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Analyst cash flow forecasts and pricing of accruals $\overset{\leftrightarrow}{\leftrightarrow}, \overset{\leftrightarrow}{\leftrightarrow} \overset{\leftrightarrow}{\leftrightarrow}$

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ABSTRACT

This paper investigates how analyst cash flow forecasts affect investors' valuation of accounting accruals. We find that the strength of the accrual anomaly documented in Sloan (1996) is weaker for firms with analyst cash flow forecasts, after controlling for idiosyncratic risk, transaction costs and firm characteristics associated with the issuance of cash flow forecasts. We further show that this reduction in mispricing of accounting accruals is at least partially attributed to the improved ability of investors to price earnings manipulations imbedded in accruals. We investigate several non-mutually exclusive alternative explanations for this improvement in investors' ability and demonstrate that the increased investor attention and the improved accuracy of analyst earnings forecasts both contribute to the mitigation of the accrual anomaly.

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1. Introduction

DeFond and Hung (2003, 2007) show that analysts provide cash flow forecasts in response to investor demand in both the U.S. and international settings. After the shocking accounting scandals of the early 2000s such as Enron and WorldCom, investor demand for cash flow information increased dramatically, leading to the growing popularity of analyst cash flow forecasts in recent years. The literature on analyst cash flow forecasts can be divided into two streams. The first stream of literature demonstrates the role that analyst cash flow forecasts play in monitoring managerial behavior. Both Call (2008) and McInnis and Collins (2011) show that analyst cash flow forecasts help to reduce earnings manipulations and improve earnings quality. The second stream of literature investigates the usefulness of the information in analyst cash flow forecasts. Research by Call, Chen, and Tong (2009, 2013) suggests that analyst cash flow forecasts contain information that is helpful for analysts and investors. In response to claims that

http://dx.doi.org/10.1016/j.adiac.2014.04.006 0882-6110/© 2014 Elsevier Ltd. All rights reserved. cash flow forecasts are of low quality (Givoly, Hayn, & Lehavy, 2009), Call et al. (2013) refute the validity of such claims. However, no direct evidence exists on how analyst cash flow forecasts affect the ability of investors to accurately price accounting accruals. We seek to fill this void.

Previous work suggests that investors do not price accruals appropriately (Sloan, 1996). As a result, accruals systematically predict future abnormal returns. Sloan (1996) further documents that an accrual strategy that buys firms with low accruals and shorts firms with high accruals yields positive and significant returns. This is perhaps one of the most robust empirical findings in accounting research and has been confirmed by numerous papers (for example, Collins & Hribar, 2000; Hirshleifer, Hou, Teoh, & Zhang, 2004; Hribar & Collins, 2002; Lev & Nissim, 2006; Mashruwala, Rajgopal, & Shevlin, 2006; Pincus, Rajgopal, & Venkatachalam, 2007; Richardson, Tuna, & Wysocki, 2010; Shi & Zhang, 2012; Xie, 2001; Zhang, 2007). In a later study, Xie (2001) shows that the accrual strategy based on discretionary accruals yields significantly positive abnormal returns while the strategy based on non-discretionary accruals yields non-significant abnormal returns. To the extent that discretionary accruals are representative of earnings management, the findings suggest that investors do not "see through" accounting manipulations.

In this paper, we predict that analyst cash flow forecasts reduce investors' mispricing of accruals. Our empirical results are consistent with our prediction: we find that the accrual strategy yields a hedge return of 12%, significant at the 0.01 level, when applied to firms without analyst cash flow forecasts. In contrast, the strategy does not yield any significant hedge return when applied to firms with such forecasts.

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This univariate analysis, however, does not consider the fact that firm characteristics may differ across firms with and without analyst cash flow forecasts. It is possible that differences in firm characteristics, rather than the existence of analyst cash flow forecasts, affect the accrual anomaly. Following DeFond and Hung (2003), we identify a set of firm characteristics associated with the issuance of analyst cash flow forecasts and control for these firm characteristics in our regression. We also control for idiosyncratic volatility and transaction costs, given prior observations (Mashruwala et al., 2006) that accrual mispricing tends to be concentrated in firms with high idiosyncratic volatility and high transaction costs. After we control for these factors, our regression results suggest that the relation between accounting accruals and subsequent size-adjusted returns is significantly less negative for firms with analyst cash flow forecasts.

The finding that analyst cash flow forecasts reduce the accrual anomaly can be attributed to the reduced tendency of management to manipulate accruals, to the improved ability of investors to price earnings manipulations, or to both. On one hand, the issuance of cash flow forecasts makes accrual-based earnings manipulations more transparent and thus reduces managerial incentives to manipulate earnings. Consistent with this conjecture, Call (2008) and McInnis and Collins (2011) find that managers are more likely to report high-quality earnings and less likely to manipulate earnings through accruals when analysts issue cash flow forecasts. Given Xie (2001), the reduction in earnings manipulation and higher-quality earnings will reduce accrual mispricing even if the ability of investors to price earnings manipulations remains the same. On the other hand, analyst cash flow forecasts encourage both investors and analysts to pay more attention to both the cash and accrual components, rather than fixating on aggregate earnings. In this case, investors are more likely to improve their ability to price earnings manipulation imbedded in accruals.

