Asymmetries in the Persistence and Pricing of Cash Flows

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Abstract: Consistent with the implications of conditional conservatism, we show that the differential persistence of cash flows relative to that of accruals is higher across loss firms than profit firms. Further, we find that the positive relation of cash flows with future returns is more severe in loss years relative to profit years. The abnormal return earned from a hedge strategy on cash flows for loss firms is more than two times higher than the respective return for profit firms. Overall, we conclude that naïve fixation on earnings is a key factor in explaining the cash flow effect on future returns.

Keywords: Cash Flows, Profitability, Stock Returns, Earnings Fixation.

JEL Descriptors: G1, M4

I. Introduction

An extensive body of the literature focuses on financial accounting's critical role in the processes of capital markets formation by investigating whether and why there is information in firms' financial statements for their future earnings and stock price performance. Some studies focus on valuation multiples, such as earnings yield, cash flow yield and book to market ratio, while other studies focus on fundamental accounting figures such as earnings, accruals and cash flows. Our study relies on the latter strand of research and assesses critically the power of the information contained in cash flow component of earnings in forecasting firm-level profitability and stock returns in the cross-section.

In a controversial study, Sloan (1996) documents that the level of cash flows is a positive cross-sectional predictor of future earnings and stock returns. Numerous papers in the existing literature provide strong and robust evidence regarding the implications of cash flows on earnings and stock price performance in the U.S. stock market (e.g., Desai et al. 2004; Dechow et al. 2008) and in international stock markets (e.g., Pincus et al. 2007; Artikis and Papanastasopoulos, 2016).[1] In this paper, we investigate whether cash flow effects can be extended and applied across both profit and loss firms.

Sloan (1996) shows that profitability declines faster when income is composed of accruals than when income is composed of cash flows. Sloan (1996) argues that the lower persistence of accruals relative to cash flows is attributable to distortions generated by accrual accounting, while Fairfield et al. (2003) claim that it is attributable to conservative accounting and/or diminishing marginal returns to increased investment. The earnings fixation hypothesis, offered by Sloan (1996) to interpret the firm-level accrual and cash flow effects on future returns, clearly suggests that investors systematically commit a cognitive error when valuing the information contained in earnings. Naïve investors fixate on earnings and fail to appreciate differences in the persistence of accruals relative to cash flows. In particular, investors underweight (overweight) the lower (higher) persistence of cash flows (accruals). As a consequence, low cash flow firms (high cash flow firms) are followed by low (high) returns.

[1] Narayan and Westerlund (2014), find strong evidence that also cash flow volatility predicts returns for all sectors on the New York Stock Exchange.

Focusing separately on profit and loss firms, could enhance our understanding on whether earnings fixation constitutes a driving factor of the cash flow effect on stock returns. Our study is motivated by Patatoukas (2016), who argues that timely loss recognition under conditional conservatism (e.g., Basu 1997; Ball and Shivakumar 2006; Ball et al. 2013; Patatoukas and Thomas 2016) implies an asymmetry in the persistence of accruals depending on whether a firm experiences profit or loss in the current year. Accruals should be less persistent across loss firms relative to profit firms. Building upon this insight, the differential persistence of the cash component of earnings relative to the accrual component of earnings is expected to be higher across loss firms than profit firms.[2]

Asymmetry in the differential persistence between accruals and cash flows depending on whether firms are experiencing gains or losses could also affect return predictability attributable to cash flows. If earnings fixation by naïve investors is the underlying culprit of cash flow mispricing, then underweighting of cash flows in pricing stocks should be stronger for loss firms relative to profit-making firms. Put another way, investors are more likely to overprice (underprice) firms with low (high) cash flows especially in years of economic losses.

Patatoukas (2016) formulate predictions concerning the implications of conditional conservatism on the pricing of the accrual component of earnings and shows that the negative relation of accruals with future returns appears to be more severe when firms experiencing losses. Patatoukas (2016) findings are based on NYSE/AMEX/NASDAQ non-financial firms. In an international setting, Papanastasopoulos (2016) provide evidence based on U.K. non-financial stocks, that loss firms more susceptible to accruals mispricing relative to profit-making firms.

We examine the cash flow impact on future earnings and stock price performance separately for profit and loss firms in the U.K. stock market. Research on the existence and origins of asset pricing regularities worldwide could contribute to the assessment of extant capital market theory (e.g., Cheng et al. 2005; Ho et al. 2008; Muradoglu and Sivaprasad, 2012). It is worth noting here, that no study to date examines whether the well-documented positive relation of

[2] In this line, Konstantinidi et al. (2016) show the differential persistence of working capital accruals relative to operating cash flows in loss years becomes the highest.

cash flows with future profitability and stock returns occurs across both profit and loss firms.

