

MARKET RECOGNITION OF THE CASH COMPONENT OF EARNINGS

Young Zik Shin, Sungkyunkwan University

ABSTRACT

This paper examines whether the normal and abnormal cash component of earnings are rationally priced through the capital market, and if not, which cash component of earnings is more irrationally priced. I find that the market underestimates the persistence of the cash component of earnings and more importantly, the underpricing of the cash component of earnings mainly stems from the normal portion of cash component. In addition, I investigate whether the market perceives managers' opportunistic cash flow manipulation, and the result indicates that the market still fails to recognize managed cash flows.

Keywords: CFO Anomaly, Market Perception, CFO management.

INTRODUCTION

Sloan (1996) shows that abnormal future stock returns (after the fiscal year-end) are negatively associated with the magnitude of the accrual component of earnings whereas they are positively related with the level of the cash component of earnings. These results suggest that investors fixate on the mere number of current earnings, failing to recognize that the cash component of earnings is more persistent than the accrual component of earnings. In other words, the market overestimates (underestimates) the accrual component (the cash component) of earnings, and the market corrects such overestimation or underestimation of earnings component throughout the following year. This phenomenon is called "accrual anomaly."

Subsequent research, Xie (2001) further decomposes the accrual component of earnings into a normal and abnormal component of accruals and finds that the overpricing of the accrual component mainly stems from the abnormal accrual component. Since abnormal accruals would be more transitory than normal accruals, it is taken for granted that the overestimated accrual component of earnings is largely attributable to the abnormal accrual subcomponent. Dechow et al. (2008) interpret this finding as the market's failure to recognize potential accrual-based earnings management because the results of accrual-based earnings management are reflected mostly in the abnormal portion of the accrual component.

Based primarily on these, the following question is whether there is a subcomponent of cash flows that mainly drives the positive relation with abnormal future stock returns, from the perspective of the stock anomaly phenomenon. In addition, as Xie (2001) and Chen & Cheng (2002) address that the market fails to recognize managers' opportunistic accrual-based earnings management, it is also questionable whether the market correctly perceives managers' opportunistic cash flow management. This study aims to give the answer to these questions.

To do so, I decompose the cash component of earnings into (1) the normal portion of cash flows (hereafter, "NCFO"), and (2) the abnormal portion of cash flows (hereafter, "ABCFO"), following Dechow et al. (1998). I assume that the underestimated cash component of earnings is mainly attributable to NCFO, rather than ABCFO. The rationale for this conjecture is straightforward. Since the persistence of ABCFO would be less than that of NCFO, if the

market still fails to recognize the persistence of each earnings component, the underestimation of cash component would be more pronounced in NCFO than ABCFO. The results are consistent with this prediction. The persistence test exhibits that NCFO is the most persistent earnings component, next ABCFO, and lastly the accrual component of earnings. Along with this, the market pricing test shows that NCFO has more (than doubled) positive relation with abnormal future stock returns than ABCFO does.

Regarding the second research question, to see how the market prices the managed cash flows, I first focus on two places where managers' incentives to manipulate cash flows are expected to be high and where firms are suspected of manipulating cash flows. More specifically, for the first place, I look into the firm's financial health. Defond & Hung (2003) suggest that for highly distressed firms, cash flow information is more important in evaluating credit and bankruptcy risks, and Graham et al. (2005) even directly address that financially distressed firms have more incentives to inflate their cash flows. Thus, I expect managers' incentives to manipulate cash flows to be more prominent when the firm is financially distressed. For the second place, I focus on a reversal of the firm's cash conversion cycle between the fourth quarter of the year and first quarter of the following year. Lee (2012) argues that although a short cash conversion cycle of the fourth quarter of the year may represent a good business practice, it could be viewed as a manipulation tactic to inflate cash flows if such a practice is not continuously observed in the first quarter of the following year. Therefore, I also expect a quick reversal of the cash conversion cycle between those two consecutive quarters to indicate managers' opportunistic cash flow manipulation.

