

Value Investing: Investing for Grown Ups?

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Abstract

Value investors generally characterize themselves as the grown ups in the investment world, unswayed by perceptions or momentum, and driven by fundamentals. While this may be true, at least in the abstract, there are at least three distinct strands of value investing. The first, passive value investing, is built around screening for stocks that meet specific characteristics – low multiples of earnings or book value, high returns on projects and low risk – and can be traced back to Ben Graham’s books on security analysis. The second, contrarian investing, requires investing in companies that are down on their luck and in the market. The third, activist value investing, involves taking large positions in poorly managed and low valued companies and making money from turning them around. While value investing looks impressive on paper, the performance of value investors, as a whole, is no better than that of less “sensible” investors who chose other investment philosophies and strategies. We examine explanations for why "active" value investing may not provide the promised payoffs.

Value investors are bargain hunters and many investors describe themselves as such. But who is a value investor? In this paper, we begin by addressing this question, and argue that value investors come in many forms. Some value investors use specific criteria to screen for what they categorize as undervalued stocks and invest in these stocks for the long term. Other value investors believe that bargains are best found in the aftermath of a sell-off, and that the best time to buy a stock is when it is down. Still others adopt a more activist approach, where they buy large stakes in companies that they believe are under valued and mismanaged and push for changes that they believe will unleash this value.

Value investing is backed by academic research and also by anecdotal evidence – the success of value investors like Ben Graham and Warren Buffett are part of investment mythology – but it is not for all investors. We will consider what investors need to bring to the table to succeed at value investing.

Who is a value investor?

In 2011, Morningstar, a widely used source of mutual fund information, categorized 2152 equity mutual funds, out of 8277 domestic equity funds, as value funds. But how did it make this categorization? It was based on a simple measure: any fund that invested in stocks with low price to book value ratios or low price earnings ratios and high dividend yields, relative to the market, was categorized as a value fund. This is a fairly conventional approach, but we believe that it is too narrow a definition of value investing and misses the essence of value investing.

Another widely used definition of value investors suggests that they are investors interested in buying stocks for less than what they are worth. But that is too broad a definition since you could potentially categorize most active investors as value investors on this basis. After all, growth investors also want to buy stocks for less than what they are worth, as well. So what is the essence of value investing? To understand value investing, we have to begin with the proposition that the value of a firm is derived from two sources – investments that the firm has already made (assets in place) and expected future investments (growth opportunities).

| Assets | | Liabilities | |
|--|-----------------|-------------|--|
| Existing Investments Generate cashflows today Includes long lived (fixed) and short-lived (working capital) assets | Assets in Place | Debt | Fixed Claim on cash flows Little or No role in management <i>Fixed Maturity</i> <i>Tax Deductible</i> |
| Expected Value that will be created by future investments | Growth Assets | Equity | Residual Claim on cash flows Significant Role in management <i>Perpetual Lives</i> |

What sets value investors apart is their desire to buy firms for less than what their assets-in-place are worth. Consequently, value investors tend to be leery of large premiums paid by markets for growth opportunities and try to find their best bargains in more mature companies that are out of favor. They also see their competitive advantage in terms of “assets in place”, i.e., that they are better at assessing the value of investments already made, than the rest of the market.

Even with this definition of value investing, there are three distinct strands that we see in value investing. The first and perhaps simplest form of value investing is passive screening, where companies are put through a number of investment screens – low PE ratios, assets which are easily marketable, low risk etc. – and those that pass the screens are categorized as good investments. In its second form, you have contrarian value investing, where you buy assets that are viewed as untouchable by other investors because of poor past performance or bad news about them. In its third form, you become an activist value investor, who buys equity in under valued or poorly managed companies but then use the power of your position (which has to be a significant one) to push for change that will unlock this value.

The Passive Screener

There are many investors who believe that stocks with specific characteristics, some quantitative (say low PE ratios) and some qualitative (such as good management), outperform other stocks, and that the key to investment success is to identify what these characteristics are. Ben Graham, in his classic books on security analysis (with David Dodd), converted these factors into screens that could be used to find promising

investments.¹ In recent years, as data has become more easily accessible and computing power has expanded, these screens have been refined and extended, and variations are used by many portfolio managers and investors to pick stocks.

Ben Graham: The Father of Screening

Many value investors claim to trace their antecedents to Ben Graham and to use the book on Security Analysis that he co-authored with David Dodd, in 1934 as their investment bible. But who was Ben Graham and what were his views on investing? Did he invent screening and do his screens still work?

Graham's screens

Ben Graham started life as a financial analyst and later was part of an investment partnership on Wall Street. While he was successful on both counts, his reputation was made in the classroom. He taught at Columbia and the New York Institute of Finance for more than three decades and during that period developed a loyal following among his students. In fact, much of Ben's fame comes from the success enjoyed by his students in the market.

It was in the first edition of "Security Analysis" that Ben Graham put his mind to converting his views on markets to specific screens that could be used to find under valued stocks. While the numbers in the screens did change slightly from edition to edition, they preserved their original form and are summarized below:

1. Earnings to price ratio that is double the AAA bond yield.
2. PE of the stock has to less than 40% of the average PE for all stocks over the last 5 years.
3. Dividend Yield > Two-thirds of the AAA Corporate Bond Yield
4. Price < Two-thirds of Tangible Book Value²
5. Price < Two-thirds of Net Current Asset Value (NCAV), where net current asset value is defined as liquid current assets including cash minus current liabilities
6. Debt-Equity Ratio (Book Value) has to be less than one.

¹ Graham, B. and D. Dodd, 1934, *Security Analysis*. McGraw Hill.

² Tangible Book value is computed by subtracting the value of intangible assets such as goodwill from the total book value.

7. Current Assets > Twice Current Liabilities
8. Debt < Twice Net Current Assets
9. Historical Growth in EPS (over last 10 years) > 7%
10. No more than two years of declining earnings over the previous ten years.

Any stock that passes all 10 screens, Graham argued, would make a worthwhile investment. It is worth noting that while there have been a number of screens that have been developed by practitioners since these first appeared, many of them are derived from or are subsets of these original screens.

The Performance

How well do Ben Graham's screens work when it comes picking stocks? Henry Oppenheimer: studied the portfolios obtained from these screens from 1974 to 1981 and concluded that you could have made an annual return well in excess of the market.³ As we will see later in this section, academics have tested individual screens – low PE ratios and high dividend yields to name two – in recent years and have found that they indeed yield portfolios that deliver higher returns. Mark Hulbert, who evaluates the performance of investment newsletters, found newsletters that espoused to follow Graham did much better than other newsletters.

The only jarring note is that an attempt to convert the screens into a mutual fund that would deliver high returns did fail. In the 1970s, an investor name James Rea was convinced enough of the value of these screens that he founded a fund called the Rea-Graham fund, which would invest in stocks based upon the Graham screens. While it had some initial successes, the fund floundered during the 1980s and early 1990s and was ranked in the bottom quartile for performance.

The best support for Graham's views on value investing don't come from academic studies or the Rea-Graham fund but from the success of many of his students at Columbia. While they chose diverse paths, many of them ended up managing money and posting records of extraordinary success. In the section that follows, we will look at the most famous of his students – Warren Buffett.

³ Oppenheimer, H R. 1984, *A Test of Ben Graham's Stock Selection Criteria*, (Financial Analysts Journal, v40, 68-74.

Graham's maxims on investing

Janet Lowe, in her biography of Ben Graham, notes that while his lectures were based upon practical examples, he had a series of maxims that he emphasized on investing.⁴ Since these maxims can be viewed as the equivalent of the first commandments of value investing, they are worth revisiting.

1. Be an investor, not a speculator. Graham believed that investors bought companies for the long term, but speculators looked for short term profits.
2. Know the asking price. Even the best company can be a poor investment at the wrong (too high) price.
3. Rake the market for bargains. Markets make mistakes.
4. Stay disciplined and buy the formula:

$$E (2g + 8.5) * T.Bond\ rate/Y$$

where E = Earnings per share, g= Expected growth rate in earnings, Y is the yield on AAA rated corporate bonds and 8.5 is the appropriate multiple for a firm with no growth. For example consider a stock with \$ 2 in earnings in 2002 and 10% growth rate, when the treasury bond rate was 5% and the AAA bond rate was 6%. The formula would have yielded the following price:

$$Price = \$2.00 (2 (10)+8.5)* (5/6) = \$47.5$$

If the stock traded at less than this price, you would buy the stock.

5. Regard corporate figures with suspicion, advice that carries resonance in the aftermath of recent accounting scandals.
6. Diversify. Don't bet it all on one or a few stocks.
7. When in doubt, stick to quality.
8. Defend your shareholder's rights. This was another issue on which Graham was ahead of his time. He was one of the first advocates of corporate governance.
9. Be patient. This follows directly from the first maxim.

It was Ben Graham who created the figure of Mr. Market which was later much referenced by Warren Buffett. As described by Mr. Graham, Mr Market was a manic-depressive who does not mind being ignored, and is there to serve and not to lead you.

⁴ Lowe, J.C., 1994, *Benjamin Graham on Value Investing: Lessons from the Dean of Wall Street*, Dearborn Financial, Chicago.

Investors, he argued, could take advantage of Mr. Market's volatile disposition to make money.

Warren Buffett: Sage from Omaha

No investor is more lionized or more relentlessly followed than Warren Buffet. The reason for the fascination is not difficult to fathom. He has risen to become one of the wealthiest men in the world with his investment acumen, and the pithy comments on the markets that he makes at stockholder meetings and in annual reports for his companies are widely read. In this section, we will consider briefly Buffett's rise to the top of the investment world, and examine how he got there.

Buffett's History

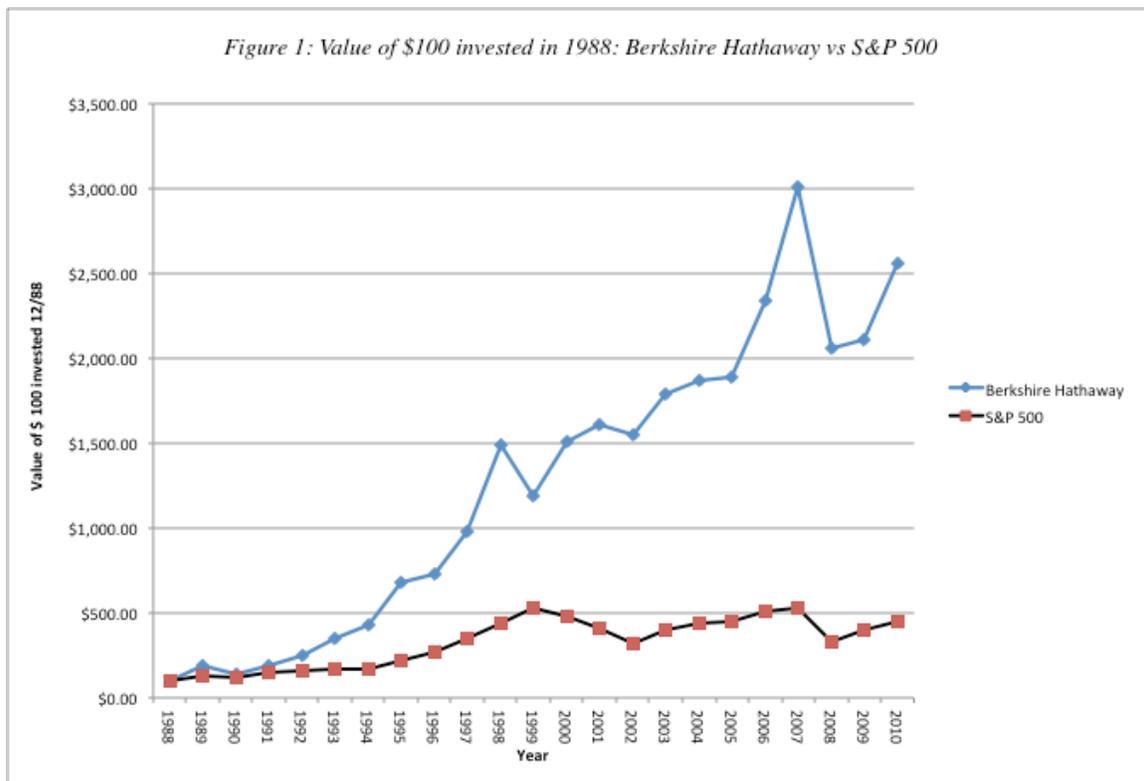
How does one become an investment legend? Warren Buffett started a partnership with seven limited partners in 1956, when he was 25, with \$105,000 in funds. He generated a 29% return over the next 13 years, developing his own brand of value investing during the period. One of his most successful investments during the period was an investment in American Express, after the company's stock price tumbled in the early 1960s. Buffett justified the investment by pointing out that the stock was trading at far less than what the American Express generated in cash flows for the company for a couple of years. By 1965, the partnership was at \$26 million and was widely viewed as successful.

The event that made Buffett's reputation was his disbanding of the partnership in 1969 because he could not find any stocks to buy with his value investing approach. At the time of the disbanding, he said "*On one point, I am clear. I will not abandon a previous approach whose logic I understand, although I might find it difficult to apply, even though it may mean foregoing large and apparently easy profits to embrace an approach which I don't fully understand, have not practiced successfully and which possibly could lead to substantial permanent loss of capital.*"⁵ The fact that a money manager would actually put his investment philosophy above short term profits, and the

⁵ Buffett Partnership letter, May 29, 1969.

drop in stock prices in the years following this action played a large role in creating the Buffett legend.

Buffett then put his share of partnership ((about \$25 million) into Berkshire Hathaway, a textile company whose best days seemed to be in the past. He used Berkshire Hathaway as a vehicle to acquire companies (GEICO in the insurance business and non-insurance companies such as See's candy, Blue Chip Stamps and Buffalo News) and to make investments in other companies (Am Ex, Washington Post, Coca Cola, Disney). His golden touch seemed to carry over and figure 1 captures Berkshire Hathaway's success over the last few decades:



Source: Raw data from Bloomberg

An investment of \$ 100 in Berkshire Hathaway in December 1988 would have grown to \$2,500 by the end of 2010, five times more than what you would have made, investing in the S&P 500. As CEO of the company, Buffett broke with the established practices of other firms in many ways. He refused to fund the purchase of expensive corporate jets and chose to keep the company in spartan offices in Omaha, Nebraska. He also refused to split the stock as the price went ever higher to the point that relatively few individual

investors could afford to buy a round lot in the company. On December 31, 2010, a share of Berkshire Hathaway stock was trading at over \$120,000, making it by far the highest priced listed stock in the United States. He insisted on releasing annual reports that were transparent and included his views on investing and the market, stated in terms that could be understood by all investors.

Buffett's Tenets

Roger Lowenstein, in his excellent book on Buffett, suggests that his success can be traced to his adherence to the basic notion that when you buy a stock, you are buying an underlying business and the following tenets:⁶

Business Tenets:

- The business the company is in should be simple and understandable. In fact, one of the few critiques of Buffett was his refusal to buy technology companies, whose business he said was difficult to understand.
- The firm should have a consistent operating history, manifested in operating earnings that are stable and predictable.
- The firm should be in a business with favorable long term prospects.

Management Tenets:

- The managers of the company should be candid. As evidenced by the way he treated his own stockholders, Buffett put a premium on managers he trusted. Part of the reason he made an investment in Washington Post was the high regard that he had for Katherine Graham, who inherited the paper from her husband.
- The managers of the company should be leaders and not followers. In practical terms, Buffett was looking for companies that mapped out their own long term strategies rather than imitating other firms.

Financial Tenets:

- The company should have a high return on equity, but rather than base the return on equity on accounting net income, Buffett used a modified version of what he called owner earnings:

⁶ Lowenstein, R., 1996, *Buffett: The Making of an American Capitalist*, Doubleday.

Owner Earnings = Net income + Depreciation & Amortization – Maintenance Capital Expenditures

Harking back to standard inputs into discounted cash flow valuation, note that this is very close to a free cash flow to equity.

- The company should have high and stable profit margins and a history of creating value for its stockholders.

Market Tenets:

- In determining value, much has been made of Buffett's use of a riskfree rate to discount cash flows. Since he is known to use conservative estimates of earnings and since the firms he invests in tend to be stable firms, it looks to us like he makes his risk adjustment in the cashflows rather than the discount rate.⁷
- In keeping with Buffett's views of Mr. Market as capricious and moody, even valuable companies can be bought at attractive prices when investors turn away from them.

Updating history

While much that has been said and written about Buffett has been complimentary, there are a few notes that have to be added that take some of the sheen away. First, notwithstanding Buffett's public statements in favor of corporate governance, there are at least three areas where his actions have not matched his words:

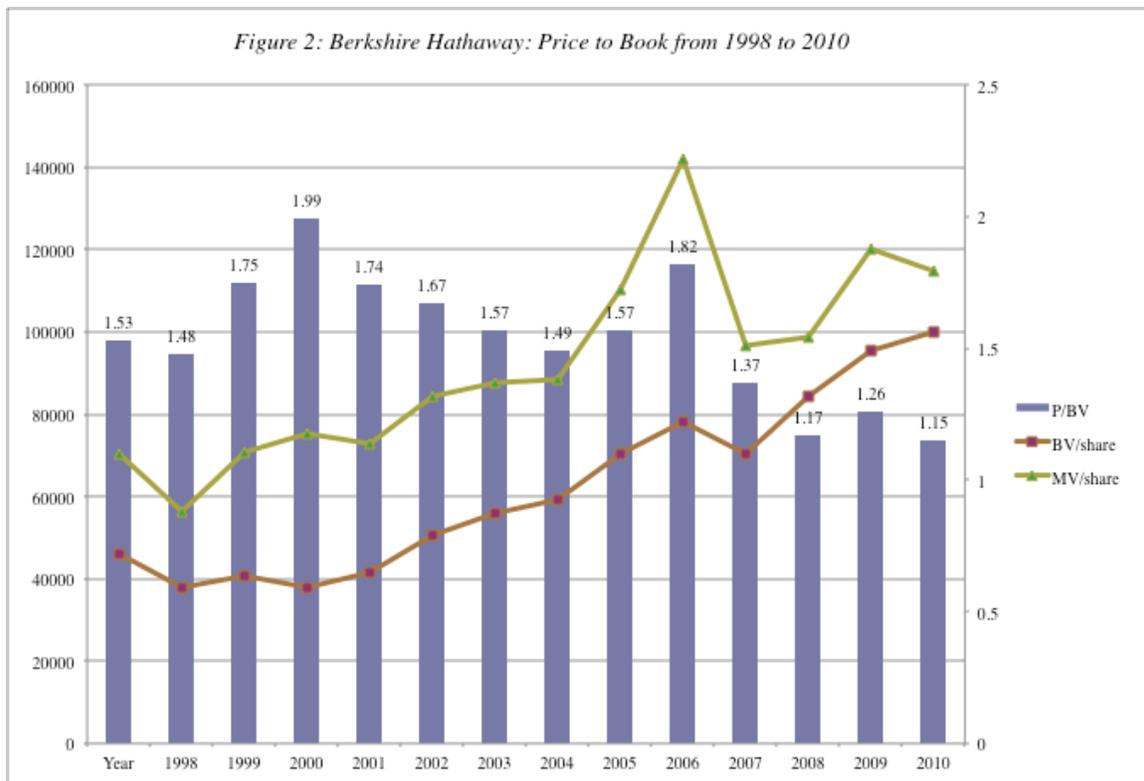
- Berkshire Hathaway has two classes of stock, with different voting rights, a clear violation of the principle that all stockholders in publicly traded companies should have a say in proportion to the money that they have invested in the company.
- In 2011, Berkshire Hathaway was hit by a scandal, where David Sokil, heir apparent to Buffett, traded on a stock (Lubrizol) ahead of an acquisition bid by Berkshire. While we can debate whether this qualifies as insider trading and any company can be exposed to "errant" employees, the way in which Buffett dealt with the scandal was not a testimonial to transparency and open governance.⁸

⁷ In traditional capital budgeting, this approach is called the certainty equivalent approach, where each expected cash flow is replaced with a lower cash flow, representing its certainty equivalent.

