PZENA INVESTMENT MANAGEMENT, LLC

The Search For Value

Seeking Good Businesses on Sale

A SELECTION OF COMMENTARIES FROM 11 YEARS OF PZENA'S QUARTERLY NEWSLETTERS

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TO OUR CLIENTS: Near the end of every quarter, a handful of senior professionals at Pzena sit down to discuss the upcoming newsletter, in particular the commentary that appears in every issue. The discussion covers the markets, the economy, individual stocks and more. The goal is to distill the firm's current perspective into a coherent essay. The end result, we hope, gives our clients a window into our thinking.

Reading back through these commentaries is more than just a trip down memory lane. It allows us to test whether our thinking was correct and helps us to better analyze today's markets. It's amazing to see how similar issues arise again and again (though at the time they may not seem similar). Our past commentaries also make it clear how long it can take for our view to play itself out. We asked the question: Is Value Investing Dead? in the first quarter of 1999, and didn't get a definitive answer for more than a year.

We have reprinted a selection of our commentaries in this booklet. Taken together several themes emerge: consistency, skepticism and strong conviction in our views. Those words also describe the way we invest.

We hope you enjoy these commentaries from the past 11 years, and we look forward to sharing the next 11 years of our perspectives with you. If you have any comments of your own, please share them with us.

First Quarter 1999

Is Value Investing Dead?

This was about as bad as it gets for a young investment firm. We were trailing the market significantly and some clients were giving up on us. Other value investors screamed about the unfairness of it all or shut down and went home. Some capitulated and bought Yahoo. We dispassionately looked at the numbers and gained confidence in the fact that on every point, history was on our side. It wasn't easy, but we stayed the course.

Value investing as a discipline reached its most recent peak in February 1995. Since then, a naive low price-to-book strategy has underperformed the S&P 500 by more than 100 percentage points, the largest cyclical performance lag in 40 years. This result has led many investors to doubt the long run viability of value investing, and question whether the recent poor performance is really cyclical or whether there is a new investment paradigm which demands attention.

What's fascinating about the recent period of underperformance of traditional value is not that value strategies have yielded poor results. In fact, the annualized performance of a low price-to-book strategy has been 14% since the February 1995 peak, about in line with long-term stock market trends. Instead, the real issue is that the value style has failed to participate in a powerful rally driven by companies that have little, if any, valuation support. Many of these companies are technology oriented, either electronic or pharmaceutical, and have propelled the S&P 500 to recent annual gains more than 29%.

To explain these historically extraordinary gains, many investors have turned to the new paradigm argument; in other words, that this time is different. Needless to say these are charged words in the investment lexicon. We have identified the following four themes as the primary arguments offered as the proof that we are in a new paradigm:

1. Technology Rules
2. Price Doesn't Matter
3. Bigger is Better
4. Deflation is Here to Stay

We will examine all four of these theories and attempt to put some perspective on each.

1. Technology Rules

The world is changing. All one has to do is look around. There are computers on every desk and in every home. The Internet and e-commerce are changing the distribution economics of the global economy. Traditional ways of doing business are going by the wayside. Investing must reflect what is happening in the world.

In 1998, technology investors were handsomely rewarded. The technology sector of the S&P 500 appreciated by 78%, a full 50 percentage points ahead of the market. Does this make sense?

In a word, no. Let's consider the following facts:

The Worst of Times for Value Investors

Value stocks have won over time because their periods of outperformance have been far stronger than their periods of weakness. But value stocks have never fallen this far behind the market.

	Value Lags Jan 69 – Jun 73	Value Leads Jun 73 – Jul 79	Value Lags Jul 79 – Nov 80	Value Leads Nov 80 – Feb 89	Value Lags Feb 89 – Oct 90	Value Leads Oct 90 – Feb 95	Value Lags Feb 95 – Mar 99	Cumulative Annualized (Since 1/1/60)
S&P 500	19.3%	30.4%	45.6%	192.9%	11.3%	82.6%	185.9%	**12.9%**
Value Universe*	–16.8%	263.1%	22.5%	464.6%	–29.7%	199.9%	78.6%	**17.7%**
Difference	–36.1%	232.7%	–23.1%	271.7%	–41.0%	117.3%	–107.3%	**4.8%**

*Lowest price-to-book quintile of largest 1500 companies.

Technology has the most volatile, least sustainable earnings profile of any sector, yet new technology always generates excitement. The result is predictable — technology does not win over the long term.

Spending on technology is not growing significantly faster than other spending. In 1998, worldwide spending on personal computers increased by only 4%. This modest increase was the result of rapidly falling prices offsetting strong unit demand growth. Even if we add spending on telecommunications, Internet, software, services, and traditional hardware, worldwide growth was just 7% last year. Consensus expectations for 1999 are for 5%–10% growth in both categories. Perhaps even more telling is a comparison of domestic capital spending on information technology and non-information technology. Over the last five years, they are almost identical at 10.5% and 9.9% respectively. In sum, the growth in technology spending has been good, but not extraordinary enough to drive the current valuation extremes.

By their very nature, technology company earnings are unsustainable. While it is somewhat understandable for emerging technology stocks to skyrocket in the face of sweeping change, it is paradoxical that existing technology stocks go along for the ride. For example, IBM stock rose 82% in 1998 despite revenue growth of only 4% and earnings which were 6% below expectations at the start of the year. Similarly, Intel shares gained 74% in the face of 5% revenue growth and a 16% earnings shortfall. History shows that as new technologies emerge, they tend to displace the existing technologies. As a result, only 1 in 10 technology companies is able to retain its growth-stock status after 10 years (growth stocks are defined as those companies with above average revenue growth rates and ROE's).

Long-term returns on technology investing have been unspectacular. The technology sector has the most volatile and the least sustainable earnings profile of any sector in our economy, yet new technology always generates excitement. The results are predictable and obvious. Technology investing does not win over the long term.

2. Price Doesn't Matter

The returns to momentum strategies in the last 15 months have been spectacular. By their very nature, momentum investors buy whatever is going up. The thinking is, it doesn't matter what price level the stock started from. As long as the business remains good, the price continues to appreciate. For better or for worse, such strategies have propelled valuations to levels that can't be justified mathematically. Consider the following example:

Dell Computer sells for approximately 55 times current earnings. At a market value of $100 billion, and free cash flow of roughly $1.5 billion per year, Dell provides a cash flow yield of 1.5%. Investors obviously expect Dell's earnings to grow to justify the current valuation. The question is, by how much? We analyzed the sales growth that would be required for investors in Dell to earn a 10% discounted cash flow rate of return on their investment. We assumed that margins would remain at their currently lofty level (a level which even Dell management considers difficult to maintain). If we assume that the PC market matures

Remaining Growth Stocks

	% Remaining Growth Stocks After		Current
	5 Years	10 Years	P/E Ratio
All Growth Stocks	42%	19%	38x
Technology	32%	11%	60x

Source: Sanford C. Bernstein & Co.

Long-Term Returns on Technology Investing

Total Return	S&P 500 Technology Sector	S&P 500
Last 30 Years	11.2%	12.7%
Last 10 Years	21.9%	19.2%
Last 10 Years Ex. 1998	16.9%	18.2%

in 10 years, Dell would have to grow its top line by 26% per year over the next 10 years for the arithmetic to yield a 10% rate of return. For Dell to generate a 10% annualized return, it would either have to grow to over 50% of the worldwide PC market or it would have to successfully enter another business when the PC market matures.

3. Bigger Is Better

This argument has become central to the "new paradigm" thinking. Bolstered by the superior investment performance of large cap versus small cap stocks over the past several years, they point to the short-term trend and declare it permanent. The historical record suggests otherwise. Consider the table below showing that the 1990's are the first decade in the last four where the highly concentrated cap-weighted S&P 500 outperformed the equal-weighted and more diversified version of the index.

