



Value Investing

Aswath Damodaran

Who is a value investor?

- *The Conventional Definition:* A value investor is one who invests in low price-book value or low price-earnings ratios stocks.
- *The Generic Definition:* A value investor is one who pays a price which is less than the value of the assets in place of a firm.

The Different Faces of Value Investing Today

- *Passive Screeners*: Following in the Ben Graham tradition, you screen for stocks that have characteristics that you believe identify undervalued stocks. Examples would include low PE ratios and low price to book ratios.
- *Contrarian Investors*: These are investors who invest in companies that others have given up on, either because they have done badly in the past or because their future prospects look bleak.
- *Activist Value Investors*: These are investors who invest in poorly managed and poorly run firms but then try to change the way the companies are run.

I. The Passive Screener

- This approach to value investing can be traced back to Ben Graham and his screens to find undervalued stocks.

- In recent years, these screens have been refined and extended. The following section summarizes the empirical evidence that backs up each of these screens.

A. Ben Graham's Screens

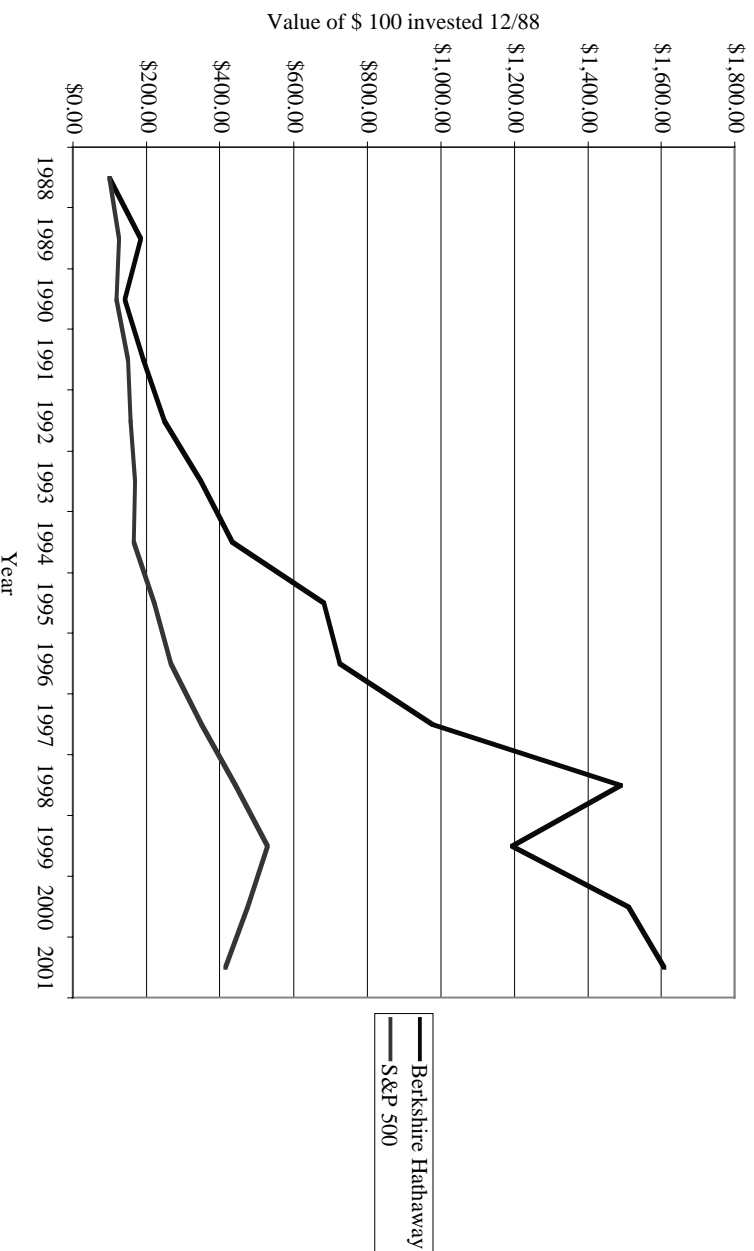
1. PE of the stock has to be less than the inverse of the yield on AAA Corporate Bonds:
2. PE of the stock has to be less than 40% of the average PE over the last 5 years.
3. Dividend Yield > Two-thirds of the AAA Corporate Bond Yield
4. Price < Two-thirds of Book Value
5. Price < Two-thirds of Net Current Assets
6. Debt-Equity Ratio (Book Value) has to be less than one.
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 negative earnings over the previous ten years.

How well do Graham's screen's perform?

- A study by Oppenheimer concluded that stocks that passed the Graham screens would have earned a return well in excess of the market.
- Mark Hulbert who evaluates investment newsletters concluded that newsletters that used screens similar to Graham's did much better than other newsletters.
- However, an attempt by James Rea to run an actual mutual fund using the Graham screens failed to deliver the promised returns.
- Graham's best claim to fame comes from the success of the students who took his classes at Columbia University. Among them were Charlie Munger and Warren Buffett.

The Buffett Mystique

Figure 8.1: Berkshire Hathaway



Buffett's Tenets

■ *Business Tenets:*

- The business the company is in should be simple and understandable.
- 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. • The managers of the company should be leaders and not followers.

■ *Financial Tenets:*

- The company should have a high return on equity. Buffett used a modified version of what he called owner earnings

$$\text{Owner Earnings} = \text{Net income} + \text{Depreciation} \& \text{ Amortization} - \text{Capital Expenditures}$$

- The company should have high and stable profit margins.