⁸ Sokol resigned from Berkshire Hathaway with a statement claiming innocence and little detail was provided on what he did and what others at Berkshire Hathaway knew (and when they knew it).

- Finally, in the companies such as the Washington Post, Coca Cola and Proctor and Gamble, that Buffett has made large investments in, he has been a best friend to management. While it is possible that he has provide wise counsel, in private, his unwillingness to challenge managers in public does not jell with his “strong” corporate governance image.

Even on the one area where Buffett has seemed unassailable, which is his stock picking prowess, his touch has not been as sure as it used to be. In figure 1, it is worth nothing that the bulk of the excess returns in Berkshire Hathaway came prior to 2000, and that the company has had its share of setbacks in the last few years. Since Berkshire’s assets (book value) are primarily investments in publicly traded companies that are “marked to market”, one way to assesss whether the market has changed its views about the company is by looking at the market value of Berkshire relative to its book value (which we do in figure 2):



The stock traded at a significant premium to book value in the 1990s and through much of the last decade. However, the crash of 2008 seems to have precipitated a decline in the price to book ratio. In fact, the price to book ratio in 2010 is at 1.15, barely higher than

the median for the insurance sector. The market seems to have lost its faith in Berkshire Hathway's capacity (and by extension, Warren Buffett's capacity) to generate "excess returns in the future.

Assessing Buffett

It may be presumptuous to assess an investor who has acquired mythic status but is Warren Buffett the greatest investor ever? If so, what accounts for his success and can it be replicated? His reputation as a great investor is well deserved and his extended run of success cannot be attributed to luck. While he has had his bad years, he has always bounced back in subsequent years. The secret to his success seems to rest on the long view he brings to companies and his discipline – the unwillingness to change investment philosophies even in the midst of short term failure.

Much has been made about the fact that Buffett was a student of Graham at Columbia University, and their adherence to value investing. Warren Buffett's investment strategy is more complex than Graham's original passive screening approach. Unlike Graham, whose investment strategy was inherently conservative, Buffett's strategy seems to extend across a far more diverse range of companies, from growth firms like Coca Cola to staid firms such as Blue Chip Stamps. While they both may use screens to find stocks, the key difference, as we see it, between the two men is that Graham strictly adhered to quantitative screens whereas Buffett has been more willing to consider qualitative screens. For instance, he has always put a significant weight on both the credibility and competence of top managers when investing in a company.

In more recent years, he has had to struggle with two by-products of his success and a third one that has its roots in recent market crises.

1. His record of picking winners has attracted publicity and a crowd of imitators who follow his every move, buying everything he buys, making it difficult for him to accumulate large positions at attractive prices.
2. At the same time the larger funds at his disposal imply that he is investing far more than he did two or three decades ago in each of the companies that he takes a position in, creating a larger price impact (and lower profits)

3. The crises that have beset markets over the last few years have been both a threat and an opportunity for Buffett. As markets have staggered through the crises, the biggest factors driving stock prices and investment successs have become macroeconomic unknowns (sovereign risk, interest rate volatility and commodity prices) and not the company-specific factors that Buffett has historically viewed as his competitive edge (assessiing a company's profitability and cash flows). At the same time, Buffett has lent both his credibility and liquidity to companies that have been perceived to be trouble (American Express, Goldman Sachs) and earned substantial profis on his investments.

In the last few years, facing the one enemy that he cannot beat, his mortality, Buffett has sought out successors who would manage Berkshire Hathway when he is gone. Needless to say, they will have big shoes to fill.

Be like Buffett?

Warren Buffett's approach to investing has been examined in detail and it is not a complicated one. Given his track record, you would expect a large number of imitators. Why, then, do we not see other investors, using his approach, replicate his success? There are four reasons:

- Markets have changed since Buffett started his first partnership. His greatest successes did occur in the 1960s and the 1970s, when relatively few investors had access to information about the market and institutional money management was not dominant. We think that Buffett would have difficulty replicating his success, if he were starting anew in today's market, where information on companies and trading is widely available and dozens of money managers claim to be looking for bargains in value stocks.
- In recent years, Buffett has adopted a more activist investment style (albeit with a soft touch) and has succeeded with it. To succeed with this style as an investor, though, you would need substantial resources and have the credibility that comes with investment success. There are few investors, even among successful money managers, who can claim this combination.

- As noted in the last section, Buffett's style was honed during a period where macro economic risks were mild (at least for mature markets like the United States) and investors could focus just on the quality of a company, when deciding whether to make an investment. If the shift towards macro economic risk that we have witnessed in the last few years is a permanent one, adopting a Buffett strategy of buying good companies at low prices and holding for the long term may not deliver the results it used to.
- The final ingredient of Buffett's success has been patience. As he has pointed out, he does not buy stocks for the short term but businesses for the long term. He has often been willing to hold stocks that he believes to be under valued through disappointing years. In those same years, he has faced no pressure from impatient investors, since stockholders in Berkshire Hathaway have such high regard for him. Many money managers who claim to have the same long time horizon that Buffett have come under pressure from investors wanting quick results.

In short, it is easy to see what Warren Buffett did right over the last half century but it will be very difficult for an investor to replicate that success. In the sections that follow, we will examine both the original value investing approach that brought Buffett success in the early part of his investing life and the more activist value investing that has brought him success in recent years.

Value Screens

The Graham approach to value investing is a screening approach, where investors adhere to strict screens (like the ones described earlier in the paper) and pick stocks that pass those screens. Since the data needed to screen stocks is widely available today, the key to success with this strategy seems to be picking the right screens. In this section, we will consider a number of screens used to pick value stocks and the efficacy of these screens.

Book Value Multiples

The book value of equity measures what accountants consider to be the value of equity in a company. The market value of equity is what investors attach as a value to the same equity. Investors have used the relationship between price and book value in a

number of investment strategies, ranging from the simple to the sophisticated. In this section, we will begin by looking at a number of these strategies and the empirical evidence on their success.

Buy low price to book value companies

Some investors argue that stocks that trade at low price-book value ratios are under valued and there are several studies that seem to back this strategy. Rosenberg, Reid and Lanstein looked at stock returns in the United States between 1973 and 1984 found that the strategy of picking stocks with high book/price ratios (low price-book values) would have yielded an excess return of about 4.5% a year.⁹ In another study of stock returns between 1963 and 1990, firms were classified on the basis of book-to-price ratios into twelve portfolios, and firms in the lowest book-to-price (higher P/BV) class earned an average annual return of 3.7% a year , while firms in the highest book-to-price (lowest P/BV) class earned an average annual return of 24.31% for the 1963-90 period.¹⁰ We updated these studies to consider how well a strategy of buying low price to book value stocks would have done in the last two decades and compared these returns to returns in earlier time periods. The results are summarized in figure 3.

⁹ Rosenberg, B., K. Reid, and R. Lanstein, 1985, *Persuasive Evidence of Market Inefficiency*, Journal of Portfolio Management, v11, 9-17.

¹⁰ Fama, E.F. and K.R. French, 1992, *The Cross-Section of Expected Returns*, Journal of Finance, v47, 427-466. They found that price to book explained more of the variation across stock returns than any other fundamental variable, including market capitalization.



Source: Raw data from Ken French

The lowest price to book value stocks earned 6.24% more, on an annualized basis, than the high price to book stocks across the entire time period (1927-2010); they continued to earn higher annual returns (5.44%) than the high price to book value stocks between 1991-2010.

These findings are not unique to the United States. A study found that the book-to-market ratio had a strong role in explaining the cross-section of average returns on Japanese stocks¹¹. Another study extended the analysis of price-book value ratios across other international markets, and found that stocks with low price-book value ratios earned excess returns in every market that analyzed, between 1981 and 1992¹². In their annual update of historical returns on equity markets, Dimson, Marsh and Staunton report on the returns earned by low price to book value stocks in 20 different markets, relative to the market, and find that low price to book stocks have earned a premium in 16 of 20 markets

¹¹ Chan, L.K., Y. Hamano, and J. Lakonishok, 1991, *Fundamentals and Stock Returns in Japan*, Journal of Finance. v46. 1739-1789. They concluded that low price to book value stocks in Japan earned a considerable premium over high price to book value stocks.

¹² Capaul, C., I. Rowley and W.F. Sharpe, 1993, *International Value and Growth Stock Returns*, Financial Analysts Journal, v49, 27-36..

between 1975 and 2010, with the magnitude of the premium exceeding 4% in seven of these markets.¹³

Thus, a strategy of buying low price to book value stocks seems to hold out much promise. Why don't more investors use it then, you might ask? We will consider some of the possible problems with this strategy in the next section and screens that can be added on to reduce these problems.

What can go wrong?

Stocks with low price to book value ratios earn excess returns relative to high price to book stocks, if we use conventional measures of risk and return, such as betas. But, these conventional measures of risk are imperfect and incomplete. Low price-book value ratios may operate as a measure of risk, since firms with prices well below book value are more likely to be in financial trouble and go out of business. Investors therefore have to evaluate whether the additional returns made by such firms justifies the additional risk taken on by investing in them.

The other limitation of a strategy of buying low price to book value stocks is that the low book value multiples may be well deserved if companies earn and are expected to continue earning low returns on equity. In fact, for a stable growth firm, for instance, the price to book value ratio can be written as a function of its return on equity:

$$\text{Price/Book} = \frac{(\text{Return on Equity} - \text{Expected Growth Rate})}{(\text{Return on Equity} - \text{Cost of Equity})}$$

Stocks with low returns on equity should trade a low price to book value ratios. In fact, a firm that is expected to earn a return on equity that is less than its cost of equity in the long term should trade at a discount on book value. In summary, then, as an investor you would want stocks with low price to book ratios that also had reasonable (if not high) returns on equity and limited exposure to risk.

If low price to book value ratios may yield riskier stocks than average or stocks that have lower returns on equity, a more discerning strategy would require us to find mismatches – stocks with low price to book ratios, low default risk and high returns on equity. If we used debt ratios as a proxy for default risk and the accounting return on

¹³ Dimson, E., P. Marsh and M. Staunton, 2011, *Credit Suisse Global Investment Return Sourcebook 2011*,

equity in the last year as the proxy for the returns that will be earned on equity in the future, we would expect companies with low price to book value ratios, low debt ratios and high return on equity to be under valued.

Market Value to Replacement Cost – Tobin's Q

Tobin's Q provides an alternative to the price-book value ratio, by relating the market value of the firm to the replacement value of the assets in place. When inflation has pushed up the price of the assets, or where technology has reduced the price of the assets, this measure may provide a better measure of undervaluation.

$$\text{Tobin's Q} = \text{Market value of assets} / \text{Replacement Value of Assets in place}$$

The value obtained from Tobin's Q is determined by two variables—the market value of the firm and the replacement cost of assets in place. In inflationary times, when the cost of replacing assets increases significantly, Tobin's Q will generally be lower than the unadjusted price-book value ratio. Conversely, if the cost of replacing assets declines much faster than the book value (computers might be a good example), Tobin's Q will generally be higher than the unadjusted price-book value ratio.

Many studies in recent years have suggested that a low Tobin's Q is indicative of an undervalued or a poorly managed firm that is more likely to be taken over. One study concludes that firms with a low Tobin's Q are more likely to be taken over for purposes of restructuring and increasing value.¹⁴

While this measure has some advantages in theory, it does have practical problems. The first is that the replacement value of some assets may be difficult to estimate, largely because they are so specific to each firm. The second is that, even where replacement values are available, substantially more information is needed to construct this measure than the traditional price-book value ratio. In practice, analysts often use short cuts to arrive at Tobin's Q, using book value of assets as a proxy for replacement value. In these cases, the only distinction between this measure and the price/book value ratio is that this ratio is stated in terms of the entire firm (rather than just the equity).

London Business School.

¹⁴ L. H. Lang, R. M. Stulz, and R. A. Walkling, "Managerial Performance, Tobin's Q, and the Gains from Successful Tender Offers," *Journal of Finance* 24 (1989): 137–154.

Earnings Multiples

Investors have long argued that stocks with low price earnings ratios are more likely to be undervalued and earn excess returns. In fact, it was the first of Ben Graham's ten screens for undervalued stocks. In this section, we will examine whether it stands up to the promises made by its proponents.

Empirical Evidence on Low PE Stocks

Studies that have looked at the relationship between PE ratios and excess returns have consistently found that stocks with low PE ratios earn significantly higher returns than stocks with high PE ratios over long time horizons. Figure 4 summarizes annual returns by PE ratio classes for stocks from 1952 to 2010. Firms were classified into ten deciles based upon PE ratios at the beginning of each year and returns were measured during the course of the year.



Source: Raw data from Ken French

Firms in the lowest PE ratio class earned 12.21% more each year than the stocks in the highest PE class between 1952 and 1970, about 9.74% more each year, on average,

between 1971 and 1990 and about 9.9% more each year., on average, between 1991 and 2010.

The excess returns earned by low PE ratio stocks also persist in other international markets. Table 1 summarizes the results of studies looking at this phenomenon in markets outside the United States.

Table 1: Excess Returns on Low P/E Ratio Stocks by Country: 1989-1994

| <i>Country</i> | <i>Annual Premium earned by lowest P/E Stocks (bottom quintile) over the market</i> |
|----------------|---|
| Australia | 3.03% |
| France | 6.40% |
| Germany | 1.06% |
| Hong Kong | 6.60% |
| Italy | 14.16% |
| Japan | 7.30% |
| Switzerland | 9.02% |
| U.K. | 2.40% |

Annual premium: Premium earned over an index of equally weighted stocks in that market between January 1, 1989 and December 31, 1994. These numbers were obtained from a Merrill Lynch Survey of Proprietary Indices.

Thus, the results seem to hold up as we go across time and markets, notwithstanding the fact the findings have been widely disseminated for more than 20 years.

What can go wrong?

Given the types of returns that low PE ratio stocks earn, should we rush out and buy such stocks? While such a portfolio may include a number of under valued companies, it may also contain other less desirable companies.

a. Companies with high-risk earnings: The excess returns earned by low price earnings ratio stocks can be explained using a variation of the argument used for small stocks, i.e., that the risk of low PE ratios stocks is understated in the CAPM. It is entirely possible that a portfolio of low PE stocks will include stocks where there is a great deal of uncertainty about future operating earnings. A related explanation, especially in the aftermath of the accounting scandals of recent years, is that accounting earnings is susceptible to manipulation. If earnings are high not because of a firm's operating efficiency but because of one-time items such as

gains from divestiture or questionable items such as income from pension funds, you may not be getting bargains by buying these stocks.

b. Tax Costs: A second possible explanation that can be given for this phenomenon, which is consistent with an efficient market, is that low PE ratio stocks generally have large dividend yields, which would have created a larger tax burden for investors since dividends were taxed at higher rates during much of this period.

c. Low Growth: A third possibility is that the price earnings ratio is low because the market expects future growth in earnings to be low or even negative. Many low PE ratio companies are in mature businesses where the potential for growth is minimal. As an investor, therefore, you have to consider whether the trade off of a lower PE ratio for lower growth works in your favor.

Finally, many of the issues we raised about how accountants measure earnings will also be issues when you use PE ratios. For instance, the fact that research and development is expensed at technology firms rather than capitalized may bias their earnings down (and their PE ratios upwards).

Enterprise Value to EBITDA Multiples

The earnings per share of a firm reflect not just the earnings from operations of a firm but all other income as well. Thus, a firm with substantial holdings of cash and marketable securities may generate enough income on these investments to push up earnings. In addition, earnings per share and equity multiples are affected by how much debt a firm has and what its interest expenses are. These concerns, in conjunction with the volatility induced in earnings by non-cash expenses (such as depreciation) and varying tax rates has led some investors to seek a more stable, cash-based measure of pre-debt earnings. One measure that has acquired a following is called the enterprise value to EBITDA multiple, and is defined as follows:

Enterprise Value to EBITDA =

$$\frac{(\text{Market Value of Equity} + \text{Market Value of Debt} - \text{Cash \& Marketable Securities})}{\text{Earnings before interest, taxes, depreciation and amortization}}$$

Why, you might wonder, do we add back debt and subtract out cash? Since EBITDA is before interest expenses, you would be remiss if you did not add back debt. Analysts who

look at Price/EBITDA will conclude, for instance, that highly levered firms are cheap. Since we do not count the income from the cash and marketable securities in EBITDA, we net it out of the numerator as well.

The sectors where this multiple makes the most sense tend to be heavy infrastructure businesses – steel, telecommunications and cable are good examples. In these sectors, you can screen for stocks with low enterprise value to EBITDA. As a note of caution, though, in many cases firms that look cheap on an enterprise value to EBITDA basis often have huge reinvestment needs – capital expenditures eat up much of the EBITDA – and poor returns on capital. Thus, we would recommend adding two more screens when you use this multiple – low reinvestment needs and high return on invested capital.

Revenue Multiples

As investors have become more wary about trusting accounting earnings, an increasing number have started moving up the income statement looking for numbers that are less susceptible to accounting decisions. Not surprisingly, many have ended up screening for stocks that trade at low multiples of revenues. But how well have revenue multiples worked at picking under valued stocks? In this section, we will begin by looking at that evidence and then consider some of the limitations of this strategy.

Empirical Evidence on Price to Sales Ratios

There is far less empirical evidence, either for or against, on revenue multiples than there is on price earnings or price to book value ratios. In one of the few direct tests of the price-sales ratio, Senchack and Martin compared the performance of low price-sales ratio portfolios with low price-earnings ratio portfolios, and concluded that stocks with low price-sales ratio portfolio outperformed the market but not the low price-earnings ratio portfolio.¹⁵ They also found that the low price-earnings ratio strategy earned more consistent returns than a low price-sales ratio strategy, and that a low price-sales ratio strategy was more biased towards picking smaller firms. In 1988, Jacobs and Levy tested the value of low price-sales ratios (standardized by the price-sales ratio of the

¹⁵ Senchack, A.J., Jr., and J.D. Martin, 1987, *The Relative Performance of the PSR and PER Investment Strategies*, Financial Analysts Journal, Vol 43, 46-56.

industries in which the firms operated) as part of a general effort to disentangle the forces influencing equity returns. They concluded that low price-sales ratios, by themselves, yielded an excess return of about 2% a year between 1978 and 1986. Even when other factors were thrown into the analysis, the price-sales ratios remained a significant factor in explaining excess returns (together with price-earnings ratio and size).¹⁶

What can go wrong?

