Mimicking insider trading

Economics, Trade

Introduction Much of the field offinanceIs focused on creating abnormal returns? that is to say. Returns that are different from what one might expect them to be based on various characteristics of the investment? by identifying so-called " inefficiencies" in the stock market. Perhaps one of the most well-known strategies for taking advantage of these Inefficiencies, a strategy widely discussed Inacademicas well as Industry literature, is following the trades of company insiders.

In the united States, company insiders are required to report to the SEC any time they engage in a purchase or sale of their rim's stock. Within two business days following the date of the trade. This Information, once reported to the SEC, Is subsequently made available to the public almost immediately, allowing outsiders to see exactly how insiders are trading.

When insiders trade based on material non-public information and earn abnormal returns, it is a violation of the strong form of the Efficient Market Hypothesis, which itself is not backed by any significant emplace evidence, However, If outsiders are able to earn abnormal returns by mimicking Insider trades, this becomes a violation of the ideal-accepted semi-strong form of the Efficient Market Hypothesis, which states that the price of a stock incorporates all publicly available information.

The academic literature contains many studies which attempt to generate excess returns by replicating Insider trades, with varying degrees of success. While some early studies (Gaffe 1994, Finery 1996) claimed that outsiders were indeed able to create a small amount of excess returns, a later study by University of Michigan Professor H. Negate Shun concluded that once

these trades accounted for transaction costs, the excess returns would be nearly zero. Later studies by Rezone and Zamia (1988).

Line and Howe (1990) and Frederica, Gregory, Mahatma and Tones (2002) have also reaffirmed that transaction costs depleted all the excess returns from these studies. (1)On the other hand, several studies conclude that it is possible to earn excess returns by applying a " mimicking strategy' selectively. For example, Lakefronts and Lee (2001) conclude that if an investor mimics only large trades and only by the top management of a company (excluding board members, majority shareholders and other company employees), an outsider could in fact generate excess returns.

Other theories suggest that It Is possible to successfully replicate Insiders trades by using the strategy in markets outside the US, such as in the Italian, German and Spanish markets. [I] A critical factor in determining whether an outsider will profit from replicating the trade of an insider is themotivationbehind the trade. Insiders are likely to engage In Insider trades for a number of reasons, not all of them connected to Inside Information on future firm performance. An Inside trade that Is ambulated by liquidity or diversification needs is unlikely to contain any " predictive power and exult in any abnormal return for an outsider.

While it's relatively obvious that the Insider's motivation In making an Inside trade Is a key factor in determining how successful the outsider's mimicking trades will be, existing academic literature has, for the most part, been unable to take advantage of this factor to increase returns on test portfolios. Were outsiders able to identify the motivation behind the insider's it might

become possible to create a portfolio of performance-predicting trades, which would generate abnormal returns. In a 2007 paper entitled " Decoding Inside Information", (Cohen et al.

HarvardUniversity and University of Toronto professors test an innovative and original approach to mimicking insider trades. By using a simple algorithm, the strategy attempts to separate insider traders into two categories: opportunistic traders and routine traders. Specifically, the algorithm involves analyzing the past three years of an insider's trading history, and identifying as routine traders those who had made inside trades in the same calendar month for three consecutive years. The remaining insiders, approximately, 45% of Cohen et al. 's sample, is identified as opportunistic traders.

Insiders without three years of trading story are discarded from the sample entirely. Cohen et al. Test whether the trades made by these " opportunistic traders" contain any predictive power relating to firm performance, and how the trades of " routine traders" perform in comparison. Methodology In order to test the efficacy of this strategy, the authors construct four test portfolios at the end of month t, comprised of month it's: a) Opportunistic buys b) Opportunistic sells c) Routine buys d) Routine sells At the end of each month, the portfolios are rebalanced to reflect the routine and opportunistic inside trades and buys in that month.

