FOLLOW THE EXPERTS

In Search of a Guru

Stanley had been searching for enlightenment all his life. He tried new religions and new diets with equal enthusiasm, convinced that all he had to do to was follow the right advice to become happy. When he started investing, he watched CNBC and read books on how to get rich by financial experts. He was sure that only they had the key to success in investing and that all he had to do was imitate them. When the portfolio manager of one of America's largest mutual funds listed his top ten stocks to buy in Barron's, Stanley followed along and bought every single one. After all, this portfolio manager had access not only to the best minds and the best data on Wall Street but also to the managers of these companies. In the months that followed, Stanley was deeply disappointed. While a couple of stocks on the list did reasonably well, his portfolio badly under performed the market. Trying to figure out what had gone wrong, Stanley looked for any news he could find about the portfolio manager whose advice he had followed and found a news item that he had been fired because the mutual fund he had run for a decade had done so badly. Stanley sold all his stocks and bought a book on surviving financial crises by an expert on bankruptcy. *Moral: Smart people don't always pick good stocks*.

There are investors who seem to know more than others and claim to do much better on their investments than the rest of the market. If you could follow these "expert" investors and copy their investment decision, you may be able to piggyback on their successes. It is this belief that leads investors to read investment newsletters and to watch television shows on the stock market. It is also this belief that allows investment experts – equity research analysts, investment advisors and portfolio managers – to have as much influence as they do in financial markets. In this chapter, you will examine whether these experts do better on their investments than the rest of the market, and whether following the advice they provide pays off in higher returns.

The Core of the Story

Every discipline has its experts and the investing world has more than its share. Some investors like Warren Buffett and Peter Lynch earn their expert status by generating high returns on their portfolios over many years. Others become experts because of the positions they hold – market strategists for investment banks and equity research analysts, for example. Still others become experts because of what they know – insiders at companies and those close to decision makers. Finally there are those that anoint themselves as experts in aspects of investing with nothing specific to back them up and because of their sales prowess, pull it off; they write books about successful investing and offer newsletters you can subscribe to. Why are novice investors so attracted to expert advice? There are a number of beliefs that underlie this attraction:

Experts know more about markets and hence are less likely to make mistakes: Investing can be daunting, especially in today's markets, where choices abound and investments become increasingly complex. Investors worry about putting their pension funds and savings at risk by picking the wrong investment at the wrong time and assume that experts can steer them away from catastrophic mistakes.

Experts can bring more resources (data, models, people) to the stock selection process and hence can pick better investments: Individual investors are constrained in terms of how much time they can spend on analyzing investments and how much resources they can bring to the process. An equity research analyst at an investment bank or a portfolio manager at a mutual fund can bring more resources and more time to investment analysis and presumably this pays off as better investment choices.

Experts have better access to private information (buzz, rumor, news) and hence get advance notice of big happenings: Markets move on information and investors with timely access to good information should be able to use that information to earn higher returns. While individual investors may not be able to talk to the managers of a firm, analysts have access to these highly placed sources. Many investors assume that information is leaked to Wall Street before it gets to Main Street.

The Theory

To understand how and why experts may be able to beat the market, you have to begin by examining the process by which market prices are set. While market prices are set by demand and supply, the market price of an asset is an estimate of its value. Investors in the market make assessments of the value based upon their expectations for the future. They form these expectations using the information that is available to them and this information can arrive in different forms. It can be information about the past price performance of the asset, or public information available in annual reports or filings with the SEC, or information available to one or a few investors.

While the steps in this process – receive information, process the information to form expectations and trade on the asset – may be the same for all investors, there are wide

variations across investors in how much information they have available, and how they process the information. Some investors have access to more information than others. For instance, an equity research analyst whose job it is to evaluate Cisco as an investment will have access to more information about the firm than a small investor making the same decision. These differences in information are compounded by the different ways in which investors use the information to form expectations. Some investors build complex quantitative models, converting the information into expected earnings and cash flows, and value investments. Other investors use the same information to make comparisons across stocks. The net effect is that, at any point in time, investors will disagree on how much an asset is worth. Those who think that it is worth more will be the buyers of the asset, and those who think it is worth less will sell the asset. The market price represents the price at which the market clears, i.e., where demand (buying) is equal to supply (selling).

The price can and usually will deviate from the value for three reasons. It is these flaws in the pricing process that may provide experts with potential excess returns.

- First, the information available to most investors may be insufficient or incorrect; then expectations based upon this information will also be wrong. Investors with access to better or more complete information will be able to use their information advantage to earn potential excess returns. This is usually the advantage that insiders at companies have over outside investors in these companies.
- Second, investors may not do a good job of processing the information to arrive at expectations. Investors who are better at processing this information (using better and more complex models) may be able to find mispricing and take advantage of it. This is potentially the value created by analysts and portfolio managers.
- Third, even if the information is correct and investors, on average, form expectations properly, there might still be investors who are willing to trade at prices that do not reflect these expectations. Thus, an investor who assesses the value of a stock to be \$ 50 might still be willing to buy the stock for \$ 60, because he or she believes that it can be sold to someone else for \$ 75 later. Investors who see this irrationality and are willing to bet on it or against it may be able to make higher returns in the long term. This presumably is what successful investors like Warren Buffett and Peter Lynch bring to the process.

With this framework, you can see a role for experts in the markets. Experts can attain their status by getting information earlier than other investors, processing that information better or by finding systematic mistakes in how markets price assets. Other investors can learn from them and partake in at least a portion of their success.

Looking at the Evidence

Do investors who have information that no one else has access to, i.e. private information, use this information to profit? While the answer seems obvious (yes), it is very difficult to test to see whether they do because investors who trade on this information will not do so in the open. The reason for this is that the regulatory authorities, at least in the United States, specifically forbid trading in advance of significant information releases. Thus, insiders who follow the law and register their trades with the SEC are not likely to be trading on specific information in the first place. Notwithstanding this selection bias, this section begins by looking at whether insider buying and selling operate as signals of future price movements, since insiders may still have access to general information about the firm that outsiders do not. The second part of the section look at the more difficult question of whether those who trade illegally on private information make excess returns. While this may seem like an impossible test to run, you can at least draw inferences about this trading by looking at trading volume and price movements prior to major news announcements. In the final section, you will look at whether you can augment your returns by listening to equity research analysts and following their advice.

Insiders

The Securities and Exchange Commission (SEC) defines an insider to be an officer or director of the firm or a major stockholder (holding more than 5% of the outstanding stock in the firm). Insiders are barred from trading in advance of specific information on the company and are required to file with the SEC when they buy or sell stock in the company. In this section, you will begin by looking at the relationship between insider trading and subsequent stock price changes, and then consider whether non-insiders can use information on insider trading to earn excess returns themselves.

Insider Trading and Stock Prices

If it is assumed, as seems reasonable, that insiders have better information about the company, and consequently better estimates of value, than other investors, the decisions by insiders to buy and sell stock should signal future movements in stock prices. Figure 13.1, derived from an early study of insider trading examines excess returns on two groups of stock, classified on the basis of insider trades.¹ The "buy group" includes stocks where insider buys exceeded sells by the biggest margin, and the "sell group" includes stocks where insider sells exceed buys by the biggest margin.

