074	0.591	-20.638	-0.008	0.058	0.144	27.259
CFF	0.015	0.174	-0.284	-0.059	-0.015	0.031	1.009
CFI	-0.108	0.156	-0.891	-0.142	-0.070	-0.029	0.216
SIZE	7.268	1.598	3.859	6.106	7.153	8.341	11.284
MTB	0.227	3.398	-6.872	1.447	2.217	3.592	21.285
Leverage	0.148	0.183	0.000	0.060	0.216	0.345	0.808
Ab_ACC	5.187	0.373	0.000	0.026	0.064	0.150	20.671
ΔCC	8.010	36.254	-119.989	-3.487	2.533	13.292	201.080

Table 3 reports Pearson correlation coefficients for the variables used in Equations (6)-(8). The unexpected CFO significantly correlates with Holder67 and CAPEX, but the cash conversion cycle does not significantly correlate with Holder67 and CAPEX. A positive correlation would indicate that overconfident CEOs are more likely to inflate their CFO. The correlation coefficients between Holder67 and CFF, CFI, MTB, LEV, and Ab_ACC are 0.02, -0.06, 0.08, -0.06, and 0.03, respectively, and all are significant at the 1% level. This implies that firms with an overconfident CEO are more likely to have larger CFF, MTB, and Ab_ACC values and lower CFI and Leverage values.

Table 3
CORRELATIONS MATRIX

	Holder67	CAPEX	UCFO	CFF	CFI	SIZE	MTB	Leverage	Ab_ACC	ΔCC
Holder6	1.000	0.01	**0.02**	**0.02**	**-0.06**	0.01	**0.08**	**-0.06**	**0.03**	**0.02**
CAPEX		1.000	**0.05**	**0.15**	**-0.28**	**-0.07**	**0.10**	**-0.04**	-0.01	**-0.05**
UCFO			1.000	0.01	**-0.08**	-0.01	**0.10**	**-0.04**	**0.18**	-0.01
CFF				1.000	**-0.73**	**-0.12**	**0.07**	**0.12**	**0.09**	0.01
CFI					1.000	**0.07**	**-0.13**	**-0.05**	**-0.04**	**0.04**
SIZE						1.000	**-0.04**	**0.32**	**-0.06**	**-0.02**
MTB							1.000	**-0.08**	**0.05**	**-0.02**
Leverage								1.000	**-0.03**	0.00
Ab_ACC									1.000	0.01
ΔCC										1.000

Two-tailed t-test, coefficients in **bolds** are significant at less than 5% levels.

Table 4 reports the mean and median differences between firms with an overconfident CEO and those with a non-overconfident CEO. Using Holder67, the mean UCFO value for firms with an overconfident CEO and those with a non-overconfident CEO is 0.081 and 0.052, respectively; with CAPEX, those mean values are 0.103 and 0.044, respectively. The mean difference in UCFO between firms with an overconfident CEO and those with a non-overconfident CEO is statistically significant at the 1% level. Additionally, the mean value in the cash conversion cycle between the two groups of firms is significantly different at the 1% level.

Additionally, when research used Holder67 as a proxy for overconfidence, the mean values of Ab_ACC are significantly larger for firms with an overconfident CEO (0.153) than for firms with a non-overconfident CEO. This means that firms with an overconfident CEO are more likely to manage earnings through accruals; this finding is consistent with those of prior research that finds that overconfident CEOs are more likely to manipulate earnings (Hribar et al., 2012, Schrand & Zechman, 2012). Furthermore, firms with an overconfident CEO are more likely to have larger SIZE and MTB values, and a lower Leverage value. Overall, these two groups of firms have statistically different firm characteristics.

Table 4
T-TEST BETWEEN OVERCONFIDENT CEO AND NON-OVERCONFIDENT CEO

	Holder67/CAPEX=1 Mean		Holder67/CAPEX≠0 Mean		Difference	Difference
Variables	N=22,458	N=15,340	N=8,028	N=15,146		
UCFO	0.081	0.103	0.052	0.044	0.029***	0.059***
FCF	0.014	0.043	0.015	-0.013	0.001	0.056***
ICF	-0.113	-0.156	-0.095	-0.060	-0.018***	-0.096***
Size	7.316	7.157	7.132	7.378	0.184***	-0.221***
MTB	3.212	3.467	2.574	2.626	0.638***	0.841***
Leverage	0.219	0.217	0.248	0.235	-0.026***	-0.018***
Ab_ACC	0.153	0.147	0.132	0.148	0.021***	0.001
ΔCC	8.355	6.176	7.037	9.826	1.318***	-3.650***

*** denote the significance at 1% levels (two-tailed).

Relation between CEO Overconfidence and Unexpected CFO

Table 5 reports the results of regressing the relation between CEO overconfidence and unexpected CFO. Table 5 shows the reported t-statistics based on standard errors clustered at the firm level. The coefficient on Holder67 in columns (1) and (3) are significantly positive, and the coefficient on CAPEX in columns (2) and (4) are statistically significant at the 1% level; these results are consistent with previous research that find that overconfident CEOs are more likely to engage in earnings management. The result indicates that firms with an overconfident CEO are also more likely to inflate CFO. The implication here is that overconfident CEOs have incentives to manipulate their firm earnings to meet shareholder requirements and attract the attention of market investors.