To disentangle these two possibilities, we examine the ability of investors to price discretionary accruals — the earnings manipulations component in accruals. Our evidence is consistent with the notion that analyst cash flow forecasts improve investors' ability to accurately price managerial manipulations. Therefore, we conclude that the reduction in accrual mispricing associated with analyst cash flow forecasts is not totally due to reduced earnings manipulations in accruals, but is at least partly due to the improved ability of investors to price earnings manipulations.

Lastly, we attempt to understand why analyst cash flow forecasts bring about the improved ability of investors to price earnings manipulations. We provide several non-mutually-exclusive explanations for this finding. The first explanation is directly related to the limited attention capacity of investors. Hirshleifer and Teoh (2003) point out that human beings have limited attention and limited information processing capacities and, thus, tend to focus on and react to salient information (such as accounting earnings), while ignoring information that is equally relevant but less salient (such as accounting accruals). Hirshleifer and Teoh (2003) argue that it is this behavioral bias that gives rise to the accrual anomaly. In the same spirit, Hirshleifer, Lim, and Teoh (2011) use a theoretical model to further point out that the strength of the accrual anomaly decreases when investors pay more attention to earnings components. It is possible that analyst cash flow forecasts alleviate the limited attention problem and directly improve the ability of investors to "see through" earnings manipulations in accruals.

The second explanation is related to the behavior of financial analysts. Bradshaw, Richardson, and Sloan (2001) find that analysts tend to be overly optimistic about firms with high accruals and overly pessimistic about firms with low accruals. These results suggest that financial analysts' erroneous forecasts are at least partially responsible for the mispricing of accruals. Call et al. (2009, 2013) show that analysts incorporate accrual information in their forecasts and that earnings forecasts accompanied by cash flow forecasts tend to be more accurate. Given the importance of analysts as a financial intermediary in general and their documented contribution to the accrual anomaly in particular, it is reasonable to conjecture that the improved ability of investors to price earnings manipulations is related to more accurate earnings forecasts made by financial analysts. In addition, when analyst earnings forecasts are accompanied by cash flow forecasts, accrual information is indicated implicitly. Therefore, we conjecture that more accurate cash flow forecasts will help investors to detect earnings management imbedded in accruals, and thus reduce the mispricing of earnings manipulations.

The third explanation is related to voluntary disclosures of cash and accrual information. DeFond and Hung (2003) find that firms with analyst cash flow forecasts tend to have larger accruals, more heterogeneous accounting choices, high earnings volatility, high capital intensity and poor financial health. All of these traits reduce the usefulness of accounting earnings of those firms for forecasting and valuation. It is thus conceivable that, to satisfy the demand of investors and financial intermediaries, those firms voluntarily disclose more information, which enables investors to better price earnings manipulations. Consistent with this view, Levi (2008) and Louis, Robinson, and Sbaraglia (2008) find that the accrual strategy is less effective for firms that voluntarily provide accrual information at earnings announcements.

To investigate these explanations, we use the proportion of analysts following the firm also issuing cash flow forecasts as a proxy for investor attention, and analyst forecast error in earnings and in cash flows as measures of the accuracy of analyst forecasts. We investigate how these variables affect the mispricing of discretionary accruals in a subsample of firms with analyst cash flow forecasts. Our empirical test shows that the increased investor attention and the improved accuracy in analyst earnings forecasts help investors to price discretionary accruals more accurately. We could not empirically test the third explanation due to the limited resources to manually collect data for large sample and the incompleteness of the current machine readable data on voluntary cash flow disclosure (Chuk, Matsumoto, & Miller, 2013).

Our paper integrates the literature on the accrual anomaly and analyst cash flow forecasts by investigating the impact of analyst cash flow forecasts on the accrual anomaly. We document that the accrual strategy tends to be less effective for firms with analyst cash flow forecasts, after controlling for idiosyncratic volatility, transaction costs and firm characteristics associated with the issuance of analyst cash flow forecasts. Our investigations also show that the mitigated accrual anomaly for firms with analyst cash flow forecasts is at least partially due to the improved ability of investors to price earnings manipulations. We provide further evidence that the impact of cash flow forecasts on the ability of investors to price accruals is attributed to investor attention and the accuracy of analyst earnings forecasts. Thus, our paper not only contributes to our understanding of the accrual anomaly, but also provides evidence on how investors use the information in analyst cash flow forecasts. Our paper also has implications for investors. We find that the accrual strategy is more profitable for firms without analyst cash flow forecasts, which implies that investors should avoid firms with analyst cash flow forecasts to maximize trading profits from the accrual strategy.

Another current study by Mohanram (in press) shares the same implication as our study. However, it is important to note that our paper differs from Mohanram (in press)³ in three ways. First, unlike Mohanram (in press), who uses the Heckman second stage test and the propensity score test, we comprehensively control for all the variables that might be related to the availability of analyst cash flow forecasts and the accrual anomaly documented by the previous

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³ While our paper overlaps with Mohanram (2013) in showing that analyst cash flow forecasts reduce the accrual anomaly, our paper is developed independently of and concurrently with Mohanram (2013).

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