¹ Jaffe, J., 1974, Special Information and Insider Trading, Journal of Business, v47, pp 410-428..

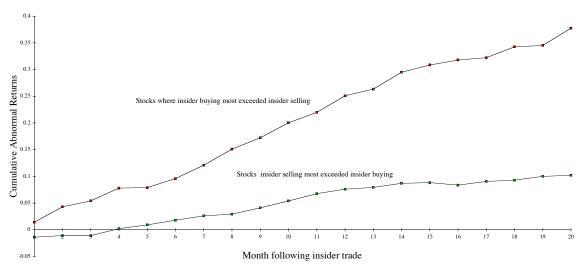


Figure 13.1: Cumulative Returns Following Insider Trading: Buy vs Sell Group

Data from Jaffe. The insider buy (sell) group includes companies where insider buying (selling) most exceeded insider selling (buying). The returns are cumulated in the 24 months after the portfolios are created.

Stocks where insiders were buying more aggressively did much better in the months after the insider trading than stocks where insiders were selling. Research done since support this finding², but it is worth noting that insider buying does not always precede price increases – about 4 in 10 stocks where insiders are buying turn out to be poor investments, and even on average, the excess returns earned are not very large. A closer look at the price movements around insider trading found that firms with substantial insider selling had stock returns of 14.4% over the subsequent 12 months, which was significantly lower than the 22.2% earned by firms with insider buying.³ However, the link between insider trading and subsequent returns was greatest for small companies and that there was almost no relationship at larger firms.

While most of the studies quoted above focus on total insider buying and selling, there may be value added if you can break down insider trading into more detail. Consider the following propositions:

² See Finnerty, J.E, 1976, *Insiders and Market Efficiency*, Journal of Finance, v31, 1141-1148, Rozeff, M., and M. Zaman, 1988, Market *Efficiency and Insider Trading: New Evidence, Journal of Business 61*, 25-44, Seyhun, H.N., 1998, *Investment Intelligence from Insider Trading*, MIT Press, Cambridge.

³ Lakonishok, J. and I. Lee, 1998, *Are insiders' trades informative*? Working Paper, Social Sciences Research Network.

Not all insiders have equal access to information. Top managers and members of the board should be privy to much more important information and thus their trades should be more revealing than trades by their underlings. A study finds that investors who focus only on large trades made by top executives, rather than total insider trading may, in fact, earn much higher returns.⁴

As *investment alternatives to trading on common stock* have multiplied, insiders have also become more sophisticated about using these alternatives. As an outside investor, you may be able to add more value by tracking these alternative investments. For instance, insider trading in derivative securities (options specifically) to hedge their common stock positions increases immediately following price run-ups and prior to poor earnings announcements.⁵ In addition, stock prices tend to go down after insiders take these hedging positions.

In summary, insider trading does contain information for insiders, but the information advantage that insiders have is not overwhelming, at least in the United States. This may partially be explained by the fact that these are legal insiders who cannot trade on upcoming news announcements and partially by the fact that even the best information is not precise. Investors who base their trades on insider buying or selling have to recognize that insiders often are wrong in their assessments of value.

Illegal Insider Trading

None of the research quoted above answer the question of whether insiders themselves make excess returns. The reporting process, as set up now by the SEC, is biased toward legal and less profitable trades, and away from illegal and more profitable trades. Though direct evidence cannot be easily offered for this proposition, insiders trading illegally on private information must make much higher returns than legal insiders. To support this proposition, three pieces of evidence can be presented.

The first (and weakest) is anecdotal. When insiders are caught trading illegally, they almost invariably have made a killing on their investments. Clearly, some insiders made significant returns off their privileged positions. The reason that it has to be viewed as weak evidence, though, is because the SEC looks for large profits as one

⁴ Bettis, J., Vickrey, D., and Donn Vickrey, 1997, *Mimickers of Corporate Insiders Who Make Large Volume Trades*, Financial Analyst Journal 53, 57-66.

⁵ Bettis, J.C., J.M. Bizjak and M.L. Lemmon, 2002, *Insider Trading in Derivative Securities: An Empirical Investigation of Zero cost collars and Equity Swaps by Corporate Insiders*, Working Paper, Social Sciences Research Network.

of the indicators of whether it will prosecute. In other words, an insider who trades illegally on information may be breaking the law but is less likely to be prosecuted for the act if he or she loses money.

Almost all major news announcements made by firms are preceded by a price runup (if it is good news) or a price drop (if it is bad news). Thus, you see that the stock price of a target firm starts drifts up before the actual takeover announcement, and that the stock price of a firm reporting disappointing earnings drops in the days prior to the earnings report. While this may indicate a very prescient market, it is much more likely that someone with access to the privileged information (either at the firm or the intermediaries helping the firm) is using the information to trade ahead of the news. In fact, the other indicator of insider trading is the surge in trading volume in both the stock itself and derivatives prior to big news announcements.⁶

In addition to having access to information, insiders are often in a position to time the release of relevant information to financial markets. Knowing as they do that they are not allowed to trade ahead of this information, insiders often adjust information disclosure to make it less likely that they will be targeted by the SEC. One analysis⁷ find that insiders sell stock between three and nine quarters before their firms report a break in consecutive earnings increases.⁸ This studty also finds, for instance, that insider selling increases at growth firms prior to periods of declining earnings.

Using Insider Trading in Investment Decisions

Tracking what legal insiders are doing has become both easier and more timely. You can look at the filings made by companies on the SEC website (http://www.sec.gov). The insider trading information is available in forms 3, 4 and 144s. Many of the more popular financial web sites such as Yahoo! Finance report on recent insider transactions on individual companies. If you are willing to pay more, you can subscribe to services that consolidate the information and provide it to you.

⁶ It is for this reason that the SEC tracks trading volume. Sudden increases in volume often trigger investigations of insiders at firms.

⁷ Ke, B., S. Huddart and K. Petroni, 2002, *What insiders know about future earnings and how they use it: evidence from insider trades*, Working Paper, Social Sciences Research Network.

⁸ You generally face legal jeopardy when you sell in the quarter or two before the news announcement.

As the information on insider trades has become more accessible, it has also become less useful as an investment tool. In addition, the spurt in the use of options in management compensation schemes has introduced a substantial amount of uncertainty in the reporting system, since a large proportion of insider trades now are associated with managers exercising options and then selling a portion of their stock holding for liquidity and diversification reasons. For information on insider trading to pay off, you need to look beyond the total insider trading numbers at the insiders themselves, focusing on large trades by top managers at smaller, less followed firms. Even then, you should not expect miracles, since you are using publicly available information.

The real payoff comes from tracking illegal insider trading by looking at trading volume and bid-ask spreads. The relationship between trading volume and private information may provide an intuitive rationale for the use of some of the volume measures as technical indicators.