While firms with low price to sales ratios may deliver excess returns over long periods, it should be noted, as with low price to book and price earnings ratios, that there are firms that trade at low price to sales ratios that deserve to trade at those values. In addition to risk being the culprit again – higher risk companies should have lower price to sales ratios – there are other possible explanations.

1. High Leverage: One of the problems with using price to sales ratios is that you are dividing the market value of equity by the revenues of the firm. When a firm has borrowed substantial amounts, it is entirely possible that it's market value will trade at a low multiple of revenues. If you pick stocks with low price to sales ratios, you may very well end up with a portfolio of the most highly levered firms in each sector.
2. Low Margins: Firms that operate in businesses with little pricing power and poor profit margins will trade at low multiples of revenues. The reason is intuitive. Your value ultimately comes not from your capacity to generate revenues but from the earnings that you have on those revenues.

The simplest way to deal with the first problem is to redefine the revenue multiple. If you use enterprise value (which adds debt to the numerator and subtracts out cash) instead of market value of equity in the numerator, you will remove the bias towards highly levered firms.

The significance of profit margins in explaining price-sales ratios suggests that screening on the basis of both price-sales ratios and profit margins should be more

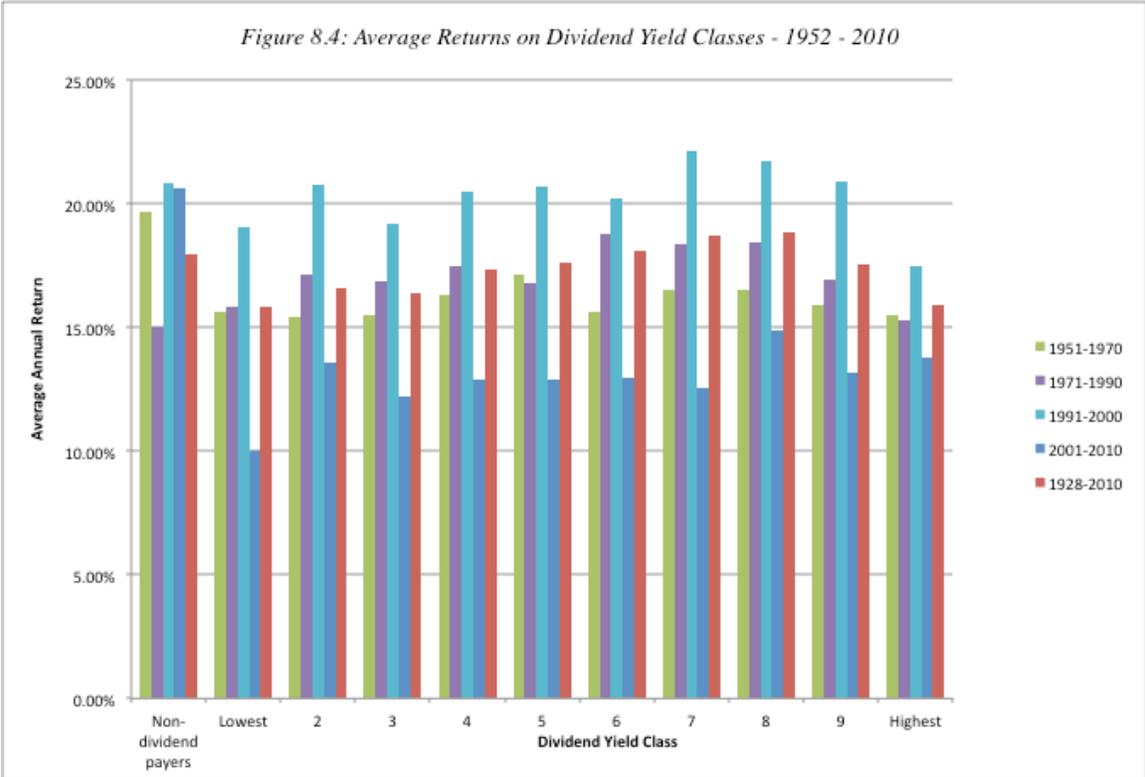
¹⁶Jacobs, B.I. and K.N. Levy, 1988a, *Disentangling Equity Return Irregularities: New Insights and Investment Opportunities*, Financial Analysts Journal, v44, 18-44; Jacobs, B.I. and K.N. Levy, 1988b, *On the Value of Value*, Financial Analysts Journal, v44, 47-62.

successful at identifying undervalued securities. You want to buy stocks that trade at low revenue multiples while earnings sizeable profit margins.

Dividend Yields

While PE ratios, price to book ratios and price to sales ratios might be the most widely used value screens, there are some investors who view the dividend yield as the only secure measure of returns. Earnings, they argue, are not only illusory but they are out of reach for most investor in stocks since a significant portion may get reinvested. Following up on this logic, stocks with high dividend yields should be better investments than stocks with low dividend yields.

Does this approach yield results? Between 1952 and 2010, for instance, stocks with high dividend yields earned higher annual returns than stocks with low dividend yields, but the relationship is neither as strong or as consistent as the results obtained from the PE ratio or the PBV ratio screens. Figure 5 summarizes average returns earned by dividend yield class from 1952 to 2010, broken down by sub-periods:



Source: Raw data from Ken French

The results are mixed, with high dividend yield stocks generating higher returns than low dividend yield stocks only between 2001-2010. In each of the other sub periods, the high dividend yield portfolio either under performs or matches the returns on non-dividend payers and low dividend yield stocks.

Notwithstanding this evidence, there are some conservative investors who continue to believe that buying high dividend stocks is a low risk, high return strategy. An extreme version of this portfolio is the strategy of investing in the “Dow Dogs”, the ten stocks with the highest dividend yields in the Dow 30. Proponents of this strategy claim that they generate excess returns from it, but they compare the returns to what you would have made on the Dow 30 and the S&P 500 and do not adequately adjust for risk. A portfolio with only 10 stocks in it is likely to have a substantial amount of firm-specific risk. McQueen, Shields and Thorley examined this strategy and concluded that while the raw returns from buying the top dividend paying stocks is higher than the rest of the index, adjusting for risk and taxes eliminates all of the excess return.¹⁷ A later study by Hirschey also indicates that there are no excess returns from this strategy after you adjust for risk.¹⁸

There are three final considerations in a high-dividend strategy. The first is that you will have a much greater tax cost on this strategy, if dividends are taxed at a higher rate than capital gains. That was the case prior to 2003 and may very well be true again starting in 2013. The second is that some stocks with high dividend yields currently may be paying much more in dividends than they can afford and the market is building in the expectation of a dividend cut, into the stock price.. It is only a matter of time, then, before the dividends are cut. The third is that any stock that pays a substantial portion of its earnings as dividends is reinvesting less and can therefore expect to grow at a much lower rate.

Determinants of Success

If all we have to do to earn excess returns is invest in stocks that trade at low multiples of earnings, book value or revenues, shouldn't more investors employ these

¹⁷ McQueen, G., K. Shields and S.R. Thorley, 1997, *Does the Dow-10 Investment Strategy beat the Dow statistically and economically?*, Financial Analysts Journal, July/August, 66-72

screens to pick their portfolio? And assuming that they do, should they not beat the market by a healthy amount?

To answer the first question, there are a large number of portfolio managers and individual investors who employ either the screens we have referred to in this section or variants of these screens to pick stocks. Unfortunately, their performance does not seem to match up to the returns that we see earned on the hypothetical portfolios. Why might that be? We can think of several reasons.

- *Time Horizon:* All the studies quoted above look at returns over time horizons of five years or greater. In fact, low price-book value stocks have underperformed high price-book value stocks over shorter time periods. The same can be said about PE ratios and price to sales ratios.
- *Dueling Screens:* If one screen earns you excess returns, three should do even better seems to be the attitude of some investors who proceed to multiply the screens they use. They are assisted in this process by the easy access to both data and screening technology. There are web sites (many of which are free) that allow you to screen stocks (at least in the United States) using multiple criteria.¹⁹ The problem, though, is that the use of one screen may undercut the effectiveness of others, leading to worse rather than better portfolios.
- *Absence of Diversification:* In their enthusiasm for screens, investors sometimes forget the first principles of diversification. For instance, it is not uncommon to see stocks from one sector disproportionately represented in portfolios created using screens. A screen from low PE stocks may deliver a portfolio of banks and utilities, whereas a screen of low price to book ratios and high returns on equity may deliver stocks from a sector with high infrastructure investments that has had bad sector-specific news come out about it. In 2001, for instance, many telecom stocks traded at a discount on their book value.

¹⁸ Hirschey, M., 2000, *The "Dogs of the Dow" Myth*, Financial Review, v35, 1-15.

¹⁹ Stockscreener.com. run by Hoover, is one example. You can screen all listed stocks in the United States using multiple criteria, including all of the criteria discussed in this paper.

- *Taxes and Transactions costs:* As in any investment strategy, taxes and transactions costs can take a bite out of returns, although the effect should become smaller as your time horizon lengthens. Some screens, though, can increase the effect of taxes and transactions costs. For instance, screening for stocks with high dividends and low PE ratios will yield a portfolio that may have much higher tax liabilities (because of the dividends).
- *Success and Imitation:* In some ways, the worst thing that can occur to a screen (at least from the viewpoint of investors using the screen) is that its success is publicized and that a large number of investors begin using that same screen at the same time. In the process of creating portfolios of the stocks they perceive to be undervalued, they may very well eliminate the excess returns that drew them to the screen in the first place.

To be a successful screener, you would need to be able to avoid or manage these problems. In particular, you need to have a long time horizon, pick your combination of screens well, and ensure that you are reasonably diversified. If a screen succeeds, you will probably need to revisit it at regular intervals to ensure that market learning has not reduced the efficacy of the screen.

Tools for success

Passive value investors know that there are no “sure” winners in investing. Buying low PE or low Price/Book value ratios may have generated high returns in the past but there are pitfalls in every strategy. Since value investors are bound by a common philosophy, which is that you should minimize your downside risk without giving up too much of your upside potential, they have devised tools to put this philosophy into practice in the last few decades.

Accounting Checks

The two most widely used multiples used to find cheap stocks, PE and Price to Book, both have accounting numbers in the denominator – accounting earnings, in the case of PE, and accounting book value, in the case of Price to book. To the extent that these accounting numbers are unsustainable, manipulated or misleading, the investment choices that follow will reflect these biases. Thus, a company that reports inflated

earnings, either because it had an unusually good year (a commodity company, after a spike in the price of the commodity) or because of accounting choices (which can range from discretion within the accounting rules to fraud) will look cheap on a price earnings ratio basis. Similarly, a firm that takes a large restructuring charge and writes down its book value of assets (and equity) will look expensive on a price to book basis.

To combat the problem, value investors have developed ways of correcting both earnings and book value. With accounting earnings, there are three widely used alternatives to the actual earnings, all of which we mentioned earlier in the paper. The first is normalized earnings, where value investors look at the average earnings earned over a five or ten year period, rather than earnings in the most recent year. With commodity and cyclical companies, this will allow for smoothing out of cycles and result in earnings that are much lower than actual earnings (if earnings are at a peak) or higher than actual earnings (if earnings have bottomed out). The second is adjusted earnings, where investors who are willing to delve through the details of company filings and annual reports often devise their own measures of earnings that correct for what they see as shortcomings in conventional accounting earnings. The adjustments usually include eliminating one time items (income and expenses) and estimating expenses for upcoming liabilities (underfunded pension or health care costs). Finally, we noted Buffett's use of a modified version of earnings, where depreciation, amortization and other non-cash charges are added back and capital expenditures needed to maintain existing assets is subtracted out to get to "owners' earnings". In effect, this replaces earnings with a cash flow after maintenance investments have been made.

With book value, value investors have to deal with two problems. The first is that the book value of a company's assets and equity will generally be inflated after it acquires another company, because you are required to show the price you paid and the resulting "goodwill" as an asset. Netting goodwill out of assets will reduce book value and make acquisitive companies look less attractive on a price to book basis. Consequently, value investors often use tangible book value, rather than total book value, where

Tangible book value = Book value – Goodwill – Other intangible assets

The second is that book value does not equate to liquidation value; in other words, some assets are easier to liquidate (and convert to cash at or close to their book value) than other assets. To compensate for the difficulty of converting book value to cash for some assets, value investors also look at narrower measures of book value with greater weight given to liquid assets. In one of its most conservative versions, some value investors look at only current assets (on the assumption that accounts receivable and inventory can be more easily sold at close to book value) and compute a **net net value** (book value of current assets – book value of current liabilities – book value of long term debt). Buying a company for less than its net net value is thus considered an uncommon bargain, since you can liquidate its current assets, pay off its outstanding liabilities and pocket the difference.

The Moat

When you buy a stock at a low price earnings ratio or because it has a high dividend yield, you are implicitly assuming that it can continue generating these earnings (and paying dividends) in the long term. For this to occur, the firm has to be able to hold on to (and hopefully even strengthen its market share and margins) in the face of competition. The “moat” is a measure of a company’s competitive advantages; the stronger and more sustainable a company’s competitive advantages, the more difficult it becomes for others to breach the moat and the safer becomes the earnings stream.

But how do you measure this moat? Some value investors look at the company’s history, arguing with some legitimacy that a history of stable earnings and steady growth is evidence of a deep moat. Others use qualitative factors, such as the presence of an experienced and competent management team, the possession of a powerful brand name or the ownership of a license or patent. With either approach, the objective is to look at the underpinnings of reported earnings to see if they can be sustained in the future.

Margin of Safety

The margin of safety (MOS) is the buffer that value investors build into their investment decision to protect themselves against risk. Thus, a MOS of 20% would imply that an investor would buy a stock only if its price is more than 20% below the estimated value (estimated using a multiple or a discounted cash flow model).

Value investors use the margin of safety as their protection from being wrong on two levels. The first is in their assessment of the “intrinsic value” of a company, where the errors can come from erroneous assumptions about the future of the company or unforeseen macro economic risks. The second is in the market price adjustment; after all, there is no guarantee that the stock price will move towards the intrinsic value, even if the intrinsic value is right. Extending the logic, the margin of safety should be larger for riskier companies where there is more uncertainty about the future. It should also widen during periods of market crisis, where macro economic risks become larger and in inefficient or illiquid markets, where the price adjustment may take more time.

The Contrarian Value Investor

The second strand of value investing is contrarian value investing. In this manifestation of value investing, you begin with the belief that stocks that are beaten down because of the perception that they are poor investments (because of poor investments, default risk or bad management) tend to get punished too much by markets just as stocks that are viewed as good investments get pushed up too much. Within contrarian investing, we would include several strategies ranging from relatively unsophisticated ones like buying the biggest losers in the market in the prior period to vulture and distressed security investing, where you use sophisticated quantitative techniques to highlight securities (both stocks and bonds) issued by troubled firms that may be undervalued.

Basis for contrarian investing

Do markets overreact to new information and systematically over price stocks when the news is good and under price stocks when the news is bad? There is some evidence for this proposition, especially in the long term, and that stocks that have done exceptionally well or badly in a period tend to reverse course in the following period, but only if the period is defined in terms of years rather than weeks or months.

Strategies and Evidence

While contrarian investing takes many forms, we will consider three strategies in this section. We will begin with the simple strategy of buying stocks that have gone down

the most over the previous period, move on to a slightly more sophisticated process of playing the expectations game, buying stocks where expectations have been set too low and selling stocks where expectations are too high and end the section by looking at a strategy of investing in securities issued by firms in significant operating and financial trouble.

a. Buying the Losers

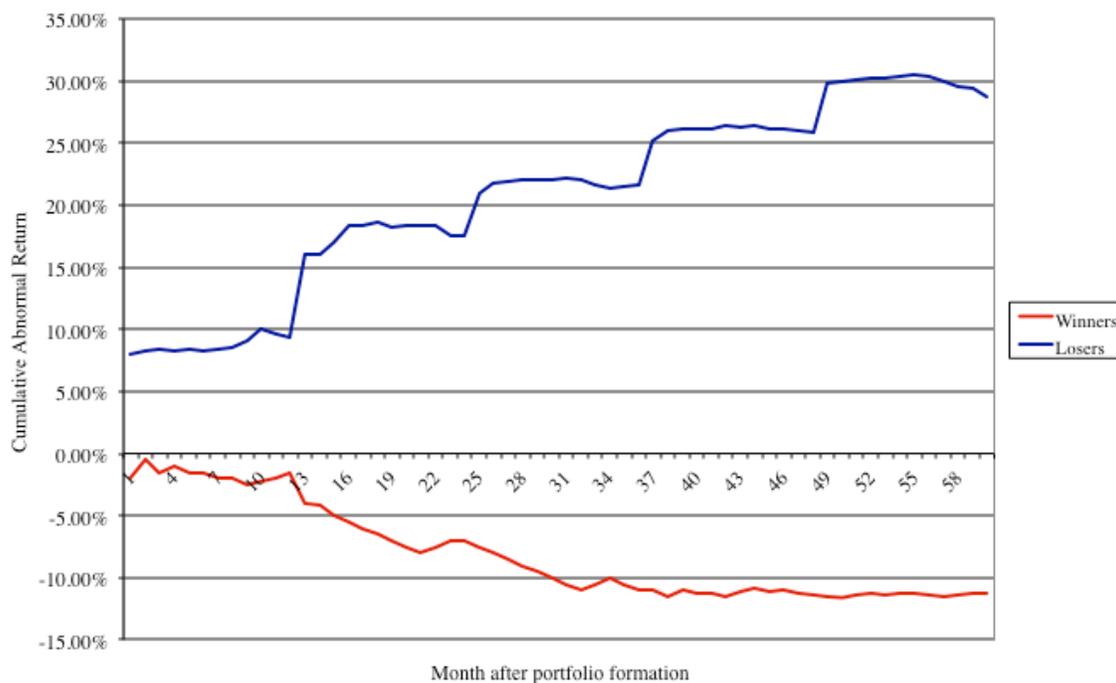
There is evidence that stocks reverse themselves over long periods in the form of negative serial correlation – i.e. stocks that have gone up the most over the last 5 years are more likely to go down over the next 5 years. Conversely, stocks that have gone down the most over the last 5 years are more likely to go up. In this section, we will consider a strategy of buying the latter and selling or avoiding the former.