The objective of using these oratorios is to test whether or not there is any added value in separating routine traders from opportunistic traders, using the algorithm designed by the authors. In other words, the study tests

whether following only those insiders identified by the algorithm as " opportunistic" could yield a positive alpha, and how this compares to the returns of the " routine trader" portfolios. As noted above, the SEC requires insiders to report transactions within two business days following the trade (prior to the enactment of Serbians-Solely in 2002, insiders had until the 10th day of the following month to report the trade).

In the sample used by Cohen et al. , nearly all of the trades were reported on the day on which the insider made the trade. (2) As such, by the time the portfolios are rebalanced at the end of each month, information on these inside trades would have been publicly available knowledge. Nonetheless, it is important to consider the potential implications of this on the results of the strategy. Predictive Ability of Routine vs. Opportunistic Trades In order to determine whether the " opportunistic" traders, as defined by Cohen et al. s algorithm, actually contain any predictive power, the authors run pooled aggressions of returns on indicators of routine and opportunistic trades in the prior month, with future one-month returns as the dependent variable. The findings reveal that both the buy and sell opportunistic trades contained much greater predictive power than routine buys and sells. The results reveal that opportunistic buys yield average returns 0. 90 basis points (with a t-statistic of 4. 46), 76 basis points higher than that of routine buys. With a p-value of 0. %, the difference is significant. It is much better indicator than considering all insider buys. Testing opportunistic versus outing sells exhibits similar results, with a coefficient of -0. 78 in the regression of opportunistic sells, and 0. 04 in the regression of routine sells. The difference is again significant with a p-value of 0% (F= 29. 30). See Table 1 in Appendix for full

results. Alpha The authors test for the presence of abnormal returns using several different asset pricing models, including the CAMP and the Fame-French model, as well as others.

While the tests use two different types of portfolios, one value-weighted and one equally weighted, the findings are similar and the results below will therefore focus only on the equally-weighted portfolio. In the case of opportunistic versus routine buys, the results indicate monthly CAMP alphas of 1. 51% (with a t-ratio of 5. 89 and p- value < 1%) and 0. 92% respectively. Examining the results with a more complete model, such as the Fama-French, reveals similar findings with opportunistic buys versus routine buys generating monthly Fama-French alphas of 1. % (t-ratio of 5. 49) versus 0. 64%, respectively. Opportunistic versus routine sells leads to similar results. The monthly CAPM alphas for opportunistic sells and routine sells are -0. 30% and 0. 2% respectively and monthly Fama-French alphas of -0. 21% and 0. 43% for opportunistic and routine trades respectively. It is therefore clear that while the opportunistic sells are negatively correlated with the market, the routine sells are not. The results obtained with the others risk models lead to the same results.

The results indicate that longing opportunistic buys, and shorting opportunistic sells could yield significant excess returns. An equally-weighted portfolio of opportunistic buys and sells yields a monthly CAMP alpha of 1. 81%, and a monthly Fame-French alpha of 1. 41%, with respective t-ratios of 5. 6 and 5. 04. Based on these results, it is evident that by separating routine and opportunistic trades from trades motivated by liquidity and

diversification needs, and following only the former, outsiders may be able to significantly outperform the market. Distribution of Returns While the study by Cohen et al. Goes not provide much information on the characteristics of the distribution of returns on the various portfolios used in their study, looking at other sources which study insider trading strategies may provide some insight into this issue. This information is highly relevant to risk-averse investors, to whom the probability of losses may be as important as the expected return. In Investment Intelligence from Insider Trading, H. Negate Shun finds that the probability of loss (defined as earning lower returns than an investment in the market portfolio) on a single mimicking transaction is 49. %, excluding transaction costs, and 51 . 7% when transaction costs are taken into account. (3). When combined with the study findings on average return, which falls in the 2-3% depending on the minor variations in the study various tests of the strategy, the approximate 50-50 arability of loss indicates a positive-skewed distribution. As such an investor must mimic a large number of insider trades in order to earn returns near the average of 2-3% in Shunt's findings. While the relatively high probability of losses may seem risk averse investors, as it indicates a smaller probability of extreme negative losses.