Focusing on these two places, I investigate whether the market perceives managers' cash flow management. I posit that if the market does not recognize managers' opportunistic cash flow management, the positive relation between abnormal future stock returns and ABCFO would be mitigated in the presence of managers' opportunistic cash flow manipulation. The rationale for this conjecture is also straightforward. If a manager opportunistically inflates cash flows, such manipulation would be reflected in ABCFO, rather than NCFO. Thus, in this case, ABCFO becomes much less persistent. Accordingly, if the market does not recognize cash flow management, the positive relation between abnormal future stock returns and ABCFO should be smaller as ABCFO includes managers' opportunistic cash flow management more and more. The results corroborate this prediction. The positive relation between abnormal future stock returns and ABCFO is decreased as the firm's financial distress is more severe and its' reversal of the cash conversion cycle is faster.

This study contributes to extant literature by providing empirical evidence of stock anomaly from the perspective of the normal and abnormal cash component of earnings. To date, there is little study to explore it. In addition, its findings have implication for literature in that they suggest that Sloan's (1996) hypothesis that the market fixates on earnings can be a potential explanation of the stock anomaly.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Sloan (1996) has addressed that the market fixates on reported earnings and does not take into account the difference between the persistence of the accrual and cash component of earnings when evaluating one-year-ahead earnings. In his analyses, the results indicate that the accrual component of earnings exhibits lower persistence than the cash component of earnings. Thus, abnormal future stock returns around future earnings announcements are negatively associated with high levels of the accrual component of earnings whereas they are positively

related with high levels of the cash component of earnings. This phenomenon is called “accrual anomaly” by extant literature.

Among subsequent studies in this regime, Xie (2001) further demonstrates that the negative association between abnormal future stock returns and the accrual component of earnings stems mainly from abnormal accruals (known as “discretionary accruals in the previous literature). Xie (2001) decomposes accruals into an abnormal component and normal component and shows that the abnormal component of accruals is less persistent or more transitory. Accordingly, in her market pricing tests, the results indicate that Sloan’s (1996) finding that the negative relation between abnormal future stock returns and the accrual component of earnings is driven by abnormal accruals, suggesting that the market does not fully capture potential earnings management (Dechow et al. 2008).

Moving toward the cash component of earnings, as addressed earlier, previous studies have evidenced that cash flows are more persistent than accruals (Bradshaw et al. 2001; Barth & Hutton 2004; Fairfield et al. 2003). Dechow et al. (2008) further demonstrate that the cash component of earnings has three subcomponents that retain different levels of earnings persistence. According to them, cash flows from equity financing activities show the highest persistence, followed by cash flows from issuances or distributions to debt, and lastly cash flows from changes in the cash balance.

This paper tries to examine the cash component of earnings with a different approach from Dechow et al. (2008). Dechow et al. (2008) focus on looking into “external financing anomaly” with the cash component of earnings. However, this study tries to investigate if the market fails to recognize the persistence of earning components from the perspective of the cash component of earnings. In this sense, it may provide different implications from Dechow et al. (2008).

In this paper, I decompose the cash component of earnings into the normal portion of cash flows (NCFO), and the abnormal portion of cash flows (ABCFO). Here, NCFO represents cash flows that result from normal business operations whereas ABCFO is more likely to be associated with management actions that deviate from normal business practices (Roychowdhury 2006), suggesting that the persistence of NCFO would be higher than that of ABCFO. Accordingly, if Sloan’s (1996) hypothesis that the market fixates on earnings is valid, the underestimation of the cash component of earnings would be more pronounced in NCFO than ABCFO. Keeping this tension in mind, I state the first hypothesis as follows:

H1 The positive relation between abnormal future stock returns and the cash component of earnings will be more pronounced in the normal cash component of earnings than the abnormal cash component of earnings.

Chen & Cheng (2002) has extended Xie’s (2001) work by providing more sophisticated evidence of why abnormal accruals are less persistent than normal accruals. For example, Chen & Cheng (2002) find that the abnormal accrual anomaly is systematically related with manager’s motivations to record abnormal accruals. In their analysis, they show that abnormal future stock returns are more negatively associated with abnormal accruals that contain managers’ opportunistic earnings management. These results suggest that the market does not detect accrual-based earnings manipulation, and provide a possible explanation for the abnormal accrual anomaly that Xie (2001) finds. Moreover, the market’s failure to recognize opportunistic earnings management provides managers with more incentives to manipulate earnings and prevents their ability to communicate private information to the market via accruals.