■ *Market Tenets:*

- Use conservative estimates of earnings and the riskless rate as the discount rate.
- In keeping with his view of Mr. Market as capricious and moody, even valuable companies can be bought at attractive prices when investors turn away from them.

Be like Buffett?

- Markets have changed since Buffett started his first partnership. Even Warren Buffett would have difficulty replicating his success in today's market, where information on companies 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 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.
- The third 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.

Value Screens

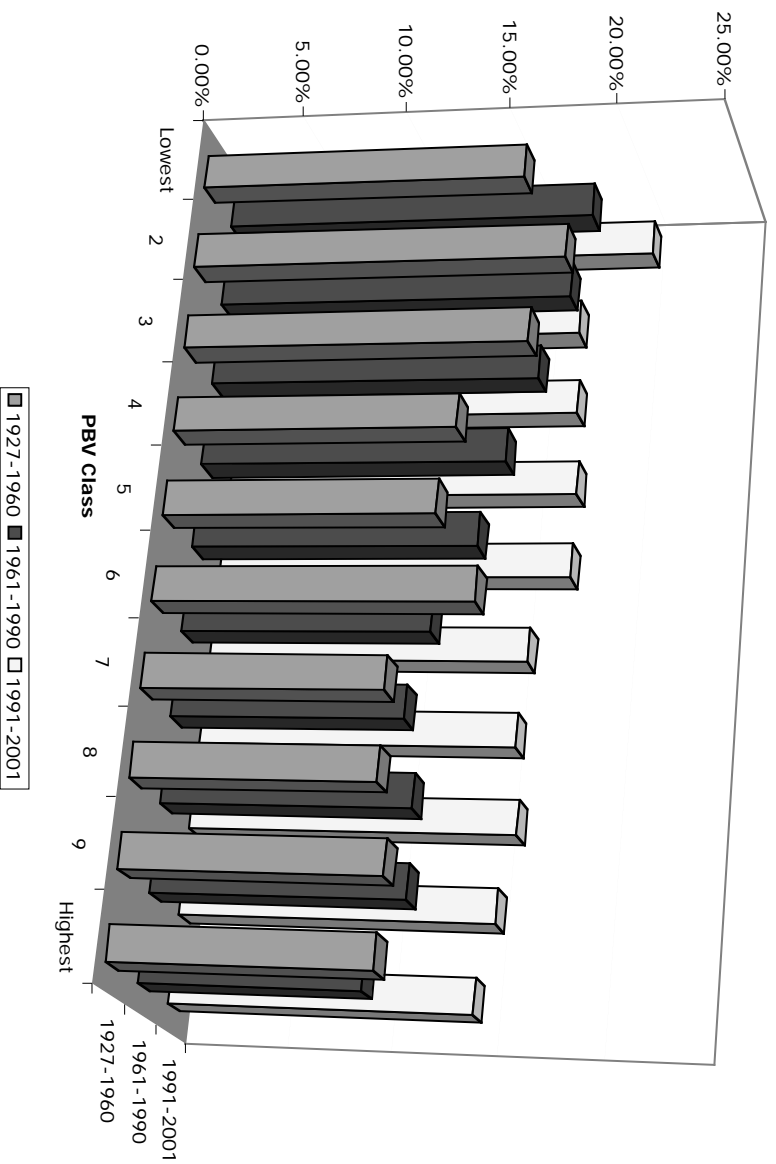
- Price to Book ratios: Buy stocks where equity trades at less than or at least a low multiple of the book value of equity.
- Price earnings ratios: Buy stocks where equity trades at a low multiple of equity earnings.
- Price to sales ratio: Buy stocks where equity trades at a low multiple of revenues.
- Dividend Yields: Buy stocks with high dividend yields.

1. Price/Book Value Screens

- A low price book value ratio has been considered a reliable indicator of undervaluation in firms.
- The empirical evidence suggests that over long time periods, low price-book values stocks have outperformed high price-book value stocks and the overall market.

Low Price/BV Ratios and Excess Returns

Figure 8.2: PBV Classes and Returns - 1927-2001



Evidence from International Markets

- Chan, Hamao and Lakonishok (1991) find that the book-to-market ratio has a strong role in explaining the cross-section of average returns on Japanese stocks.
- Capaul, Rowley and Sharpe (1993) extend the analysis of price-book value ratios across other international markets, and conclude that value stocks, i.e., stocks with low price-book value ratios, earned excess returns in every market that they analyzed, between 1981 and 1992.

Low PBV Effect in International Markets

- Their annualized estimates of the return differential earned by stocks with low price-book value ratios, over the market index, were as follows:

<i>Country</i>	<i>Added Return to low P/BV portfolio</i>
France	3.26%
Germany	1.39%
Switzerland	1.17%
U.K	1.09%
Japan	3.43%
U.S.	1.06%
Europe	1.30%
Global	1.88%

P/BV Ratios as Risk Proxies

- Fama and French point out that 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 trouble and go out of business.
- Investors therefore have to evaluate for themselves whether the additional returns made by such firms justifies the additional risk taken on by investing in them.