The Evidence

How would a strategy of buying the stocks that have gone down the most over the last few years perform? To isolate the effect of price reversals on the extreme portfolios, DeBondt and Thaler constructed a winner portfolio of 35 stocks, which had gone up the most over the prior year, and a loser portfolio of 35 stocks, which had gone down the most over the prior year, each year from 1933 to 1978.²⁰ They examined returns on these portfolios for the sixty months following the creation of the portfolio. Figure 6 graphs the returns on both the loser and winner portfolios:

²⁰ DeBondt, W.F.M. & R. Thaler, 1987, *Further Evidence on Investor Overreaction and Stock Market Seasonality*, *Journal of Finance*, v42, pp 557-581.

Figure 6: Cumulative Abnormal Returns - Winners versus Losers



Source: DeBondt and Thaler

This analysis suggests that an investor who bought the 35 biggest losers over the previous year and held for five years would have generated a cumulative abnormal return of approximately 30% over the market and about 40% relative to an investor who bought the winner portfolio.

This evidence is consistent with market overreaction and suggests that a simple strategy of buying stocks that have gone down the most over the last year or years may yield excess returns over the long term. Since the strategy relies entirely on past prices, you could argue that this strategy shares more with charting – consider it a long term contrarian indicator - than it does with value investing.

Caveats

There are many, academics as well as practitioners, who suggest that these findings are interesting but that they overstate potential returns on 'loser' portfolios for several reasons:

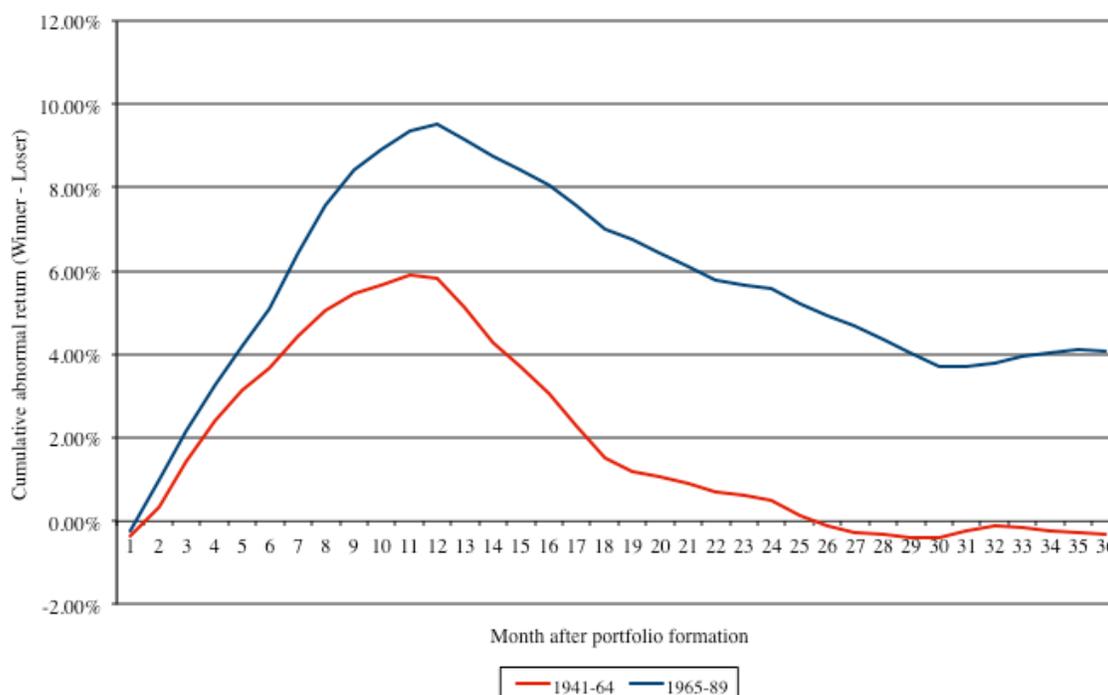
- There is evidence that loser portfolios are more likely to contain low priced stocks (selling for less than \$5), which generate higher transactions costs and are also

- more likely to offer heavily skewed returns, i.e., the excess returns come from a few stocks making phenomenal returns rather than from consistent performance.
- Studies also seem to find loser portfolios created every December earn significantly higher returns than portfolios created every June. This suggests an interaction between this strategy and tax loss selling by investors. Since stocks that have gone down the most are likely to be sold towards the end of each tax year (which ends in December for most individuals) by investors, their prices may be pushed down by the tax loss selling.
 - There seems to be a size effect when it comes to the differential returns. When you do not control for firm size, the loser stocks outperform the winner stocks, but when you match losers and winners of comparable market value, the only month in which the loser stocks outperform the winner stocks is January.²¹
 - The final point to be made relates to time horizon. There may be evidence of price reversals in long periods (3 to 5 years) and there is the contradictory evidence of price momentum – losing stocks are more likely to keep losing and winning stocks to keep winning – if you consider shorter periods (six months to a year). An earlier study that we referenced, by Jegadeesh and Titman tracked the difference between winner and loser portfolios by the number of months that you held the portfolios.²² Their findings are summarized in Figure 7:

²¹ Zarowin, P., 1990, *Size, Seasonality and Stock Market Overreaction*, Journal of Financial and Quantitative Analysis, v25, 113-125.

²² Jegadeesh, N. and S. Titman, 1993, *Returns to Buying Winners and Selling Losers: Implications for Stock Market Efficiency*, Journal-of-Finance; 48(1), 65-91.

Figure 7: Differential Returns - Winner versus Loser Portfolios



Source: Jegadeesh and Titman

There are two interesting findings in this graph. The first is that the winner portfolio actually outperforms the loser portfolio in the first 12 months. The second is that while loser stocks start gaining ground on winning stocks after 12 months, it took them 28 months in the 1941-64 time period to get ahead of them and the loser portfolio does not start outperforming the winner portfolio even with a 36-month time horizon in the 1965-89 time period. The payoff to buying losing companies may depend heavily on whether you have the capacity to hold these stocks for long time periods.

b. Playing the Expectations Game

A more sophisticated version of contrarian investing is to play the expectations game. If you are right about markets overreacting to recent events, expectations will be set too high for stocks that have been performing well and too low for stocks that have been doing badly. If you can isolate these companies, you can buy the latter and sell the former. In this section, we will consider a couple of ways in which you can invest on expectations.

Bad companies can be good investments

Any investment strategy that is based upon buying well-run, good companies and expecting the growth in earnings in these companies to carry prices higher is dangerous, since it ignores the possibility that the current price of the company already reflects the quality of the management and the firm. If the current price is right (and the market is paying a premium for quality), the biggest danger is that the firm loses its luster over time, and that the premium paid will dissipate. If the market is exaggerating the value of the firm, this strategy can lead to poor returns even if the firm delivers its expected growth. It is only when markets under estimate the value of firm quality that this strategy stands a chance of making excess returns.

There is some evidence that well managed companies do not always make good investments. Tom Peters, in his widely read book on excellent companies a few years ago, outlined some of the qualities that he felt separated excellent companies from the rest of the market.²³ Without contesting his standards, a study went through the perverse exercise of finding companies that failed on each of the criteria for excellence – a group of unexcellent companies and contrasting them with a group of excellent companies. Table 2 below provides summary statistics for both groups:²⁴

Table 2: Excellent versus Unexcellent Companies – Financial Comparison

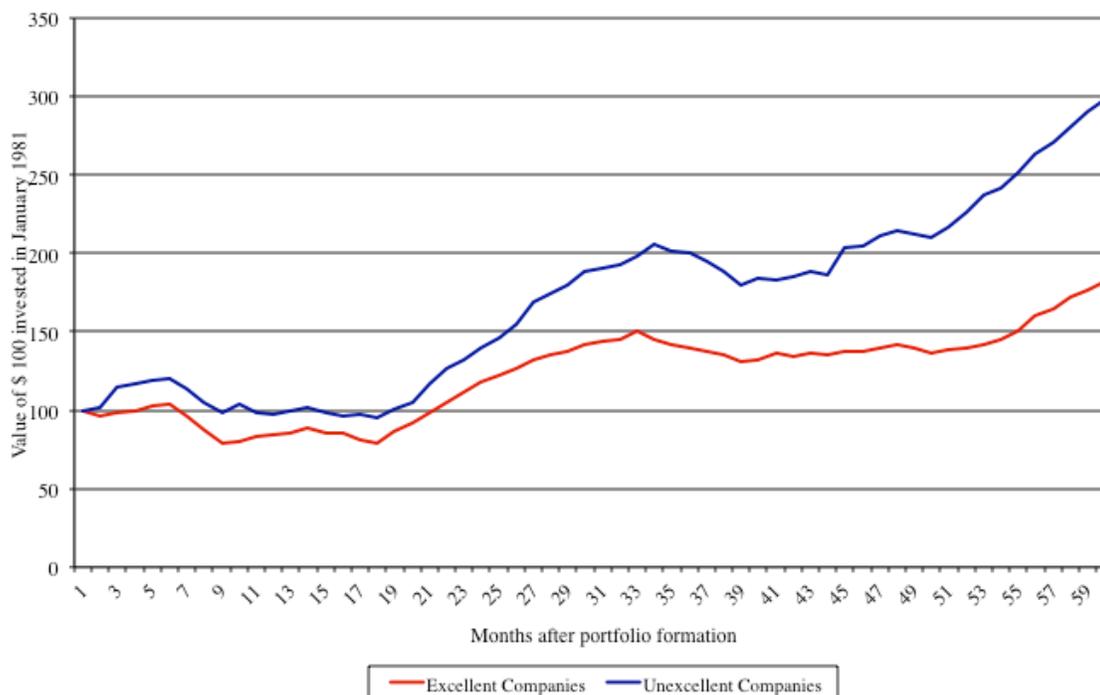
| | <i>Excellent companies</i> | <i>Unexcellent companies</i> |
|-------------------|----------------------------|------------------------------|
| Growth in assets | 10.74% | 4.77% |
| Growth in equity | 9.37% | 3.91% |
| Return on Capital | 10.65% | 1.68% |
| Return on Equity | 12.92% | -15.96% |
| Net Margin | 6.40% | 1.35% |

The excellent companies clearly are in much better financial shape and are more profitable than the unexcellent companies, but are they better investments? Figure 8 contrasts the returns would have made on these companies versus the excellent ones.

²³ Peters, T.. 1988, *In Search of Excellence: Lessons form America's Best Run Companies*, Warner Books.

²⁴ Clayman, M., 1994, *Excellence revisited*, Financial Analysts Journal, May/June 1994, pg 61-66.

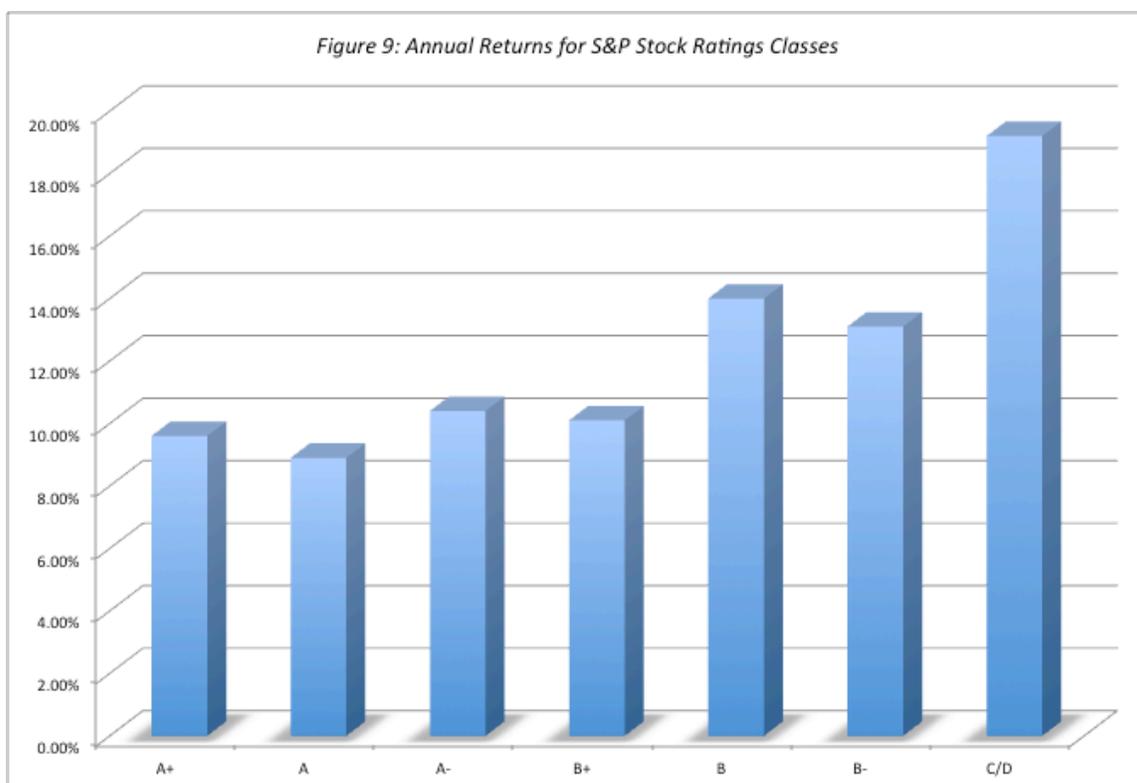
Figure 8: Excellent versus Unexcellent Companies



Source: Clayman

The excellent companies may be in better shape financially but the unexcellent companies would have been much better investments at least over the time period considered (1981-1985). An investment of \$ 100 in unexcellent companies in 1981 would have grown to \$ 298 by 1986, whereas \$ 100 invested in excellent companies would have grown to only \$ 182. While this study did not control for risk, it does present some evidence that good companies are not necessarily good investments, whereas bad companies can sometimes be excellent investments.

The second study used a more conventional measure of company quality. Standard and Poor's, the ratings agency, assigns quality ratings to stocks that resemble its bond ratings. Thus, an A rated stock, according to S&P, is a higher quality investment than a B+ rated stock, and the ratings are based upon financial measures (such as profitability ratios and financial leverage). Figure 9 summarizes the returns earned by stocks in different ratings classes, and as with the previous study, the lowest rated stocks had the highest returns and the highest rated stocks had the lowest returns.



Again, the study is not definitive because the differences in returns may well reflect the differences in risk across these companies, but it indicates that investors who bought the highest ranked stocks, expecting to earn higher returns, would have been sorely disappointed.

One version, perhaps an extreme one, of contrarian investing is vulture investing. In vulture investing, you buy the equity and bonds of companies that are in bankruptcy and bet either on a restructuring or a recovery. This is a high-risk strategy where your hope that a few big winners offset the many losers in your portfolio.

Caveats

As with the previous strategy of buying losers, a strategy of buying companies that rank low on financial criteria is likely to require a long time horizon and expose you to more risk, both from financial default and volatility. In addition, though, the following factors should be kept in mind while putting together a portfolio of “bad” companies.

The first is that not all companies that are poor performers are badly managed. Many are in sectors that are in long-term decline and have no turn-around in sight. It is entirely likely that these companies will continue to be poor performers in the future.

Your odds of success are usually higher, if you buy a poorly performing company in a sector, where other companies are performing well. In other words, you are more likely to get the upside if there is potential for improvement.

Even if companies have potential for improvement,, part of the reason for the poor performance of the companies may be poor management. If the management of the company is entrenched, either because the managers hold a significant portion of the equity – at least the voting shares – or because of anti-takeover amendments in place, there may be little chance of improved performance in the future. You may have a better chance of succeeding in your investments, if you direct your investments to poorly managed firms, where there is a high (or at least a reasonable) chance of removing incumbent management. You would, for instance, avoid poorly managed companies with unequal voting rights (voting and non-voting shares), substantial holdings by incumbent managers or anti-takeover amendments in place.

Finally, risk averse investors who wait for the absolute bottom before they invest often fail because timing the bottom is just about impossible. You will have to accept the fact that bad companies will sometimes (or often) become worse before they become better, and that this will create some short-term damage to your portfolio.

Determinants of Success

The caveats presented in the section above suggest that success from buying losers or bad companies is not guaranteed and may prove illusive. In particular, you need the following –

a. Long Time Horizon: To succeed by buying these companies, you need to have the capacity to hold the stocks for several years. This is necessary not only because these stocks require long time periods to recover, but also to allow you to spread the high transactions costs associated with these strategies over more time. Note that having a long time horizon as a portfolio manager may not suffice if your clients can put pressure on you to liquidate holdings at earlier points. Consequently, you either need clients who think like you do and agree with you, or clients that have made enough money with you in the past that their greed overwhelms any trepidation they might have in your portfolio choices.

b. Diversify: Since poor stock price performance is often precipitated or accompanied by operating and financial problems, it is very likely that quite a few of the companies in the loser portfolio will cease to exist. If you are not diversified, your overall returns will be extremely volatile as a result of a few stocks that lose all of their value. Consequently, you will need to spread your bets across a large number of stocks in a large number of sectors. One variation that may accomplish this is to buy the worst performing stock in each sector, rather than the worst performing stocks in the entire market.

c. Personal qualities: This strategy is not for investors who are easily swayed or stressed by bad news about their investments or by the views of others (analysts, market watchers and friends). Almost by definition, you will read little that is good about the firms in your portfolio. Instead, there will be bad news about potential default, management turmoil and failed strategies at the companies you own. In fact, there might be long periods after you buy the stock, where the price continues to go down further, as other investors give up. Many investors who embark on this strategy find themselves bailing out of their investments early, unable to hold on to these stocks in the face of the drumbeat of negative information. In other words, you need both the self-confidence to stand your ground as others bail out and a stomach for short-term volatility (especially the downside variety) to succeed with this strategy.

Activist Value Investing

One of the more frustrating aspects of passive contrarian investing is that you, as an investor, do not control your destiny. Thus, you could invest in a poorly managed company, expecting management to change, but it may never happen, leaving you with an investment that wilts over time. In activist value investing, you acquire a large stake in an undervalued or poorly managed company, and then use your position as a large stockholder to push for changes that will release this value. In other words, you act as the catalyst for change, and enrich yourself in the process.

Strategies and Evidence

The strategies used by you as an activist value investor are diverse, and will reflect why the firm is undervalued in the first place. If a business has investments in poor performing assets or businesses, shutting down, divesting or spinning off these assets will create value for its investors. When a firm is being far too conservative in its use of debt, you may push for a recapitalization (where the firm borrows money and buys back stock). Investing in a firm that could be worth more to someone else because of synergy, you may push for it to become the target of an acquisition. When a company's value is weighed down because it is perceived as having too much cash, you may demand higher dividends or stock buybacks. In each of these scenarios, you may have to confront incumbent managers who are reluctant to make these changes. In fact, if your concerns are broadly about management competence, you may even push for a change in the top management of the firm.

Asset redeployment/ restructuring

While few firms make investments expecting to generate sub-standard returns, shifts in the business or the economy can make this a reality. If a firm finds itself with a significant portion of capital invested in assets that earn less than the cost of funding them, redeploying or restructuring these assets may create value for stockholders. In this section, we will assess various asset restructuring strategies, ranging from splitting the firm into individual parts to divestitures of selected assets and the consequences for value.