So we pose the questions, "Has the world really changed? Are today's bigger companies better able to capitalize on their market power and squeeze out their smaller rivals than the large companies of years past?" Conventional wisdom shouts out yes, of course. But the data strongly argues otherwise.

First of all, if we only consider the present, then the results are simple. The big companies are the winners hands-down. As the table below highlights, the higher profitability and growth rates for the biggest companies explains their recent share price rewards.

But the key question for investors today, and one that has become too easily lost in the momentum of the moment, still needs to be asked: Is the growth advantage sustainable? If the answer is yes, then common sense suggests we should be able to look at any point in history and see that the growth advantage identified for the large stocks was maintained in the years after their advantage was first measured. Let's look at what history tells us.

We compared the cap-weighted S&P 500 earnings growth to the equal-weighted earnings growth over each of the last 20 years. What we found when looking backward was exactly what one would expect — the bigger company dominated cap-weighted index grew 3.8% per year faster than the equal-weighted index on average. However, when we looked at the subsequent growth rates, i.e. the sustainability of the advantage, the results showed essentially no difference.

As a practical illustration, recall the path of the energy stocks starting in 1980. At their peak, they reflected 33% of the market value of the S&P 500 because of their tremendous prior earnings growth and widespread acceptance that such growth was a permanent condition. Needless to say, we all know the punch line. The growth didn't continue, and today the energy sector comprises only 6% of the S&P 500.

So, will the 42% of the S&P 500 that is made up of the technology, health care and consumer staples stocks be able to continue its dominance in the future? Only time will tell, but history is clearly not on their side.

Total Returns — S&P 500

	Cap Weighted	Equal Weighted
1960s	11.0%	13.4%
1970s	5.9%	9.1%
1980s	16.9%	18.8%
1990s	21.2%	18.2%
38 Years	12.8%	14.2%

S&P 500 ROE 1998 Cap and Equal Weighted

	Cap Weighted	Equal Weighted	Difference
ROE – 1998	25.5%	18.6%	6.9%
Five Year Growth ('93 – '97)	13.5%	10.9%	2.6%

Has the world really changed? Are the biggest companies really the fastest growing and most profitable? Conventional wisdom shouts out yes, of course. But the data strongly argues otherwise.

4. Deflation Is Here to Stay

The final paradigm — deflation is here to stay — may turn out to be right. Currently, inflation is benign and if inflation remains low, real interest rates are too high. However, the stock market already reflects this conventional wisdom. Using our model, 30-year interest rates would have to fall to 3.6% to restore the spread between expected return on stocks and bonds (the equity risk premium) to its historical norms.

At current interest rates, the market is approaching the overvaluation reached prior to the stock market correction of 1987. The market would have to fall by 25% to restore the historical equity risk premium.

Will current interest rates remain? It all depends on whether recent spectacular productivity gains will counter the upward pressure from wages, a stronger dollar and rising commodity prices. Fourth quarter productivity gains of 4.6% dwarf the most recent 20-year annual average of roughly 1% and the 50-year history of about 2.5% annual gains. Growth stocks have typically been the beneficiary of falling interest rates as their P/E ratios are bid up to higher levels reflecting the lower interest rate environment. If productivity gains fail to propel interest rates lower, the risk is high that growth stock multiples would decline.

By any historic measure, the current assumptions priced into the market are at best unrealistic and at worst delusional. ■

Growth Rate Advantage

	Growth Rate Advantage of Cap Weighted vs. Equal Weighted
Five Years Before Ranking	3.8%
Five Years After Ranking	0.3%

First Quarter 1998

HAS THE MARKET GONE CRAZY?

The first quarter of 1998 was another very good year for investors. The market shrugged off a steady stream of reductions in corporate earnings estimates along with slightly higher interest rates to post a remarkably strong 14% gain for the quarter. As a result, based on our analysis of expected returns for stocks versus bonds, the market is now approximately 10-15% overvalued. While this is still within the range that we consider to be "normal," we are approaching the boundary.

Given the market's strength there are three questions which undoubtedly are on the minds of investors:

- Has the market gone crazy?
- Are there any investment opportunities available at reasonable prices?
- Will we ever be able to achieve our target of outperforming the S&P 500 over a full market cycle?

Since our inception at the beginning of 1996, the market has appreciated at an annual rate of 32.1%. While we have only matched the performance of the market during this period, we have done so with considerably less risk. Undoubtedly, owning an index has been a smart thing to do during the past few years. Is there a place for a lower risk strategy? We think so. To own the S&P 500 today entails risks far greater than implied by the recent lack of volatility, namely the risk inherent in high valuation and above trend earnings.

While our portfolios don't include many of the high-flyers that have driven the market in the recent past, they have managed to keep pace with the market without incurring some of these high valuation risks. At 4.4 times book value, and historically unsustainable returns on equity, the S&P 500 will be a risky place to be when earnings return to normal. Our portfolios are already selling at a low price, and have earnings in line with long term trends. Consequently, the risk is far lower.

Given the likelihood that the next five years should witness stock market returns significantly below the last five years, a research driven process can uncover opportunities without paying a high price. ◆

Fourth Quarter 2000

The Outlook for Value

In 11 years of commentaries, this is the only one that starts with an exclamation point. There's not a lot of backslapping at Pzena, but in retrospect this one was well deserved. The firm beat the market by nearly 50 percentage points that year after lagging miserably for several quarters. The commentary accurately predicts that the value run had a long way to go. Another prescient point was that value indexes did not necessarily track real value stocks. When energy stocks boomed five years later, we made the same point.

What a difference a year makes! In our year-end report last year, we described the opportunity we saw as the market became obsessed with technology and telecommunications companies while ignoring traditional businesses. This year the bubble burst, and we reaped some of the rewards of our analysis.

Eleven of the 12 biggest contributors to the negative returns of the S&P 500 were technology or telecommunications companies. Of the top performers this year, six were utilities, six were health care providers, four were financials, three were cyclicals and two were energy companies.

Our classic value approach, on the other hand, had a spectacular year. While the traditional value indices don't reflect the rebound, since they are not true measures of value investing, we turned in the best year in our history and now lead the Russell 1000 Value Index since our inception.

Perhaps the most rewarding element of this year's performance is that it confirms the benefits of our commitment to remaining a disciplined value investor in the face of an unrelenting temptation to stray. During the past couple of years, we were frequently reminded that many of our value-oriented peers had shifted strategies to more closely follow the indexes. We gladly accept the mantle of "deep value," and our 2000 performance is consistent with that strategy, along with commitment to performing extensive research to uncover only the best opportunities.

Now, as we enter the new year, the opportunity before us looks just as good as it did a year ago, before the recent value rally. In this report we offer our perspective on the following three points:

1. Valuation spreads between cheap and expensive stocks are still near historical extremes. To put this in perspective, the average relative performance advantage of deep value versus the S&P 500 in the prior three value cycles (going back to 1973) was almost 200%. After the results in 2000, value has recovered 40% so far.

2. Technology and telecommunications shares have fallen sharply, but are still overvalued. In addition,

Value Is Back in Favor

After lagging the market by a record amount, value stocks dramatically outperformed the market.

	Value Lags Jan 69 – Jun 73	Value Leads Jun 73 – Jul 79	Value Lags Aug 79 – Nov 80	Value Leads Dec 80 – Nov 88	Value Lags Dec 88 – Oct 90	Value Leads Nov 90 – Aug 95	Value Lags Sept 95 – Feb 00	Value Leads Mar 00 – Dec 00	Cumulative Annualized (Since 1/1/60)
S&P 500	19.3%	30.4%	45.6%	160.7%	25.1%	113.2%	163.0%	–2.5%	**12.5%**
Value Universe*	–8.3%	206.9%	17.4%	414.7%	–16.2%	247.9%	71.8%	37.8%	**17.5%**
Difference	–27.6%	176.4%	–28.3%	254.1%	–41.3%	134.6%	–91.2%	40.3%	**5.0%**

*Lowest price-to-book quintile of largest 1500 companies.