Although there are substantial differences between Cohen et al. 's study and Shunt's study? likely the most important of which is that Shun does not differentiate between routine and opportunistic insiders as Cohen et al. Do? the results from Shunt's study may be an indication that the distribution of Cohen et al. 's results are positive-skewed as well. Indeed, it is likely that following only opportunistic traders would both reduce the probability of

extreme negative losses, as well as increase the probability of extreme positive gains, thereby resulting in an even further positive- skewed distribution.

In addition, the high probability of loss illustrated in Shunt's findings would likely also be reduced when following only opportunistic traders. Trading Costs and Refinancing Because this strategy involves relatively active trading, its costs (commission fees and id-ask spreads) will undoubtedly be higher than those of a buy and hold strategy. That said, when the strategy is applied selectively, as is the case in the Cohen et al. Study (I. E. By mimicking only opportunistic insiders rather than all insiders) trading costs can be significantly reduced.

In Cohen et al. 's study, the test portfolios are rebalanced at the end of every month, based on that month's opportunistic insider trades. In both the opportunistic sell and opportunistic buy portfolios, outsiders would be able to profit by shorting and buying, respectively, holding for a month, and balancing at the end of every month. Monthly refinancing requires immediacy, and the stocks would need to be purchased and sold using market orders. The outsider would thus incur the additional costs off larger bid-ask spread.

Outsiders may potentially be able to rebalanced less frequently, submitting limit orders instead of market orders, holding on to the stocks for longer periods of time, and still profit. According to Shunt's findings,(4) in the case of an " insider buy', the profits are realized over the course of several months. (5) As such, the outsider may be able to educe refinancing to twice

a year, and hold on to " insider buy' stocks for 6 months. In this case, the outsider could likely afford to submit a limit buy order and wait a few days before it executes.

However, this does not apply in the case of an " insider sell", as there is no evidence to indicate that these profits are realized over a period of many months. As such, monthly refinancing it necessary. Barriers to Implementation In reality, while the strategy would certainly not be difficult to follow for an institutional investor or a sophisticated individual investor, it would perhaps present mom challenges for the average investor. In Investment Intelligence from Insider Trading, Shun advises that an investor mimic close to 100 insiders, in order to reduce the probability of loss to an acceptable level. 6) Granted, applying this to a strategy which differentiates between opportunistic and routine traders would likely require an outsider to follow a smaller number of insiders in order to obtain a reasonably limited probability of loss. Another potential barrier for the average investor is differentiating between routine and opportunistic traders. While Cohen et al. Ere able to accomplish this, as would institutional and sophisticated investors, it resources to successfully differentiate between the two types of insiders.

While these issues may not be particularly large obstacles, they do present additional considerations and challenges for the individual investor. Insider Trading and Serbians-Solely An interesting point to consider is the impact of changing SEC reporting regulations on an outsider's ability to profit from following insider trades. A Stanford University study (Zealand 2005)(6)

tested the success of a generic " mimicking strategy' in the ears leading up to Serbians-Solely, versus the success of the strategy in the years following the enactment of the new legislation.

The study found that in the first 27 months, it was possible to generate excess returns of up to 17. 67%, including trading costs. After this period, however, it was no longer possible to obtain these returns, likely because the market had fully adjusted to this new source of public information. Looking forward, it is possible that any further changes in SEC regulation make information more readily accessible with a smaller delay, will present investors with another opportunity to earn additional returns before the market is able to react.

Strategy Comparison While Cohen et al. Are the first to attempt to generate excess returns by differentiating specifically between routine and opportunistic traders, a number of studies in the academic literature have sought to increase returns from following insider trading by applying the strategy in various other selective ways. Although the " routine vs.. Opportunistic" strategy appears to be the most successful thus far, several other versions of the strategy have also managed to create excess returns.