Asset Deployment and Value

The relationship between investment and value creation is a simple one. To fund an investment, a firm has to raise capital (from either equity investors or lenders) and there is a cost associated with this capital (a cost of capital) that reflects the risk of the investments that the firm plans to make. That capital is invested in assets that generate a return on the invested capital; if that return is greater than the cost of capital, the assets are creating value and if it is less, it is destroying value. Thus, you could make an inventory of all assets that a firm has on its books and classify them into value creating, value neutral and value destroying investments.

The puzzle to some may be the last category. Why, you may wonder, would any firm take on investments that are value destroying? There are many possible reasons, some occurring even before the investment is made and many happening in the aftermath:

- a. Ego, overconfidence and bias: While we tend to think of investment decisions as based primarily on the numbers, it is inevitable that human nature enters into the decision process. In too many cases, the decision maker enters the process with preconceptions and biases that color the analysis (altering the numbers), thus making the final decision a foregone conclusion. If you add to this the fact that many decision makers are over confident about their own abilities and that their egos make it difficult to back down, you have the recipe for bad investments. In fact, all of these tendencies get exaggerated as the decisions get larger, and for decision makers who are higher in the ranks. As a consequence, the most egregious distortions occur when firms make large investments (acquisitions, large joint ventures, entering new businesses).
- b. Failure to adjust for changing risk: Earlier, we noted that the cost of capital for a firm is set by investors who make their assessments about the risk in the firm, based on its business model and past history. Thus, a firm that operates in a safe business and has generated stable earnings over time will have a low cost of capital. Using that cost of capital as the benchmark on new investments makes sense only if these investments continue in the same vein: stable investments in risky businesses. If the firm enters new businesses that are riskier and continues to use its old cost of capital as its hurdle rate, it may very well be taking bad investments; the return on capital on these investments may exceed the old cost of capital but don't match up to the correct risk-adjusted cost of capital that should have been used in the assessment.
- c. Business spread: Companies often spread themselves across multiple businesses, sometimes attracted by higher returns and oftentimes by the stability that they see from operating in diversification. At the limit, you have conglomerates like GE and Siemens that operate in dozens of businesses. While there may be some benefits, there is also a potential cost. By spreading themselves thinly across multiple businesses, it is possible that some of these businesses may be run less efficiently than if they were stand alone businesses, partly because accountability is weak and

partly because of cross subsidies. Researchers have looked at the question of whether conglomerates trade at a premium or discount to their parts. To make this judgment, they value the pieces of a conglomerate, using the typical multiple at which independent firms in each business trade at. Thus, you could break GE down into individual businesses, and value each one based upon the enterprise value to EBITDA or PE ratio that other firms in that business trade at. You can then add up the values of the parts and compare it to the value of the conglomerate. In this comparison, the evidence seems to indicate that conglomerates trade at significant discounts (ranging from 5 to 10%, depending upon the study) to their piecewise values.²⁵

- d. Changes in sector/business: Even firms that make unbiased and well reasoned judgments about their investments, at the time that they make them, can find that unanticipated changes in the business or sector can make good investments into bad ones. Thus, a pharmaceutical firm that made the decision to develop a new drug in 2006, based upon its expectation of high drug prices and returns, may find that changes in the health care law or a new drug introduced by a rival company in 2010 lower returns on the investment to below the cost of capital.
- e. Macro economic changes: In a similar vein, value creating investments made in assets when the economy is doing well can reverse course quickly, if the economy slows down or goes into a recession. In fact, the banking crisis in 2008 ushered in a period of macro economic shocks (sovereign defaults, regulatory changes, political risk) that rendered useless even the best investment analyses from prior periods.

For any of the reasons listed above, a firm can find itself with a large proportion of its investments delivering returns well below what it costs to fund them.

Asset Deployment: Value Enhancement actions

Assuming that some or a large portion of the assets of a firm are in the value destroying column, earning less than the cost of capital, what should companies (or investors in these companies) try to do? The choices range the spectrum and will reflect why the investment went bad in the first place.

²⁵ See Berger, Philip G., and Eli Ofek, 1995, *Diversification's effect on firm value*, Journal of Financial Economics 37, 39–65. and Lang, Larry H.P., and René M. Stulz, 1994, *Tobin's q, corporate diversification, and firm performance*, Journal of Political Economy 102, 1248–1280.

1. Shut down/ Liquidation

When an asset is earning less than its cost of capital, the most obvious solution would seem to be to shut it down, but does that make sense? It does, but only in two cases. The first is if the asset is losing money and is expected to generate negative cash flows with no end in sight. Shutting down a factory or a product line where the operating costs exceed the revenues is a clear gain for investors in the firm, even though there may be large social costs (laid off employees, devastated company towns, costs for taxpayers). The second is if the firm can reclaim the capital originally invested in the asset by shutting it down. This is more difficult than it looks. A firm that invests \$ 100 million in an asset, expecting to generate 12% a year, is unlikely to be able to get the investment back, if the asset is generating only 6% in returns each year.

2. Divestitures

In a divestiture, a firm sells assets or a division to the highest bidder. To see how a divestiture affects value, you would need to compare the price received on the divestiture to the present value of the expected cash flows that would have been generated from the firm continuing to operate the divested asset. There are three possible scenarios:

1. If the divestiture value is equal to the present value of the expected cash flows, the divestitures will have no effect on the divesting firm's value.
2. If the divestiture value is greater than the present value of the expected cash flows, the value of the divesting firm will increase on the divestiture.
3. If the divestiture value is less than the present value of the expected cash flows, the value of the firm will decrease on the divestiture.

The divesting firm receives cash in return for the assets and can choose to retain the cash and invest it in marketable securities, invest the cash in other assets or new investments, or return the cash to stockholders in the form of dividends or stock buybacks. This action, in turn, can have a secondary effect on value.

There are at least three reasons for a firm to divest its assets or a division. The first is that the divested assets may have a higher value to the buyer of these assets. For assets to have a higher value, they have to either generate higher cash flows for the buyers or result in lower risk (leading to a lower discount rate). The higher cash flows

can occur because the buyer is more efficient at utilizing the assets, or because the buyer finds synergies with its existing businesses. The lower discount rate may reflect the fact that the owners of the buying firm are more diversified than the owners of the firm selling the assets. In either case, both sides can gain from the divestiture and share in the increased value. The second reason for divestitures is less value-driven and more a result of the immediate cash flow needs of the divesting firm. Firms that find themselves unable to meet their current operating or financial expenses may have to sell assets to raise cash. For instance, many leveraged acquisitions in the 1980s were followed by divestitures of assets. The cash generated from these divestitures was used to retire and service debt. The third reason for divestitures relates to the assets not sold by the firm, rather than the divested assets. In some cases, a firm may find the cash flows and values of its core businesses affected by the fact that it has diversified into unrelated businesses. This lack of focus can be remedied by selling assets or businesses that are peripheral to the main business of a firm.

A number of empirical questions are worth asking about divestitures. What types of firms are most likely to divest assets? What happens to the stock price when assets are divested? What effect do divestitures have on the operating performance of the divesting firm? Let us look at the evidence on each of these questions. Linn and Rozeff examined the price reaction to announcements of divestitures by firms and reported an average excess return of 1.45% for 77 divestitures between 1977 and 1982.²⁶ They also noted an interesting contrast between firms that announce the sale price and motive for the divestiture at the time of the divestiture, and those that do not: in general, markets react much more positively to the first group than to the second, as shown in Table 3.

Table 3: Market Reaction to Divestiture Announcements

| <i>Price Announced</i> | <i>Motive Announced</i> | |
|------------------------|-------------------------|-------|
| | Yes | No |
| Yes | 3.92% | 2.30% |
| No | 0.70% | 0.37% |

It appears that financial markets view firms that are evasive about the reasons for and use of the proceeds from divestitures with skepticism. This finding was confirmed by Klein,

when she noted that that the excess returns are positive only for those divestitures where the price is announced at the same time as the divestiture.²⁷ She extended the study and concluded that the magnitude of the excess return is a function of the size of the divestiture. For example, when the divestiture is less than 10% of the equity of the firm, there is no significant price effect, whereas if it exceeds 50%, the stock price increases by more than 8%.

Studies that have looked at the performance of firms after they divest assets report improvements in a number of operating measures: operating margins and returns on capital increase, and stock prices tend to outperform the rest of the sector. In summary, firms that have lost focus often are most likely to divest non-core assets, markets respond positively to these divestitures if information is provided at the time of the divestiture and operating performance tends to improve after divestitures.

3. Spin Offs, Split Offs and Split Ups

In a spin off, a firm separates out assets or a division and creates new shares with claims on this portion of the business. Existing stockholders in the firm receive these shares in proportion to their original holdings. They can choose to retain these shares or sell them in the market. In a split up, which can be considered an expanded version of a spin off, the firm splits into different business lines, distributes shares in these business lines to the original stockholders in proportion to their original ownership in the firm, and then ceases to exist. A split off is similar to a spin off, insofar as it creates new shares in the undervalued business line. In this case, however, the existing stockholders are given the option to exchange their parent company stock for these new shares, which changes the proportional ownership in the new structure.

There are two primary differences between a divestiture and a spin off. The first is that there is often no cash generated for the parent firm in a spin off. The second is that the division being spun off usually becomes an independent entity, often with existing management in place. As a consequence, the first two reasons given for divestitures – a buyer who generates higher value from the assets than the divesting firm and the need to

²⁶ Linn, Scott C. and Michael S. Rozeff. 1985, *The Effect Of Voluntary Spin-Offs On Stock Prices: The Agency Hypothesis*, *Advances in Financial Planning and Forecasting*, v1(1), 265-292.

meet cash flow requirements – do not apply to spin offs. Improving the focus of the firm and returning to core businesses, which we offered as reasons for divestitures, can be arguments for spin offs as well. There are four other reasons:

- A spin off can be an effective way of creating value when subsidiaries or divisions are less efficient than they could be and the fault lies with the parent company, rather than the subsidiaries. For instance, Miles and Woolridge consider the case of Cyprus Minerals, a firm that was a mining subsidiary of Amoco in the early 1980s.²⁸ Cyprus was never profitable as an Amoco subsidiary. In 1985, it was spun off after losing \$ 95 million in the prior year. Cyprus cut overhead expenses by 30% and became profitable within six months of the spin off. Since the management of Cyprus remained the same after the spin off, the losses prior to it can be attributed to the failures of Amoco's management. When a firm has multiple divisions, and the sum of the divisional values is less than what the parent company is valued at, you have a strong argument for a split off, with each division becoming an independent unit.
- The second advantage of a spin off or split off, relative to a divestiture, is that it might allow the stockholders in the parent firm to save on taxes. If spin offs and split offs are structured correctly, they can save stockholders significant amounts in capital gains taxes. In 1992, for instance, Marriott spun off its hotel management business into a separate entity called Marriott International; the parent company retained the real estate assets and changed its name to Host Marriott. The entire transaction was structured to pass the tax test, and stockholders in Marriott were not taxed on any of the profits from the transaction.
- The third reason for a spin off or split off occurs when problems faced by one portion of the business affect the earnings and valuation of other parts of the business. As an example, consider the pressure brought to bear on the tobacco firms, such as Philip Morris (Altria) and RJR Nabisco, to spin off their food

²⁷ Klein, A., 1986, *The Timing and Substance of Divestiture Announcements: Individual, Simultaneous and Cumulative Effects*, Journal of Finance, v41, 685-696.

²⁸ Miles, J. and J.R. Woolridge., 1999, *Spin-Offs & Equity Carve-Outs*, Financial Executives Research Foundation.

businesses, because of investor perception that the lawsuits faced by the tobacco businesses weighed down the values of their food businesses as well.

- Finally, spin offs and split offs can also create value when a parent company is unable to invest or manage its subsidiary businesses optimally because of regulatory constraints. For instance, AT&T, as a regulated telecommunications firm, found itself constrained in decision making in its research and computer divisions. In 1995, AT&T spun off both divisions: the research division (Bell Labs) was renamed Lucent Technologies and its computer division reverted back to its original name of NCR.

Why would a firm use a split up instead of spin off or split off? By giving existing stockholders an option to exchange their parent company stock for stock in the split up unit, the firm may get a higher value for the assets of the unit. This is so because those stockholders who value the unit the most will be most likely to exchange their stock. The approach makes sense when there is wide disagreement between stockholders on how much the unit is worth.

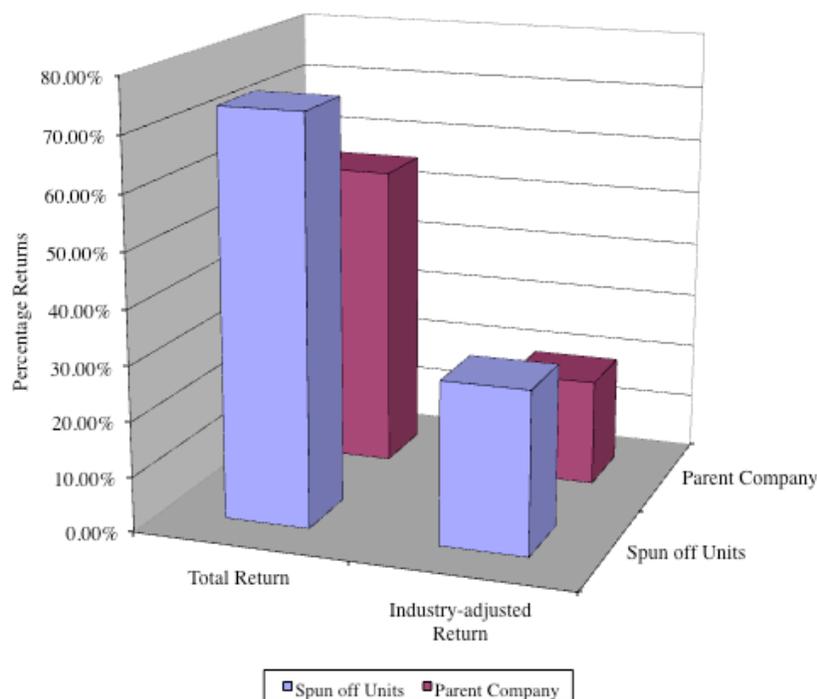
Two issues have been examined by researchers who have looked at spin offs. The first relates to the stock price reaction to the announcement of spin offs. In general, these studies find that the parent company's stock price increases on the announcement of a spin off. A study by Schipper and Smith examined 93 firms that announced spin offs between 1963 and 1981 and reported an average excess return of 2.84% in the two days surrounding the announcement.²⁹ Further, there is evidence that the excess returns increase with the magnitude of the spun off entity. Schipper and Smith also find evidence that the excess returns are greater for firms in which the spin off is motivated by tax and regulatory concerns.

The second set of studies look at the performance of both the spun-off units, and the parent companies, after the spin off. These studies, which are extensively documented in Miles and Woolridge, can be summarized as follows:

²⁹ Schipper, K. and A. Smith, 1983, *Effects of Recontracting on Shareholder Wealth: The Case of Voluntary Spin-Offs*, Journal of Financial Economics, v12, 437-468; See also Hite, G.L. and J.E. Owers, 1983, *Security Price Reactions around Corporate Spin-off Announcements*, Journal of Financial Economics, v12, 409-436.

- Cusatis, Miles and Woolridge report that both the spun off units and the parent companies report positive excess returns in the 3 years after the announcement of the spin offs. Figure 10 reports the total returns and the returns adjusted for overall industry returns in the three years after the spin off.³⁰

Figure 10: Returns at Spin Offs and Parent Company

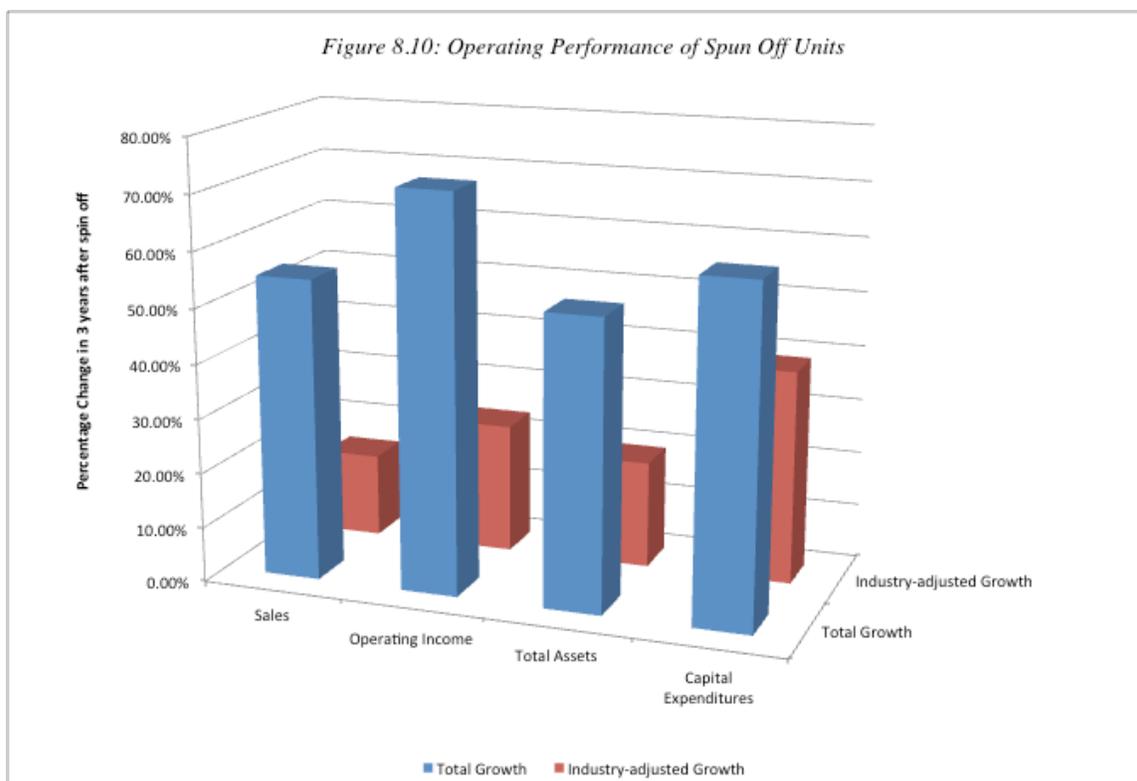


Source: Cusatis, Miles and Woolridge

Both groups are much more likely to be acquired, and the acquisition premiums explain the overall positive excess returns.

- There is a significant improvement in operating performance at the spun-off units in the 3 years after the spin off. Figure 11 reports on the change in revenues, operating income, total assets and capital expenditures at the spun off units in the three years after the spin off, before and after adjusting for the performance of the sector.

³⁰ Cusatis, P.J, J.A. Miles and J.R. Woolridge, 1993, *Restructuring Through Spin Offs: The Stock Market Evidence*, Journal of Financial Economics, v33, 293-311



Source: Miles and Woolridge

Note that the spun off units grow faster than their peers in terms of revenues and operating income; they also reinvest more in capital expenditures than other firms in the industry.