In 2000, the cheapest stocks rose 20% while the market fell 10% and tech and telecom stocks plummeted 49%. But after a year of gains, the market's cheapest stocks remain extraordinarily cheap.

expected growth rates are still well above historical norms and excess capacity remains high.

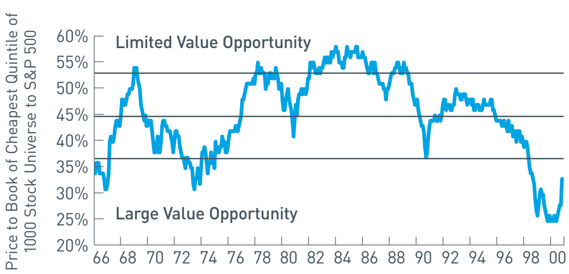
3. Quality levels of the most undervalued businesses are better than the market average. This anomaly exists because the market remains spellbound with high growth, even at the expense of profitability. Consequently, many highly profitable businesses are still inexpensive even after last year's performance.

While the year 2000 started off looking like the previous two, valuation sensibility finally took hold late in the first quarter. Furthermore, with the exception of a brief summer tech rally, the market's attention to valuation continued nonstop through December. Interestingly, the value rally was not driven by strong earnings growth among cheap stocks. Neither was the severe decline among technology shares caused by an earnings collapse. Rather, value stocks were propelled higher because their modest earnings growth was enough to stimulate their extremely undervalued share prices. At the same time, extreme overvaluation coupled with a slight slowing of technology sector growth rates was enough to cause their share prices to plunge.

Painful Disappointment

In 2000, the cheapest stocks in our universe rose 20% on 9% earnings growth and a modest outlook. The rest of the market fell 10%, despite 18% earnings growth. Almost certainly this can be traced to the impact of disappointing earnings (2001 expectations are 11% lower than they were a year ago) on high

Value Opportunity Still Large Despite Recent Turn



Third Quarter 2001

THE NOISE CAN SEEM DEAFENING SOMETIMES

While it is undoubtedly true that value has significantly outperformed the market in the past 18 months, and that valuations are no longer extreme, it is important not to allow the recent exogenous shocks to the economy to interfere with rational, long-term analysis.

First, let's examine what has happened to value strategies during recessions of the past 40 years. On average, in the 60 months following the onset of recession, value has outperformed the market.

Since 1960 there have been seven recessions, where recession is defined as a cumulative drop in industrial production of more than 2%. In the prior six, value outperformed the S&P 500, on average, by 35 percentage points measured from the start of the recession. The period of outperformance averaged nearly five years. And many of these recessions were deep, including the 1973-1975 drop in industrial production of nearly 15%. The conclusion: the onset of recession coincides almost exactly with the beginning of a prolonged value investment cycle.

The current recession dates back to October of 2000. While GDP data has not yet shown a recession, the US economy has been mired in a profits recession all year. As industrial output, and hence sales, fell, corporations did not cut costs fast enough and profits contracted. The S&P 500's profits have fallen nearly 30%. We speculate that the cushion created by abnormally high corporate profitability over the past several years, combined with recent labor shortages, served to shelter the economy from widespread layoffs until recently. Now, the consumer sector has joined the recession as employment has faded, and GDP is almost certainly contracting.

Without question, the September 11th attack has added a layer of noise to the market that can seem deafening. However, by sticking to a time-proven discipline that suggests that 1) value investing is the proper strategy for a period of economic weakness and the ensuing recovery and 2) with solid fundamental research, we can exploit the opportunities created by the noise, a long-term attractive return profile is possible. ◆

prices (6.5 times book value and 35 times earnings). The technology and telecommunications sectors are just an exaggeration of the broader market. Here, high valuation (20 times book and 186 times earnings) couldn't withstand a 25% negative revision to the 2001 earnings outlook and the stocks fell 49%.

While valuation spreads have contracted, they are nowhere near rational levels. The cheapest quintile of the largest 1,000 stocks is as cheap as it was last year.

On the other hand, valuations have declined significantly for the rest of the market, in particular for technology and telecommunication shares. The median tech/telecom stock sells for 5.1 times book value versus 20.3 times a year ago and for 51 times earnings versus 186 times a year ago. Nevertheless, tech/ telecom earnings expectations are still quite optimistic, and almost certainly assume continuation of the recent technology capital spending boom.

Tech Still at Risk

Technology spending remains extremely cyclical, and recent levels are well above the longer-term trend. An economic slowdown is likely to affect technology spending as much as, if not more than, the typical cyclical industries. Thus, the sector's 2001 earnings estimates remain susceptible to downward revision. With valuations still high, the tech sector continues to be at risk.

The actual price to book value spread of the cheapest quintile of the 1,000 largest companies when compared to the S&P 500 remains wide compared to history. Clearly, the valuation anomaly has not yet reversed itself. In fact, in order for the price discount of the cheapest quintile to revert to the historic median, the cheapest stocks would have to outperform the S&P 500 by about 35 percentage points.

What is particularly exciting about the current environment is that the characteristics of the cheapest companies are quite attractive. Consider the companies that we are currently researching. On average, they have grown 29% per year for the past five years, while producing an 18% return on equity, and trade for only 12 times earnings and 5 times normal earnings.

In aggregate, the cheapest 200 stocks in our 1,000 stock universe have historical sales growth and profitability levels comparable to the market, yet sell for about one-half the price.

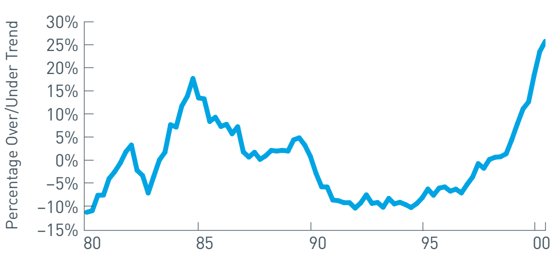
We attribute our results this past year to our commitment to valuation discipline. Even the most sophisticated investors lost sight of what value investing is all about. The traditional value indices simply no longer reflected true value. Consider the Russell 1000 Value Index: the top 50 stocks in the index make up roughly 54% of the index's market cap. Furthermore, only six of the companies have a 2001 P/E ratio below the 12.4 average level of our entire first quintile. Consider some of the prominent names in this "value" index: Genentech, Broadwing, Qwest, GE, WebMD, Celgene, Genzyme. Not wanting to appear biased, the S&P Barra Value Index also contains such non-value stocks as JDS Uniphase and Global Crossing. ■

Valuation Earnings and Performance

Top 1000 Companies as of 1/1/01 — Median Values

	Price/ Book	Price/ Earnings	Consensus EPS Growth 2001 vs. 2000
Cheapest Quintile	1.4x	12.3x	10%
Rest of Market	4.0x	21.1x	16%
Tech/Telecom	5.1x	51.4x	31%

The Cycles of Technology Spending*



Source: Department of Commerce, Pzena Estimates.
*U.S. technology spending relative to 20-year trend.

Second Quarter 2002

Will the Real Value Investor Please Stand Up?

What's the difference between deep value and value light, the investing style advocated by most index-hugging investment managers? The answer is significant long-term performance. In this commentary, we use historic data to show that long-term returns from a classic deep value strategy are far larger than those produced by the market-cap weighted indexes followed by so-called relative value managers.

"To Tell The Truth" was one of early television's most popular game shows. Three contestants each claimed the same identity, while a three-member celebrity panel attempted to correctly distinguish the "real" person from the two impostors. So too it seems today with value investors. Deep value, core value, and relative value — will the real value investor please stand up?