In line with this, when the market fails to detect managers' motivations to record abnormal cash flows, a similar explanation of the relation between abnormal future stock returns and the abnormal cash component of earnings(ABCFO) could be applicable. That is, if managers opportunistically manipulate cash flows, such manipulation would be reflected in ABCFO thereby exacerbating the persistence of ABCFO. Then, if the market does not recognize cash flow management in the current year, abnormal future stock returns will, in turn, form a negative relation with ABCFO to correct the market's failure. Based primarily upon this allegation, I state the second hypothesis as follows:

- H2 The positive relation between abnormal future stock returns and the cash component of earnings will be mitigated as the abnormal cash component of earnings more reflects managers' opportunistic cash flow management.*

METHODOLOGY

Sample Selection

The sample period spans from 1988 to 2013. The reason that I start with the year of 1988 is because of the availability of data on "cash flows from operations" from the statement of cash flows. Table 1 summarizes the sample selection procedure drawn from the Compustat yearly and quarterly data and CRSP monthly stock return data files. Specifically, I delete firm-year observations missing yearly or quarterly data to calculate variables. Then, those that have fewer than 10 observations in any two-digit SIC code and year combination are also deleted. In addition, I exclude firm-year observations having changed the fiscal year end to calculate change in cash conversion cycle and missing monthly stock return data on CRSP files. Lastly, I loss firm-year observations from merging COMPUSTAT data with CRSP data. Therefore, the final sample consists of 73,643 firm-year observations.

Criteria	Observations
Initial observations from Compustat	293,621
Less: Observations without relevant yearly and quarterly data from Compustat	81,558
Less: Observations which do not have at least 10 observations in the same year and industry	1,067
Less: Observations with firms which have changed the fiscal year end	4,924
Less: Losses from merging Compustat data with CRSP data	132,429
Final Observations	73,643

Research Model

Following Dechow et al. (1998), I decompose the cash component of earnings into the normal (NCFO) and abnormal (ABCFO) portion of the cash component as follows.

$$CFO_t / TA_{t-1} = \lambda_0 (I / TA_{t-1}) + \lambda_1 (SALE_t / TA_{t-1}) + \lambda_2 (\Delta SALE_t / TA_{t-1}) + \varepsilon_t \quad (1)$$

Where,

CFO=Cash flow from operations for the period; TA=The total assets; SALE (Δ SALE) =Sales(change in sales) during the period, t.

Equation (1) specifies the normal CFO (NCFO) and abnormal CFO (ABCFO) for each firm-year. NCFO is generated by the parameter estimates from Equation (1), and ABCFO is the difference between the actual CFO and NCFO.

To test the first hypothesis, I use the following regression model.

$$MADR_{i,t+1} = \alpha_0 + \alpha_1 ACCR_{i,t} + \alpha_2 NCFO_{i,t} + \alpha_3 ABCFO_{i,t} + \alpha_4 MOM_{i,t} + \alpha_5 BETA_{i,t} + \alpha_6 MV_{i,t} + \alpha_7 MB_{i,t} + \sum Year + \sum IND + \varepsilon_{i,t} \quad (2)$$

Where,

MADR=the stock return adjusted for the CRSP value-weighted market return employing cumulated twelve-month buy-and-hold stock returns inclusive of distributions from the fourth month after the fiscal year end; ACCR= total accruals measured by (net income-CFO)/lagged total assets; MOM= the momentum, 6 month cumulative market adjusted return preceding MADR; BETA= the beta coefficient measured by using 36 monthly return observations ending with sixth month of the preceding fiscal year; MV=the natural logarithm of market value of common equity at the end of fiscal year; MB=the market to book ratio calculated by market capitalization over book value of equity; Year (Ind)=the year (industry) indicator.