Analysts

Analysts clearly hold a privileged position in the market for information, operating at the nexus of private and public information. Using both types of information, analysts make earnings forecasts for the firms that they follow, and issue buy and sell recommendations to their clients, who trade on their basis. In this section, you will consider where there is valuable information in earnings forecasts and recommendations and whether incorporating them into investment decisions leads to higher returns.

I. Earnings Forecasts

Analysts spend a considerable amount of time and resources forecasting earnings per share both for the next quarter and for the next financial year. Presumably, this is where their access to company management and private information should generate an advantage. Thus, when analysts revise their earnings forecasts upwards or downwards, they convey information to financial markets and prices should react. This section examines how markets react to analyst forecast revisions and whether there is potential for investors to take advantage of this reaction.

The Information in Analyst Forecasts

There is a simple reason to believe that analyst forecasts of growth should be better than just looking at past earnings growth. Analysts, in addition to using past earnings data, can avail themselves of other information that may be useful in predicting future growth.

1. Firm-specific information that has been made public since the last earnings report: Analysts can use information that has come out about the firm since the last

earnings report, to make predictions about future growth. This information can sometimes lead to significant re-evaluation of the firm's expected earnings and cash flows. For instance, information that a firm has a signed a lucrative contract with the federal government or that it's management has been replaced should affect your estimates of earnings growth in future periods.

2. Macro-economic information that may impact future growth : The expected growth rates of all firms are affected by economic news on GNP growth, interest rates and inflation. Analysts can update their projections of future growth as new information comes out about the overall economy and about changes in fiscal and monetary policy. Information, for instance, that shows the economy growing at a faster rate than forecast will result in analysts increasing their estimates of expected growth for cyclical firms.

3. Information revealed by competitors on future prospects: Analysts can also condition their growth estimates for a firm on information revealed by competitors on pricing policy and future growth. For instance, a report of slowing sales growth at one retail firm can lead to a reassessment of earnings growth for other retail firms. <u>4. Private information about the firm:</u> Analysts sometimes have access to private information about the firms they follow which may be relevant in forecasting future growth. This avoids answering the delicate question of when private information becomes illegal inside information. There is no doubt, however, that good private information can lead to significantly better estimates of future growth. In an attempt to restrict this type of information leakage, the SEC issued new regulations preventing firms from selectively revealing information to a few analysts or investors. Outside the United States, however, firms routinely convey private information to analysts following them.

<u>5. Public information other than earnings:</u> Models for forecasting earnings that depend entirely upon past earnings data may ignore other publicly available information that is useful in forecasting future earnings. It has been shown, for instance, that other financial variables such as earnings retention, profit margins and asset turnover are useful in predicting future growth. Analysts can incorporate information from these variables into their forecasts.

The Quality of Earnings Forecasts⁹

If firms are followed by a large number of analysts and these analysts are indeed better informed than the rest of the market, the forecasts of growth that emerge from analysts should be better than estimates based upon either past earnings growth or other publicly available information. But is this presumption justified? Are analyst forecasts of growth superior to other estimates?

The general consensus from research that has looked at short-term forecasts (one quarter ahead to four quarters ahead) of earnings is that analysts provide better forecasts of earnings than models that depend purely upon historical data. The absolute difference between the actual earnings and the forecast for the next quarter, in percentage terms, is smaller for analyst forecasts than it is for forecasts based upon historical data. Summarizing the conclusion on the accuracy of analysts' forecasts:

Analyst estimates are more precise than past growth rates but not by much: An examination¹⁰ of the relative accuracy of forecasts in the Earnings Forecaster, a publication from Standard and Poor's that summarizes forecasts of earnings from more than 50 investment firms looked at the forecast errors by month of the year and computed the ratio of analyst forecast error to the forecast error from time-series models of earnings, which use only past earnings. It found that the time series models actually outperform analyst forecasts from April until August, but under perform them from September through January. The authors hypothesize that this is because there is more firm-specific information available to analysts during the latter part of the year.

Analysts' advantages deteriorate for longer-term earnings forecasts: A comparison¹¹ of consensus analyst forecasts from the Institutions Brokers Estimate System (I/B/E/S) with forecasts, based purely on past earnings, from one quarter ahead to four quarters ahead finds that analyst forecasts outperform the time series model for one-quarter ahead and two-quarter ahead forecasts, do as well as the time series model for three-quarter ahead forecasts and do worse than the time series

⁹ Sell side analysts work for brokerage houses and investment banks and their research is offered to clients of these firms as a service. In contrast, buy side analysts work for institutional investors and their research is generally proprietary.

¹⁰ Crichfield, T., T. Dyckman and J. Lakonishok, 1978, *An Evaluation of Security Analysts Forecasts*, Accounting Review.

¹¹ O'Brien, P., 1988, *Analyst's Forecasts as Earnings Expectations*, Journal of Accounting and Economics.

model for four-quarter ahead forecasts. Thus, the advantage gained by analysts from firm-specific information seems to deteriorate as the time horizon for forecasting is extended.

Analysts make surprisingly large mistakes when forecasting earnings: An examination of analyst forecasts from 1974 to 1991 found that in more than 55% of the forecasts examined, analyst estimates of earnings were off by more than ten percent from actual earnings.¹² One potential explanation given for this poor forecasting is that analysts are routinely over optimistic about future growth. An analysis concludes that a great deal of this forecast error comes from the failure of analysts to consider large macroeconomic shifts.¹³ In other words, as Figure 13.2 indicates, analysts tend to overestimate growth at the peak of a recovery and under estimate growth in the midst of a recession.

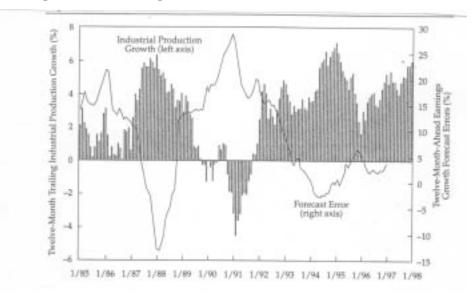


Figure 13.2: Earnings Forecast Errors and Economic Growth

Data from Chopra. Industrial production measures the pace of economic growth and the earning forecast error is the average forecast error on earnings estimates (relative to actual earnitings) across all analysts.

Note that analysts consistently underestimate earnings during periods of high economic growth and overestimate earnings during periods of low economic

¹² Dreman, D.N. and M. Berry, 1995, *Analyst Forecasting Errors and their Implications for Security Analysis*, Financial Analysts Journal, May/June, pg 30-41.

¹³ Chopra, V.K., 1998, *Why so much error in analyst forecasts?*, Financial Analysts Journal, Nov-Dec, pg 35-42.

growth. A comparison of analyst forecast errors across seven countries suggests, not surprisingly, that analysts are more accurate and less biased in countries that mandate more financial disclosure.¹⁴

With long term forecasts (5 years), there is little evidence that analyst forecasts add any information: There is little evidence to suggest that analysts provide superior forecasts of earnings when the forecasts are over three or five years. An early study compared long-term forecasts by five investment management firms in 1962 and 1963 with actual growth over the following three years to conclude that analysts were poor long term forecasters.¹⁵ This view was contested in a later analysis which found that the consensus prediction of five-year growth in the I/B/E/S was superior to historically oriented growth measures in predicting future growth.¹⁶

There is an intuitive basis for arguing that analyst predictions of growth rates must be better than time-series or other historical-data based models simply because they use more information. The evidence indicates, however, that this superiority in forecasting is surprisingly small for long-term forecasts and that past earnings growth rates play a significant role in determining analyst forecasts.