There was a simpler time when the definition of value was clear. Benjamin Graham offered a straightforward view of value investing — a company's value was what it actually owned — the cash in its bank account, its plant and equipment, the inventory in its warehouses, the land it occupied, less its obligations. Graham's advice from the 1934 book Security Analysis that he wrote with David Dodd was simple: buy when you can get a dollar of assets for 50 cents, and sell when the price of a dollar of assets approaches a dollar. Further, Graham recognized the complexity of analyzing a business's future earnings prospects.

Given that we have just lived through the great tech/telecom bubble, Graham's perspective seems especially prescient, "The analyst's philosophy must still compel him to base his investment valuation on an assumed earning power no larger than the company has already achieved in some year of normal business. Investment value can be related only to demonstrated performance."

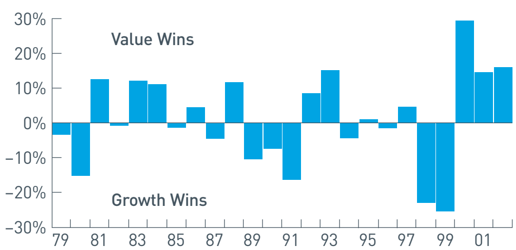
How to Define Value

Somehow, though, Graham's message has become clouded. Perhaps it is due to the extraordinary efficiency of information flow today, a culture requiring immediate gratification, or, as we believe, the fact that indices have changed some investors' definition of value.

The most widely used investment style indices are those developed by The Frank Russell Company. Based on data going back to 1979, conventional wisdom has concluded that a neutral style investment strategy is the optimal portfolio construction strategy for long-term investors. After all, except for the recent bubble period and the subsequent unwinding, the return profile for the Russell 1000 Value and the Russell 1000 Growth Indices were identical.

So, say the neutral style advocates, an investor

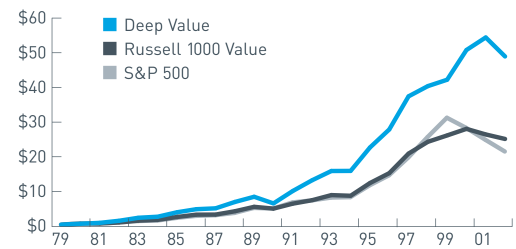
Value vs. Growth: Annual Return Advantage to Value



Source: The Frank Russell Company.

Growth of $1.00

Deep Value vs. Russell 1000 Value and S&P 500



should expose their portfolio to both styles because their return patterns are so different. But the question that seems to have gone unasked is whether these indices reflect true value.

Consider the 10 largest holdings in the Russell 1000 Value Index as of June 30, 2002, a list that includes Exxon Mobil, Citigroup, AIG, Wells Fargo and IBM. These companies comprise nearly one-quarter of the market-cap weighted index's value. However, the average price-to-book value ratio for these 10 stocks is 3.2 and the average price-to-current earnings ratio is 15.6. So our question remains, is this a true value portfolio?

The Real Value Portfolio

In 1992, University of Chicago professors Eugene Fama and Kenneth French published "The Cross-Section of Expected Stock Returns" in the Journal of Finance. Their findings suggest that the Russell 1000 Value Index is not a value portfolio that is likely to generate significant long-term excess returns.

Fama and French divided the universe of stocks into their price-to-book ratios. Their results showed that significant excess return is available by investing in an equal-weighted portfolio of companies with the lowest price-to-book values. The problem is, these companies tend to have smaller market capitalizations than an index such as the Russell 1000 Value.

For perspective, their data also showed that the seventh and eighth deciles, which would be considered more value-oriented portfolios than the median, but certainly not "deep value," each offer only a 2.1-2.2% annual return advantage over the median.

We generally build our portfolios from a universe of the 1,000 largest U.S.-listed companies. Since 1960, an equal-weighted portfolio consisting of the lowest price-to-book quintile of this universe (deep value) has generated more than 500 basis points of excess annual return over the S&P 500. Further, if we isolate the period from 1979 forward (for which Russell 1000 Value Index data is available), we find that our deep value universe has generated cumulative returns more than double those of both the Russell 1000 Value Index and the S&P 500 Index.

The Easy Way Out

Fama and French identified the "real" value investor for us. Their data showed conclusively that the most significant long-term excess returns go to the investor willing to buy the most undervalued companies in the universe, without regard to market cap. Investors who choose to track the popular indices, such as the Russell 1000 Value Index, may not be achieving the optimal long-term returns available within the value universe. Still, benchmarking against these popular indices is easy, and as such, core or relative value strategies tied to these benchmarks are widely accepted. But for an investor seeking a true long-term advantage, deep value — the real value investor is standing up. ■

Russell 1000 Value Index — 10 Largest Holdings

As of June 30, 2002

Company	Russell 1000 Value Index Weight
Exxon Mobil Corp.	5.9%
Citigroup Inc.	3.4%
Verizon Communications	2.3%
Bank of America Corp.	2.3%
SBC Communications Inc.	2.2%
Chevron Texaco Corp.	2.0%
American International Group	1.9%
Wells Fargo & Co.	1.7%
J.P. Morgan Chase & Co.	1.4%
International Business Machines	1.4%
Total	**24.5%**

Value Advantage — Fama and French Study

Decile	Annual Return Advantage over Median
1st-Highest Price-to-Book (high growth)	–8.0%
10th-Lowest Price-to-Book (deep value)	5.5%

Source: The Journal of Finance, June 1992, page 446.

Third Quarter 2004

An Alternate View of Volatility

In this commentary, we question whether investors are embracing alternative investments to limit their volatility when in fact their view of risk is misplaced. Given most of these investors have long-term obligations, we believe they should be focused on long-term returns and long-term volatility. To us, their biggest concern should be meeting their obligations, so putting that goal at risk to smooth out returns seems to be a mistake.

In the quest to reduce volatility and avoid absolute losses, investors have been allocating increasing amounts of their portfolios to alternative investments, including long-short and market neutral strategies. According to International Strategy and Investment, assets in alternative strategies have grown in the last 10 years from approximately $200 billion to more than $1 trillion today, in more than 8,000 hedge funds.

Risk, Return and Loss of Capital

We looked at four investment alternatives available to the investor today. We simulated investment returns one would expect over time from alternative investment strategies, and compared their expected risks and returns to those of long-only equity strategies.

Here we see the trade-off between risk and return. The S&P 500 has an expected return today of roughly 8%. Although a top tier long-only active strategy can beat the S&P 500 by 4% per year, it is accompanied by higher volatility. Good long-short strategies that can add value on both the longs and the shorts and market neutral strategies both produce lower returns due to the hedging strategies employed (not to mention the impact of their fee structures). They also significantly reduce volatility. Using the Sharpe ratio (which measures the amount of return per unit of risk) to assess alternatives, the good market neutral manager appears to win the prize as the "best" manager.

Now let's examine the chance that these strategies produce negative returns.

Over the short term, an investor in the S&P 500 has almost a 1 in 3 chance of producing a negative return (due to the volatility around the average 8% return). Even a good long-only manager has a 1 in 4 chance of losing money over the short term. The clear winner for substantially reducing the risk of losing money over the short term is an alternative investment strategy — either long-short, or market neutral. So, if capital preservation is the key benchmark, hedged investment strategies appear to win once again.

Why Do We Invest?

But now let's ask an important question: Why do we invest? We would offer that the primary purpose of

Study of Risk and Return

		Top Tier		
	S&P 500	Long Only	Long/ Short	Market Neutral
Return (before fees)	8.0%	12.0%	9.0%	7.4%
Return (after fees)	8.0%	11.5%	6.4%	5.1%
Volatility	16.6%	17.7%	6.5%	4.4%
Sharpe ratio	0.42	0.59	0.83	0.93
Correlation	1.0	0.9	0.6	0.3

Long Only for the Long Term

		Top Tier		
Chance of Producing <5% Returns	S&P 500	Long Only	Long/ Short	Market Neutral
1-Year	43%	36%	41%	49%
5-Year	40%	24%	33%	49%
10-Year	38%	18%	28%	49%
Chance of Producing Negative Returns				
1-Year	31%	26%	16%	12%
5-Year	18%	10%	2%	1%
10-Year	10%	4%	<1%	<1%

investing is to meet a financial obligation in the future. As we will see shortly, making investment decisions solely based on the fear of losing money, or to reduce short-term volatility, may lead an investor to make decisions that result in failure to meet long-term financial commitments such as pension obligations, endowment grants, or individual financial needs.