To support the first hypothesis, under the condition that the persistence of NCFO is larger than that of ABCFO, the coefficient on NCFO, α_2 , should be greater than the coefficient on ABCFO, α_3 . The model includes MOM, BETA, MV, and MB as control variables. Those control variables have been frequently used as determinants of future stock returns in extant literature based on Fama & French's (1993) 4 factor model (Kraft et al. 2007; Doyle et al. 2003).

For the test of the second hypothesis, I first investigate the firm's financial health and reversal of the cash conversion cycle. The firm's financial health is measured by Shumway's (2001) bankruptcy score as follows.

$$\text{Shumway score} = e^{\alpha} / (1 + e^{\alpha})$$

$$\alpha = -13.303 - 1.982 \times NI + 3.593 \times TL - 0.467 \times SIZE - 1.809 \times RET + 5.791 \times SIGMA \quad (3)$$

DIST= the yearly decile ranks of Shumway score

where,

NI=net income deflated by total asset; TL=total liabilities deflated by total assets; SIZE=the natural logarithm of the firm's size calculated by market capitalization over the total size of the NYSE and AMEX market; RET=the firms' one-year-behind market adjusted return; SIGMA=the standard deviation of the residual from a regression of each stock's monthly returns in year t-1 on the value-weighted NYSE/AMEX index return.

The firm's financial distress is scaled as the yearly decile rank(DIST). Accordingly, the higher DIST indicates more financial distress and thus, managers' greater incentives to implement opportunistic CFO management.

Next, I construct a reversal of the cash conversion cycle (ΔCC) as follows.

$$PURCHASE_q = INV_q + COGS_q - INV_{q-1}$$

$$CC_{q,t} = [(AR_q + AR_{q-1})/2] / [SALE_q / 90] + [(INV_q + INV_{q-1})/2] / [COGS_q / 90] - [(AP_q + AP_{q-1})/2] / [PURCHASE_q / 90]$$

$$\Delta CC_{t+1} = CC_{q1, t+1} - CC_{q4, t} \tag{4}$$

where,

INV= inventories; COGS=cost of goods sold; AR= accounts receivables; CC=the cash conversion cycle; ΔCC=a reversal of cash conversion cycle.

Following Lee (2012), I subtract the industry mean ΔCC for each quarter to control seasonal variation in the cash conversion cycle. To create the same unit as DIST, ΔCC is also adjusted to the decile rank each year. Accordingly, the higher ΔCC indicates managers’ more efforts to inflate reported CFO.

The model to test the second hypothesis is described in equation (5) and (6) as follows.

$$MADR_{i,t+1} = \alpha_0 + \alpha_1 ACCR_{i,t} + \alpha_2 NCFO_{i,t} + \alpha_3 ABCFO_{i,t} + \alpha_4 DIST_{i,t} + \alpha_5 DIST \times ABCFO_{i,t} + \alpha_6 MOM_{i,t} + \alpha_7 BETA_{i,t} + \alpha_8 MV_{i,t} + \alpha_9 MB_{i,t} + \sum Year + \sum IND + \varepsilon_{i,t} \tag{5}$$

$$MADR_{i,t+1} = \alpha_0 + \alpha_1 ACCR_{i,t} + \alpha_2 NCFO_{i,t} + \alpha_3 ABCFO_{i,t} + \alpha_4 \Delta CC_{i,t+1} + \alpha_5 \Delta CC_{i,t+1} \times ABCFO_{i,t} + \alpha_6 MOM_{i,t} + \alpha_7 BETA_{i,t} + \alpha_8 MV_{i,t} + \alpha_9 MB_{i,t} + \sum Year + \sum IND + \varepsilon_{i,t} \tag{6}$$

As described in equation (5), I incorporate DIST and the interaction term between DIST and ABCFO into Equation (2) to test the second hypothesis. All other variables are the same as used in Equation (2). Since ABCFO does not directly indicate managers’ opportunistic CFO management, DIST is incorporated to proxy for managers’ opportunistic incentives. Therefore, this interaction term captures ABCFO with more incentives to inflate CFO. To support the second hypothesis, the coefficient on the interaction term(α₅) is expected to be negative. Likewise, ΔCC and the interaction term between ΔCC and ABCFO are included in the Equation (6). ΔCC captures managers’ opportunistic efforts to inflate reported CFO in the fourth quarter. Therefore, to support the second hypothesis, the coefficient on the interaction term(α₅) in the Equation (10) is also expected to be negative.