Capital Structure/ Financing Choices

In corporate finance, there has long been a debate about whether firms can become more valuable as a result of changing the mix of debt and equity that they use to fund their businesses. There is one school of thought, attributed to Miller and Modigliani, that argues that value is unaffected by financial leverage, but only in a world without taxes and default risk.³¹ Another school of thought argues that in the presence of taxes and default risk, there is an optimal amount of debt that a firm can carry, and that value is maximized at that point. Finally, there is a school of thought argues that firms should not use debt, since it is risky, and that less debt is always better than more debt.

³¹ Modigliani, F. and M. Miller, 1958, *The Cost of Capital, Corporation Finance and the Theory of Investment*, American Economic Review, v48, 261-297.

Capital Structure and Value

The tradeoff on using debt and the consequences for value is a straightforward one. Interest expenses are tax deductible and cash flows to equity are not, making debt more attractive, relative to equity, as the marginal tax rate rises. Debt can also operate as a disciplinary mechanism on managers in mature firms; managers are less likely to take bad investments, if they have to make interest expenses each period. On the other side of the ledger, debt has three disadvantages. The first is an *expected bankruptcy cost*, since as debt increases, so does the probability of bankruptcy. But what is the cost of bankruptcy? One is the direct cost of going bankrupt, such as legal fees and court costs, which can eat up a significant portion of the value of a bankrupt firm. The more devastating cost is the effect of being perceived as being in financial trouble: customers may stop buying your products, suppliers may demand cash for goods, and services and employees may leave, creating a downward spiral for the firm that can destroy it. The second is an *agency cost*, arising from different and competing interests of equity investors and lenders in a firm. Equity investors see more upside from risky investments than lenders do. As lenders become aware of this potential, they protect themselves by either writing covenants into loan agreements or charging higher interest rates. Putting this trade off into practice requires us to try and quantify both the costs and benefits of debt.

In the cost of capital approach, the optimal financing mix is the one that minimizes a company's cost of capital. Replacing equity with debt has the positive effect of replacing a more expensive mode of funding (equity) with a less expensive one (debt) but in the process the increased risk in both debt and equity will push up the costs of both components. The cost of capital approach relies on sustainable cash flow to determine the optimal debt ratio. The more stable and predictable a company's cash flow and the greater the magnitude of these cash flows—as a percentage of enterprise value—the higher the company's optimal debt ratio can be. Furthermore, the most significant benefit of debt is the tax benefit. Higher tax rates should lead to higher debt ratios. ⁱ

Bradley, Jarrell, and Kim analyzed whether differences in debt ratios can be explained by some of the trade off variables (taxes, bankruptcy costs) listed above.³²

³² Bradley, M., G.A. Jarrell, and E.H. Kim, 1984, On the Existence of an Optimal Capital Structure: Theory and Evidence, *Journal of Finance*, v39, 857-878.

They noted that the debt ratio was lower for firms with more volatile operating income. Since these firms are also likely to face much higher likelihood of bankruptcy, this finding is consistent with the proposition that firms with high bankruptcy costs borrow less. They also looked at firms with high advertising and R&D expenses; lenders to these firms are likely to be much more concerned about recouping their debt if the firm gets into trouble, because the assets of these firms are intangible (brand names or patents) and difficult to liquidate. These firms, consistent with the theory, have much lower debt ratios. They also find that there are a significant number of firms whose debt ratios are much lower and much higher than predicted by the cross-sectional relationship.

A simple test of whether financing mix affects value is to look at the market reactions to firms that change their financing mixes, either increasing their debt ratios or lowering them. The studies that have looked at this question are in agreement that stock prices do change in response to financing mix changes, and that they tend to increase around leverage-increasing actions and decrease on the announcement of leverage decreasing actions. Taken in sum, this would suggest that markets view more firms as under levered than over levered and that increasing debt is viewed as adding to value.

Capital Structure: Value Enhancement Strategies

Assume that you are a firm that chosen the wrong mix of debt and equity in funding your assets. What are the ways in which you can (or an activist can try to make you) fix this problem? There is a continuum from small actions that nudge the debt ratio over a period of time towards the right mix to decisive ones where the change is large and occurs abruptly.

1. Marginal recapitalization

Even if a firm is reluctant to revisit its funding of existing investments, it can change the way it finances new investments. Thus, a firm that is under levered (with an actual debt ratio of 10% and an optimal of 40%) can fund its new investments with a debt ratio of 40% or even higher. Similarly, an over levered firm can fund its new projects predominantly or entirely with equity, from retained earnings or new equity issues, and see its debt ratio decline. Over time, the debt ratio for the firm will drift towards the optimal though the rate of drift will depend upon how much the firm is investing in new

projects. Unfortunately, for larger, mature firms, the rate of change will be glacial, since new investments will tend to be small relative to existing investments.

2. Total Recapitalization

In a recapitalization, a firm changes its financial mix of debt and equity, without substantially altering its investments or asset holdings. If you are under levered, you can recapitalize in many ways. For instance, you can increase your debt ratio by borrowing money and paying a dividend or by buying back stock. Alternatively, you can swap debt for equity, where equity investors in your firm are offered equivalent amounts (in market value terms) in debt. If you want to reduce your debt ratio, you would reverse these actions, raising equity and reducing debt. The boom in debt for equity recapitalization occurred in the late 1980s. A study that looked at these recapitalizations came to two conclusions. The first was that almost every one of them was triggered by the threat of a hostile takeover. In other words, it is external pressure that forces managers to increase financial leverage. The second was that the average stock price reaction to recapitalizations is very positive. On average, in the sample of 45 recapitalizations studied, the stock price increased by 21.9%. This finding is not restricted to just stock buybacks. A study of 52 offers to exchange debt for equity found that stock prices increased by 14%.

If you are over levered, your choices will parallel the under levered firm's actions. You can try to raise new equity (by issuing new stock or equity options) and pay down your debt. You can cut back or eliminate dividends, assuming that you are still paying them. You can also try to convince your lenders to swap their debt holding for equity investments in the company. The problem is that recapitalization is likely to be more difficult for a firm with too much debt than one with too little. In an over levered firm, investors are less willing to buy your equity offerings, it is unlikely that you are paying substantial dividends and lenders remain wary of holding equity in your firm.

3. Leveraged Acquisitions

If a firm is under levered and the existing management is too conservative and stubborn to change, there is an extreme alternative. An acquirer can borrow money, implicitly using the target firm's debt capacity, and buy out the firm. This is, of course, the phenomenon of the leveraged buyout, where a group of investors raise debt against

the assets of a publicly traded firm, preferably one with stable earnings and marketable assets, and use the debt to acquire the outstanding shares in the firm. If they succeed in their endeavor, the firm becomes a private company, and the debt is partly or substantially paid down with the firm's cashflows or from asset sales over time. Once the firm has been nursed back to health and efficiency, it is taken public again, reaping (at least if all goes according to plan) substantial payoffs for the equity investors in the deal. Studies of leveraged acquisitions suggest that they do, on average, deliver significant returns to their investors. However, some of the leveraged buyouts done towards the end of the 1980s failed spectacularly, highlighting again that leverage is a two-edged sword, elevating returns in good times and reducing them in bad times.

Is there a similar nuclear option available against over levered firms where managers are unable or unwilling to reduce? While there is no explicit analog to the leveraged buyout, there is a far more conventional route that can be followed, where the operating assets of an over levered firm (which can still have significant value) can be acquired by an investor or a healthy company and the troubled firm is put into liquidation.

Dividend Policy/ Cash Balances

In November 2011, Apple reported a cash balance in excess of \$80 billion, the most eye-catching example of a more general cash build up at US companies during the prior years. With the cash build up has come the question of whether this cash accumulation helps or hurts investors in the firms in question, and if it hurts them, whether the cash should be returned to stockholders in the form of higher dividends or stock buybacks. In this section, we will provide a nuanced answer, where the cash build up can help investors in some companies, leave investors in other companies unaffected or hurt investors in some companies. It is the last group that should be targeted for higher dividends and/or buybacks by investors.

Cash and Value

To some investors/analysts, the question of whether cash hurts or helps them seems like a easy one to answer. After all, cash is usually invested in liquid and riskless or near riskless investments, earning low rates of return; in 2011, for instance, cash

balances at US companies were generally invested in treasury bills and commercial paper, earning less than 1% annualized. Since that return is generally much lower than the returns that the company makes on its operating investments or its cost of capital, cash looks like a bad investment. That misses a key point about investment assessment, which is that investment returns should be compared against a hurdle rate that reflects the risk of the investment. Since cash is a riskless, liquid investment, the cost of capital for cash is therefore the riskfree rate and cash invested in treasury bills or commercial paper is value neutral. So, cash, by itself, is neither value creating nor value destroying.

So, how does cash affect value? Put differently, how much cash is too much cash? To answer these questions, you have to start off with a clear sense of how or why cash balances affect equity investors in a company. Rather than worry about the low returns that cash generates, investors should redirect their attention to what the company may do with the cash. While cash invested in treasury bills, earning less than 1% a year, does not hurt value, that same cash invested in projects earning 6%, if the cost of capital for those projects is 9%, will destroy value. To make a judgment on whether to attach a discount to cash, investors should look at a company's track record, discounting cash balances in the hands of companies that have a history of poor investments and bad acquisitions. They should not discount cash balances in the hands of companies where managers are selective in their investments and have earned high returns (on both projects and for their investors).

While it may seem outlandish to argue that the market values cash balances differently in the hands of different companies, there is empirical evidence that backs this proposition. Pinkowitz and Williamson tried to estimate the value that markets were attaching to cash by regressing the market values of firms against fundamental variables that should determine value (including growth, leverage and risk) and adding cash as an independent variable.³³ They concluded that the market values a dollar in cash at about \$1.03, with a standard error of \$0.093. Consistent with the motivations for holding cash, they found that cash is valued more highly (>\$1.20 for a \$1 in cash) in the hands of high growth companies with more uncertainty about future investment needs than in the hands

³³ Pinkowitz, L. and R. Williamson, 2002, *What is a dollar worth? The Market Value of Cross Holdings*, Working Paper, Georgetown University.

of larger, more mature companies that earn less than their cost of capital (where a dollar in cash is valued about 70 cents).

Cash: Value Enhancement Strategies

If you are a company with a poor track record of taking bad investments, trust in management will be a scarce commodity and your cash holdings will be discounted by the market. The path to value enhancement, whether you choose to take it or activist investors push you along the path, is to return the cash to the stockholders, either by paying higher dividends or by buying back stock.

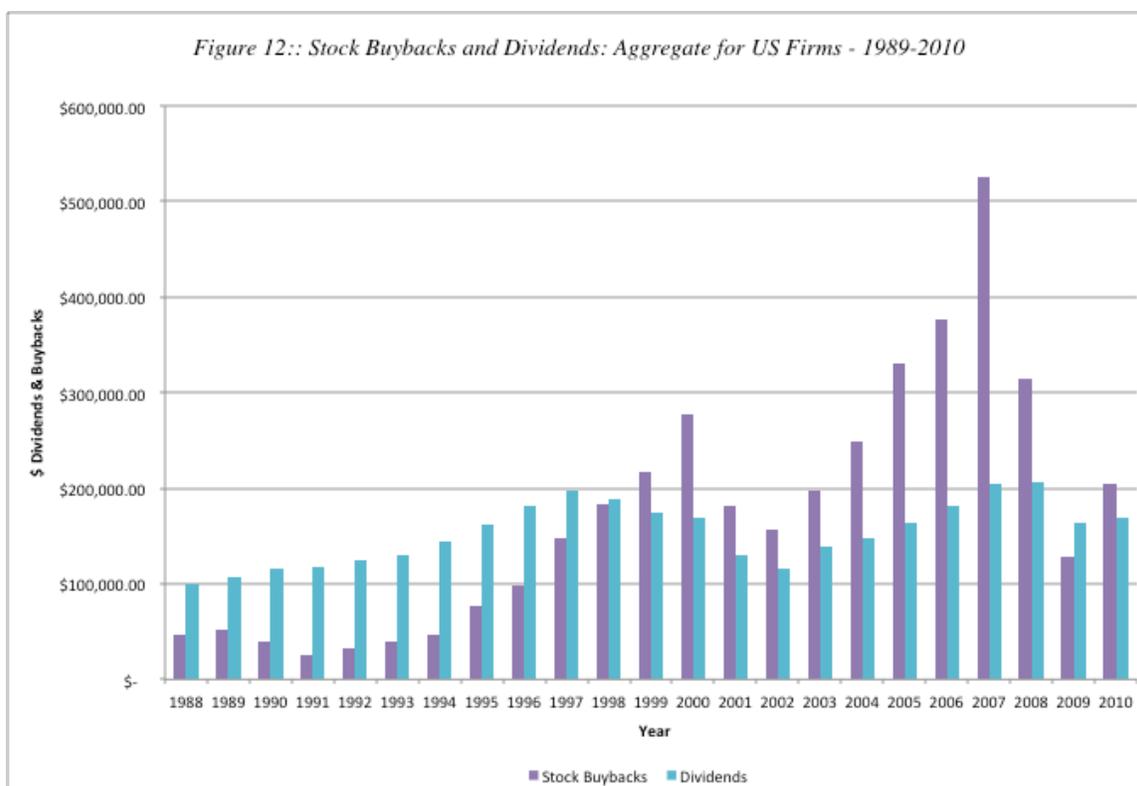
1. Dividends

The conventional path to returning cash to stockholders is to pay it out as dividends. For firms that have never paid dividends before, this will mean initiating dividends for the first time and for firms that have been paying dividends, this will translate into increasing dividends. If the cash balance to be returned is very large, it may take the form of a special dividend.

The arguments for and against dividends are well rehearsed and have been heard over time. On the plus side, dividends fit into the value investor's vision of safe cash flows, predictable and stable, and are a positive signal since only firms that feel confident about their future will initiate or increase regular dividends. On the minus side, for much of the last century, investors in the United States have been penalized by the tax code for dividends, with dividends being taxed at much higher rates than capital gains. In addition, dividends are unavoidable in the sense that investors holding the stock have to receive the dividend and pay taxes on them, even if they have no need for the cash.

2. Stock Buybacks

The alternative to using cash to pay dividends is to use it to buy back stock. In the United States, at least, the shift away from dividends to stock buybacks has been dramatic over the last two decades, as evidenced in figure 12:



Source: Standard and Poor's

Note that aggregate dividends amounted to \$ 100 billion in 1988 and aggregate stock buybacks were \$ 50 billion in that year. During the 1990s, buybacks increased dramatically and in 1999, cash returned in buybacks exceeded cash paid out in dividends, in the aggregate. The trend continued uninterrupted through 2008, with 2007 representing a high water mark for buybacks. The market collapse and economic fears that followed induced companies to hold back on buybacks in 2009 but it was clearly just a pause, not a stop to the trend, as the return to buybacks in 2010 indicates.

So, what has caused this movement away from dividends in the last two decades? It cannot be that dividends are taxed more heavily than capital gains: Note that dividends have been taxed at much higher rates than capital gains going back to the early decades of the last century. In fact, in 1979, the highest marginal tax rate on dividends was 70%, while it was only 28% on capital gains. The changes in the tax laws in the last three decades have reduced the tax disadvantage of dividends - in fact, capital gains and dividends been taxed at 15% from 2003 to 2012 - and cannot therefore be a rationale for the surge in buybacks. It also cannot be attributed to companies thinking that their stock

prices were too low, since these buyback surge occurred during the bull markets of the 1990s and 2004-2007, not during down markets. There are several possible explanations.

- a. Management compensation: The shift towards using options in management compensation at many firms has altered managerial incentives on whether to pay dividends or buy back stock. When you buy back stock, your stock price generally increases, partly because there are fewer shares outstanding after the buyback. When you pay a dividend, your stock will drop on the ex-dividend day. As an investor, you may not care because you get a dividend to compensate for the price drop. As a manager with options, you do care, since your option value will decrease with the stock price.
- b. Uncertainty about earnings: The second is that dividends are sticky: once you initiate or increase a dividend, you are expected to keep paying that dividend. Buybacks are flexible: companies can buy back stock in one year without creating expectations about future years. Companies that are uncertain about future earnings will therefore be more likely to buy back stock than pay dividends. The deregulation (of telecommunications, airlines and a host of other businesses) in conjunction with globalization (and the concurrent loss of secure local markets) has resulted in less predictability in earnings across the board.
- c. Changing investor profiles: The expansion of hedge funds and private equity investors has changed investor profiles in the stock market. These investors tend to be focused on price appreciation (rather than dividends) and may prefer buybacks to dividends.
- d. The Dilution Delusion: A stock buyback reduces the number of shares outstanding and generally increases earnings per share. Applying the current PE ratio to the higher earnings per share should result in a stock price. If this logic holds, stock buybacks are magic bullets that companies can use to push their stock price up. The flaw with this logic, of course, is that it assumes that the price earnings ratio will not change for the company, as it pays cash out to stockholders and makes itself a riskier enterprise.

Corporate Governance

Both conglomerate discounts and under leverage are manifestations of a larger problem, which is that managers at some publicly traded do not always put stockholder interests first. While you can fashion specific solutions to both of these problems, they may not be sufficient in a firm where the source of the problem is poor management. For such firms, the only long term solution to value generation is a new management team.

Corporate Governance and Value

In most publicly traded firms, there is a separation between the ownership of the firm (stockholders) and the managers of the firm. Corporate governance is a term that we use to capture how accountable managers are to stockholders and the mechanisms in place to make this accountability real. The relationship between corporate governance, in this abstract form, and value is therefore not clearly defined; there is no input for whether you have a strong and independent board of directors in a valuation model. However, if we view corporate governance as the power that stockholders possess to change bad management, there is a way to bring corporate governance into value, by approaching valuation in two steps. In the first, you value the company run by the existing managers, warts and all, and call this the status quo value. In the second, you value the company run by “optimal” management and term this the “optimal” value. To the extent that there are at least some dimensions where the incumbent managers are falling short, the latter should be higher than the former. The price at which the stock will trade in a reasonably efficient market will be a weighted average of these two values:

$$\text{Traded value} = (\text{Probability of no change in management}) (\text{Status quo value}) + (\text{Probability of change in management}) (\text{Optimal value})$$

With strong corporate governance, the probability of change in management should be high and the stock should trade close to its optimal value and with weak corporate governance, the traded value will approach the status quo value. Any action that improves corporate governance (eliminating differences in voting rights across shares, a new more independent board, the entry of activist investor) will therefore increase the traded value.