U.K. constitutes an interesting setting for our work, since it is a developed economy like U.S., with the world‘s oldest stock exchange and one of the top three exchanges in total capitalization. In our analysis, we focus on free cash flows (i.e., the difference between net income and total accruals) a measure commonly discussed in the finance literature. Dechow et al. (2008) argue that free cash flows represents a more comprehensive measure of the cash component of earnings since it excludes all accruals relating to operating and investing decisions. Recently, Artikis and Papanastasopoulos (2016) show that free cash flows has a positive influence on future earnings and stock prices of U.K. listed firms.

The rest of the study proceeds as follows. Section II presents data, sample formation and variable measurement. Section III discuses the empirical results. Section IV concludes the paper.

II. Data, Sample Formation and Variable Measurement

We obtain accounting and market data from Datastream International and Worldscope. The sample covers all non-financial listed firms on the London Stock Exchange over the period 1989-2013. We perform all the appropriate data screening procedures for basic coding errors (see Ince and Porter, 2006). We eliminate firm-year observations with insufficient data to compute the primary financial statement variables used in our tests (i.e., free cash flows, current and one-year ahead profitability) and one-year-ahead excess returns. To reduce the effects of outliers, we winsorize observations in the top and bottom one percent of each annual cross-section of accounting variables. These criteria yield final sample sizes of 22,230 firm-year observations with non-missing accounting variables and stock returns.

Free cash flows are equal to the difference between annual net income (Worldscope item 01551) and annual total accruals. Annual total accruals are measured through the balance method as the change in non-cash assets less the change in non-debt liabilities (see Richardson et al. 2005). Non-cash assets are calculated as total assets (Worldscope item 02999) less cash and cash equivalents (Worldscope item 02001). Non-debt liabilities are calculated as total assets

(Worldscope item 02999) less the book value of ordinary and preferred stock (Worldscope item 03995) less minority interest (Worldscope item 03426) less total debt (Worldscope item 03255).

We define profitability (ROA, hereafter) as net income deflated by contemporaneous average total assets. Consistent with previous research, free cash flows are also scaled with average total assets (FCF, hereafter).

The return measurement window is annual, beginning six months after the financial year-end. We first compute monthly returns (inclusive of dividends) using the return index provided by Datastream (item RI). Once we get monthly returns, we calculate one- year ahead raw returns using compounded 12-monthly buy-and-hold returns. To estimate abnormal returns (ARET, hereafter) firms are first allocated into four equally-weighted portfolios based on market capitalization (Worldscope item W08001) and in each of the resulted portfolios firms are subsequently sorted into other four equally-weighted portfolios based on book to market ratio (the ratio of Worldscope item W03501 to Worldscope item W08001). Using this procedure we get 16 benchmark portfolios. Then, for each firm we estimate ARET as the difference between the one-year ahead raw return and the one-year ahead weighted average return (i.e., matching return) of the benchmark portfolio to which the firm belongs.

III. Empirical Results

Table 1 presents descriptive statistics for the test variables, with Panels A, B, and C providing data for the full sample, profit firms, and loss firms, respectively. Of the 22,230 observations, 16,037 observations are profit-making firm-years and 6,193 observations are loss-making firm-years. That is, about 72% of our observations report positive net income and about 28% negative net income. With 28% of observations reporting a loss in the current year, it is questionable whether and how the mix-up of loss firms and profit firms has the potential to affect inferences with respect to the magnitude and causes of the cash flow effect on future profitability and stock returns.

[Insert Table 1 about here]

The empirical distributions of free cash flows, profitability and returns are similar to those reported in prior research for U.S. listed firms (e.g., Dechow et al.

2008, Patatoukas, 2016) and for U.K. listed firms (e.g., Artikis and Papanastasopoulos, 2016). Free cash flows are negative with a mean value of -0.079, which suggests that the average firm grows its asset base (i.e., leading to positive value of total accruals) by raising financing. The high standard deviation of free cash flows (0.337) indicates that it represents an economically significant source of variation in current earnings performance. The mean value of current profitability is negative (-0.01), whereas the median value is positive (0.046). A similar mean value (-0.019) and median value (0.042) is reported for one-year ahead profitability.

For profit firms, mean current profitability is strongly positive (0.082), as expected. However, one-year ahead profitability (0.054), although positive and significant, is lower than current profitability a finding that confirms mean reversion in earnings for profit firms. The mean and median of free cash flows are -0.001 and 0.022, respectively. The percentile values of free cash flows indicate that at least 25% of profit firms have positive free cash flows.

Within the loss subsample, the mean and median values of one-year ahead profitability are -0.209 and -0.084, respectively. As expected, mean and median values of free cash flows are highly negative for loss firms. The mean value of free cash flows is -0.284, while the median value is -0.159. The percentile values of free cash flows indicate that more than 75% of loss firms have negative free cash flows. In addition, the reported standard deviations suggest that free cash flows and abnormal returns exhibit higher variation within loss firms relative to profit firms.