Improving on the Price to Book Screen: Looking for stocks with low Price to book and high ROE

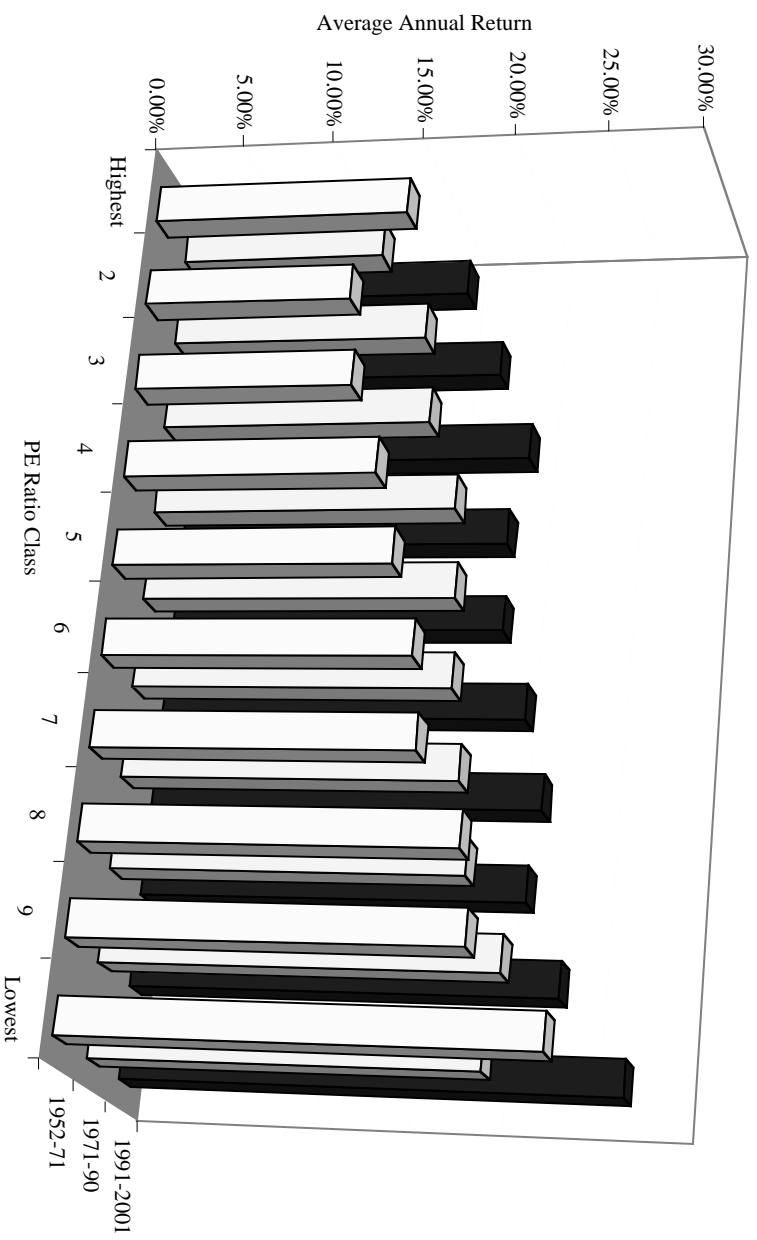
<i>Year</i>	<i>Undervalued Portfolio</i>	<i>Overvalued Portfolio</i>	<i>S & P 500</i>
1982	37.64%	14.64%	40.35%
1983	34.89%	3.07%	0.68%
1984	20.52%	-28.82%	15.43%
1985	46.55%	30.22%	30.97%
1986	33.61%	0.60%	24.44%
1987	-8.80%	-0.56%	-2.69%
1988	23.52%	7.21%	9.67%
1989	37.50%	16.55%	18.11%
1990	-26.71%	-10.98%	6.18%
1991	74.22%	28.76%	31.74%
<i>1982-91</i>	<i>25.60%</i>	<i>10.61%</i>	<i>17.49%</i>

2. Price/Earnings Ratio Screens

- Investors have long argued that stocks with low price earnings ratios are more likely to be undervalued and earn excess returns. For instance, this is one of Ben Graham's primary screens.
- Studies which have looked at the relationship between PE ratios and excess returns confirm these priors.

The Low PE Effect

Figure 8.3: Returns on PE Ratio Classes - 1952 - 2001



More On the PE Ratio Effect

- Firms in the lowest PE ratio class earned an average return substantially higher than firms in the highest PE ratio class in every sub-period.
- The excess returns earned by low PE ratio stocks also persist in other international markets.

The International PE Effect

<i>Country</i>	<i>Annual Premium earned by lowest P/E Stocks (bottom quintile)</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%

