Consistency of firms' past financial performance measures and future returns

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ABSTRACT

In this study, I show that growth consistency in firms' past financial performance measures is useful in predicting future stock returns. Firms consistently ranking in the lowest 30 percent of past financial growth measures have greater rates of returns relative to their inconsistent low-growth firm counterparts. The return differential between these two groups increases uniformly with the length of estimation intervals of past performance data. Firms consistently ranking in the top 30 percent of growth rates earn slightly lower returns than inconsistent high-growth firms. These findings indicate that investors over-react to consistency in financial metrics, but this overreaction is more pronounced and persistent for consistent low-growth firms than that for consistent high-performing firms. Regression analyses reveal that consistency of firms' past financial performance predicts subsequent price movement. This association between past growth consistency and future returns is stronger for consistent low-growth firms relative to consistent high-growth firms.

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1. Introduction

An extensive and large body of literature over the last two decades indicates that future stock returns can be predicted from the behavior of firms' past financial performance measures, such as changes in sales, earnings, and cash flow. These findings have been strongly linked to investor psychology (e.g., Daniel, Hirshleifer, & Subrahmanyam, 1998; Lakonishok, Shleifer, & Vishny, 1994). Lee (2001) argues that to affect market prices, the investing behavior of imperfectly rational investors must be systematic and the role of researchers is to identify factors that cause these common investor sentiments.

Despite the growing body of behavioral models that attempt to explain market regularities in terms of investors' psychology (e.g., Barberis, Shleifer, & Vishny, 1998; Daniel et al., 1998), there is little empirical evidence on whether and how consistency of a firm's financial performance in the past relates to its future stock returns. The objective of this study is to fill this gap. I use a range of estimation intervals from two to five years of past performance data to examine whether consistency of firms' growth rates is likely to influence investors' perceptions about future performance of these firms.

Using past financial performance data for a sample of publicly traded firms from 1966 to 2007, I contribute to the existing literature in four ways. First, I show that firms consistently ranking in the lowest 30 percent of past growth rates have greater returns than inconsistent low-growth firms across all estimation horizons and investment periods. The return differential between these two portfolios increases uniformly as more data of past performance is included in the estimation periods. Second, firms consistently ranking in the top 30 percent of firms, based on their past growth rates, earn slightly lower returns than inconsistent high-growth firms across all estimation horizons and holding periods.

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Third, multiple regression analyses reveal that growth consistency of firms' historical financial variables predicts subsequent price movement. This relationship between patterns of past financial performance and future returns is stronger for consistently low-performing firms relative to firms in other growth categories (i.e., the consistent high-growth and inconsistent low- and high-growth firms). Finally, the regression results show that my findings are robust to the inclusion of short-term financial momentum, accruals, and firm beta.

Overall, results reported in this study are broadly consistent with the predictions of the behavioral the models of Barberis et al. (1998) and Daniel et al. (1998). According to Barberis et al. (1998), a string of consecutive change-in-earnings moving in the same direction for a sufficient period of time should create a market overreaction. Daniel et al. (1998) argue that exceptionally high (low) firms' past financial performance leads to an initial market overreaction and consistency of such performance is likely to deepen this market overreaction. As a result, firms with consistently high (low) past financial growth rates are likely to be overpriced (underpriced). Subsequently, these firms will earn low (high) rates of returns when investors realize that their optimism (pessimism) was not totally justified.

Both Barberis et al. (1998) and Daniel et al. (1998) assume that investors' responses to performance consistency are symmetric for both consistent high-and low-growth firms. However, the findings reported in this paper suggest that investors are likely to put more weight on information cues contained in the consistency of firms' past performance metrics of prior low-growth firms relative to their high-growth stock counterparts when projecting the future outlooks of these firms.

There are several empirical studies which examine the relations between a firm's past performance measures and subsequent stock market returns (e.g., Chan, Frankel, & Kothari, 2004; Lakonishok et al., 1994; La Porta, Lakonishok, Shleifer, & Vishny, 1997). However, the present study differs from prior studies in three ways. First, in the present study, consistency of a firm's past financial performance is defined as the number of years in which a firm achieves average annual growth rates that place it in the highest (lowest) 30 percent of all firms based on its annual growth rates over the prior two through five years. In comparison, Chan et al. (2004) use the median to break down their firms into two categories: consistent high-growth and consistent low-growth firms.

Second, the empirical test of Chan et al. (2004), which is regenerated in Fig. 1a, does not consider the direction of past firms' performance. Chan et al. (2004) group consistent high- and low-growth firms together in one portfolio and inconsistent good and bad past performers in another and compare their returns (consistent performers versus inconsistent performers). However, my test approach, which is shown in Fig. 1b, measures the return performance of consistent low-growth firms against that of inconsistent low-growth firms and the returns of consistent high-growth stocks are compared to the return performance of inconsistent high-growth firms.

Third, this study uses prior financial performance data over time frames ranging from two to five years as well as a five-year holding period to investigate how consistency of firms' performance growth rates affects investors' expectations. The behavioral models (e.g., Barberis et al., 1998; Daniel et al., 1998; Lakonishok et al., 1994) suggest that investors put excessive weight on patterns of a firm's performance in the past when projecting its future prospects. If it takes investors a longer period to realize that their expectations were not fully justified, as is the consensus among behavioral theorists, it is reasonable to assume that expanding the testing horizon will allow me to capture the extent of return reversals. Lee and Swaminathan (2000) show a stronger price reversal in years 4 and 5 following their portfolio formation date. Their findings suggest that studies that use holding horizons of less than five years may fail to capture the full dynamics of price reversals.

The remainder of this study is organized as follows: Section 2 reviews the related literature and presents research hypotheses. Section 3 presents performance variables, the sample used in hypothesis testing, and empirical tests. Results are presented and discussed in Section 4. Finally, the findings of the study are summarized in Section 5.

2. Literature review and research hypotheses

2.1. Related literature

The last two decades have seen a growing body of empirical studies that examine the relationship between stock returns and measures of past financial performance such as sales, earnings, and cash flow. The findings have been linked to investor psychology (e.g., Barberis et al., 1998; Daniel et al., 1998; Lakonishok et al., 1994). Alternatively, Fama (1998) argues that empirical evidence of return predictability is a question of chance that is anticipated by the efficient market theory. Further, he argues that most of this evidence disappears when risk exposure is accounted for. However, Daniel and Titman (1998) find no evidence that value firms are more likely to be associated with risk exposure than growth firms. Other studies (e.g., La Porta et al., 1997; Skinner & Sloan, 2002) show that returns for the value strategy are concentrated around subsequent earnings announcements. This evidence is interpreted as consistent with the hypothesis that the market misprices securities.

Lakonishok et al. (1994) report that past low-performing firms, measured by their past growth in sales, earnings, and cash flow relative to market prices, yield superior future returns compared to high-performing firms. They attribute their findings to systematic investor bias and argue that investors overweight a firm's past growth when predicting its future outlooks. This biased expectation drives market prices of high (low) growth firms above (below) their fundamental values; subsequently, these firms' shares earn lower (higher) future returns relative to the market. La Porta et al. (1997) investigate whether greater stock returns achieved by value strategies are due to risk factors or investors' biased expectations. After controlling for various risk exposures, they find that value stocks outperform growth stock by about 10–11 percent per year, and this profit is