Gompers, Ishi and Metrick studied the effect of corporate governance on stock prices by developing a corporate governance index, based upon 24 factors, for 1500 firms; higher scores on the index translated into weaker corporate governance.³⁴ They found that the stocks with the weakest stockholder power earned 8.4% less in annual returns than stockholders with the strongest stockholder power. They also found that an increase of 1% in the poor governance index translated into a decline of 2.4% in the firm's Tobin's Q, which is the ratio of market value to replacement cost. In other words, we would expect a firm where stockholders have strong powers to replace and change managers to trade at a higher market value than an otherwise similar firm (in terms of risk, growth and cashflow characteristics) where stockholders have limited or no power over managers. Corporate governance systems are stronger in some countries than others and there have been a few studies that have looked at the relationship between firm performance/value and corporate governance across countries. Klapper and Love looked at 14 emerging markets with wide differences in corporate governance and legal systems. They find that countries with weaker legal systems tend to have weaker corporate governance systems. They also conclude that firms with stronger corporate governance systems have higher market values and report better operating performance³⁵. Finally, they find that the strength of corporate governance matters matter more in countries with weak legal systems.

While there seems to be support for the argument that companies with better corporate governance trade at higher values, this does not make them better investments, per se, since it's the change in the value that determines returns. In fact, the relationship between corporate governance and returns is weak, with little evidence backing the proposition that investors earn higher returns from investing in companies with stronger corporate governance.

Combining the two sets of findings, though, does offer an opening for investors. If you can invest in companies ahead of an event that strengthens corporate governance (removal of disproportionate voting rights on shares, the election of a more activist board,

³⁴ Gompers, P.A., J.L. Ishi and A. Metrick, 2003, *Corporate Governance and Equity Prices*, Quarterly Journal of Economics, v118, pp. 107-155.

removal of anti takeover clauses in corporate charters), you will gain from the increase in value that should accompany the change in governance. In an interesting twist on this concept, Bris and Cabolis look at target firms in 9277 cross-border mergers, where the corporate governance system of the target is in effect replaced by the corporate governance system of the acquirer. Since corporate governance systems vary across countries, this gives them an opportunity to examine the effect of changing the corporate governance system on stock prices. They find that stock prices increase for firms in an industry when a firm or firms in that industry are acquired by foreign firms from countries with better corporate governance.³⁶

Corporate Governance: Value Enhancement Actions

If the key to succeeding with activist investing is to change the way that a company is run, strengthening corporate governance is an important first step. The actions that activist investors take to accomplish this range from challenging incumbent managers at annual meetings to trying to acquire the firm, with the intent of replacing the top managers.

1. Proxy Contests

At large publicly traded firms with widely dispersed stock ownership, annual meetings are lightly attended. For the most part, stockholders in these companies tend to stay away from meetings and incumbent managers usually get their votes by default, thus ensuring management approved boards. In some companies, activist investors compete with incumbent managers for the proxies of individual investors, with the intent of getting their nominees for the board elected. While they may not always succeed at winning majority votes, they do put managers on notice that they are accountable to stockholders. There is evidence that proxy contests occur more often in companies that are poorly run, and that they sometimes create significant changes in management policy and improvements in operating performance.³⁷

³⁵ Klapper, Leora F. and Inessa Love, 2004, “*Corporate Governance, Investor Protection and Performance in Emerging Markets*,” *Journal of Corporate Finance*, v10, pp. 703-728.

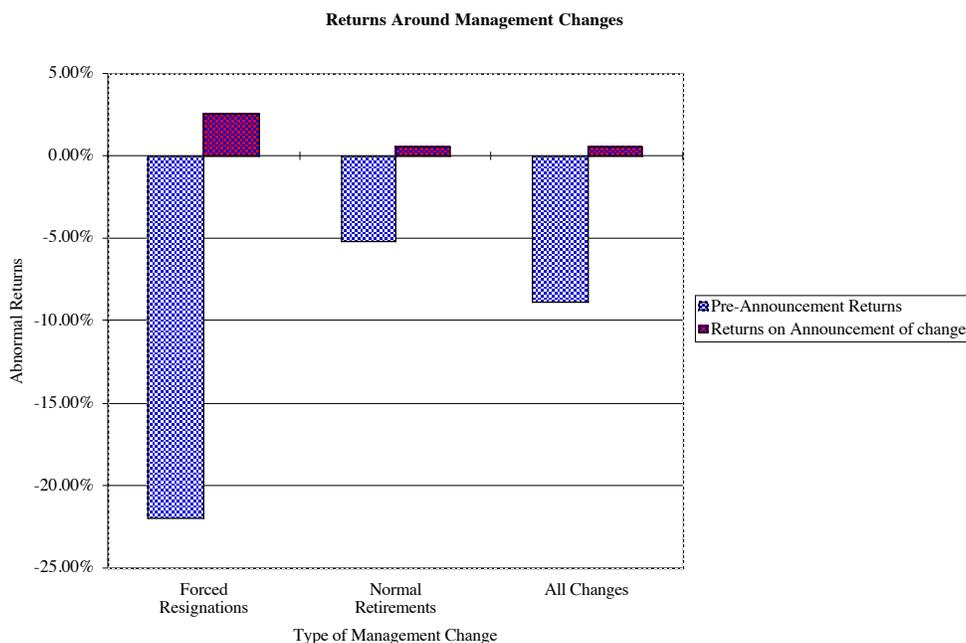
³⁶ Bris, A. and C. Cabolis, 2002, “*Corporate Governance Convergence by Contract: Evidence from Cross Border Mergers*,” Yale Working Paper No 02-32. Firms of English or Scandinavian origin tend to score higher on corporate governance measures.

³⁷ Mulherin, J.H. and A. B. Poulsen, 1998, *Proxy Contests and Corporate Change: Implications for*

2. Change top management

If you are an activist investor in a firm with incompetent management, how would you go about instituting change? Needless to say, you will not have the cooperation of the existing management, who you have labeled as not up to the job. If you are able to harness enough stockholders to your cause, though, you may be able to increase the pressure on the top management to step down. While some may view the loss of top managers in a company as bad news, it really depends upon the market's perception of the management. The overall empirical evidence suggests that changes in management are generally viewed as good news.³⁸ In figure 13, we examine how stocks react when a firm's CEO is replaced.

Figure 13



Source: Furtado and Karan

The stock price goes up, on average, when top management is changed. However, the impact of management changes is greatest when the change is forced. Management is

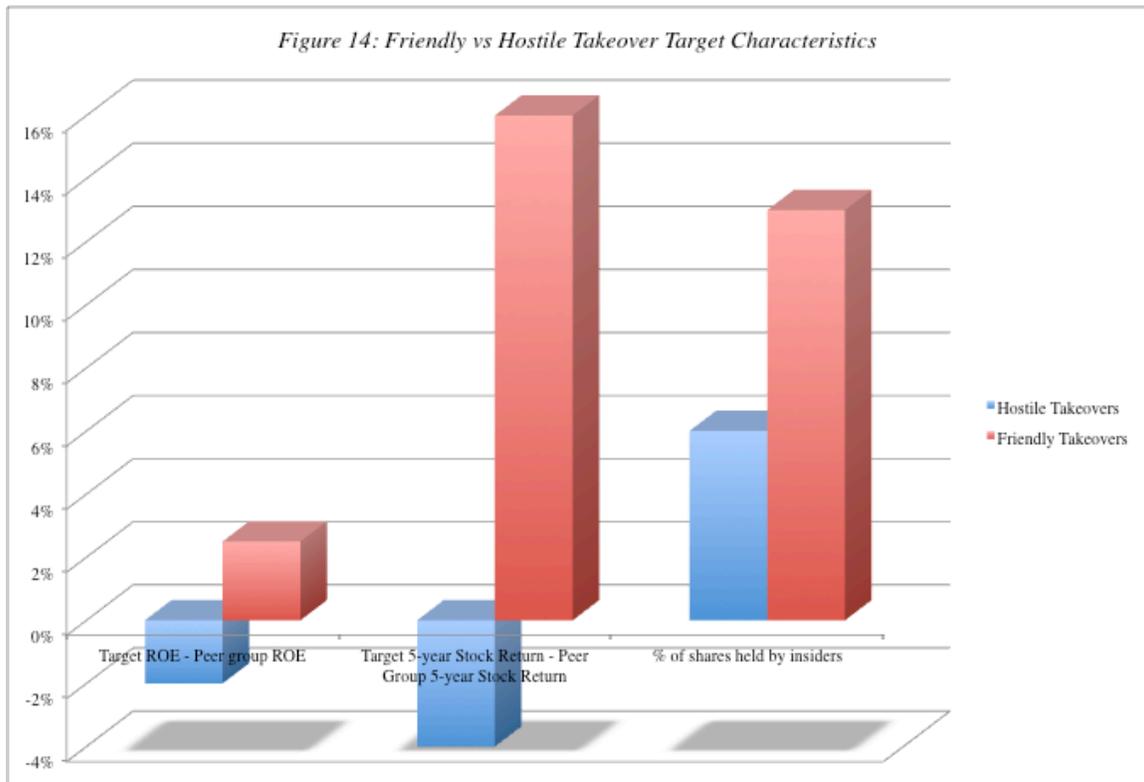
Shareholder Wealth, Journal of Financial Economics, v47, 279-313. They find that the bulk of the wealth from proxy contests stems from firms that are subsequently acquired or where management is changed.

³⁸ Furtado, E.P.H., and V. Karan, 1990. *Causes, consequences, and shareholder wealth effects of management turnover: A review of the empirical evidence*. Financial Management 19, 60-75

more likely to be forced out in the aftermath of poor performance (operating and stock price), and stock prices increase after the change is announced.

3. Hostile Acquisitions

If you cannot get top management to leave the firm, you can actively seek out hostile acquirers for the firm. If others share your jaundiced view of the management of the firm, you may very well succeed. There is evidence that indicates that badly managed firms are much more likely to be targets of acquisitions than well managed firms. Figure 14 summarizes key differences between target firms in friendly and hostile takeovers.³⁹



Source: Bhide

Note that target firms in hostile takeovers, relative to their peer group, generally have lower returns on equity on projects, have done worse for their stockholders and have less insider holdings than target firms in friendly takeovers. Needless to say, the payoff to being the stockholder of a firm that is the target of a hostile takeover is large.

³⁹ Bhide, A., 1989, *The Causes and Consequences of Hostile Takeovers*, Journal of Applied Corporate Finance, v2, 36-59.

Classes of Activist Investors

If the essence of activist investing is that you invest in a poorly managed company and then try to get it to change (by either running it yourself or putting pressure on management), it follows that activist investors can take different forms. Some are lone wolves, entrepreneurs on the lookout for turnaround candidates, others are institutional investors (mutual funds and pension funds) that don't want to follow the "sell and move on" strategy and still others are hedge or private equity funds.

Lone Wolves

In the movie "Wall Street", Michael Douglas plays the role of a "hostile raider", proclaiming that greed is good, and eager to profit at any cost. His character was modeled on Ivan Boesky, one of many individuals during the 1980s who raised the profile of activist investors by targeting large companies, sometimes taking them over and at other times just scaring managers enough to get them to change their ways. While Hollywood has since found other bogeymen in the finance business, Bill Ackman, Carl Icahn and Nelson Peltz are just a few high profile investors who continue the practice.

These successful raiders share some common features. The first is that they target the right companies, picking firms that have under performed their peer groups both in profitability and stock price performance. The second is that they are not shy about rocking the boat, challenging incumbent managers on their fundamental business decisions: where they invest, how they raise funds and how much they return to stockholders. The third is that they are willing to do the legwork and expend the resources required to contest management, from gathering proxies to trying to build alliances with unhappy investors/portfolio managers. The fourth is that they are persistent, willing to fight for long periods to accomplish what they set out to do, while recognizing when to give up (or give in) on fights that they cannot win.

Institutional Activists

Activist investing does not come naturally to mutual funds and pension funds for many reasons. Its confrontational style riles up managers in firms (who may be clients or potential clients for mutual fund firms in other businesses) and it requires time and resources that a fund manager who owns a hundred or more companies in her portfolio is

unwilling to expend. Consequently, the typical professional money manager remains a passive investor, who votes with her feet, selling stock in companies that she does not like and moving on.

There are and have been some exceptions to this general rule. The California Public Employee Pension Fund (Calpers) was one of the first funds to take an activist investing stance in the mid 1980s. Not only did it generate an annual list of worst managed firms in the United States, but it then then took positions in these firms and sought to change the way they were run. In the last two decades, there are other mutual funds that have taken on the activist role but they remain a small subset of the overall universe of funds.

Activist Hedge Funds/Private Equity Funds

The explosion in private equity and hedge funds in the last few decades has opened a new front in activist investing. A subset of private equity funds have made their reputations (and wealth) at least in part by investing in (and sometimes buying outright) publicly traded companies that they feel are managed less than optimally, changing the way they managed and cashing out in the market place.

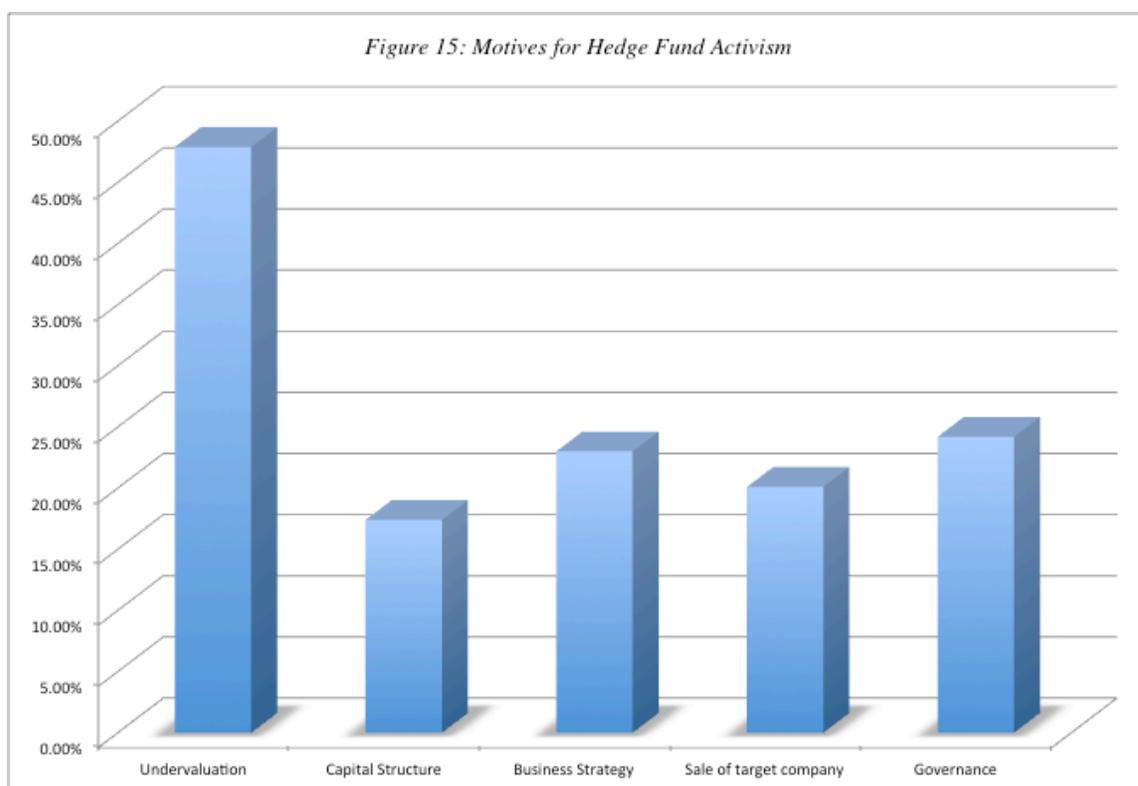
A key difference between these funds and the other two classes of activist investors is that they have a ambivalent relationship with incumbent managers. Rather than challenge them as incompetent, they often team up with managers in taking public companies into the private domain, at least temporarily. In effect, they are arguing that the key reasons for poor management are the separation of ownership from management (prevalent at most publicly traded companies) and the pressures brought to bear by investors and analysts on public companies to deliver results quickly.

Empirical Evidence on Activist Investing

So, what types of firms do activist investors target? Once they take large positions in these firms or take them over, do they live up to the stereotype of short-term, greedy investors who destroy businesses or do they have a more positive impact on how companies are run? Finally, do activist investors make large profits, after adjusting for the risks that they are exposed to?

Who do they target and why?

If activist investors hope to generate their returns from changing the way companies are run, they should target poorly managed companies for their campaigns. Institutional and individual activists do seem to focus on poorly managed companies, targeting companies that are less profitable and have delivered lower returns than their peer group. Hedge fund activists seem to focus their attention on a different group. A study of 888 campaigns mounted by activist hedge funds between 2001 and 2005 finds that the typical target companies are small to mid cap companies, have above average market liquidity, trade at low price to book value ratios, are profitable with solid cash flows and pay their CEOs more than other companies in their peer group. Thus, they are more likely to be under valued companies than poorly managed. A paper that examines hedge fund motives behind the targeting provides more backing for this general proposition in figure 15.⁴⁰



Source: Brav, Jiang and Kim

⁴⁰ Brav, A, W. Jiang and H. Kim, 2010, *Hedge Fund Activism: A Review*, Foundations and Trends in Finance, NOW.

In summary, the typical activist hedge fund behaves more like a passive value investor, looking for under valued companies, than like an activist investor, looking for poorly managed companies.

What do they do?

The essence of activist investing is that incumbent management is challenged, but on what dimensions? And how successfully? A study of 1164 activist investing campaigns between 2000 and 2007 documents some interesting facts about activism:⁴¹

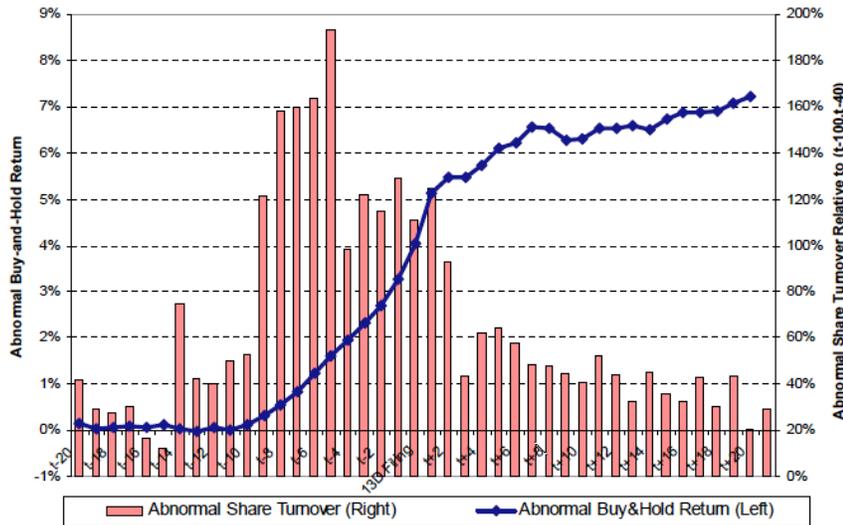
- Two-thirds of activist investors quit before making formal demands of the target. The failure rate in activist investing is very high.
- Among those activist investors who persist, less than 20% request a board seat, about 10% threaten a proxy fight and only 7% carry through on that threat.
- Activists who push through and make demands of managers are most successful (success rate in percent next to each action) when they demand the taking private of a target (41%), the sale of a target (32%), restructuring of inefficient operations (35%) or additional disclosure (36%). They are least successful when they ask for higher dividends/buybacks (17%), removal of the CEO (19%) or executive compensation changes (15%). Overall, activists succeed about 29% of the time in their demands of management.