3. Price/Sales Ratio Screens

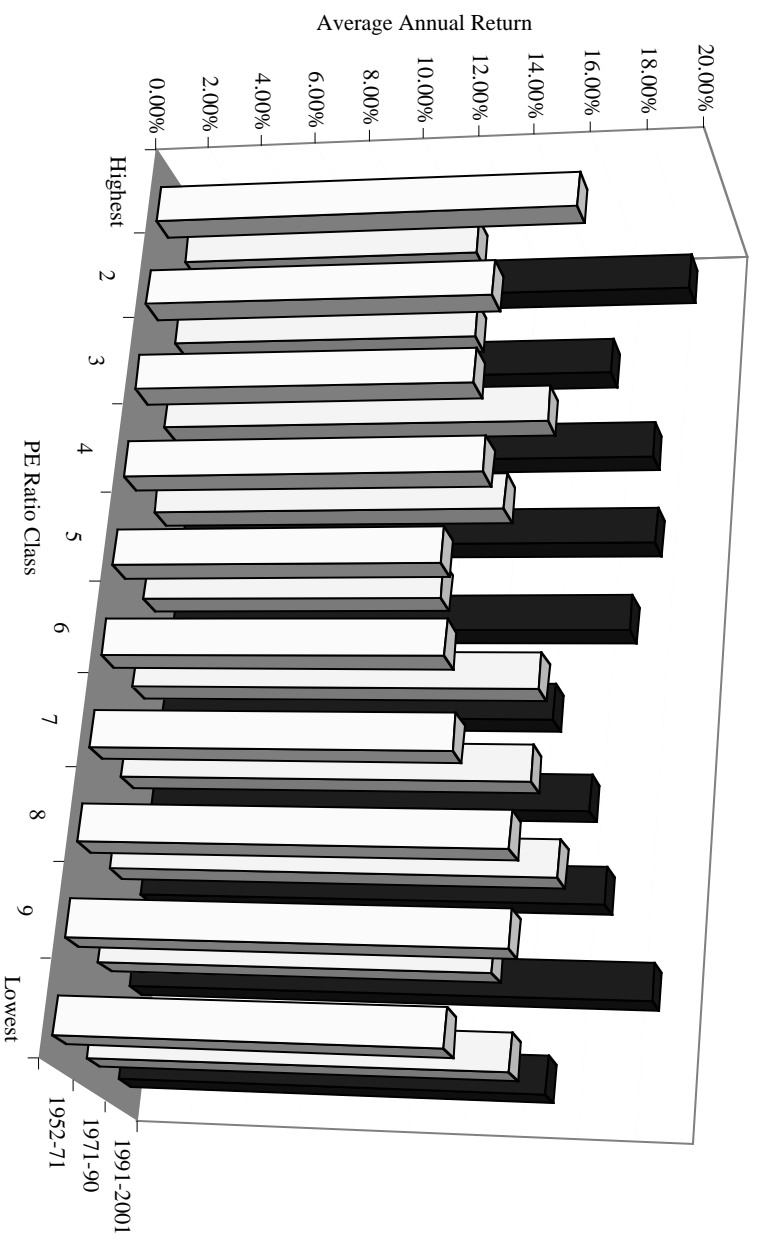
- Senchack and Martin (1987) compared the performance of low price-sales ratio portfolios with low price-earnings ratio portfolios, and concluded that the low price-sales ratio portfolio outperformed the market but not the low price-earnings ratio portfolio.
- Jacobs and Levy (1988a) concluded that low price-sales ratios, by themselves, yielded an excess return of 0.17% a month between 1978 and 1986, which was statistically significant. 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)

Composite Screens: Stocks with low price to sales ratios and high margins

<i>Year</i>	<i>Undervalued Portfolio</i>	<i>Overvalued Portfolio</i>	<i>S & P 500</i>
1982	50.34%	17.72%	40.35%
1983	31.04%	6.18%	0.68%
1984	12.33%	-25.81%	15.43%
1985	53.75%	28.21%	30.97%
1986	27.54%	3.48%	24.44%
1987	-2.28%	8.63%	-2.69%
1988	24.96%	16.24%	9.67%
1989	16.64%	17.00%	18.11%
1990	-30.35%	-17.46%	6.18%
1991	91.20%	55.13%	31.74%
1982-91	23.76%	15.48%	17.49%

4. Dividend Yields

Figure 8.4: Returns on Dividend Yield Classes - 1952 - 2001



Determinants of Success at Passive Screening

1. **Have a long 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.
2. **Choose your screens wisely:** Too many screens can undercut the search for excess returns since the screens may end up eliminating just those stocks that create the positive excess returns.
3. **Be diversified:** The excess returns from these strategies often come from a few holdings in large portfolio. Holding a small portfolio may expose you to extraordinary risk and not deliver the same excess returns.
4. **Watch out for taxes and transactions costs:** Some of the screens may end up creating a portfolio of low-priced stocks, which, in turn, create larger transactions costs.

II. Contrarian Value Investing: Buying the Losers

- In contrarian value investing, you begin with the proposition that markets over react to good and bad news. Consequently, stocks that have had bad news come out about them (earnings declines, deals that have gone bad) are likely to be under valued.

- Evidence that Markets Overreact to News Announcements

- Studies that look at returns on markets over long time periods chronicle that there is significant negative serial correlation in returns, I.e, good years are more likely to be followed by bad years and vice versa.
- Studies that focus on individual stocks find the same effect, with stocks that have done well more likely to do badly over the next period, and vice versa.

1. Winner and Loser portfolios

- Since there is evidence that prices reverse themselves in the long term for entire markets, it might be worth examining whether such price reversals occur on classes of stock within a market.
- For instance, are stocks which have gone up the most over the last period more likely to go down over the next period and vice versa?
- To isolate the effect of such 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,
- They examined returns on these portfolios for the sixty months following the creation of the portfolio.