Table 5
REGRESSION OF OVERCONFIDENT CEO ON UNEXPECTED CFO

Dependent: UCFO	Coefficient (t-stat.)	Coefficient (t-stat.)	Coefficient (t-stat.)	Coefficient (t-stat.)
Intercept	0.010	-0.000	-0.107***	-0.120***
	(0.290)	(0.000)	(-2.720)***	(-4.46)
Holder67	0.024***	0.070***	0.016**	
	(3.12)	(9.82)	(2.03)	
CAPEX				0.049***
				(6.41)
SIZE			0.011***	0.012***
			(3.31)	(3.62)
MTB			0.014***	0.014
			(9.59)	(9.12)***

Table 5 REGRESSION OF OVERCONFIDENT CEO ON UNEXPECTED CFO				
Leverage			-0.146***	-0.138***
			(-5.48)	(-5.17)
Ab_ACC			0.285***	0.282***
			(4.72)	(4.69)
Year Indicators	Yes	Yes	Yes	Yes
Industry Indicators	Yes	Yes	Yes	Yes
Adj. R	0.056	0.059	0.094	0.095
N	30,486	30,486	30,486	30,486

, and * denote the significance at 5%, and 1% levels (two-tailed), respectively.

Relation between Classification Shifting and Unexpected CFO

Table 6 shows the relation between classification shifting and unexpected CFO. The coefficients CFF and CFI are negative and statistically significant, respectively. The interaction terms Holder67*CFF, Holder67*CFI, and CAPEX*CFI are significantly negative. A negative coefficient suggests that overconfident CEOs shift cash flows between operating and financing (investing) categories in order to inflate operating cash flows; in such cases, therefore, operating cash flows will increase with a decrease in financing or investing cash flows.

Table 6 REGRESSION OF UNEXPECTED CFO ON FINANCING AND INVESTING CASH FLOW		
Dependent: UCFO	Coefficient (t-stat.)	Coefficient (t-stat.)
Intercept	-0.122***	-0.133***
	(-4.76)	(-5.39)
Holder67	-0.014	
	(-1.25)	
CAPEX		0.010
		(1.43)
CFF	-0.515***	-0.514***
	(-7.90)	(-7.90)
CFI	-0.605***	-0.607***
	(-6.67)	(-6.96)
Holder67/CAPEX*CFF	-0.064*	-0.059
	(-1.66)	(-1.61)
Holder67/CAPEX*CFI	-0.213**	-0.195**
	(-2.37)	(-2.44)
SIZE	0.005*	0.005*
	(1.81)	(1.69)
MTB	0.011***	0.011***
	(8.08)	(7.89)
Leverage	-0.087***	-0.085***
	(-3.76)	(-3.62)
Ab_ACC	0.281***	0.281***
	(4.93)	(4.92)
Year Indicators	Yes	Yes
Industry Indicators	Yes	Yes
Adj. R	0.115	0.115
N	30,486	30,486

*, **, and *** denote the significance at 10%, 5%, and 1% levels (two-tailed), respectively.

Relation between CEO Overconfidence and the Cash Conversion Cycle

Table 7 reports the results of regression on whether overconfident CEOs are more likely to accelerate cash collections and delay cash payments for higher CFO, compared to non-overconfident CEOs. In this case, Researchers didn't find evidence that overconfident CEOs are more likely to shorten the cash conversion cycle in Q4 and to report higher CFO, relative to non-overconfident CEOs.

Table 7
REGRESSION OF OVERCONFIDENCE ON CASH CONVERSION CYCLE

Dependent: UCFO	Coefficient (t-stat.)	Coefficient (t-stat.)
Intercept	132.934**	130.899*
	(1.98)	(1.95)
Holder67	-2.916	
	(-0.75)	
CAPEX		2.168
		(0.51)
SIZE	2.879**	2.790**
	(2.27)	(2.20)
MTB	-1.634**	-1.695**
	(-2.47)	(-2.54)
Leverage	-6.754	-6.246
	(-0.52)	(-0.48)
Ab_ACC	10.670	10.612
	(1.15)	(1.15)
Year Indicators	Yes	Yes
Industry Indicators	Yes	Yes
Adj. R	0.085	0.087
N	24,797	24,797

*, ** denote the significance at 10%, and 5%levels (two-tailed), respectively.

DISCUSSION AND CONCLUSION

Managers use various methods to inflate core earning or operating earnings, depending on the costs, constraints, and timing relating to each strategy. Additionally, managers have also been found to manipulate reported cash from operations in the statement of Cash Flows. However, Cash flow management differs from earnings management. CEOs manage operating cash flows by shifting items between categories of the cash flows statement within Generally Accepted Accounting Principles (GAAP), or by timing certain transactions such as delaying payments to suppliers or accelerating collections from customers (Lee, 2012).

Recently, more firms and analysts are now issuing cash flow forecasts. Additionally, the probability of operating cash flows being manipulated has also increased over the years, and investors have started to pay more attention to Cash Flow from Operations (CFO). According to the results of previous research, overconfident Chief Executive Officers (CEOs) are more likely to manage earnings through accruals and real earnings management (Hribar et al., 2012; Schrand & Zechman, 2012). Despite having been many studies on earnings management, to date there is little evidence with respect to cash flow management. This study found that overconfident CEOs are more likely to manipulate operating cash flows through the misclassification of cash flows.

The research found that even after controlling for industry and year fixed effects, as well as other determinants, firms with an overconfident CEO are more likely to inflate CFO. The research also found that overconfident CEOs are more likely to manage CFO by shifting items. As such, the current study provides an evidence that firms with an overconfident CEO are more likely to shift cash flows between operating and financing categories in order to inflate CFO. These findings suggest that overconfident CEOs could have an incentive to inflate CFO to manipulate of their firm's cash flow (e.g., meet shareholder requirements and attract the attention of market investors). Collectively, this study provided a direct evidence of the relation between CEO overconfidence and cash flow management as a means of earnings management.

This study contributes to the literature on cash flow, by providing evidence that CEO overconfidence correlates with CFO management. However, this study didn't found an evidence through additional analysis (i.e., using the cash conversion cycle) that investigates whether overconfident CEOs use timing to manage CFO.

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