Market Reaction to Earnings Forecast Revisions

In the price momentum strategies described in Chapter 12, investors buy stocks that have gone up the most in recent periods, expecting the momentum to carry forward into future periods. You could construct similar strategies based upon earnings momentum. While some of these strategies are based purely upon earnings growth rates, most of them are based upon how earnings measure up to analyst expectations. In fact, one strategy is to buy stocks where analysts are revising earnings forecasts upwards, and hope that stock prices follow these earnings revisions.

A number of studies in the United States seem to conclude that it is possible to use forecast revisions made by analysts to earn excess returns. In one of the earliest examinations of this phenomenon, researchers created portfolios of 49 stocks in three sectors, based upon earnings revisions, and reported earning an excess return on 4.7% over

¹⁴ Higgins, H.N., 1998, *Analyst Forecasting Performance in Seven Countries*, Financial Analysts Journal, May/June, v54, 58-62.

¹⁵ Cragg, J.G., and B.G. Malkiel, 1968, *The Consensus and Accuracy of Predictions of the Growth of Corporate Earnings*, Journal of Finance, v23, 67-84.

¹⁶ Vander Weide, J.H., and W.T. Carleton, 1988, *Investor Growth Expectations: Analysts Vs. History*, Journal of Portfolio Management, v14, 78-83.

the following four months on the stocks with the most positive revisions.¹⁷ A study reported that a portfolio of stocks with the 20 largest upward revisions in earnings on the I/B/E/S database would have earned an annualized return of 14% as opposed to the index return of only 7%.¹⁸ An examination of the excess returns suggests that the high returns are concentrated in the weeks around the revision: 1.27% in the week before the forecast revision, and 1.12% in the week after, and that analysts categorized as leaders (based upon timeliness, impact and accuracy) have a much greater impact on both trading volume and prices.¹⁹ In 2001, the research was extended to earnings forecasts in other countries, with the conclusion that you could have earned excess returns of 4.7% in the U.K, 2% in France and 3.3% in Germany from buying stocks with the most positive revisions.²⁰

Earnings estimates and revisions to them are widely publicized and you can track them through services such as Zacks and First Call. These services collate earnings estimates made by analysts and report a consensus estimate of earnings per share, based upon the average value. They also report changes in individual estimates and reflect revisions in the consensus value. Investors can track these earnings revisions and buy stocks with the largest upward revisions.

II. Analyst Recommendations

The centerpiece of analyst reports are the recommendations that they make on stocks. You would expect stock prices to react to analyst recommendations, when they are made, if for no other reason than for the fact that some investors follow these recommendations and buy (well) after favorable (unfavorable) recommendations. In this section, you will consider some key empirical facts about analyst recommendations first and then consider how markets react to them. The section closes with an analysis of whether investors who use these recommendations to make investment decisions can make money off them in the short and the long term.

¹⁷ Givoly. D. and J. Lakonishok, 1984, *The Quality of Analysts' Forecasts of Earnings*, Financial Analysts Journal, v40, 40-47.

¹⁸ Hawkins, E.H., S.C. Chamberlin, W.E. Daniel, 1984, Earnings Expectations and Security Prices, *Financial Analysts Journal*, September/October, pp. 20-38.

¹⁹ Cooper, R.A., T.E. Day and C.M. Lewis, 1999, *Following the Leader: A Study of Individual Analysts Earnings Forecasts*, Working Paper, SSRN.

²⁰ Capstaff, J., K.Paudyal and W. Rees, 2000, *Revisions of Earnings Forecasts and Security Returns: Evidence from Three Countries*, Working Paper, SSRN.

The Recommendation Game

There are three empirical facts that need to be laid on the table about recommendations before you start examining how markets react to them.

If you categorize analyst recommendations into buy, sell and hold, the overwhelming number are buy recommendations. In 2001, for instance, buy recommendations outnumbered sell recommendations seven to one, but that was actually a drop from the late 1990s, where sell recommendations were often outnumbered by more than 25 to one.

Part of the reason for this imbalance between buy and sell recommendations is that analysts often have many more layers beyond buy, sell and hold. Some investment banks, and investment advisory firms, for instance, have numerical rating systems for stocks where stock are classified from one to five (as is the case with Value Line) whereas others break buy and sell recommendations into sub classes (strong buy, weak buy). What this allows them to do is not only rate stocks with more gradations, but also to send sell signals without ever saying the word. Thus, an analyst downgrading a stock from a strong buy to a weak buy is sending a sell signal on the stock.

As with earnings forecasts, there is herd behavior when it comes to recommendations. Thus, when one analyst upgrades a stock from a weak buy to a strong buy, there tends to be a rush of other analyst upgrades in the following days.

The Market Reaction to Recommendations

How do markets react to recommendations made by analysts? You can examine the stock price response to buy and sell recommendations on the day of the recommendation and in the weeks following. While both buy and sell recommendations affect stock prices, sell recommendations affect prices much more than buy recommendation.²¹ This should not be surprising when you remember that buy recommendations vastly outnumber sell recommendations. Interestingly, the price effect of buy recommendations tends to be immediate and there is no evidence of price drifts after the announcement, whereas prices continue to trend down after sell recommendations. Figure 13.3 graphs the findings.

²¹ Womack, K., 1996, *Do brokerage analysts' recommendations have investment value?* Journal of Finance, v51, 137-167.

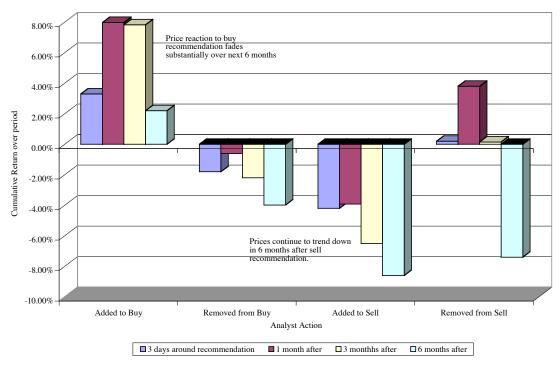


Figure 13.3: Price Reaction to Analyst Recommendations

Data from Womack. The stocks are categorized based upon changes to recommendations made by analysts following the stock.

Stock prices increase by about 3% on buy recommendations whereas they drop by about 4% on sell recommendations at the time of the recommendations (three days around reports). In the six months following, prices decline an additional 5% for sell recommendations, while leveling off for buy recommendations.

Can you make money off analyst recommendations? The answer seems to be yes, at least in the short term. Even if there were no new information contained in recommendations, there is the self-fulfilling prophecy created by clients who trade on these recommendations, pushing up stock prices after buy recommendations and pushing them down after sell recommendations.²² If this is the only reason for the stock price reaction, though, the returns are not only likely to be small but could very quickly dissipate, leaving you with large transactions costs and little to show for them.