A duty conducted in Sweden (Ayatollah and El-Marin, 2005) reveals that replicating insider trades of stocks listed on the A-List and Attract 40 (the Swedish stock indices reserved for larger companies with significant operating history) does not generate abnormal returns at a significant level. On the other hand, replicating buy transactions of " insider clusters" (multiple firm insiders making similar trades in the same time period) of

firms trading on the O-list (designated for companies which lack the requisite operating history or size for listing on the more established lists) could generate abnormal returns up to 33. , excluding transaction costs. By selectively applying a mimicking strategy to smaller companies rather than larger ones, to buy transactions rather than sell transactions, and to insider clusters (numerous firm insiders making same-type trades in a given period of time) rather to individual investors,(7) an outsider may be able to generate excess returns. The study conducted by Shun, which examines 60, 000 insider transactions on the NYSE from 1975-1981, reveals similar results. Over the course of 100 days, the buy transactions exhibited excess returns of 3%, while the sell transactions underperformed the racket by 1 . %. In other words, an outsider may have been able to profit by going long " inside buys", but not by shorting " inside sells". He also found that there has been a greater amount of uninformative sell transactions that have taken place in the ass, compared to the ass-ass(8), it could be that since sass, the amount and frequency of stock compensations has greatly and continuously increased,(9), thus it into routines and opportunistic you would be able to keep the informative transactions and be less affect by this tendency.

Shunt's results also indicate that placating insider trades in smaller firms generated higher excess returns than insider trades in larger firms. (10) It may be easier to generate excess returns by replicating insider trades in smaller firms, because these insiders are typically subjected to less scrutiny by analysts and by the media than their counterparts in larger firms. As such, they may be more willing to engage in profitable, " performance-predicting" trades than insiders at larger firms. However, it's also possible

that these trades generate higher expected returns simply because they have increased risk.

In order to compensate investors for this risk, investments in smaller firms can be expected to generate higher returns, as reflected in the Fame French model. Similar to the Swedish study, a study conducted by Jenny et al. (1999) (7) also found replicating insider cluster transactions to be more profitable than replicating individual insider transactions. The rationale behind this? that same-type transactions from multiple firm insiders within a given period is likely motivated by insider knowledge rather than by investor-specific needs--is fairly obvious. 11) Cohen at al. Observe similar results in Decoding Inside Information. The study findings indicate that a one- standard deviation increase in the log number of opportunistic sells translates into a decrease in future returns of 29 basis points per month (excluding the specific days each year when firm executives receive stock compensation and subsequently liquidate some of their stake in the firm). (12) By differentiating between routine and opportunistic traders as Cohen et al. O, outsiders can avoid these routine sells, and mimic only informative inside clusters. Looking Forward Although Cohen et al. And others have illustrated various ways in which outsiders ay be able to generate excess returns by mimicking insider trades, several potential obstacles may stand in the way of this strategy in the future. As with any market inefficiency, increased popularity of the strategy as well as increased accessibility to information on insider trades may cause a decline in future returns.

Today, there are already a multitude of web sites that allow outsiders to track insider trades, making information about such trades readily accessible to the average investor. As a growing number of outsiders attempt to replicate these trades, it is likely that it will come increasingly difficult for investors to mimic trades in time to capture any gains. Another potential threat to this strategy is the proliferation of endowment assurances, which firm insiders use to take advantage of offshore solutions in order to hide their transactions. Insiders are therefore able to trade stocks and derivatives of companies " anonymously', and avoid reporting insider trades to regulators. This would obviously prohibit outsiders from gaining access to and mimicking insider trades. (13) Lastly, increased penalties for insider trading could also threaten the success of the strategy. Cohen et al. How that during periods with increased cases of investors being prosecuted for insider trading, the number of trades identified as " opportunistic" decrease. In other words, insiders take seriously the risk of being caught and charged.