Table 2 presents our regression analysis on the differential persistence between the accrual component of earnings and the cash component of earnings. Rather than regressing future profitability on total accruals and free cash flows testing for the higher persistence of free cash flows, we regress future profitability on free cash flows after controlling for current profitability and test for a positive coefficient (i.e., $\gamma_2 > 0$) on free cash flows, as follows:

$$ROA_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1} \quad (1)$$

We consider the scaled-decile ranks of current profitability and free cash flows, in order control for potential non-linearities and ensure that results are not driven from extreme outliers. Within this specification, the coefficient on free cash flows represents the difference between the persistence coefficient on the cash flow

component of earnings and the persistence coefficient on the accrual component of earnings (see Artikis and Papanastasopoulos, 2016). Our prediction concerning the persistence of cash flows relative to accruals, suggests that $\gamma_2 > 0$ should be higher for loss firms relative to profit firms. We report results based on the time-series means and t-statistics of annual cross-sectional regressions (Fama and MacBeth, 1973).

[Insert Table 2 about here]

We show a strong positive relation between free cash flows and one-year ahead profitability, conditional on the level of current profitability. The differential persistence coefficient on free cash flows is equal to 0.138 and highly significant (t=9.134). In terms of economic significance, this Fama–MacBeth estimate on FCF implies that a 100% increase in FCF increases the accounting rate of return over the following 12 months by around 13.8%. Separating firms based on the sign of net income, we find that the positive impact of free flows on future profitability extends across both profit and loss firms, but it appears to be more pronounced within the subsample of loss firms. In particular, the differential persistence coefficient on free cash flows is equal to 0.046 (t=9.613) and 0.241 (t=10.221) for profit and loss firms, respectively. Thus, the differential persistence of the cash component of earnings relative to the accrual component of earnings is higher across firms that experience losses relative to firms that experience gains, confirming the implications of conditional conservatism embedded in financial reporting.

In Table 3, we report results from Fama and MacBeth (1973) cross-sectional regressions of one-year ahead abnormal returns on free cash flows conditional on current profitability. The regression model under investigation takes the following form:

$$ARET_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1} \quad (2)$$

Within this specification, if investors fail to recognize the difference in the relative persistence of accruals and cash flows due to naïve fixation on earnings, and implicitly assign a lower weight than warranted to free cash flows in pricing stocks, then the coefficient on free cash flows is expected to be positive (i.e., $\gamma_2 > 0$). Our prediction concerning the pricing of cash flows under naïve earnings

fixation and failure to anticipate the different properties of accruals and cash flows, suggests that $\gamma_2 > 0$ should be higher for loss firms relative to profit firms.

[Insert Table 3 about here]

The evidence presented in Table 3 corroborates that the cash component of earnings has a positive impact on future stock price performance. The slope of free cash flows equals to 0.167 (t=5.438). In terms of economic significance, this finding implies that a 100% increase in FCF increases stock's buy-and-hold excess return over the following 12 months by around 16.7%. The cash flow effect on stock returns is more severe within loss firms than profit firms. The slope of free cash flows ranges from 0.113 (t=5.689) for profit firms to 0.219 (t=4.014) for loss firms. Thus, free cash flows within loss firms are more susceptible to mispricing relative to profit firms by naïve investors who fixate on earnings and fail to understand information contained in the cash component of earnings.

We also conduct analysis at the portfolio level, in order to provide an economic summary of our findings at the individual stock level (i.e., regression findings). We sort our sample firms into portfolios quintiles based on their free cash flows in each year and report time-series average frequencies (in percentages) of losses, negative free cash flows, and negative accruals for each quintile. Following Siganos (2013), we use quintiles rather than deciles to ensure that each portfolio consists of a reasonable number of firms. Results are reported in Table 4.

[Insert Table 4 about here]

In general, the frequency of losses declines monotonically with the magnitude of free cash flows. Within the lowest cash flow portfolio 56.1% of firms experience losses in the current year, while within the highest cash flow portfolio 13.3% of firms experience losses in the current year. Thus, losses are more likely to be concentrated across firms with the lowest values of free cash flows. Additionally, within the bottom cash flow quintile 98.1% of firms have negative free cash flows and 13.4% of firms have negative accruals. Within the top cash flow quintile there is no firm with negative cash flows, while at the same time 76.9% of firms have negative accruals. It is obvious, that the reported differences in frequencies could affect the future stock price performance of cash flow portfolios depending on whether firms are experiencing losses or profits in the present.

In Table 5 we provide evidence about the stock price performance of portfolios formed on the magnitude of free cash flows. We sort our sample firms into portfolios quintiles based on their free cash flows in each year and compute annual average one-year-ahead abnormal returns for each quintile. We then compute averages of the quintile returns over our sample period (resulting t-statistics *in italics* are based on the time-series variation of returns) for all firms, profit firms and loss firms, separately. We also calculate the return to a hedge portfolio strategy, i.e. the return to a portfolio with a long position in the highest cash flow quintile and a short position in the lowest cash flow quintile.