Excess Returns for Winner and Loser Portfolios

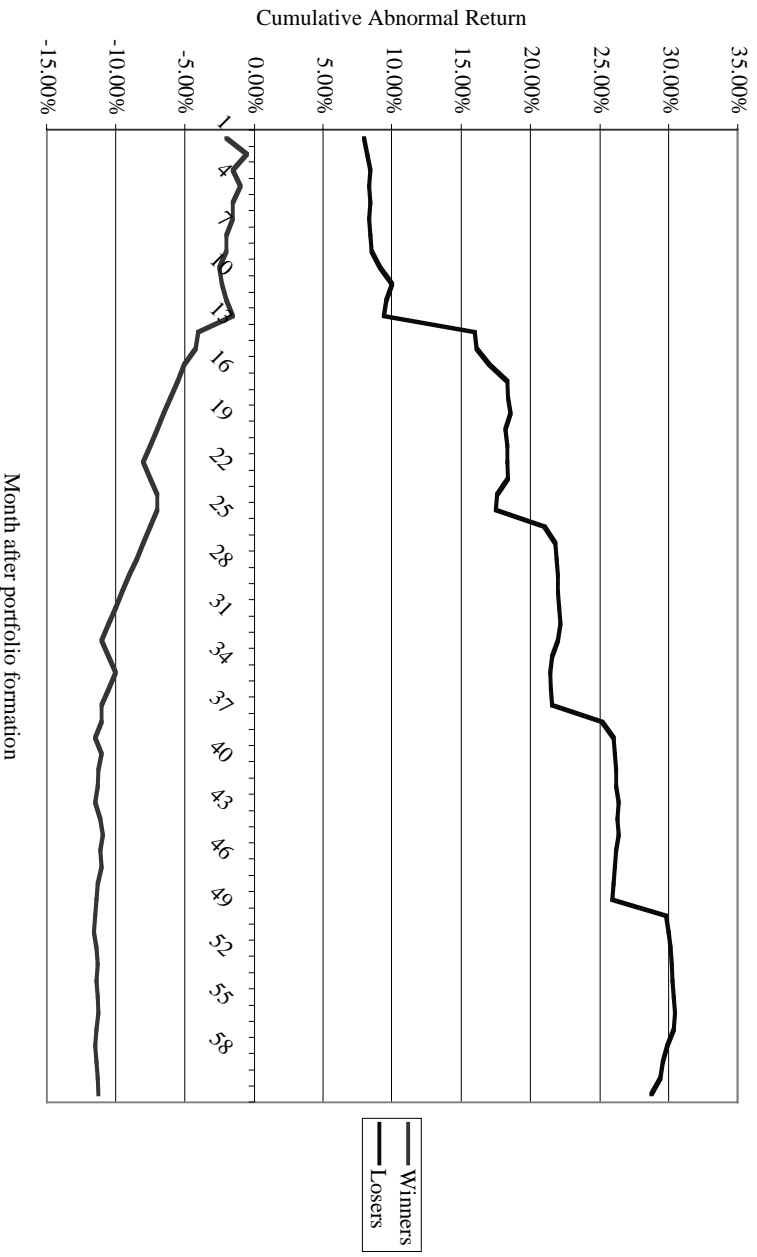


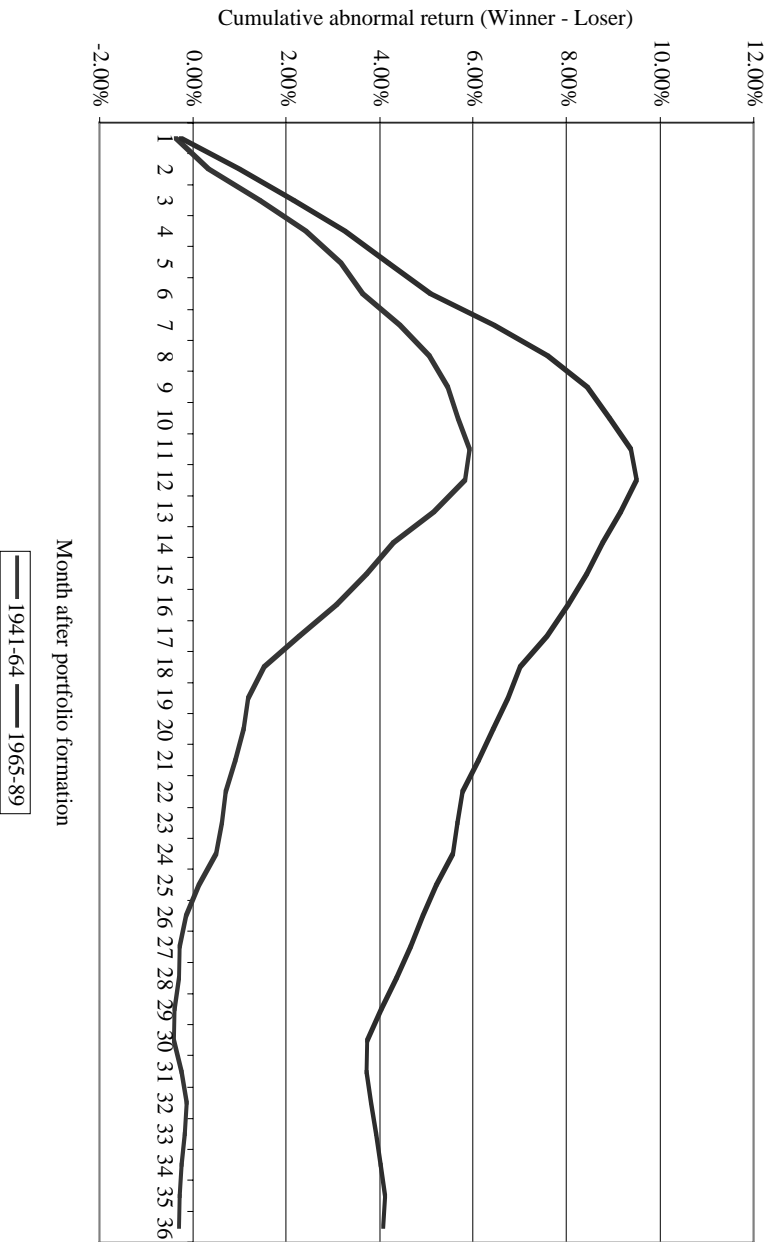
Figure 8.5: Cumulative Abnormal Returns - Winners versus Losers

More on Winner and Loser Portfolios

- This analysis suggests that loser portfolio clearly outperform winner portfolios in the sixty months following creation. This evidence is consistent with market overreaction and correction in long return intervals.
- There are many, academics as well as practitioners, who suggest that these findings may be interesting but that they overstate potential returns on 'loser' portfolios.
- 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.
- Finally, you need a long time horizon for the loser portfolio to win out.