Consider the following as an illustration. A typical investor needs to meet a 5% annual obligation. So the critical question becomes: what is the chance of not meeting the requirements under each of the scenarios we presented?

Here is where the tradeoff between return and volatility becomes stark. Despite a superior Sharpe ratio for the alternative investment strategies, the probability of not meeting one's financial obligations is highest for these investments. Consider the market neutral-strategy — the annual net return for the strategy is only 5%, so even with a low level of volatility, the probability of not meeting a 5% payout is just about 50/50.

If the strategy with the highest Sharpe ratio also exposes an investor to the highest probability of not meeting their return objective, then perhaps the Sharpe ratio is the wrong measure for long-term investors.

Let's look at two return streams in the chart below, one with volatile monthly returns, and one with relatively stable monthly returns. Both start and end in the same place, resulting in the same amount of money at the end of three years. When calculating the volatility of each scenario and using the Sharpe ratio, the investor is better off with Scenario 1 as it delivers three times the return per unit of risk than Scenario 2.

On an annual basis, the returns for Scenario 2 are the same (12.1%) each year, while Scenario 1 varies. This results in annual volatility for Scenario 2 of zero — and an infinite Sharpe ratio. We are now faced with a conundrum: if we measure volatility on a monthly basis, Scenario 1 is superior, but if we measure volatility on an annual basis, Scenario 2 is the best choice.

What does this tell us?

Risk and Return: Timing Mismatch?

As investment professionals, we know that we should use long term returns, preferably 5 to 10 years, when evaluating an investment strategy. But, when calculating the Sharpe ratio, convention is to divide these long-term returns by monthly volatility. Perhaps using long-term volatility measures to assess the balance of risk and return would address this disconnect.

Using data from our Pzena Value service in the table below, we can see that our volatility is, as expected, higher than the market and the Russell 1000 Value index over the short-term. But over longer periods (three years in this case), our volatility actually drops and is far less than the indices.

Relying on short-term volatility measures may lead to erroneous decision making in asset allocations. We can, in fact, go as far as to say that the quest to reduce short term volatility may actually result in the inability to meet long-term funding needs. ■

Annual Returns and Volatility

	Annual Returns			Volatility	
	Year 1	Year 2	Year 3	Monthly	Annual
Scenario 1	+15.7%	+8.5%	+12.4%	3.5%	2.7%
Scenario 2	+12.1%	+12.1%	+12.1%	10.5%	0%

Long-Term Volatility Is What Matters

Standard Deviation of Returns	Monthly	3 Year
Pzena Value	18.7%	5.3%
Russell 1000 Value	15.2%	9.4%
S&P 500	16.7%	14.8%

Rolling periods ending 9/30/04.

Fourth Quarter 2004

The Commodity Madness (AKA Bubble)

This was our first take on the commodity boom. Our view was that earnings at commodity and energy producers were above normal relative to history. We sold most of our commodity and energy companies by the middle of 2005 and our performance suffered for it. By the middle of 2006, the law of supply and demand reasserted itself — supply grew and demand moderated. Commodity and energy prices tumbled and the stocks followed.

As value investors, we typically get to look at businesses where the conventional wisdom is extremely negative. Back in 1999 and 2000, we were regularly chided for our failure to embrace the New Economy. A treatise on the thinking of the time was "New Rules for the New Economy" by Kevin Kelley. One key tenet of this book was that "plentitude" was more valuable than scarcity; i.e., network businesses were inherently more valuable than any cyclical, industrial age business.

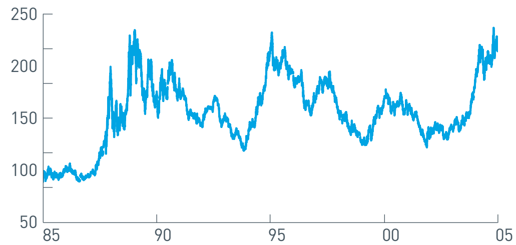
From such a vantage point, our heavy overweight in commodities and other basic materials at the time seemed about as smart as stocking up on buggy whips just because they were cheap. In five short years, however, the investment world is again interested in scarcity. In fact, the investment world believes in the value of scarcity (and the "old economy" in general) too much. At this point, the valuations of many commodities have overshot to the point that we believe there is little opportunity left in them. Here, we examine the reasons for our belief that we are in a commodity bubble.

In order to justify excessive valuation, most rising stock prices are associated with some version of "it's different this time." This runs exactly contrary to our general inclination to use history as our guide. In the case of commodities, the facts are that many commodity prices have risen substantially versus a trough established in 1998. Using the Goldman Sachs Industrial Metals Price Index we can see that commodity prices have more than doubled from the trough at the end of 1998 and are already at the prior peaks set in 1990 and 1995. If one were simply doing cycle analysis you would conclude that we are already late in the pricing cycle.

The China Factor

However, the current environment has the added intrigue of a falling dollar and the rise of China. China's demand for copper, oil, steel, chemicals, etc., has always been growing, but now China's economy is big and growing. Thus, some would say we have entered a new era. The bullish case for a number of commodities revolves around the inability of supply to satisfy this new found demand growth. Since every prior commodity cycle has ended with collapsing prices, we would

Metals Prices Now at Prior Peaks



Source: Goldman Sachs Industrial Metals Price Index.

China's 2004 Demand Growth Drove Global Growth

Commodity	% Growth vs. 2003	% of Global Growth
Iron Ore	41%	81%
Copper	16%	44%
Ethylene	9%	34%
Steel	18%	58%
Oil	16%	36%
Aluminum	16%	34%

Source: Morgan Stanley Research.

like to examine whether this time is indeed likely to be different.

Without a doubt, global demand for commodities surged in 2003 and 2004. Oil demand in 2004 increased by 4%, the fastest percentage growth in years and the highest absolute volume growth ever. Many other commodities have experienced similar surges in demand. China's demand has been the driver.

As was true for fiber optic cable and web hosting in 2000, a rapid escalation in demand creates a sense of continued rising demand and inadequate supply. From a long term point of view, however, the excess demand thesis must be a temporary phenomenon.

Demand growth is cyclical and unpredictable

While China's role in the world economy is much larger than the past, it is unlikely that world demand growth (GDP growth) can outstrip the past on a sustained basis. Since commodities are related to global demand, any increased demand in China is likely to be offset by lower demand growth in other more developed economies as the long term trend of moving commodity intensive industries to developing economies continues. In the same way that forecasters missed the surge of 2003/2004, they are likely to miss the softening of 2005/2006. The cyclicality of spot commodity prices reflects the underlying truth that demand forecasts are inherently error prone. While steel, oil, copper and chemical spot prices are high today, they are only high because these industries underestimated 2003/2004 demand due to the deep trough they experienced after the Asia crisis of 1997 and 1998.

As the world comes to accept the rising demand thesis, supply begins to ramp up. Oil companies are increasing their capital spending plans, as is OPEC. Copper mines that shut down when copper was 60 cents are reopened. Steel plants are being erected in China at a record pace.

Buyers panic

As supplies tighten and prices rise in the short term, buyers perceive a never-ending state of scarcity and start building inventories in earnest. While this seems silly in hindsight, there is ample historical evidence of this behavior through other inventory cycles. Web-hosting company Exodus believed it could continue adding web servers because it had a long list of customers eager to buy. Without a doubt, these customers were eager to buy. What happened was that the clients' eagerness died the minute hosting fees peaked.