²² This can be a significant factor. When the *Wall Street Journal* publishes its Dartboard column, it reports on the stocks being recommended by the analysts its picks. These stocks increase in price by about 4% in the two days after they are picked but reverse themselves in the weeks that follow.

III. Investment Advisors and other Experts

Insiders and analysts are but two players in a very crowded market place of ideas for investors. There are investment advisory newsletters that purport to pick the best stocks in the market, investment advisory services such as Value Line and Morningstar that offer their own proprietary stock picking advice (for a modest cause) and the ubiquitous talking heads on television, who claim to have found an inside track to investment success. Rather than revisit all of the research ever done of the success (or lack thereof) of this expert advice, you can summarize the evidence as follows:

There are few examples of long term and consistent stock picking success among investment advisors and experts. Investment newsletters that claim to use proprietary stock selection models to pick stocks often have little to back up their claim that they pick better stocks. An analysis of more than 153 active newsletters tracked by the Hulbert Financial Digest finds little evidence of stock picking skill, even before adjusting for transactions costs.²³ Given that many of these newsletters require frequent trading, the returns to an investor who followed their advice would undoubtedly be even worse. There are a few exceptions. A number of studies²⁴ that have found that Value Line, one of the oldest investment advisory services, has had some success in identifying good stocks with its rankings.²⁵

Even among those investment advisory services that seem to offer good investment advice (like Value Line), there is a significant "implementation shortfall". In other words, there is a big gap between the returns on paper and the actual returns that you would earn on a real portfolio. An examination of the Value Line rankings from

²³ Metrick, A., 1999, Performance Evaluation with Transactions Data: The Stock Selection of Investment Newsletters, Journal of Finance, v54, 1743-1775. This study examined the returns you would have made as an investor if you followed the investment advice in these newsletters. He used a variety of models to adjust for risk and came to the same conclusion (that you could not have made money following the advice in the newsletters) with every model.

²⁴ One of the earliest was by Fischer Black, titled *Yes, Virginia, There is Hope: Tests of the Value Line Ranking System*" (Financial Analysts Journal, v29, 10-14). As an avid believer in efficient markets, Black was surprised to see that following the Value Line rankings would have generated excess returns. A more recent study by Choi in 2000 came to the conclusion that while the Value Line rankings make some excess returns, these excess returns do not survive transactions costs. (Choi, J.J., *The Value Line Enigma: The Sum of the Known Parts,* Journal of Financial and Quantitative Analysis, v35).

²⁵ Value Line categorizes firms into five classes in terms of what it calls timeliness, with one being best and five being worst.

1979 to 1991 indicated that while the paper portfolio of the best stocks (timeliness of one) generated 26.2% in annual returns, an investor who bought the same stocks would have earned only 16.1% a year. In fact, a fund created by Value Line in the 1980s to follow its own advice, significantly underperformed the paper portfolio returns.

Investment advisors who find a successful formula for picking stocks seem to have their greatest success when they first begin offering advice. In the long term, success is self-defeating, since imitators can very quickly eliminate the source of the additional returns. Much of Value Line's initial success can be attributed to its pioneering use of earnings momentum (the rate at which the earnings growth rate change) in its timeliness rankings. Once Value Line succeeded, others started using earning momentum in their stock selection strategies, undercutting its effectiveness as a tool.

Much of the investment advice offered by superstar money managers and analysts in the public press is self-serving, and there is little evidence that investors who read this advice have any success with it. As an example, Barron's, the weekly financial newsmagazine, has a roundtable every year of the most prominent money managers in the country who offer their picks for the best stocks for the coming year. A closer look of these stock picks finds that there is a price run up of about 2% in the two weeks between the recommendation day and the publication day, but no excess returns from the publication date for holding periods from one to three years.²⁶

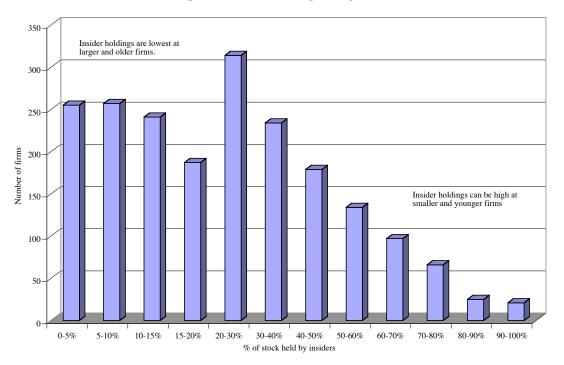
Crunching the Numbers

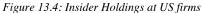
Before you decide to follow the experts and buy stocks after insiders buy and analysts issue buy recommendations, you should take a look at differences across the market and get a sense of how much stock insiders hold at individual companies, and how often they trade, as well as what types of companies are most followed by analysts and the nature of analyst recommendations. In this section, you will look at cross sectional differences in insider trading and analyst following.

²⁶ Desai, H. and P.C.Jain, 1995, *An Analysis of the Recommendations of the Superstar Money Managers at the Barron's Roundtable"*, Journal of Finance, v50, 1257-1273. They examined the 1599 buy recommendations contained in the Barron's roundtable publications from 1968 to 1991.

Insider Trading

Using the SEC definition of an insider as a director, manager or employee of the firm, you can compute the percent of stock held in a company by insiders. In companies like Microsoft and Oracle, where the founders still play a role in management and have substantial holdings, you will find insider holdings to be a high percent of the outstanding stock. In Oracle, for instance, Larry Ellison owned in excess of 20% of the outstanding stock of the company in April 2003. In more mature companies that have been in existence for a while, insider holdings are much smaller. In Figure 13.4, you can see the distribution of insider holdings as a percent of outstanding stock across companies in the United States in April 2003:





Data from Value Line. The SEC definition of insider includes firm employees and directors and holders of more than 5% of the outstanding stock.

Note that there are a few companies where insiders hold 70, 80 or even 90% of the outstanding stock.

While it is useful to know how much stock in a firm is held by insiders, most investment strategies are based upon changes in insider holdings. But do insiders trade often enough for this to be the basis of an investment strategy? To answer this question, the percent change in insider holdings at each U.S. companies was computed in the 12-week

period from January to March 2003 and the distribution of these changes is graphed in Figure 13.5: ²⁷

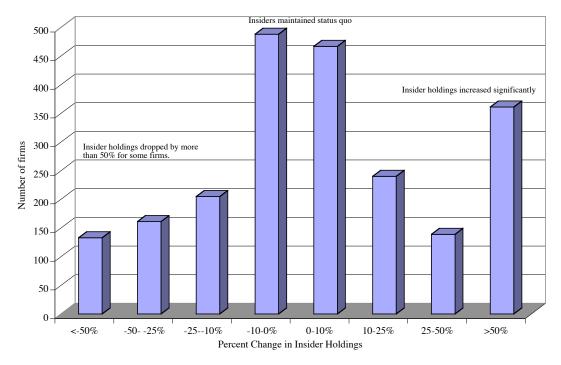


Figure 13.5: Change in insider holdings - January to March 2003

Data from Value Line. This is the percent change in insider holdings over a 12-month period.