[Insert Table 5 about here]

The evidence from firm-level portfolio tests summarizes the economic significance of our return - regression findings. The average annual risk-adjusted returns in the year following portfolio formation decrease from 3.2% for the highest quintile to -5.9% for the highest quintile. The mean abnormal return from buying/selling firms with high/low free cash flows is 9.1% per annum and highly statistically significant (t=2.961). Within the group of profit firms, mean excess returns decrease from 2.7% for the top cash flow portfolio to -3.5% for the bottom cash flow portfolio, with an average hedge return of 6.2% (t=-3.801). Within the group of loss firms, average abnormal returns decrease from 8.0% for high cash flow firms to -6.0% for low cash flows firms, with an average hedge return of 14% (t=2.334). The hedge portfolio strategy on free cash flows for loss firms outperforms by more than 100% the respective strategy for profit firms.

Next, we decompose free cash flows into positive and negative free cash flows to investigate sources of differential cash flow persistence and mispricing across profit and loss firms. We conduct both firm-level regression analyses and portfolio-level analyses. Table 6 reports estimation results from cross-sectional regressions of one-year ahead profitability on free cash flows, after controlling for current profitability, separately within the subsample of profit firms and loss firms and, conditional on the sign of free cash flows. Free cash flows and accruals exhibit differences on their relative persistence across profit firms. The differential persistence coefficient on free cash flows is equal to 0.023 (t=3.406) and 0.03 (t=4.816) for profit-making firms with positive and negative free cash flows, respectively. However, these differences are asymmetric in magnitude and significance with the respective differences for loss firms. In particular, across loss

firms with positive free cash flows, the persistence of free cash flows is almost similar to that of accruals. At the same time, across loss firms with negative free cash flows, we find the most notable differences in the persistence free cash flows relative to that of accruals. The differential persistence coefficient on free cash flows is found equal to 0.203 (t=7.504). Thus, the higher persistence of the cash component of earnings is primarily attributable to loss firms with negative free cash flows.

[Insert Table 6 about here]

In Table 7, we present evidence from cross-sectional regressions of one-year ahead abnormal returns on free cash flows, after controlling for current profitability, separately within the subsample of profit firms and loss firms and, conditional on the sign of free cash flows. Investors implicitly assign a lower weight than warranted to free cash flows in pricing profit-making firms. Not surprisingly, this valuation error is stronger across profit firms with negative free cash flows, where the differential persistence of free cash flows relative to that of accruals is higher. The slope of free cash flows ranges from 0.059 (t=4.234) for profit firms with positive free cash flows to 0.113 (t=4.344) for profit firms with negative free cash flows. Across loss firms with positive free cash flows, where free cash flows have persistence levels almost identical to that of accruals, there is no evidence of cash flow underweighting. As expected, across loss firms with negative free cash flows, where the differential persistence of free cash flows is higher compared to the all other subsamples of stocks conditional on the sign of accounting earnings and free cash flows, we find the most positive slope on free cash flows. The slope of free cash flows equals to 0.207 (t=4.171).

[Insert Table 7 about here]

Results from portfolio-level analyses corroborate our findings at the individual stock level of analysis. Across firms with negative free cash flows, the abnormal return on a hedge strategy on free cash flows, range from 9.6 % (t=3.841) for those that making profits to 12.5% (t=2.914) for those that experiencing losses. Across firms with positive free cash flows, the abnormal return on the hedge free cash flow portfolio is largely attenuated and no longer statistically significant at conventional levels, within both the subsample of profit firms and the subsample of loss firms. Our findings are likely to be consistent with earnings fixation, since

cash flow mispricing becomes more severe across subsamples of stocks with the larger differential persistence of free cash flows relative to that of accruals.

[Insert Table 8 about here]

Finally, we conduct two sensitivity tests. In the first test, we examine the cash flow effect on stock returns, conditional on the mandatory adoption of the IFRS in 2005. In doing so, we consider abnormal returns on portfolios formed on the magnitude of free cash flows for profit firms and loss firms over the pre - IFRS period and the post - IFRS period. Results are present in Table 9. The hedge trading strategy on free cash flows is profitable in both the periods prior to and following the passage of IFRS of 2005. Consistent with our prior finings, the abnormal return on the free cash flow hedge portfolio is much higher for loss firms relative to profit firms. Thus, cash flow mispricing in the U.K. stock market persists and is more prevalent across loss firms, in the new financial reporting environment following the adoption of IFRS. This finding is consistent with Iatridis (2010; 2011), who shows that the implementation of IFRS in U.K. is related to more timely loss recognition and thus, greater asymmetries in the persistence and pricing of cash flows between profit and loss firms.