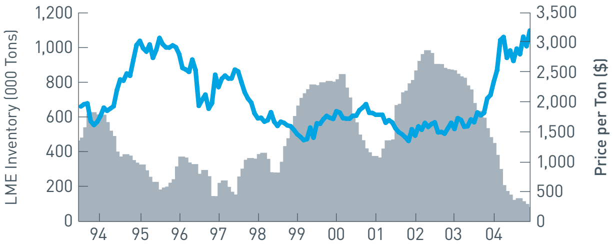
Today, the eager customers are in China. Inventory data is lacking, exacerbating the perception of scarcity and accelerating inventory purchases. Also, since the Chinese yuan is linked to the dollar, China's exports have been stimulated by the relative decline in the yuan versus the yen and euro. Chinese industrial production growth has far outstripped Chinese domestic demand growth as Chinese industrial companies react to this tremendous export driven demand. From a manufacturers' perspective they need more materials (20% more

Commodity Production is Increasing Rapidly in China

	Annual Growth Rate			
	2002	2003	2004(E)	2005(E)
Steel	20%	21%	20%	13%
Aluminum	26%	25%	14%	8%
Copper	8%	14%	12%	17%
Ethylene	7%	17%	9%	5%

Source: Morgan Stanley Research.

Copper Prices Respond to Inventory Levels



Source: Goldman Sachs.

When supplies tighten and prices rise, buyers assume the scarcity will never end and rapidly build inventories. While this seems silly in hindsight, there is ample historical evidence of this behavior.

every year) and fast. They cannot get enough steel, oil, etc. They want inventory. This too shall pass.

At one point, we were the largest investor in Freeport Copper and Gold, the owner of the world's lowest cost copper mine, which is based the Indonesian province of Irian Jaya. At the time we purchased Freeport, copper prices were in the 60 to 70 cents per pound range and copper mines in the western United States were closing down. At the time, the perception was that copper was plentiful and the world was stuck in deflation. Freeport's Indonesian location was also viewed as a problem. We were attracted by the low cost position of the operations and the fact that the company was trading at a huge discount to its asset value using an 80 cents per pound normal copper price.

Today, copper mining stocks have all risen by 100% or more from their lows and the metal itself trades at over $1.50 per pound. Most analysts project that demand will exceed supply through 2006.

The question we have is: "Has anything changed?"

- **Demand is cyclical.** As recently as 2001, global copper demand fell over 3%. Where was China when the copper market needed its growth? Clearly China is not the only factor and demand can fall as well as rise — particularly when it has been rising at too fast a pace and prices have skyrocketed.
- **Supply responds rapidly.** Each of the top three copper producers, Codelco, Phelps Dodge and BHP, has new projects. While these won't get to production until 2006, we expect these and other projects yet to be announced will ultimately solve demand.
- **Buyers panic.** As with steel, China has been scrambling to buy copper ahead of price rises for a year. We are inclined to believe that some inventory exists at the consumption level and that this will unwind.

We believe the long term normal price for copper has not risen significantly. We are confident we will get another chance to invest in the copper business at lower valuations.

As long term value investors, we manage the risk of our investments by focusing on the downside and investing when conditions reflect a high degree of pessimism. The value of any business is arrived at by using "normal" prices and "normal" demand. If we can buy a company's stock at a significant discount to this normal valuation, we are excited. If not, we pass. We expect the commodity bubble to end just as the tech bubble ended.

Predicting exactly when is difficult. Because of our approach, we do not view most basic materials or oil stocks as attractive today. In fact it takes a really special situation to find an attractive stock when the industry is viewed by Wall Street (including hedge funds) as the place to be.

Clearly we have missed out on some of the run up in basic materials this year by selling before the peak. But peaks are hard to nail down. In classic value fashion, we would rather be early than sorry in our exit. At this point, we are more inclined to be buyers of companies who have been hurt by the rise in commodity prices: e.g. auto suppliers, consumer appliances, etc. ■

Third Quarter 2006

HISTORY AND ENERGY

Last fall, when oil was in the upper $60s and energy stocks just couldn't be beat, we explained why we believed the sector did not represent real value. A year earlier, we suggested that the markets for some commodities were beginning to resemble bubbles.

While we worried about downside risk, investors kept buying. The reasons they cited were all convincing but did not necessarily mean that these were good investments. Today, both energy and commodities stocks are way down. Meanwhile, our portfolios of ignored and disliked stocks have outperformed.

This sounds to us like the classic end to an investment bubble, albeit a minor one. The view that investing in energy and commodities is a no-lose proposition is over. As value investors, it is highly unlikely that we'll ever get caught up in an investment bubble. Like the last time, we believe we are well positioned to benefit as the air comes out. ◆

Third Quarter 2005

Is Energy Value?

As energy and commodity stocks stayed strong through 2005, we repeated our arguments that these companies were not good values. We believed that profits would fall either because commodity prices declined or because the cost of producing the commodities went up. Since then, the cost of production has risen, and profit growth has declined. Similar to the tech bubble, we asked the question: Is it different this time? In both cases, we said no.

Reminiscent of the early 70's and early 80's, energy stocks appear to offer unlimited upside potential as oil and gas prices reach all-time highs. In this environment, value investors are faced with the challenge of determining whether in fact energy stocks are a good investment at today's valuations. Put another way, is it different this time?

The spike in oil and gas prices over the last 18 months is the consequence of a massive shift in the supply/demand outlook for the energy markets. In particular, demand estimates have increased, driven by a combination of the recent surge in demand and an underlying belief that the developing economies of China and India will continue to sustain this robust demand growth. On the supply side, accelerating declines in oil and gas reserves appear to bolster the prospect that Hubbert's Peak (the inevitable cresting of production from a limited geological resource base) will be realized within the next 10 years. This view is further strengthened by the ongoing geopolitical uncertainties and, more recently, the effects of Hurricanes Katrina and Rita on U.S. production and refining. Simply put, additions to supply are not keeping pace with demand growth, and we may be entering an era of permanently tight supply for energy commodities.

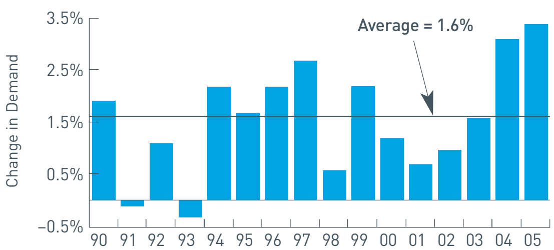
While economic theory would lead one to expect an increase in supply (albeit with a lag), a decrease in demand, and a commensurate moderation in prices, the fear is that this time it's different — the world is, in fact, running out of oil, and there will be a permanent scarcity of reserves, along with persistently high energy prices.

In light of all this let's first remember our basic criteria for an attractive value investment:

- The stock price must be low relative to long term normal earnings power
- Current earnings are below normal
- There is a management plan to return earnings to normal
- The business is a good business (i.e., earns above its cost of capital over a full cycle)
- We have downside protection

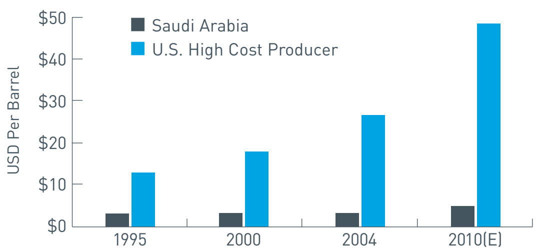
Now let's look individually at each of the energy industry's main sectors to see if they in fact are value investments.

Spike In Worldwide Energy Demand



Source: Empirical Research Partners.

Oil Production Costs



Source: Sanford Bernstein, Pzena Estimates.

An investment in oil producers fails our value test: earnings today are above their long-term normal levels and valuations have discounted a profit windfall not supported by history.