Even over a three-month period, the insider holding changes significantly at least at some firms. For instance, the insider holdings increased by more than 50% in about 350 firms and dropped by more than 50% in about 150 firms between January and March of 2003.

Analyst Recommendations and Revisions

There are hundreds of analysts on Wall Street and elsewhere tracking U.S, companies but not all companies attract the same amount of attention. This section begins with a look at differences in analyst following across companies and continues by examining how often analysts make buy and sell recommendations, how often they change these recommendations and how frequently they revise earnings estimates.

 $^{^{27}}$ To be clear, if insider holdings increase from 4% of outstanding stock to 5%, it is categorized as a 25% increase in holdings.

Who do analysts follow?

The number of analysts tracking firms varies widely across firms. At one extreme are firms like GE, Cisco and Microsoft that are followed by dozens of analysts. At the other extreme, there are hundreds of firms that are not followed by any analysts. Why are some firms more heavily followed than others? These seem to be some of the determinants:

Market Capitalization: The larger the market capitalization of a firm, the more likely it is to be followed by analysts. In fact, this fact was posited as one possible reason for the excess returns earned by small cap companies over time.

Institutional Holding: The greater the percent of a firm's stock that is held by institutions, the more likely it is to be followed by analysts. The open question, though, is whether analysts follow institutions or whether institutions follow analysts. Given that institutional investors are the biggest clients of equity research analysts, the causality probably runs both ways.

Trading Volume: Analysts are more likely to follow liquid stocks. Here again, though, it is worth noting that the presence of analysts and buy (or sell) recommendations on a stock may play a role in increasing trading volume.

Analyst Recommendations

Analyst recommendations take different forms. While some analysts categorize stocks simply into buy, sell and hold groups, most analysts categorize stocks into more groups; one common variation is to put stocks into strong buy, buy, hold, sell and strong sell groups. The bias towards buy recommendations is well established on the street. There are a couple of ways you can see this bias. You could compute the average recommendation across all analysts following a stock and look at how many stocks fall into each category. In Figure 13.6, this distribution is presented for U.S. stocks in April 2003.²⁸,

 $^{^{28}}$ Consider a stock with five analysts. If three analysts have a strong buy recommendation and two have buy recommendation, you would assign a score of 1 to each of the strong buy recommendations and a score of 2 to each of the buy recommendations. The weighted score for this stock would be 1.4.

Weighted score = (1*3 + 2*2)/5 = 1.4

This stock would be categorizes as a strong buy. If the weighted score had been 1.6, the stock would be categorized as a buy.

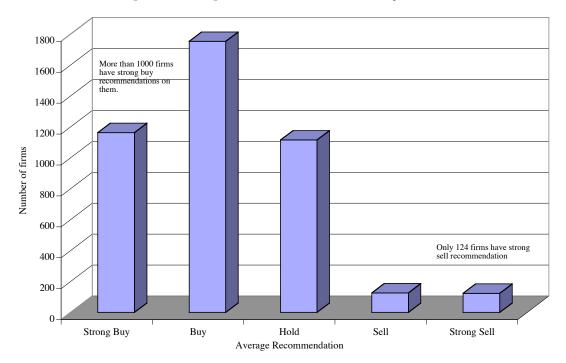
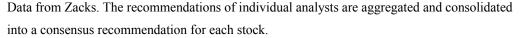


Figure 13.6: Average Recommendation - U.S. Stocks in April 2003



Of the more than 4000 stocks that were followed by analysts, less than 300 had sell and strong sell recommendations on them. In contrast, almost 3000 firms had buy and strong buy recommendations.

Looking at recommendations across analysts following a stock and categorizing them in percentage terms into buy, hold and sell recommendations is another way that you can see the bias towards buy recommendations. In Figure 13.7, this statistic is reported across all firms in the United States in April 2003.

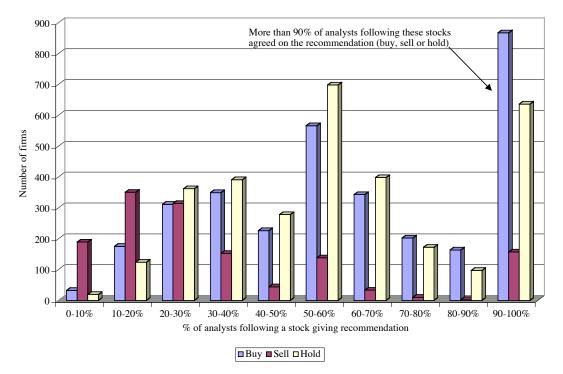


Figure 13.7: Recommendation breakdown for individual stocks

Data from Zacks. This graph represents the percentage of analysts following each stock who have buy, sell and hold recommendations on the stock. With each stock, the percentages should add up to 100%.

Here again, the contrast between buy and sell recommendations is clearest when you look at the two ends of the distribution. There are almost 900 stocks where more than 90% of the analysts following the stocks made buy recommendations; in contrast, there were less than 20 stocks where less than 10% of the analysts had buy recommendations on the stock. With sell recommendations, the reverse holds true.

Analyst Earnings Estimates

In addition to making recommendations on stocks, analysts estimate earnings per share in advance of earnings reports. As noted in the last section, upward revisions in these earnings estimates may be a potent signal of future price increases.

How often do analysts revise earnings estimates and how big are these revisions? To answer this question, all earnings estimate revisions made in a four-week period in March 2003 were examined. These revisions were being made in advance of the first quarter earnings reports that would be made in April 2003. Figure 13.8 reports on the percentage change in consensus estimates of earnings per share during this four-week period for all U.S. stocks tracked by analysts.

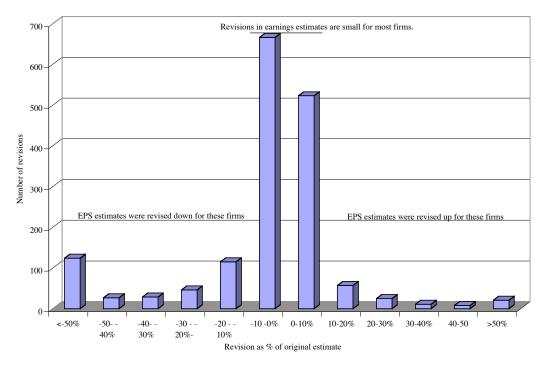


Figure 13.8: Revision in Quarterly Earnings Estimate - February 2003-March 2003

Data from Zacks. These represent the percentage changes in revisions in consensus earnings estimates for firms tracked by analysts.

Looking at Figure 13.8, the first fact is that the changes in earnings forecasts are fairly small for most companies – note that the consensus earnings estimate is changed by less than 10% (plus or minus) for about 70% of the sample. There are, however, a large number of firms where the estimate revisions are much more substantial. The earnings estimate increased by more than 50% for more than 100 firms. These are the firms that you presumably would invest in if you followed an earnings momentum strategy.