[Insert Table 9 about here]

In the second test, we investigate the cash flow effect on stock returns, by focusing on operating cash flows (i.e., the difference between operating income and working capital accruals) instead of free cash flows (i.e., the difference between net income and total accruals). In doing so, we assess whether our inferences regarding the pricing of cash flows are sensitive to the measurement of cash flows. We need to stress here, that Patatoukas (2016) and Konstantinidi et al. (2016) reach opposite results regarding the accrual effect on stock returns across profit and loss firms. Patatoukas (2016) considers in his analysis total accruals and shows that the negative relation between accruals and stock returns is more pronounced for loss firms relative to profit firms. Konstantinidi et al. (2016) consider in their analysis working capital accruals and show that the negative relation between accruals and stock returns occurs primarily across profit firms, while it is dampened across loss firms.[3]

[3] As argued by Richardson et al (2005), working capital accruals is a narrow accrual measure since it ignores long-term accruals.

In Table 10 we provide evidence about the stock price performance of quintile - portfolios formed on the magnitude of operating cash flows[4] for firms that making operating profits and for firms that experiencing operating losses. As shown, a hedge trading strategy based on a short position on an equally-weighted portfolio of stocks with high operating cash flows and a long position on an equally-weighted portfolio of stocks with low operating cash flows earns an average annual risk-adjusted return of 5.5% (t=3.417) and 15.1% (t=2.319) per annum across profit and loss stocks, respectively. Thus, our evidence associated with a more positive effect of cash flows on stock returns across loss firms relative to profit firms, is robust to alternative cash flow measures.

[Insert Table 10 about here]

IV. Conclusion

In this paper, we examine whether the positive link of free cash flows with future earnings performance and stock returns occurs both for profit and loss firms. In doing so, we are motivated by a desire to seek whether earnings fixation can explain the cash flow effect on stock returns. Our works builds on Patatoukas (2016) who argues that asymmetry in timely loss recognition due to conditionally conservative accounting practices implies a lower persistence of accruals for loss firms relative to profit firms. According to this prediction, the differential persistence of cash flows relative to that of accruals is expected to be higher when firms report losses than when firms report profits. If investors naively fixate on total earnings, however, they will tend to underweight the persistence of cash flows especially for loss firms.

At an individual stock level of analysis, we show that the effect of free cash flows on future profitability and stock returns is more pronounced for loss firms relative to profit firms. Portfolio-level analysis further quantifies the economic

[4] Operating cash flows are measured with data from Datastream International and Worldscope as the difference between annual operating income (Worldscope item 01250) and annual working capital accruals. Annual working capital accruals are measured as the change in non-cash working capital less the change in non-debt current liabilities less depreciation, depletion and amortization expense (Worldscope item 01151). Non-cash working capital is as working capital (Worldscope item 01351) less cash and cash equivalents (Worldscope item 02001) plus total debt (Worldscope item 03255) less long-term debt (Worldscope item 03251). Operating cash flows and operating income are then scaled by average total assets.

significance of our regression results. The abnormal return from a hedge trading strategy on free cash flows is more than two times higher within the group of loss firms relative to the group with profit firms.

Conditioning on the sign of both earnings and free cash flows, we find that the positive impact of free cash flows on future profitability exists across profit firms regardless whether cash flows are positive or negative, is absent across loss firms with positive cash flows, while is much more severe across loss firms with negative cash flows. In a similar manner, we show that the positive impact of free cash flows on future returns is absent across firms with positive cash flows regardless the sign of accounting income, is present across profit firms with positive cash flows, while is magnified across loss firms with negative cash flows.

Our evidence adds to the ongoing research among academics about the origins of return predictability attributable to accounting figures by suggesting a prominent role on earnings fixation in explaining the cash flow effect on stock returns. At the same time our finding of higher abnormal returns to a hedge trading strategy formed on free cash flows, when excluding profit firms may have may have important practical implications to the general investment community.

Future research could also evaluate alternative but non-mutually exclusive explanations that could co-exist with earning fixation for the cash flow effect on stock returns. One possibility arises from the inability of arbitrageurs to find close substitutes for mispriced stocks and thus, cash flow misprcing may not fully arbitraged away. In this line, limits to arbitrage (i.e., high idiosyncratic volatility, high transaction costs, low stock liquidity) could be associated with the persistence of cash flow mispricing. Any stark distinction between earnings fixation and limits to arbitrage as factors explaining the cash flow effect on stock returns may be artificial.

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Table 1
Descriptive Statistics on Free Cash Flows

Table 1 provides descriptive statistics (mean, standard deviation, 25th percentile, median, 75th percentile) on free cash flows, current profitability, one-year ahead profitability and one-year ahead returns, across all firms, profit firms and loss firms. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. Panel A provides results for the entire sample of stocks (i.e., all firms). Panel B provides results for firms with a positive sign in net income at financial year-end (i.e., profit firms). Panel C provides results for firms with a negative sign in net income at financial year-end (i.e., loss firms).