Exploration and Production Companies

The oil stocks have had a spectacular rise this year. Based on our normal earnings power estimates using their historical financials, oil companies appear over-valued versus the market. However, one could argue that the past is not a useful guide because future oil prices will be higher than historical prices. If this turns out to be true, we need to determine whether higher future oil prices will lead to meaningfully higher normal earnings for the oil companies.

This higher price scenario is built on the premise that a shrinking supply will cause oil to become more expensive as it grows more difficult to find and produce. However, this limited supply is not necessarily good for the profitability of oil exploration and production companies. We believe that these higher long-term oil prices would persist mainly to pay for the higher cost of finding and producing the oil, not necessarily to increase returns for the companies in the industry. In fact, if exploration and production costs remain high due to a shortage of low cost oil reserves, we would expect to see returns decline from today's levels. Over time, margins would be squeezed as the resulting higher cost reserves replace older, lower cost reserves.

To illustrate the point, compare oil production costs for the high cost U.S. producer and Saudi Arabia, the low cost producer. If additional high-cost reserves from the U.S. are brought on-line to satisfy demand, oil prices would need to remain high, as the cost of production for U.S. oil companies is expected to rise to almost $50 per barrel over the next five years. U.S. oil company margins, however, would decline, as older reserves with a cost base of between $10 and $20 per barrel are replaced with these higher cost reserves. Saudi Arabia profitability, on the other hand, will stay much higher. A future windfall would accrue to the Saudis, not the western oil companies.

But what about the other scenario: a fall in the price of oil triggered by softening demand? When demand is pushing against the limits of supply (as it is today), the highest cost producers enter the market and set the market price. Any subsequent weakness in demand would drive these producers out of the market and lead to a significant decline in oil prices, a phenomenon we have seen historically. This would in turn also cause energy profits to return to more normal levels, i.e. lower than they are today.

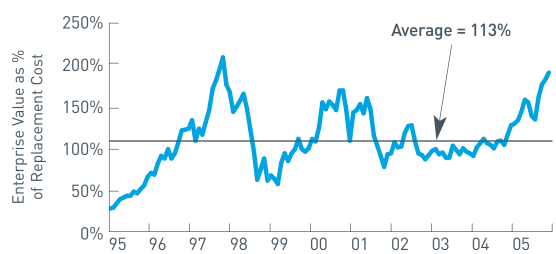
For the oil industry, the long-term average return on equity is 12%. While there have been periods where returns have been much higher, including the near-record return of 24% this year, these periods have been followed by ones where returns have fallen sharply.

An investment in oil producers fails our value investment test: earnings today are above their long term normal levels and valuations have discounted a windfall not supported by the evidence of history. Oil production is, and has always been, a commodity business, with commodity returns over the long run. Whether prices of oil remain high or they decline, we

Industry Returns at Peak Levels

Source: Sanford Bernstein, Pzena Analysis.

Enterprise Value to Replacement Cost at a Peak for Drilling Companies



Source: Sanford Bernstein, Pzena Analysis.

expect returns will revert back to a level more in-line with their long term average. In addition, should prices decline, there is little or no downside protection for current valuations.

Refining Stocks

The refining companies are currently experiencing a spike in margins that has all the appearances of a classic supply/demand peak and their stocks have followed suit. Temporary tightness in capacity and fear of permanent shortage has been manifested in higher margins for the refiners, particularly in the wake of recent Gulf Coast outages. Refining is fundamentally a global process business, where supply can ultimately be added in almost unlimited quantities in response to higher prices. There is a significant lag effect, however, as new refineries take at least four years to build. It is important to note that a price spike is never precisely predictable in time or magnitude, but history would suggest that a bigger spike is followed by a bigger fall.

We expect that capacity additions in the U.S. will take the form of expansion of existing facilities due to the difficulties in obtaining approvals for new projects. Latin America, the Middle East and portions of Europe, however, will add capacity, both for domestic and export purposes. As a result, refining may continue to operate at above-normal margins until supply is added, or a demand response reduces consumption of refined products. Nevertheless, we see an industry that today commands premium valuations in an above-normal environment.

Oil Field Service and Ancillary Products

The outlook for service and ancillary product companies could be good, as higher exploration and production expenditures fuel growth in their businesses. Valuations, however, already assume an above normal outcome, and in the scenario where reserve scarcity is not ultimately an issue, there could be significant downside. The stock prices for rig companies and service companies already exceed the price to replace the assets in these businesses by a wide margin. Essentially, when the rig companies sell for more than the value of their assets, investors have assumed a scarcity of supply. This happens when the rate for renting rigs is forced above the "normal" rate by a rapid acceleration in demand. Inevitably, such high rates attract additional investment, increasing supply. We are already in this phase of the cycle. Once again, current earnings are above normal and stock prices are high, failing our test for a good value investment.

Broadly speaking, profitability and returns in the energy sector appear to be above-trend, with forces at work to bring returns down more in line with historical averages, even in the case of persistently higher energy prices. As value investors, we are seeking businesses that are currently earning below their normal earnings power, and energy stocks do not meet that test. ■

First Quarter 2005

A VALUE INVESTOR'S VIEW OF TODAY'S MARKET

Over the course of the last decade value stocks have come full cycle. In the mid 1990s, spreads between value stocks and the broad market were in the normal range. Then during the tech bubble, value stocks grew extraordinarily cheap. Since 2000, value stocks have outperformed to the point where the current market offers no broad-based investment opportunities.

Given this environment, two factors will be key to adding value to investment performance: stock selection and concentration. In a concentrated portfolio, the value investor need only identify a few of these investments to make a significant difference in performance.

We have been avoiding sectors that appear to us as over trend such as energy, commodities, and utilities. Instead we are focused on companies being hurt by high commodity prices, those not affected by the overall economy such as health-care companies and others with reasonable growth rates at good valuations. ◆

Fourth Quarter 2005

The Global Value Advantage

Before we began offering our international and global strategies to clients, we did a study to see just how well value stocks performed in overseas markets. The results were compelling. The value advantage was greater for foreign than for U.S. stocks. Combining this tailwind with our intensive research process gave us added confidence that these strategies would be successful.

The so-called value effect — where cheap stocks outperform expensive ones — is well known in the U.S. stock market. With the launch of our International and Global portfolios, we examined the value effect overseas.

Academic researchers have shown that low price-to-book stocks have beaten high price-to-book stocks in the international stock markets over long time periods, and the results of our analysis backed that up. Indeed, the outperformance was significantly greater than in the U.S.

Our experience in value investing tells us that reversion to the mean is the key factor in explaining this investing anomaly. Mean reversion works its magic both in company valuations and earnings growth. In other words, companies generally don't stay extraordinarily cheap and earnings don't remain below normal forever.

The classic academic study on value stock outperformance was done by Eugene Fama and Kenneth French in 1992. While the two men are strong believers in the efficient market theory, their research showed that cheap stocks beat expensive ones over time. In a 1998 study, Fama and French also showed that the value effect worked to an even greater extent overseas. Comparing low price-to-book stocks to high price-to-book stocks from 1975 to 1995, the pair found that the low price-to-book stocks beat high price-to-book stocks by an average of 7.7 percentage points a year.

Another study on this subject, Bauman, Conover and Miller, analyzed data over the 10-year period 1986-1996, focusing on investor overreaction as indicated by price-to-book valuations, earnings growth rates, and earnings surprises as possible reasons for the outperformance of value stocks in the international markets. We used their study as a jumping-off point, extending their valuation and earnings growth studies to the 10-year period 1994-2004, the results of which are presented below. In doing so, we re-visited the following questions:

- Do value stocks outperform growth stocks on a global basis?
- If so, why?

In response to the former, we show that value indices outperform growth indices, and that cheap (low price-book) stocks outperform expensive (high price-book) stocks.