Finally, in all regressions used to test hypotheses, standard errors are clustered by firm including year and industry fixed effect.

RESULTS

Descriptive Statistics and Univariate Analysis

Table 2 presents descriptive statistics for the variables used in the analyses. It exhibits that the mean of MADR is 0.059, and the mean of total accruals (ACCR), the abnormal cash component (ABCFO), and the normal cash component (NCFO) is -0.060, 0.035, and 0.026, respectively. The higher mean of ABCFO is mainly due to survival firms’ characteristics after the process that merges Compustat data with CRSP data. Other variables are comparable to those reported in previous studies.

Table 2					
DESCRIPTION STATISTICS					
Variables	Mean	Std.Dev.	Median	25%	75%
MADR	0.059	0.625	-0.046	-0.297	0.240
ACCR	-0.060	0.133	-0.049	-0.100	-0.007
NCFO	0.026	0.027	0.024	0.011	0.038
ABCFO	0.035	0.173	0.050	-0.007	0.111

DIST	5.498	2.871	5.000	3.000	8.000
Δ CC	5.499	2.872	5.000	3.000	8.000
MOM	0.025	0.380	-0.021	-0.193	0.165
BETA	1.159	0.938	1.037	0.551	1.613
MV	5.537	2.194	5.459	3.928	7.042
MB	2.647	4.220	1.799	1.101	3.088

Table 3 shows Pearson correlation coefficients for the variables. It shows that ACCR is negatively correlated with both normal and abnormal CFO, which is consistent with Dechow et al. (1998). More importantly, MADR is negatively correlated with ACCR whereas it is positively correlated with the two cash components. These results suggest that the market overprices ACCR but underestimates both NCFO and ABCFO.

	MADR	ACCR	NCFO	ABCFO	DIST	Δ CC	MOM	BETA	MV	MB
MADR	1.000	-0.060	0.032	0.088	-0.016	0.007	-0.005	-0.022	0.037	-0.080
ACCR		1.000	-0.100	-0.156	-0.125	-0.013	-0.014	-0.073	0.027	-0.046
NCFO			1.000	0.130	-0.144	-0.109	0.015	-0.010	0.127	-0.057
ABCFO				1.000	-0.370	-0.077	0.052	-0.102	0.243	-0.020
DIST					1.000	0.025	-0.310	0.014	-0.621	-0.150
Δ CC						1.000	-0.001	0.022	-0.020	0.028
MOM							1.000	0.009	0.113	0.107
BETA								1.000	0.078	0.090
MV									1.000	0.159
MB										1.000

Coefficients in **bolds** are significant at less than 5% levels, two-tailed

Results of the Tests for the Hypotheses

Table 4 shows the results of regression of abnormal future stock returns (MADR) on the abnormal (ABCFO) and normal CFO (NCFO). The first hypothesis predicts that the positive relation between MADR and CFO would be more pronounced in NCFO than ABCFO given that the persistence of NCFO is greater than that of ABCFO. Therefore, I first examine the persistence of each earnings component, such as ACCR, NCFO, and ABCFO. As in Column A of Table 4, the result exhibits that NCFO, followed by ABCFO, has the highest persistence, and ACCR does the lowest persistence. The coefficients on ACCR, ABCFO, and NCFO are 0.415, 0.715, and 1.392, respectively. Along with this result, Column B of Table 4 reports the result of the first hypothesis. The coefficients on both ABCFO and NCFO are significantly positive, but the coefficient on ACCR is significantly negative, suggesting that both parts of the CFO component of earnings are underpriced, but ACCR is overpriced when current earnings are released. More importantly, the coefficient on NCFO is 0.254, more than twice as much as the coefficient of ABCFO, 0.125. This implies that the positive relation between CFO and future stock returns that extant literature shows is mainly due to the persistence of NCFO rather than ABCFO. The results of control variables are mostly consistent with prior study (Dolye et al. 2003), except MB. BETA is significantly positive (0.014, $t = 4.83$) and MOM (-0.027, $t = -3.57$) and MV (-0.027, $t = -22.66$) are significantly negative. Overall, the results support the first hypothesis.