Panel A: Descriptive Statistics for All Firms (22,230 annual firm-year observations)

Groups of Firms	Mean	St. Dev.	25th Percentile	Median	75th Percentile
FCF_t	-0.079	0.337	-0.144	-0.006	0.082
ROA_t	-0.010	0.253	-0.015	0.046	0.088
ROA_{t+1}	-0.019	0.267	-0.024	0.042	0.084
$ARET_{t+1}$	0.007	0.706	-0.294	-0.048	0.209

Panel B: Descriptive Statistics for Profit Firms (16,037 annual firm-year observations)

Groups of Firms	Mean	St. Dev.	25th Percentile	Median	75th Percentile
FCF_t	-0.001	0.207	-0.066	0.022	0.101
ROA_t	0.082	0.070	0.039	0.068	0.105
ROA_{t+1}	0.054	0.126	0.027	0.060	0.097
$ARET_{t+1}$	0.007	0.473	-0.247	-0.027	0.203

Panel C: Descriptive Statistics for Loss Firms (6,193 annual firm-year observations)

Groups of Firms	Mean	St. Dev.	25th Percentile	Median	75th Percentile
FCF_t	-0.284	0.488	-0.425	-0.159	-0.004
ROA_t	-0.250	0.372	-0.312	-0.125	-0.042
ROA_{t+1}	-0.209	0.405	-0.299	-0.084	0.007
$ARET_{t+1}$	0.006	1.101	-0.419	-0.123	0.231

Table 2
Regressions of Future Profitability on Free Cash Flows

Table 2 presents results from Fama-MacBeth (1973) regressions of one-year ahead profitability on free cash flows, after controlling for current profitability, across all firms, profit firms and loss firms. All independent variables are expressed as scaled - decile ranks (ranging from 0 to 1). We estimate annual cross-sectional regressions and report the time-series averages of the parameter coefficients (resulting t-statistics *in italics* are based on the time-series variation of coefficients). The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The ''Market" row represents the entire sample of stocks (i.e., all firms). The "Profit" raw includes profit-making firms (16,037 annual firm-year observations) that are those with a positive sign in net income at financial year-end. The "Loss" row includes loss-making firms (6,193 annual firm-year observations) that are those with a negative sign in net income at financial year-end. ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Model: $ROA_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1}$				
Groups of Firms	γ_0	γ_1	γ_2	$Adj\ R^2$
Market	-0.262*** *-7.888*	0.351*** *11.417*	0.138*** *9.134*	0.289
Profit	-0.039*** *-8.592*	0.139*** *33.78*	0.046*** *9.613*	0.183
Loss	-0.489*** *-11.131*	0.381*** *8.765*	0.241*** *10.221*	0.211

Table 3
Regressions of Future Abnormal Returns on Free Cash Flows

Table 3 presents results from Fama-MacBeth (1973) regressions of one-year ahead abnormal returns on free cash flows, after controlling for current profitability, across all firms, profit firms and loss firms. All independent variables are expressed as scaled - decile ranks (ranging from 0 to 1). We estimate annual cross-sectional regressions and report the time-series averages of the parameter coefficients (resulting t-statistics *in italics* are based on the time-series variation of coefficients). The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The ''Market" row represents the entire sample of stocks (i.e., all firms). The "Profit" raw includes profit-making firms (16,037 annual firm-year observations) that are those with a positive sign in net income at financial year-end. The "Loss" row includes loss-making firms (6,193 annual firm-year observations) that are those with a negative sign in net income at financial year-end. ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Model: $ARET_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1}$

Groups of Firms	γ_0	γ_1	γ_2	$Adj\ R^2$
Market	-0.017 *-0.678*	-0.117*** *-3.371*	0.167*** *5.438*	0.015
Profit	0.025 *1.665*	-0.14*** *-7.144*	0.113*** *5.689*	0.013
Loss	-0.106* *-1.914*	-0.004 *-0.062*	0.219*** *4.014*	0.024

Table 4
Characteristics of Portfolios based on Free Cash Flows

Table 4 reports time-series average frequencies (in percentages) of losses, negative free cash flows, and negative accruals for portfolios formed on the magnitude of free cash flows across the entire sample of stocks. Each year firms are sorted independently on free cash flows and allocated into five equal-sized portfolios (quintiles) based on these ranks. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013.

Frequencies	**Free Cash Flow Portfolios**				
	Low	**2**	**3**	**4**	**High**
Losses	56.1%	35.1%	20.9%	14%	13.3%
Negative Free Cash Flows	98.1%	90%	56.7%	12.7%	0%
Negative Accruals	13.4%	19.3%	26.4%	47.4%	76.9%

Table 5
Abnormal Returns of Portfolios based on Free Cash Flows

Table 5 reports time-series means and t-statistics (*in italics*) of one-year ahead abnormal returns for portfolios formed on the magnitude of free cash flows across all firms, profit firms and loss firms. Each year firms are sorted independently on free cash flows and allocated into five equal-sized portfolios (quintiles) based on these ranks. Hedge is the abnormal return on a strategy that of a long (short) position in the highest (lowest) portfolio. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The ‘‘Market" row represents the entire sample of stocks (i.e., all firms). The "Profit" raw includes profit-making firms (16,037 annual firm-year observations) that are those with a positive sign in net income at financial year-end. The "Loss" row includes loss-making firms (6,193 annual firm-year observations) that are those with a negative sign in net income at financial year-end. ***,**, * represents statistical significance of abnormal returns at 1%, 5%, and 10% level, respectively, two-tailed.