The review paper of hedge fund activism,, that we used as the basis for Figure 15, finds that the median holding for an activist hedge fund is 6.3% and even at the 75th percentile, the holding is about 15%. Put differently, most activist hedge funds try to change management practices with well below a majority holding in the company. The same paper also documents an average holding period of about 2 years for an activist investment, though the median is much lower (about 250 days).

In general, the market reaction to activist investors, whether they are hedge funds or individuals, is positive. A study that looked at stock returns in targeted companies in the days around the announcement of activism came up with the results reported in figure 16:

⁴¹ Gantchev, N., 2011, *The Costs of Shareholder Activism: Evidence from a Sequential Decision Model*, Working Paper, SSRN # 1646471.

Figure 16: Excess Returns and Trading Volume around Activism Announcements



Note: The solid line (left axis) plots the average buy-and-hold return around the Schedule 13D filing, in excess of the buy-and-hold return of the value-weight market, from 20 days prior the 13D file date to 20 days afterwards. The bars (right axis) plot the increase (in percentage points) in the share trading turnover during the same time window compared to the average turnover rate during the preceding (-100, -40) event window.

Source: Brav, Jiang, Portnoy and Thomas

Note that the bulk of the excess return (about 5% of the total of 7%) is earned in the twenty days before the announcement and that the post-announcement drift is small. There is also a jump in trading volume prior to the announcement, which does interesting (and troubling) questions about trading being done before the announcements. The study also documents that the average returns around activism announcement has been drifting down over time, from 14% in 2001 to less than 4% in 2007.

Following through and looking at companies that have been targeted and sometimes controlled by activist investors, we can classify the changes into the four groups that we listed earlier (as potential value enhancement:

- a. Asset deployment and operating performance: There is mixed evidence on this count, depending upon the type of activist investor group looked at and the time period. Divestitures of assets do pick up after activism, albeit not dramatically, for targeted firms. There is evidence that firms targeted by individual activists do see an improved in return on capital and other profitability measures, relative to their

peer groups, whereas firms targeted by hedge fund activists don't see a similar jump in profitability measures.

- b. Capital Structure: On financial leverage, there is a moderate increase of about 10% in debt ratios at firms that are targeted by activist hedge funds but the increase is not dramatic or statistically significant. There are dramatic increases in financial leverage at a small subset of firms that are targets of activism, but the conventional wisdom that activist investors are proponents of higher debt ratios is not borne out in the overall sample. One study does note a troubling phenomenon, at least for bond holders in targeted firms, with bond prices dropping about 3-5% in the years after firms are targeted by activists, with a higher likelihood of bond rating downgrades.⁴²
- c. Dividend policy: The firms that are targeted by activists generally increase their dividends and return more cash to stockholders, with the cash returned as a percentage of earnings increasing by about 10% to 20%.
- d. Corporate governance: The biggest effect is on corporate governance. The likelihood of CEO turnover jumps at firms that have been targeted by activists, increasing 5.5% after the targeting. In addition, CEO compensation decreases in the targeted firms in the years after the activism, with pay tied more closely to performance.

In summary, activist investors seem to improve profitability mildly, increase financial leverage (and distress costs) somewhat, raise cash payout to stock holders and make managers more responsive to stockholders. One study that tracks activist investments through 2009 (most of the studies stop in 2005 or 2006) finds that the end results are disappointing, both in terms of the changes that are made at the target firms and the returns earned by activist hedge funds.⁴³ Activist hedge funds seem to derive more of their returns from value investing and less from activism, whereas activist individual investors get a bigger share of value from activism (and changing corporate policy).

⁴² Aslan, H. and H. Maraachlian, 2009, *The new kids on the block: Wealth effects of hedge fund activism on bondholders*. Working Paper, University of Houston.

⁴³ Bratton, W.W., 2010, *Hedge Funds and Governance Targets: Long-term Results*, Working Paper, University of Pennsylvania Institute for Law & Economic Research.

What returns do they generate for themselves?

The overall evidence on whether activist investors make money is mixed and varies depending upon which group of activist investors are studied and how returns are measured.

- Activist mutual funds seem to have had the lowest payoff to their activism, with little change accruing to the corporate governance, performance or stock prices of targeted firms.⁴⁴ Markets seem to recognize this, with studies that have examined proxy fights finding that there is little or no stock price reaction to proxy proposals by activist institutional investors. Activist hedge funds, on the other hand, seem to earn substantial excess returns, ranging from 7-8% on an annualized basis at the low end to 20% or more at the high end.⁴⁵ Individual activists seem to fall somewhere in the middle, earning higher returns than institutions but lower returns than hedge funds.⁴⁶
- While the average excess returns earned by hedge funds and individual activists is positive, there is substantial volatility in these returns and the magnitude of the excess return is sensitive to the benchmark used and the risk adjustment process. Put in less abstract terms, activist investors frequently suffer setbacks in their campaigns and the payoff is neither guaranteed nor predictable.
- Targeting the right firms, acquiring stock in these companies, demanding board representation and conducting proxy contests are all expensive and the returns made across the targeted firms have to exceed the costs of activism. While none of the studies that we have reference hitherto factored these costs, the Gantchev paper referenced in an earlier footnote concluded that the cost of an activist campaign at an average firm was \$10.71 million and that the net return to activist investing, if these costs are considered, shrink towards zero.

⁴⁴ Gillan, Stuart and Laura Starks, 2007, *The evolution of shareholder activism in the United States*, Journal of Applied Corporate Finance 19, 55-73; Yermack, D., 2010, *Shareholder voting and corporate governance*, Annual Review of Financial Economics 2, 103-25.

⁴⁵ Brav, A., W. Jiang, F. Partnoy, and R. Thomas, 2008, *Hedge fund activism, corporate governance, and firm performance*, Journal of Finance 63(4), 1729-1773.

⁴⁶ Klein, A. and Emanuel Z., 2009, *Entrepreneurial shareholder activism: Hedge funds and other private investors*, Journal of Finance 63(1), 187-229.

- The average returns across activist investors obscures a key component, which is that the distribution is skewed with the most positive returns being delivered by the activist investors in the top quartile; the median activist investor may very well just break even, especially after accounting for the cost of activism.

Can you make money following activist investors?

Given that most individual investors do not have the resources to be activist investors, this strategy may seem to be unreachable, but there is one possible way in which you may be able to partake in their success. If you could invest in companies that have been targeted for hedge fund investors and ride their coat tails to higher stock prices, you could indirectly be a beneficiary of activist investing.

Figure 16, which we used to illustrate the immediate market reaction to activism answers the question, at least for the very short term. Since the bulk of the excess returns are earned in the days before the announcement of activism, there is little to be gained in the short term by investing in a stock, after it has been targeted by activist investors. As for whether you can make money by investing in stocks targeted by activists and holding for the longer term, the evidence on whether hedge fund investors themselves make money in the long term provides some answers and direction:

- The right activists: If the median activist hedge fund investor essentially breaks even, as the evidence suggests, a blunderbuss approach of investing in a company targeted by any activist investor is unlikely to generate value. However, if you are selective about the activist investors you follow, targeting only the most effective, and investing only in companies that they target, your odds improve.
- Performance cues: To the extent that the excess returns from this strategy come from changes made at the firm to operations, capital structure, dividend policy and/or corporate governance, you should keep an eye on whether and how much change you see on each of these dimensions at the targeted firms. If the managers at these firms are able to stonewall activist investors successfully, the returns are likely to be unimpressive as well.
- A hostile acquisition windfall? A study by Greenwood and Schor notes that while a strategy of buying stocks that have been targeted by activist investors generates

excess returns, almost all of those returns can be attributed to the subset of these firms that get taken over in hostile acquisitions.⁴⁷

Overall, though, a strategy of following activist investors is likely to yield modest returns, at best, because you will be getting the scraps from the table.

There is an alternate strategy worth considering, that may offer higher returns, that also draws on activist investing. You can try to identify companies that are poorly managed and run, and thus most likely to be targeted by activist investors. In effect, you are screening firms for low returns on capital, low debt ratios and large cash balances, representing screens for potential value enhancement, and ageing CEOs, corporate scandals and/or shifts in voting rights operating as screens for the management change. If you succeed, you should be able to generate higher returns when some of these firms change, either because of pressure from within (from an insider or an assertive board of directors) or from without (activist investors or a hostile acquisition).

Determinants of Success

Activist value investors have an advantage over passive value investors since they can provide the catalysts for value creation. So, what is it that stops all of us from being activist value investors? When we consider some of the pre-requisites for being a successful value investor, we can also see why there are so few successful ones.

- This power of activist value investing usually comes from having the capital to buy significant stakes in poorly managed firms and using these large stockholder positions to induce management to change their behavior. Managers are unlikely to listen to small stockholders, no matter how persuasive their case may be.
- In addition to capital, though, activist value investors need to be willing to spend substantial time fighting to make themselves heard and in pushing for change. This investment in time and resources implies that an activist value investor has to pick relatively few fights and be willing to invest substantially in each fight.
- Activist value investing, by its very nature, requires a thorough understanding of target firms, since you have to know where each of these firms is failing and how

⁴⁷ Greenwood, R. and M. Schor, 2009, *Hedge fund investor activism and takeovers*, Journal of Financial Economics 92(3), 362–375.

you would fix these problems. Not surprisingly, activist value investors tend to choose a sector that they know really well and take positions in firms within that sector. It is clearly not a strategy that will lead to a well diversified portfolio.

- Finally, activist value investing is not for the faint hearted. Incumbent managers are unlikely to roll over and give in to your demands, no matter how reasonable you may think them to be. They will fight, and sometimes fight dirty, to win. You have to be prepared to counter and be the target for abuse. At the same time, you have to be adept at forming coalitions with other investors in the firm since you will need their help to get managers to do your bidding.

If you consider all these requirements for success, it should come as no surprise that most conventional mutual funds steer away from activist value investing. Even though they might have the capital to be activist investors, they do not have the stomach or the will to go up against incumbent managers. The most successful activist value investors have either been individuals, like Carl Icahn, small focused mutual funds, like the Lens Fund or activist hedge funds that are willing to work with managers on changing the way their firms are run. As a small individual investor, you can try to ride their coattails, and hope that they succeed, but it is unlikely that you will match their success. Offering more promise is a strategy of screening for companies that are ripe for activist intervention: poorly managed companies with the catalysts in place for management change.

How diversified should you be?

A question that investors of all stripes face is whether you should spread your bets across many investments, and if so, how many? The debate is an old one and there are a range of views that fall between two extremes. At the one extreme is the maxim that you should be maximally diversified, propagated by those who believe in efficient markets. At the other is the “go all in” investor, who believes that if you find a significantly undervalued company, you should put all or most of your money in that company, rather than dilute your upside potential by spreading your bets.

So, should you diversify? And if so, how much should you diversify? The answers to these questions depend upon two factors: (a) how certain you feel about your

assessment of value for individual assets and (b) how certain you are about the market price adjusting to that value within your specified time horizon.

- At one limit, if you are absolutely certain about your assessment of value for an asset and that the market price will adjust to that value within your time horizon, you should put all of your money in that investment. That is the case, for instance, if you find an option trading for less than its exercise value: you should invest all of your money in buying as many options as you can and exercise those options to make the profit. In general, this is what we term pure arbitrage and it is feasible only with finite lived assets (such as options, futures and fixed incomes securities), where the maturity date provides an end point at which the price adjustment has to occur. On a more cynical note, this could also be the case if you are the receipt of private information about an upcoming news releases (earnings, acquisition), where there is no doubt about the price impact of the release (at least in terms of direction) and the timing of the news release. The fact that you may very well be on the wrong side of the legal divide may also operate as a crimp on this strategy.
- At the other limit, if you have no idea what assets are cheap and which ones are expensive (which is the efficient market proposition), you should be as diversified as you can get, given transactions costs. After all, you gain nothing by holding back on diversification and your portfolio will be deliver less return per unit of risk taken.

Most active investors tend to fall between these two extremes. If you invest in equities, at least, it is almost inevitable that you have to diversify, for two reasons. The first is that you can never value an equity investment with certainty; the expected cash flows are estimates and risk adjustment is not always precise. The second is that even if your valuation is precise, there is no explicit date by which market prices have to adjust; there is no equivalent to a maturity date or an option expiration date for equities. A stock that is under priced can stay under priced for a long time, and even get more under priced.

Building on that theme, the degree of diversification across equities will depend upon how your investment strategy is structured, with an emphasis on the following dimensions:

- a. Uncertainty about investment value: In particular, if your investment strategy requires you to buy mature companies that trade at low price earnings ratios, you may

need to hold fewer stocks, than if it requires you to buy young, growth companies (where you are more uncertain about value). In fact, you can tie the margin of safety (referenced earlier in this paper to how much you need to diversify; if you use a higher margin of safety when investing, you should feel more comfortable holding a less diversified portfolio.

- b. Market catalysts: To make money, the market price has to adjust towards your estimated value. If you can provide a catalyst for the market adjustment (nudging or forcing the price towards value), you can hold fewer investments and be less diversified than a completely passive investor who has no choice but to wait for the market adjustment to happen. Thus, you will need to hold fewer stocks as an activist investor than as an investor who picks stocks based upon a PE screen.
- c. Time horizon: To the extent that the price adjustment has to happen over your time horizon, having a longer time horizon should allow you to have a less diversified portfolio.

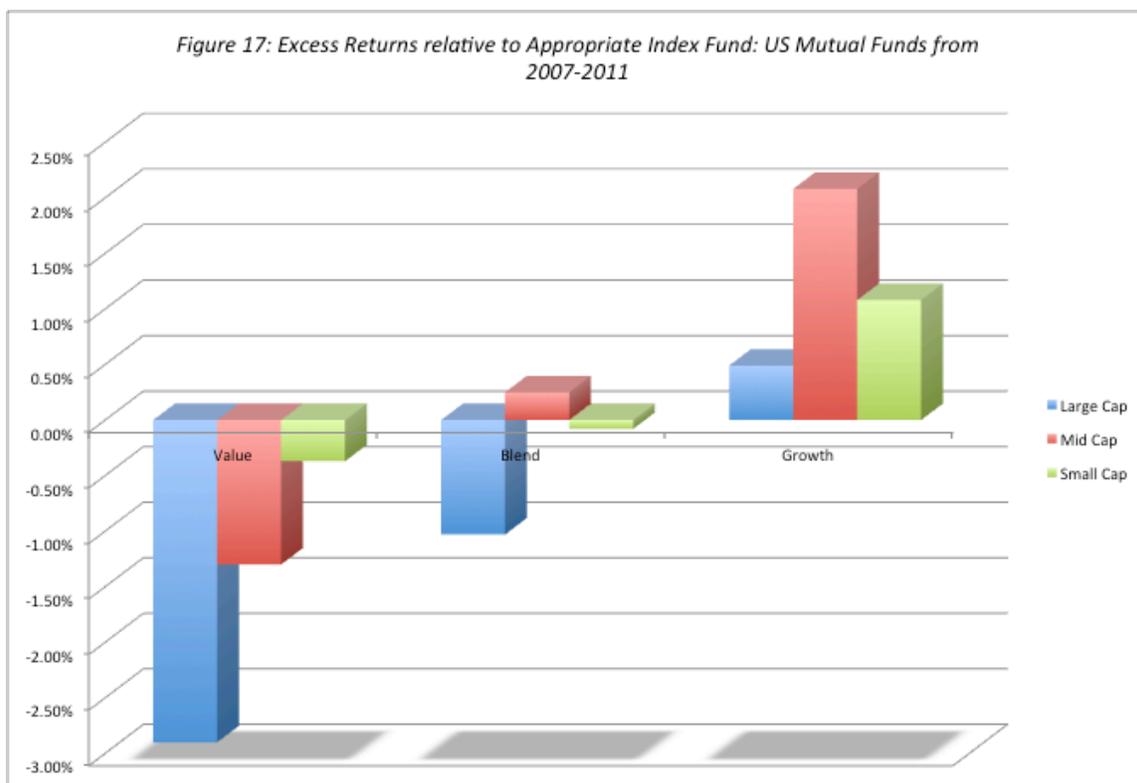
In summary, then, there is nothing irrational about holding just a few stocks in your portfolio, if it is composed of mature companies and you have built in a healthy margin of safety, and especially if you have the power to move markets. By the same token, it makes complete sense for investors to spread their bets widely, if they are investing in companies, where there is substantial uncertainty about the future, and are unclear about how and when the market price will adjust to value.

Value Investing; A Postscript

Of all of the investment philosophies, value investing comes with the most impressive research backing from both academics and practitioners. The excess returns earned by stocks that fit value criteria (low multiples of earnings and book value, high dividends) and the success of some high-profile value investors (such as Warren Buffett) draws investors into the active value investing fold.

Does spending more time researching a company's fundamentals must generate higher returns for investors? More generally, the impressive back testing results notwithstanding, does active value investing pay off? A simple test of the returns to the active component of value investing is to look at the returns earned by active value

investors, relative to a passive value investment option, and compare these excess returns with those generated by active growth investors, relative to a passive growth investment alternative. In figure 17, we compute the excess returns generated for all US mutual funds, classified into value, blend and growth categories, relative to index funds for each category. Thus, the value mutual funds are compared to index fund of just value stocks (low price to book and low price to earnings stocks) and the growth mutual funds to a growth index fund (high price to book and high price earnings stocks).



The results are not good for value investing. The only funds that beat their index counterparts are growth funds, and they do so in all three market cap classes. Active value investing funds generally do the worst of any group of funds and particularly so with large market cap companies.

If you are an individual value investors, you can attribute this poor performance to the pressures that mutual funds managers operate under, to deliver results quickly, an expectation that may be at odds with classic value investing. That may be the case, but it points to the need for discipline and consistency in value investing and to the very real fact that beating the market is always difficult to do, even for a good value investor.

Conclusion

Value investing comes in many stripes. First, there are the screeners, who we view as the direct descendants of the Ben Graham school of investing. They look for stocks that trade at low multiples of earnings, book value or revenues, and argue that these stocks can earn excess returns over long periods. It is not clear whether these excess returns are truly abnormal returns, rewards for having a long time horizon or just the appropriate rewards for risk that we have not adequately measured. Second, there are contrarian value investors, who take positions in companies that have done badly in terms of stock prices and/or have acquired reputations as poorly managed or run companies. They are playing the expectations game, arguing that it is far easier for firms such as these to beat market expectations than firms that are viewed as successful firms. Finally, there are activist investors who take positions in undervalued and/or badly managed companies and by virtue of their holdings are able to force changes in corporate policy or management that unlock this value.

What, if anything, ties all of these different strands of value investing together? In all of its forms, the common theme of value investing is that firms that are out of favor with the market, either because of their own performance or because the sector that they are in is in trouble, can be good investments.