Column A (Dep. Var = Earnings in year $t+1$)			Column B (Dep. Var=MADR in year $t+1$)		
Variables	Estimate	t-stat	Variables	Estimate	t-stat
Intercept	-0.056	-3.79***	Intercept	0.188	0.037***
ACCR	0.415	31.51***	ACCR	-0.173	-7.17***
NCFO	0.715	23.93***	NCFO	0.254	2.17***
ABCFO	1.392	55.96***	ABCFO	0.125	7.42***
			MOM	-0.027	-3.57***
			BETA	0.014	4.83***
			MV	-0.027	-22.66***
			MB	-0.004	-6.87***
Obs.	73,643		Obs.	73,643	
Adjusted R ²	0.457		Adjusted R ²	0.070	

*, **, *** represent the significance at 10%, 5%, and 1% level, respectively, two-tailed.

Table 5 shows the results of the second hypothesis. The second hypothesis predicts that if the market does not recognize managers' opportunistic CFO management, the market would overprice the portion of opportunistically managed CFO, thereby creating negative future stock returns. As earlier mentioned, since ABCFO does not directly indicate opportunistically managed CFO, two proxies, such as DIST and ΔCC , are included to capture managers' opportunistic CFO management in the regression model. Thus, the interaction terms between ABCFO and these two proxies indicate ABCFO with more incentives or efforts to inflate CFO. Accordingly, the interaction terms are expected to be significantly negative. Table 5, Column A shows the result of regression of future stock returns on the interaction term between managers' opportunistic incentives (DIST) to inflate CFO and ABCFO. The coefficient on the interaction term (DIST \times ABCFO) is significantly negative (-0.019, $t=14.04$) suggesting that the market does not perceive CFO management in the current year thereby overpricing ABCFO. Next, Table 5, Column B presents the result of regression of future stock returns on the interaction term between managers' opportunistic efforts (ΔCC) to increase CFO and ABCFO. The result shows that the coefficient on the interaction term between ΔCC and ABCFO is marginally negative, (-0.006, $t = 1.66$). Overall, these results suggest that the market is less likely to recognize managers' opportunistic CFO management and thus, overpricing the managed CFO. These results support the second hypothesis and are comparable to Chen & Cheng's (2002) finding that shows future stock returns are negatively associated with abnormal accruals that include opportunistic earnings management.

Column A (Dep. Var = MADR in year $t+1$)			Column B (Dep. Var=MADR in year $t+1$)		
Variables	Estimate	t-stat	Variables	Estimate	t-stat
Intercept	-0.009	-0.21	Intercept	0.179	4.71***
ACCR	-0.097	-3.90***	ACCR	-0.171	-7.09***
NCFO	0.182	1.65*	NCFO	0.266	2.27*
ABCFO	0.329	9.54***	ABCFO	0.167	3.87***
DIST	0.020	14.04***	ΔCC	0.001	1.33
ABCFO X DIST	-0.019	-3.82***	ABCFO X ΔCC	-0.006	1.66*

MOM	0.014	1.71*	MOM	-0.027	-3.58***
BETA	0.011	3.91***	BETA	0.014	4.81***
MV	-0.013	-8.08***	MV	-0.027	-22.72***
MB	-0.004	-6.69***	MB	-0.004	-6.91***
Obs.	73,643		Obs.	73,643	
Adjusted R2	0.072		Adjusted R2	0.071	

*, **, *** represent the significance at 10%, 5%, and 1% level, respectively, two-tailed.

CONCLUSIONS AND RECOMMENDATIONS

Sloan (1996) provides evidence that the market fixates on the mere number of current earnings, failing to correctly perceive the persistence of earnings components. The market's fixation, therefore, triggers the stock market anomaly such that future abnormal stock returns are negatively (positively) associated with the magnitude of the accrual (cash) component of current earnings. This phenomenon is called "accrual anomaly". However, subsequent research shows that Sloan's (1996) hypothesis cannot be a complete explanation for the accrual anomaly.