A Portfolio of "Expert" Stocks

If you were to incorporate all of the findings in this chapter into a portfolio, you would want to buy stocks where both insiders and analysts are optimistic about the stock. To create such a portfolio, you would need to screen for at least the following:

□ *Positive Analyst recommendations*: Notwithstanding the fact that buy recommendations are far more frequent than sell recommendations, only stocks where more than 80% of the recommendations are buy recommendations are

considered for the portfolio. Since stocks with only one or two analysts may qualify too easily for this portfolio, only stocks with more than three buy recommendations were considered. Finally, only stocks that have been upgraded by at least one analyst in the last week are considered, since it is changes in recommendations that seem to carry weight with investors.

- Recent upward earnings revisions: It is recent revisions in earnings estimates that matter. In keeping with this objective, only firms where earnings estimates have been revised upwards in the four weeks prior to the screening date are considered.
- Net Insider buying: Only stocks where insiders were buying more shares than they were selling (in the three months prior to the screening date) are considered in the sample.

The resulting portfolio of 16 stocks, based upon data available on April 15, 2003 is reported in Table 13.1:

		# Rating Strong Buy	# Rating	# Rating Strong Sell	Revision in Earnings Estimate:	Increase in insider holdings: last
Company name	Current price	or Buy	Hold	or Sell	Last 4 weeks	quarter
AMGEN INC	\$59.54	24	3	0	0.33%	17.48%
APPLEBEES INTL	\$28.09	12	6	0	0.14%	47.30%
BIOMET	\$28.86	13	6	1	0.50%	1.80%
ANHEUSER BUSCH	\$47.23	9	6	0	0.01%	4.12%
CORINTHIAN COL	\$39.66	6	2	0	1.29%	5.54%
COGNIZANT TECH	\$20.16	10	2	1	1.15%	155.60%
DONALDSON CO	\$39.69	3	2	0	2.42%	3.69%
EBAY INC	\$88.41	9	4	0	3.75%	10.93%
EXPRESS SCRIPTS	\$54.53	13	3	1	0.15%	139.09%
HOT TOPIC INC	\$22.77	14	3	0	0.12%	39.57%
HUTCHINSON TECH	\$24.22	4	1	1	0.43%	12.46%
MEDTRONIC	\$46.65	18	9	0	0.15%	2.00%
MERRILL LYNC&CO	\$39.75	11	7	0	2.43%	10.13%
ALTRIA GROUP	\$31.70	7	2	1	0.20%	22.95%
PEETS COFFE&TEA	\$15.65	5	1	0	1.67%	8.66%
PFIZER INC	\$31.36	24	4	0	0.35%	4.24%
BOSTON BEER INC	\$11.31	3	0	0	160.00%	500.00%
USA INTERACTIVE	\$27.69	13	1	0	57.26%	0.01%
WILLIAMS-SONOMA	\$23.05	10	6	0	2.39%	333.33%
ZIMMER HOLDINGS	\$44.70	12	7	0	0.69%	362.47%

Table 13.1: Companies with Insider Buying & Optimistic Analysts

Note that most of these are liquid and widely held stocks. This is largely the result of the requirement that was imposed that only firms with at least three buy recommendations would be considered for the portfolio. The percent changes in insider holdings also have to be considered with caution since many of the bigger increases (in percentage terms) occur in firms with small insider holdings.

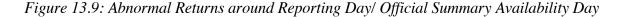
The Rest of the Story

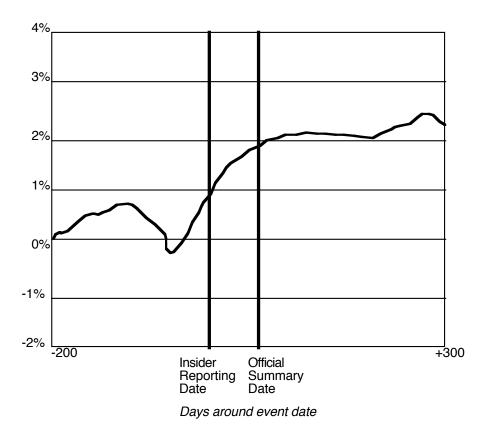
What can go wrong when you follow the experts? There are many potential problems but this section will focus on the most important problems with each of the three screens you looked at in the last section – insider trades, estimate revisions and analysts recommendations.

Following Insiders: Timing is everything

If insider trading offers advance warning, albeit a noisy one, of future price movements, can outside investors use this information to make better investment decisions? In other words, when looking for stocks to buy should you consider the magnitude of insider buying and selling on the stock? To answer this question, you first have to recognize that since the SEC does not require an immediate filing of insider trades, investors will find out about insider trading on a stock with a delay of a few weeks or even a few months. In fact, until recently, it was difficult for an investor to access the public filings on insider trading. As these filings have been put online in recent years, this information on insider trading has become available to more and more investors.

An examination of the excess returns around both the date the insiders report to the SEC and the date that information becomes available to investors in the official summary presents an interesting contrast, summarized in Figure 13.9.





The insider reporting date is the date on which the insider files with the SEC. The actual trade may precede this date by a few weeks. The official summary date is the date the insider filing is made public.

Given the opportunity to buy on the date the insider reports to the SEC, investors could have marginal excess returns (of about 1%), but these returns diminish and become close to zero if investors are forced to wait until the official summary date. If you control for transactions costs, there are no excess returns associated with the use of insider trading information.²⁹

It is possible that as more and more companies make their filings online, investors will be able to find out about insider trades sooner. It is not clear, though, that will translate into higher returns since all investors will have access to this data. The key to success when following insiders is timely trading. Investors may well find that imperfect indicators of insider trading such as jumps in trading volume may offer more promise than waiting for the SEC filings to be made public.

²⁹ This is also the conclusion drawn by Seyhun (1986) and Rozeff and Zaman (1988), referenced earlier in the chapter.

Earnings Revisions

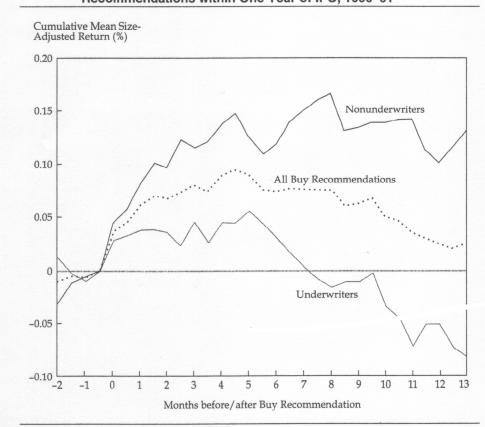
The limitation of an earnings momentum strategy is its dependence on two of the weakest links in financial markets – earnings reports that come from firms and analyst forecasts of these earnings. In recent years, investors have become increasing aware not only of the capacity of firms to manage their earnings but also to manipulate them using questionable accounting ploys. At the same time, investors have discovered that analysts' forecasts are biased not only by their closeness to the firms they follow but also because of their investment banking relationships. To the extent that analysts influence trades made by their clients, they are likely to affect prices when they revise earnings. The more influential they are, the greater the effect they will have on prices, but the question is whether the effect is lasting. If earnings numbers are being manipulated by firms and analysts are biased in their estimates, price changes around earnings estimate revisions are likely to be fleeting.