Loser Portfolios and Time Horizon

Figure 8.6: Differential Returns - Winner versus Loser Portfolios



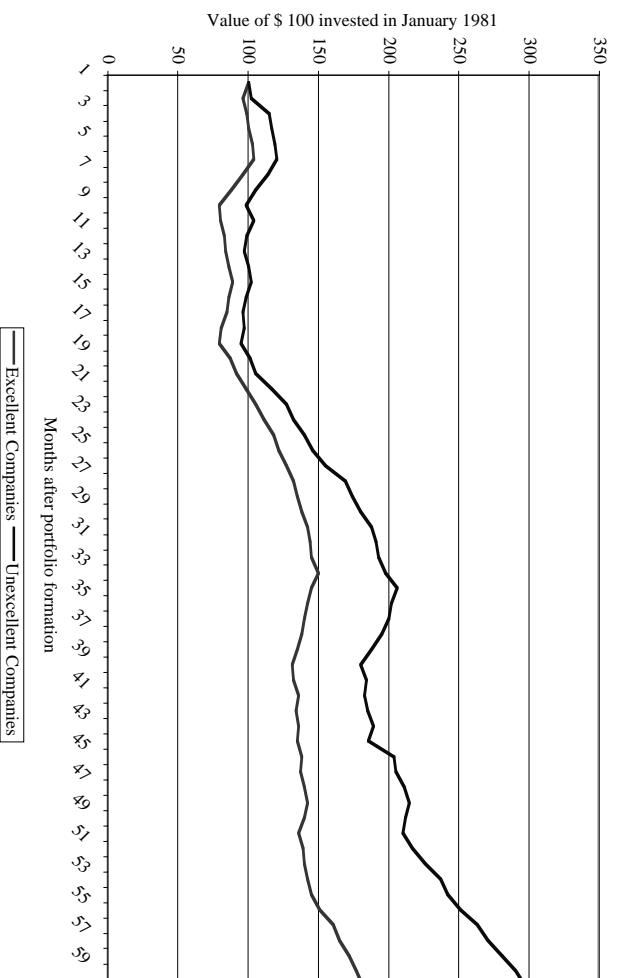
Good Companies are not necessarily Good Investments

- 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 reality that the current price of the company may reflect 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 lustre 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.

1. *Excellent versus Unexcellent Companies*

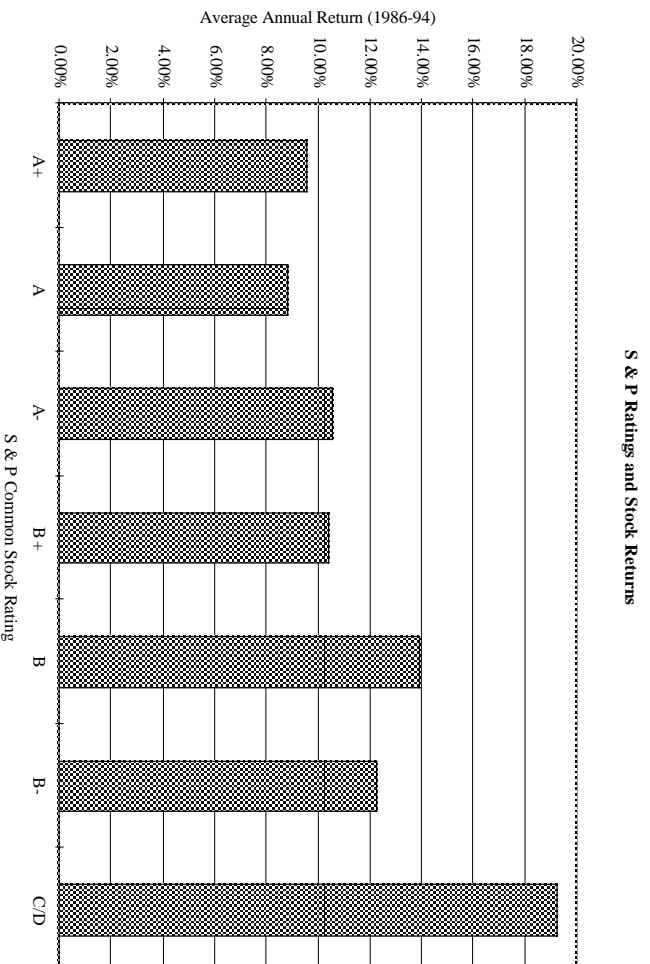
■ There is evidence that well managed companies do not always make great investments. For instance, there is evidence that excellent companies (using the Tom Peters standard) earn poorer returns than “unexcellent companies”.

Figure 8.7: *Excellent versus Unexcellent Companies*



2. Risk/Return by S&P Quality Indices

Conventional ratings of company quality and stock returns seem to be negatively correlated.



Determinants of Success at ‘Contrarian Investing’

1. **Self Confidence:** Investing in companies that everybody else views as losers requires a self confidence that comes either from past success, a huge ego or both.
2. **Clients/Investors who believe in you:** You either need clients who think like you do and agree with you, or clients that have made enough money of you in the past that their greed overwhelms any trepidation you might have in your portfolio.
3. **Patience:** These strategies require time to work out. For every three steps forward, you will often take two steps back.
4. **Stomach for Short-term Volatility:** The nature of your investment implies that there will be high short term volatility and high profile failures.
5. **Watch out for transactions costs:** These strategies often lead to portfolios of low priced stocks held by few institutional investors. The transactions costs can wipe out any perceived excess returns quickly.