Groups of Firms	Free Cash Flow Portfolios					
	Low	**2**	**3**	**4**	**High**	**Hedge (H-L)**
Market	-0.059**	-0.009	0.033***	0.04***	0.032**	0.091***
	-2.646	*-1.151*	*2.936*	*3.219*	*2.604*	*2.961*
Profit	-0.035***	0.012	0.023*	0.031**	0.027**	0.062***
	-2.905	*1.298*	*1.798*	*2.078*	*2.401*	*3.801*
Loss	-0.06	-0.039	-0.008	0.054***	0.08**	0.14***
	-1.061	*-1.292*	*-0.414*	*3.015*	*2.750*	*2.334*

Table 6
Regressions of Future Profitability on Free Cash Flows

Table 6 presents results from Fama-MacBeth (1973) regressions of one-year ahead profitability on free cash flows, after controlling for current profitability, across profit firms and loss firms and, conditional on the sign of free cash flows. All independent variables are expressed as scaled - decile ranks (ranging from 0 to 1). We estimate annual cross-sectional regressions and report the time-series averages of the parameter coefficients (resulting t-statistics *in italics* are based on the time-series variation of coefficients). The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The "Profit & PFCF" raw includes profit-making firms with positive free cash flows (9,242 annual firm-year observations). The "Profit & NFCF" raw includes profit-making firms with negative free cash flows (6,795 annual firm-year observations). The "Loss & PFCF" row includes loss-making firms with positive free cash flows (1,508 annual firm-year observations). The "Loss & NFCF" row includes loss-making firms with negative free cash flows (4,685 annual firm-year observations). ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Model: $ROA_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1}$

Groups of Firms	γ_0	γ_1	γ_2	$Adj\ R^2$
Profit & PFCF	-0.022*** *-3.792*	0.161*** *33.013*	0.023*** *3.406*	0.224
Profit & NFCF	-0.039*** *-5.442*	0.11*** *17.11*	0.03*** *4.816*	0.104
Loss & PFCF	-0.111*** *-6.596*	0.113*** *5.141*	0.009 *0.406*	0.044
Loss & NFCF	-0.543*** *-11.221*	0.444*** *9.615*	0.203*** *7.504*	0.21

Table 7
Regressions of Future Abnormal Returns on Free Cash Flows

Table 7 presents results from Fama-MacBeth (1973) regressions of one-year ahead abnormal returns on free cash flows, after controlling for current profitability, across profit firms and loss firms and, conditional on the sign of free cash flows. All independent variables are expressed as scaled - decile ranks (ranging from 0 to 1). We estimate annual cross-sectional regressions and report the time-series averages of the parameter coefficients (resulting t-statistics *in italics* are based on the time-series variation of coefficients). The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The "Profit & PFCF" raw includes profit-making firms with positive free cash flows (9,242 annual firm-year observations). The "Profit & NFCF" raw includes profit-making firms with negative free cash flows (6,795 annual firm-year observations). The "Loss & PFCF" row includes loss-making firms with positive free cash flows (1,508 annual firm-year observations). The "Loss & NFCF" row includes loss-making firms with negative free cash flows (4,685 annual firm-year observations). ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Model: $ARET_{t+1} = \gamma_0 + \gamma_1 ROA_t^{dec} + \gamma_2 FCF_t^{dec} + \upsilon_{t+1}$

Groups of Firms	γ_0	γ_1	γ_2	$Adj\ R^2$
Profit & PFCF	0.058*** *3.358*	-0.126*** *-5.315*	0.059*** *4.234*	0.009
Profit & NFCF	0.003 *0.177*	-0.132*** *-5.279*	0.113*** *4.344*	0.011
Loss & PFCF	-0.055 *-1.227*	0.188*** *3.333*	0.058 *0.643*	0.003
Loss & NFCF	-0.101 *-1.651*	-0.055 *-0.766*	0.207*** *4.171*	0.02

