



Predicting Persistence of Earnings by Analyzing Potential for Fraud

Firms that manipulate or misconstrue their earnings information are defined by a common set of financial characteristics. Using a mathematical model that tests for these characteristics, Fidelis Capital, LLC is able to identify firms that are “potential earnings manipulators.” Potential earnings manipulators are exploited as lucrative, short investments, while firms with low manipulation scores are selected as safe, long-term investments.

Professional asset-managers work to beat passive indices using all, publically available information. Very successful asset-managers are routinely trusted with millions of dollars each year, while others flounder and fail to reap sufficient returns on their investments or raise adequate capital. But if all asset-managers are privy to the same, publically available information, what distinguishes the 'informed' and successful traders from the uninformed traders? Which market information holds the highest investment value? We've found that information relating to a firm's potential for earnings manipulation can be used to predict the firm's future returns. Using forensic accounting principles which had 71% reliability within the 11 year, out-of-sample test period, we identify characteristics of potential earnings manipulators and use the strength of that identification to predict the persistence (or reversal) of the accrual component of firms' current year earnings.

These forensic accounting principles, which allow us to flag different firms as potential earnings manipulators, have definite investment value. Through careful forensic analysis and the use of eight different variables, we are able to identify firms that have a high likelihood of manipulating their earnings; these firms are

characterized by extreme growth, deteriorating fundamentals, and the adoption of aggressive accounting practices. This eight-variable model was developed using data from 1982 - 1988 and then tested out of sample from 1989 - 1992. In a second out of sample test conducted between 1998 and 2002, the earnings manipulation model flagged 12 out of 17 total high profile, fraud cases (including the Enron collapse) with information that had been publically available for approximately 1.5 years. Cumulatively, the model predicted 71% of the most famous fraud cases between 1998 and 2009.

But even firms that are flagged as potential earnings manipulators (or flagged as having 'low earnings quality') that do not commit flagrant fraud are significant, because low earnings quality is associated with lower returns. Flagged firms generate one-year, size-adjusted returns of -7.5%; un-flagged firms (with comparatively higher earnings quality), on the other hand, generate positive returns of 3.2% (Beneish, Lee, & Nichols, 2012). On average, un-flagged firms outperform flagged firms by 10.7% (Beneish, Lee, & Nichols, 2012). To more thoroughly understand the relationship between potential for earnings manipulation and yearly returns, we unpack the distinctive information revealed about a firm by their potential for earnings manipulation.

To supplement 'potential for earnings manipulation,' there are several factors that analysts have historically used to help predict firms' future earnings: accruals, price momentum, firm size, book-to-price ratio, and short-interest ratio. Accruals and potential for earnings manipulation are highly correlated; this

correlation suggests that both variables measure similar or related information.

Analysts theorize that earnings management practices (and differences in account/cash flow accruals) mislead investors, and that both potential for earnings manipulation and accruals measure some form of earnings management.

Furthermore, the variables 'potential for earnings manipulation' and 'short interest ratio' are correlated, revealing that firms with a higher potential for earnings manipulation are more likely to attract short sellers. Finally, 'potential for earnings manipulation' is negatively correlated with both 'momentum' and 'book-to-price ratio,' two relationships that affirm our understanding of flagged firms as characterized by fast growth and overvaluation.

Even after looking more closely at the distinctive information yielded by 'potential for earnings manipulation,' we are compelled to examine whether this variable can predict future returns. In fact, potential for earnings manipulation is negatively correlated with one-year-ahead abnormal returns (to a statistically significant extent); momentum and book-to-price ratio, perhaps unsurprisingly, are positively correlated with one-year-ahead abnormal returns (also to a statistically significant extent). After controlling for accruals, we find that a long-short portfolio strategy that is based on firms' potential for earnings manipulation earns a 9.3% abnormal return one-year-ahead (Beneish, Lee, & Nichols, 2012). Additionally, returns to this investment strategy are made most significantly in the three-day windows around earnings announcements (Beneish, Lee, & Nichols, 2012). This fact affirms that the strategy generates returns because of a delayed market response to



current information about potential future earnings, rather than because of omitted risk variables (Beneish, Lee, & Nichols, 2012).

The investment strategy based on potential for earnings manipulation involves investors making a negative bet on the market beta and gaining positive exposure to differential expected returns based on firm size. We furthermore note that abnormal returns are highest among firms with the greatest potential for earnings manipulation (Beneish, Lee, & Nichols, 2012); this observation reveals that the 9.3% return is primarily obtained through the negative bet against the flagged growth firms. Flagged firms, on average, perform worse than other firms their size by 75 basis points per month, which represents an incredibly lucrative opportunity for investors to bet negatively against them (Beneish, Lee, & Nichols, 2012).

If you separate flagged from un-flagged firms and then sub-divide each of those groups into 5 categories: MVE, BTM, momentum, short interest ratio, and accruals, flagged firms persist in underperforming un-flagged firms. Coupling potential for earnings manipulation with size (buying small, un-flagged firms and shorting large, flagged firms) improves investment strategies by 12.5% (Beneish, Lee, & Nichols, 2012). Coupling potential for earnings manipulation with book-to-price ratio (buying un-flagged, value firms and shorting flagged, glamour firms) improves investment strategies by 7.5% while combining potential for earnings manipulation with the momentum variable improves strategies by 14.6%. An investment strategy based on both potential for earnings manipulation and short interest ratio will improve 10.5%; then, finally, coupling potential for earnings



manipulation with accruals (buying low accrual, un-flagged firms and shorting high accrual, flagged firms) improves investment strategies by 6.1% (from 8.0% to 14.1%).

Interestingly, potential for earnings manipulation is particularly effective in predicting returns among low accrual firms. We therefore isolated the group of low accrual firms and further subdivided it into two categories: high and low potential for earnings manipulation. After analyzing these more specific groups, we discerned that the 'potential for earnings manipulation' variable derives its predictive power from three factors: sales growth, change in asset quality, and increase in leverage (Beneish, Lee, & Nichols, 2012). As each of these factors becomes greater, so does the firm's potential for earnings manipulation; alternately, as each of these factors becomes greater, the firm's predicted return decreases in size.

Ultimately, we have determined that the 'potential for earnings manipulation' variable has significant ability to predict one-year ahead, cross-sectional returns, in its own right. Income-decreasing accruals that are reported in the current year are more likely to persist among firms with high potential for earnings manipulation; eventually, firms with high potential for earnings manipulation will likely see decreased returns. Alternately, income-increasing accruals are more likely to persist among firms with low potential for earnings manipulation. Using forensic accounting principles and the eight-variable model, Fidelis Capital LLC is able to effectively discern which firms have a high potential for



earnings manipulation and thereby significantly improve our investment strategies
and augment your returns.