III. Activist Value Investing

- An activist value investor having acquired a stake in an “undervalued” company which might also be “badly” managed then pushes the management to adopt those changes which will unlock this value. For instance,
- If the value of the firm is less than its component parts:
 - push for break up of the firm, spin offs, split offs etc.
- If the firm is being too conservative in its use of debt:
 - push for higher leverage and recapitalization
- If the firm is accumulating too much cash:
 - push for higher dividends, stock repurchases ..
- If the firm is being badly managed:
 - push for a change in management or to be acquired
- If there are gains from a merger or acquisition
 - push for the merger or acquisition, even if it is hostile

a. Breaking up is hard to do...

a. Breaking up is hard to do... Effects of Spin offs, Split offs, Divestitures on Value

- The overall empirical evidence is that spin offs, split offs and divestitures all have a positive effect on value.
- Linn and Rozeff (1984) 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.

More on Spin Offs, Split Offs etc..

- Markets view firms that are evasive about reasons for and proceeds from divestitures with skepticism.

Market Reaction to Divestiture Announcements

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

- Schipper and Smith (1983) 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. Further, there is evidence that excess returns **increase with the magnitude of the spun off entity**.
- Finally, Schipper and Smith find evidence that the **excess returns are greater** for firms in which the spin off is motivated by **tax and regulatory concerns**.

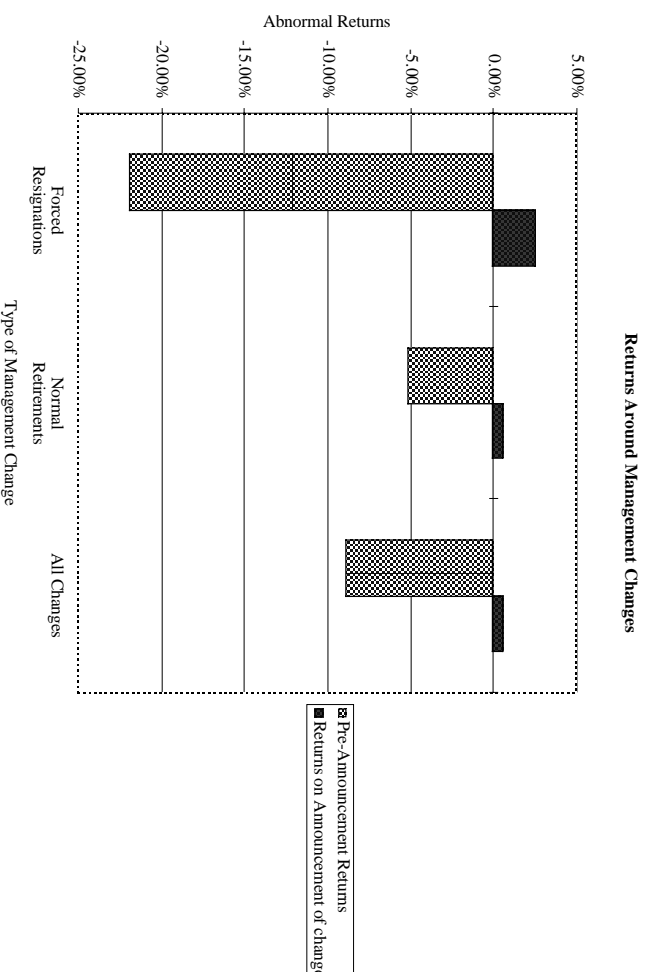
b. Some firms have too little debt... Effects of Leverage Increasing and Decreasing Transactions

- The overall empirical evidence suggest that leverage increasing transactions increase value whereas leverage reducing transactions decrease value.

<i>Type of transaction</i>	<i>Security Issued</i>	<i>Security Retired</i>	<i>Sample Size</i>	<i>2-Day Return</i>
<i>Leverage-Increasing Transactions</i>				
Stock Repurchase	Debt	Common	45	21.9%
Exchange Offer	Debt	Common	52	14.0%
Exchange Offer	Preferred	Common	9	8.3%
Exchange Offer	Debt	Preferred	24	2.2%
Exchange Offer	Bonds	Preferred	24	2.2%
<i>Transactions with no change in leverage</i>				
Exchange Offer	Debt	Debt	36	0.6%
Security Sale	Debt	Debt	83	0.2%
<i>Leverage-Reducing Transactions</i>				
Conversion-forcing call	Common	Convertible	57	-0.4%
Conversion-forcing call	Common	Preferred	113	-2.1%
Security Sale	Conv. Debt	Conv. Debt	15	-2.4%
Exchange Offer	Common	Debt	30	-2.6%
Exchange Offer	Preferred	Preferred	9	-7.7%
Security Sale	Common	Debt	12	-4.2%
Exchange Offer	Common	Debt	20	-9.9%