Trading on earnings estimate revisions is a short-term strategy that yields fairly small excess returns over investment horizons ranging from a few weeks to a few months. The increasing skepticism of markets towards both earnings reports from firms and forecasts by analysts bodes ill for these strategies. While forecast revisions and earnings surprises by themselves are unlikely to generate lucrative portfolios, they can augment other more long-term screening strategies. One way you may be able to earn higher returns from this strategy is to identify key analysts who are both independent and influential and build an investment strategy around forecast revisions made by them, rather than looking at consensus estimates made by all analysts.

Analyst Recommendations

One of the key issues that equity research analysts were confronted with in the aftermath of the bursting of the dot-com bubble is the extent to which recommendations were perceived to be driven not by views on the stock itself but as cheerleading for investment banking business done by the firms followed by the analysts. A test of this proposition³⁰ looks at the stock price performance of buy recommendations after initial public offerings and compares recommendations made by analysts who work for the underwriters on these offerings to recommendations from analysts who do not. The findings are summarized in Figure 13.10:

³⁰ Michaely, R. and K.L. Womack, *Conflicts of Interests and the Credibility of Underwriter Analysts Recommendation*, Review of Financial Studies, Winter, 635-686.



Performance Comparison for Companies Receiving New Buy Recommendations within One Year of IPO, 1990–91

Source: Based on data from Michaely and Womack (1999).

Note that stock prices for recommendations made by non-underwriters do significantly better than the market, but the stocks recommended by underwriters (in those stocks) tend to do poorly. While this may seem obvious, many investors in the late nineties deliberately overlooked the connections between analysts and the firms that they analyzed and paid a significant price for it.³¹

To incorporate analyst recommendations into an investment strategy, you need to adopt a nuanced approach. You should begin by identifying the analysts who are not only the most influential but also have the most content (private information) in their recommendations. In addition, you may want to screen out analysts where the potential conflicts of interest are too large for the recommendations to be unbiased. How does one go

³¹ In June 2002, Merrill Lynch agreed to pay \$ 100 million to settle with New York State, after the state uncovered emails sent by Henry Blodgett, Merrill's well-known internet analyst, that seemed to disparage stocks internally as he was recommending them to outside clients. The fact that many of these stocks were being taken to the market by Merrill added fuel to the fire. Merrill agreed to make public any potential conflicts of interest it may have on the firms followed by its equity research analysts.

about finding the best analysts following a stock? Do not fall for the hype. The highest profile analysts are not always the best and some analysts are notorious for self-promotion. The best sources of information on analysts tend to be outside services without an axe to grind. For instance, the *Wall Street Journal* has a special section on sell-side equity research analysts, where it evaluates analysts on the quality of their recommendations and ranks them on that basis. There are a few online services that track equity research forecasts and recommendations and report on how close actual earnings numbers were to their forecasts. There are qualitative factors to consider as well. Analysts who have clear, well thought out analyses that show a deep understanding of the businesses that they analyze should be given more weight that analysts who make spectacular recommendations based upon facile analysis. Most importantly, good analysts should just as willing to stand up to the management of companies and disagree with them (and issue sell recommendations).

Once you have identified the analysts that you trust, you should invest based upon their recommendations, preferably at the time the recommendations are made.³² Assuming that you attach credence to the views of these analysts, you should also watch the analysts for signals that they have changed or are changing their minds. Since these signals are often subtle, you can easily miss them.

Lessons for Investors

If you decide to follow the experts, the evidence presented in this chapter provides some pointers on how you can improve your odds of success:

- Pick your experts well: Some insiders are more inside than others and some analysts are more credible than others. The key to an expert-based strategy is to separate the true experts from the charlatans. In the case of insiders, this may mean tracking some insiders (CEOs and directors) more closely than others. With analysts, you may want to look at their history when it comes to revisions and recommendations. Earnings revisions by analysts who have a history of forecasting earnings accurately should be weighted more than analysts who do not have this reputation.
- Screen for bias: Analysts often have multiple objectives and a buy recommendation from an analyst may sometimes have more to do with maintaining access and investment banking deals than with whether the stock is a good buy. There are two possible screens for bias. One is to consider only analysts who work for entities that

³² This might not be your choice to make since analysts reveal their recommendations first to their clients. If you are not a client, you will often learn about the recommendation only after the clients have been given a chance to take positions on the stock.

have no business relationship with the companies that they analyze. The other is to look at the track record of the analyst. Analysts who have a history of standing up to company management and issuing sell recommendations have more credibility than analysts who always seem to find only good things to say about the companies they analyze.

- Look for clues of forthcoming activity: With both insider trading and analyst recommendations, a large portion of the price run-up precedes the actual news (insider filing with the SEC or analyst changing a recommendation). While there are no foolproof early warning systems, you can look at trading volume to get a measure of upcoming news. Trading volume will often jump as a result of insider trading, especially in lightly traded companies.
- Track closely: It goes without saying that you should be in possession of insider trading information or analyst recommendations as soon as feasible. This may require an investment in better information systems. For instance, there are paid services that cull through SEC insider filings as soon they are made, and provide quick summarizes to clients within a few minutes.
- Trade quickly: Once you find out insiders have been buying a stock or that a top analyst has upgraded a stock, you will need to trade quickly. If you want to do other analysis check pricing multiples or do a discounted cashflow valuation you should have done this before the fact. For instance, if you want to buy only stocks that trade at less than 20 times earnings, you should screen for those stocks first and prepare a list of companies that meet this criterion. If there is news about insider buying or analyst upgrades with these stocks, you can immediately add them to your portfolios.

Conclusion

There are probably more experts, real and self-proclaimed, in the investment business than in any other. They write columns for the financial press, appear on television and write books on how to get rich quickly. Investors follow their advice, content in the belief that these experts know more than they do and are therefore less likely to make mistakes.

Expert status can come either from access to better information than is available to other investors or to better processing (models, indicators etc.) of the same information that others possess. Insiders at firms – top managers and directors – should be able to lay claim the information advantage and the evidence suggests that they are able to use it to advantage. Stocks with significant insider buying are much more likely to go up than stocks with

substantial insider selling. The time lag between insider trading and reporting makes it more difficult for individual investors to replicate their success. Analysts affect stock prices when they make recommendations on which stocks to buy and which to sell and when they revise estimates of how much these firms will earn in the next quarter. In either case, the bulk of the reaction occurs on the recommendation/revision but there is evidence of a price drift after the announcement. In other words, prices tend to continue to increase in the days or weeks after a buy recommendation or an upward revision in earnings. Analysts with more investor following and credibility have a bigger price impact than less followed analysts with clear conflicts of interest.

As investors, you should focus on the real experts (inside insiders and unbiased analysts), track their words and actions closely and trade promptly after you find out their views. If you succeed, you will have a short-term investment strategy with high transactions costs but your returns will cover these costs and leave you with a profit.