Therefore, I revisit whether the market's fixation on current earnings, as Sloan (1996) addresses, can be a potential explanation of the stock anomaly from the perspective of the cash component of earnings. The results show that among three components of earnings, the normal cash component of earnings has the highest persistence, followed by the abnormal cash component of earnings, and the accrual component of earnings has the lowest one. Along with these, the market pricing test exhibits a negative relation between future abnormal stock returns and the accrual component, but a positive relation between future abnormal stock returns and the cash component of earnings. More importantly, the positive relation between future abnormal stock returns and the cash component earnings mainly stems from the normal cash component, rather than the abnormal cash component of earnings. These results support Sloan's (1996) explanation that the market fixates on current earnings without distinguishing the different levels of persistence of earnings components. In addition, this study also investigates whether the market recognizes potential CFO management. The results indicate that the market still fails to recognize it.

This study contributes to the literature in that, to the best of my knowledge, there is little study to examine the stock anomaly in the angle of the cash component of earnings. Moreover, the finding that the normal cash component of earnings mainly drives the positive relation between future stock returns and the cash component of earnings can be an additional evidence of the market's fixation on earnings.

The limitation of this study lies with the difficulty in measuring real opportunistic CFO management. Although I use two proxies to capture manager's CFO manipulation, those two proxies cannot be a complete measure for opportunistic CFO management. Future study could revisit this issue with more sophisticated proxies. In addition, future study could examine the joint effect of accrual-based earnings management and CFO management on market mispricing or which one more drives the market anomaly. These questions may be fruitful.

REFERENCES

- Barth, M., & Hutton, A. (2004). Analyst earnings forecast revisions and the pricing of accruals. *Review of Accounting Studies*, 9, 59-96.
- Bradshaw, M., Richardson, S., & Sloan, R. (2001). Do analysts and auditors use information in accruals. *Journal of Accounting Research*, 39, 45-74.

- Chen, X., & Cheng, Q. (2002). Abnormal accrual-based anomaly and managers' motivations to record abnormal accruals. *Working paper*.
- Dechow, P., Kothari, S.P., & Watts, R. (1998). The relation between earnings and cash flows. *Journal of Accounting and Economics*, 25, 133-168.
- Dechow, P., Richardson, S.A., & Sloan, R.G. (2008). The persistence and pricing of the cash component of earnings. *Journal of Accounting Research*, 46, 537-566.
- DeFond, M., & Hung, M. (2003). An empirical analysis of analysts' cash flow forecasts. *Journal of Accounting and Economics*, 35(1), 73-100.
- Doyle, J.T., Lundholm, R.J., & Soliman, M.T. (2003). The predictive value of expenses excluded from pro forma earnings. *Review of Accounting Studies*, 8, 145-174.
- Fairfield, P.M., Whisenant, J.S., & Yohn, T.L. (2003). Accrued earnings and growth: Implications for future profitability and market mispricing. *The Accounting Review*, 78, 353-371.
- Graham, J.R., Harvey, C.R., & Rajgopal, S. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, 40(1), 3-73.
- Kraft, A., Leone, A.J., & Wasley, C. (2006). An analysis of the theories and explanations offered for the mispricing of accruals and accrual components. *Journal of Accounting Research*, 44(2), 297-339.
- Lee, L.F. (2012). Incentives to inflate reported cash from operating using classification and timing. *The Accounting Review*, 87, 1-33.
- Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of accounting and economics*, 42(3), 335-370.
- Shumway, T. (2001). Forecasting bankruptcy more accurately: A simple hazard model. *Journal of Business*, 74(1), 101-124.
- Sloan, R.G. (1996). Do stock prices fully reflect information in accruals and cash flows about future earnings? *The Accounting Review*, 71, 289-315.
- Xie, H. (2001). The mispricing of abnormal accruals. *The Accounting Review*, 76, 357-373.