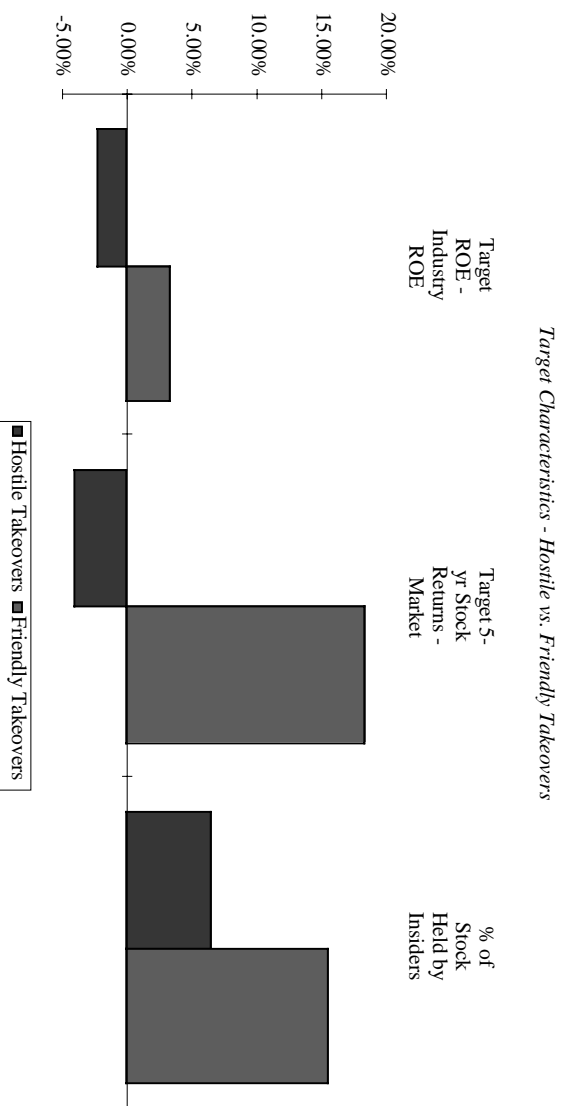
c. Effects of Management Changes on Firm Value

- The overall empirical evidence suggests that changes in management are generally viewed as good news.

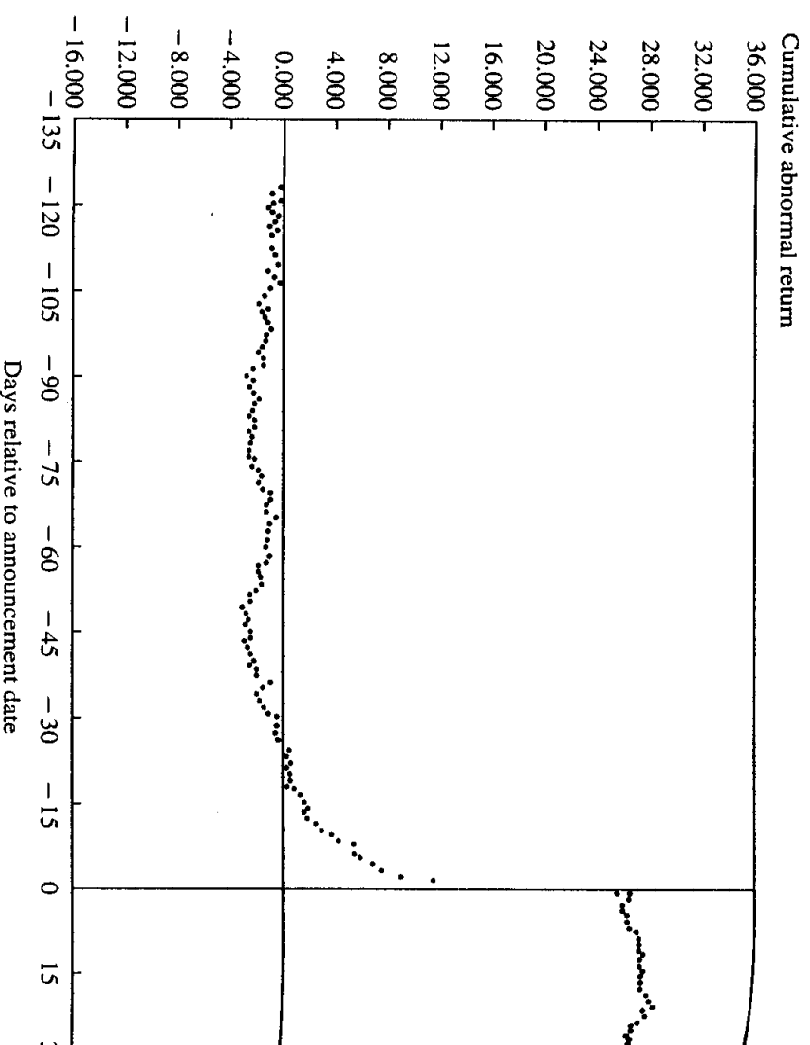


d. The Effects of Hostile Acquisitions on the Target Firm

- Badly managed firms are much more likely to be targets of acquisitions than well managed firms



*And acquisitions are clearly good for the target
firm's stockholders*



Determinants of Success at Activist Investing

1. **Have lots of capital:** Since this strategy requires that you be able to put pressure on incumbent management, you have to be able to take significant stakes in the companies.
2. **Know your company well:** Since this strategy is going to lead a smaller portfolio, you need to know much more about your companies than you would need to in a screening model.
3. **Understand corporate finance:** You have to know enough corporate finance to understand not only that the company is doing badly (which will be reflected in the stock price) but what it is doing badly.
4. **Be persistent:** Incumbent managers are unlikely to roll over and play dead just because you say so. They will fight (and fight dirty) to win. You have to be prepared to counter.
5. **Do your homework:** You have to form coalitions with other investors and to organize to create the change you are pushing for.

Conclusion

■ Value investing comes in many stripes.

- There are screens such as price-book value, price earnings and price sales ratios that seem to yield 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.
- There are also “contrarian” value investors, who take positions in companies that have done badly in terms of stock prices and/or have acquired reputations as “bad” companies.
- 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 that unlock this value.