Table 8
Abnormal Returns of Portfolios based on Free Cash Flows

Table 8 reports time-series means and t-statistics (*in italics*) of one-year ahead abnormal returns for portfolios formed on the magnitude of free cash flows across profit firms and loss firms, conditional on the sign of free cash flows. Each year firms are sorted independently on free cash flows and allocated into five equal-sized portfolios (quintiles) based on these ranks. Hedge is the abnormal return on a strategy that of a long (short) position in the highest (lowest) portfolio. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The "Profit & PFCF" raw includes profit-making firms with positive free cash flows (9,242 annual firm-year observations). The "Profit & NFCF" raw includes profit-making firms with negative free cash flows (6,795 annual firm-year observations). The "Loss & PFCF" row includes loss-making firms with positive free cash flows (1,508 annual firm-year observations). The "Loss & NFCF" row includes loss-making firms with negative free cash flows (4,685 annual firm-year observations). ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Groups of Firms	Free Cash Flow Portfolios					
	Low	**2**	**3**	**4**	**High**	**Hedge (H-L)**
Profit & PFCF	0.018 *1.314*	0.015 *1.139*	0.035** *2.109*	0.025 *1.313*	0.028* *1.987*	0.01 *0.543*
Profit & NFCF	-0.075*** *-4.323*	0.001 *0.025*	-0.001 *-0.044*	0.023 *1.299*	0.021 *1.287*	0.096*** *3.841*
Loss & PFCF	0.049 *0.958*	0.076* *1.744*	0.108* *1.925*	0.046 *1.215*	0.089 *1.367*	0.04 *0.466*
Loss & NFCF	-0.062 *-1.09*	-0.102** *-2.428*	-0.04 *-1.291*	0.021 *0.827*	0.063** *2.728*	0.125*** *2.914*

Table 9
Abnormal Returns of Portfolios based on Free Cash Flows

Table 9 reports time-series means and t-statistics (*in italics*) of one-year ahead abnormal returns for portfolios formed on the magnitude of free cash flows across profit firms and loss firms, over the pre - IFRS period and the post - IFRS period. Each year firms are sorted independently on free cash flows and allocated into five equal-sized portfolios (quintiles) based on these ranks. Hedge is the abnormal return on a strategy that of a long (short) position in the highest (lowest) portfolio. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The "Profit & Pre -IFRS" raw and the "Profit & Post - IFRS" raw include profit-making firms (16,037 annual firm-year observations) that are those with a positive sign in net income at financial year-end over the pre - IFRS period and the post - IFRS period, respectively. The "Loss & Pre - IFRS" row and the "Loss & Post - IFRS" raw include loss-making firms (6,193 annual firm-year observations) that are those with a negative sign in net income at financial year-end over the pre - IFRS period and the post - IFRS period, respectively. ***,**, * represents statistical significance of coefficients at 1%, 5%, and 10% level, respectively, two-tailed.

Groups of Firms	**Free Cash Flow Portfolios**					
	Low	**2**	**3**	**4**	**High**	**Hedge (H-L)**
Profit & Pre - IFRS	-0.04*** *-4.188*	0.009 *0.988*	0.015 *1.038*	0.023 *1.271*	0.02 *1.294*	0.06*** *2.961*
Profit & Post - IFRS	-0.024 *-0.691*	0.019 *0.815*	0.04 *1.581*	0.048 *1.873*	0.043*** *3.791*	0.067* *2.271*
Loss & Pre - IFRS	-0.024 *-0.308*	-0.018 *-0.433*	-0.013 *-0.527*	0.063 *1.582*	0.047*** *3.141*	0.071*** *2.951*
Loss & Post - IFRS	-0.142*** *-2.853*	-0.087*** *-3.211*	0.005 *0.258*	0.033 *1.554*	0.155** *2.529*	0.297*** *3.641*

Table 10
Abnormal Returns of Portfolios based on Operating Cash Flows

Table 10 reports time-series means and t-statistics (*in italics*) of one-year ahead abnormal returns for portfolios formed on the magnitude of operating cash flows across profit firms and loss firms. Each year firms are sorted independently on operating cash flows allocated into five equal-sized portfolios (quintiles) based on these ranks. Hedge is the abnormal return on a strategy that of a long (short) position in the highest (lowest) portfolio. The sample consists of 22,230 annual firm-year observations, covering all firms listed on the London Stock Exchange (except financial firms) with sufficient data to compute financial statement variables and returns on Worldscope and Datastream files over the period 1989-2013. The "Profit" raw includes profit-making firms (17,160 annual firm-year observations) that are those with a positive sign in operating income at financial year-end. The "Loss" row includes loss-making firms (5,070 annual firm-year observations) that are those with a negative sign in operating income at financial year-end. ***,**, * represents statistical significance of abnormal returns at 1%, 5%, and 10% level, respectively, two-tailed.

Groups of Firms	**OCF Portfolios**					
	Low	**2**	**3**	**4**	**High**	**Hedge (H-L)**
Profit	-0.029***	0.025**	0.023	0.032*	0.026*	0.055***
	-3.049	*2.359*	*1.611*	*2.005*	*1.965*	*3.417*
Loss	-0.08	-0.046	-0.003	0.022	0.071**	0.151***
	-1.133	*-0.923*	*-0.123*	*1.028*	*2.525*	*2.319*