Price to Book Reverts to the Mean

Median Price to Book Ratio (1994 – 2004)

		Quintile				
	Price to Book Ratio	**1**	**2**	**3**	**4**	**5**
World	Beginning of Year	1.21	1.89	2.68	4.02	7.86
	End of Year	1.34	1.91	2.66	3.81	7.01
	% Change	10.7%	1.1%	–0.7%	–5.2%	–10.8%
EAFE	Beginning of Year	0.84	1.35	1.85	2.67	5.16
	End of Year	0.89	1.34	1.75	2.47	4.46
	% Change	6.0%	–0.7%	–5.4%	–7.5%	–13.6%
North America	Beginning of Year	0.91	1.46	2.07	3.04	6.09
	End of Year	0.98	1.47	2.00	2.82	5.28
	% Change	7.7%	0.7%	–3.4%	–7.2%	–13.3%

Source: MSCI*, Pzena Analysis.

Using Morgan Stanley Capital International (MSCI) developed markets index returns for the 30 years ended December 31, 2005, we can observe a clear value advantage globally (MSCI World® Index), and in Europe/Australasia/Far East (MSCI EAFE® Index).

It is not surprising to see a wider value advantage in the World and EAFE indexes, as the North America index is predominantly U.S. equities, a market where value and growth indices tend to perform similarly over time, and where the value advantage exists mainly in the cheapest (or deepest value) portion of the market.

Having established the value advantage using index data, we then examined the relative performance of low price-to-book stocks versus high price-to-book stocks. Using data for the 10-year period 1994 through 2004, we were able to observe a meaningful level of outperformance for low price-to-book stocks: 6.5% per annum globally, 10.6% per annum for stocks outside of North America, and 4.8% per annum for North American stocks.

Our results for the 1994 to 2004 period are consistent with Fama and French's 7.7% global value advantage for the 1975 to 1995 period.

Reversion to the Mean: A Powerful Force

Perhaps the more interesting question is: why does this value advantage exist? Our research indicates that there is a powerful and quantifiable force that benefits value stocks over the long term — reversion to the mean. Reversion to the mean exists in two key factors that contribute to stock returns — valuation and company performance. Investor overreaction to past good news drives up valuations too high to be sustainable, and overly penalizes valuations for companies with disappointing news. Valuations normalize as reality sets in. Similarly, investors extrapolate past company performance based on recent history, tending to overestimate earnings growth rates for growth stocks and underestimate earnings growth rates for value stocks. Earnings growth rates for companies tend to revert to the mean as high growth rates slow over time and low growth rates rise. We quantify the impact on valuations by demonstrating that company price-to-book ratios revert to the mean over time, and the impact on company performance by showing that EPS growth rates revert to the mean over time.

On reversion to the mean in valuation, we examined companies in the MSCI World, EAFE and North America indices during the period 1994–2004, segmenting the MSCI index constituents into quintiles using price-to-book ratios at the beginning of each year, then calculating the change in their price-to-book ratio over the following year.

There is a tendency for low price-to-book companies to experience an improvement in their valuations in the following year, and for high price-to-book companies to see the opposite effect.

We then used a similar approach to assess reversion to the mean tendencies for company performance, dividing the constituent companies over the same

EPS Growth Reverts to the Mean

Average Annual Growth Rates (1994–2004)

		Quintile				
		1	2	3	4	5
World	Trailing 3 Years	–35.4%	–11.0%	0.8%	11.3%	31.5%
	Forward 1 Year	37.9%	4.0%	–1.4%	–4.5%	–9.2%
EAFE	Trailing 3 Years	–38.7%	–11.8%	1.7%	12.2%	34.6%
	Forward 1 Year	42.9%	7.9%	1.7%	–0.1%	–6.6%
North America	Trailing 3 Years	–24.4%	–8.7%	–0.4%	8.8%	24.3%
	Forward 1 Year	36.2%	4.5%	2.2%	–2.8%	–3.9%

Source: MSCI*, Pzena Analysis.

Reversion to the mean is the force that explains value stock outperformance. Investors overreact to recent news and company earnings growth rates revert to the mean after periods of underperformance.

1994–2004 time period into quintiles based on their trailing 3-year EPS growth rates. We then calculated the one-year forward earnings growth rate to determine whether we could observe a reversion to the mean.

There is an observable tendency in all markets studied for companies with depressed earnings growth rates to experience an earnings recovery, and for high earnings growth rate companies to see their growth rates slow. This, coupled with the valuation effect, explains much of the performance advantage of low price-to-book stocks.

The tendency for valuations and earnings to revert to the mean is related to the fundamental inability of companies to sustain high earnings growth and high returns on capital over long periods of time. High returns attract competition, which leads to commoditization of products and an erosion in returns and growth rates. Likewise, companies that have experienced difficulties in the past tend to benefit from market shake-outs and operating restructurings that boost future earnings.

Over the long term, value stocks outperform growth stocks on a global basis. This outperformance can be observed using index data, as well as by comparing the returns of low price-to-book stocks versus high price-to-book stocks. One of the key drivers to this outperformance is reversion to the mean, which tends to benefit companies that have historically lagged in valuation and earnings growth. ■

Cheap Stocks Outperform Expensive Stocks

Compound Average Return (1994–2004, USD)

	Low Price/Book	High Price/Book	Low Price/Book Advantage
Global	5.8%	–0.7%	6.5%
EAFE	8.9%	–1.7%	10.6%
North America	4.1%	–0.7%	4.8%

Source: Bernstein Quantitative Group, Pzena Analysis.

Second Quarter 2005

HEALTH CARE — A CLOSER LOOK

A number of stocks that have traditionally been considered growth stocks are now entering our value universe. One sector that has provided a number of these opportunities is health care.

Health care has typically been viewed as a growth industry with favorable fundamentals: above-GDP growth fueled by innovation and an aging population. Although these underlying forces remain intact, industry-specific issues have undermined stock price performance for the sector. Health care stocks fell along with the market in 2001 and 2002, and significantly lagged the market recovery in 2003-04.

As a result, a number of segments within the health-care sector have become particularly interesting to the value investor, in particular managed care, an industry where unrealistic expectations collided with the harsh reality of rising health-care costs. Through the mid-90's, managed care was a growth industry, replacing traditional insurance programs as employers sought to contain rapidly escalating health-care costs. As managed care increased its penetration, medical cost inflation declined, giving the appearance of cost containment.

Significant underlying issues were ready to collapse the premium valuations of the managed care industry however. Reductions in medical cost inflation were based on actions that had diminishing returns over time (e.g., reducing the number of days in an average hospital stay), and on unsustainable reimbursement practices that alienated providers. Ultimately, the underlying drivers of medical cost inflation re-emerged. Pricing lagged rapidly increasing costs. Margins collapsed, as did valuations.

We made an investment in Aetna, a leading national managed care organization, as it began implementing this strategy in 2000. Early restructuring efforts stumbled, but the company was ultimately successful in its turnaround. Other managed care providers have encountered similar difficulties, providing us with additional investment opportunities, including PacifiCare, Cigna and Health Net. A number of successful turnarounds have led to significant increases in managed care industry valuations. ◆

First Quarter 2006

The New Barbell Market

Beginning in mid 2005, high-quality stocks, those blue chip names that rarely catch a cold, much less pneumonia, began to shown up on our value screens and subsequently in our portfolios. At the same time, valuations had grown compressed — essentially investors were paying the same price for assets, whether they were risky or relatively safe. This commentary discussed how these anomalies were reflected in our portfolios. A month after this commentary appeared, global markets fell, with the riskiest assets declining the most.

How soon they forget.

During the stock market bubble, investors threw out quality companies if they couldn't match the 50% growth rates posted, albeit temporarily, by flashy tech stocks.

Today, investors are doing the same thing, but instead of buying Amazon.com and eBay, the favorites are Google and — it's hard to believe — energy stocks (nearly 30 energy companies actually beat Google in one year performance). Not having momentum when the market demands it can be painful.

The result is that we are seeing big companies such as Johnson & Johnson, Microsoft, and Oracle with sustained earnings power and stellar balance sheets slide into our investment universe.

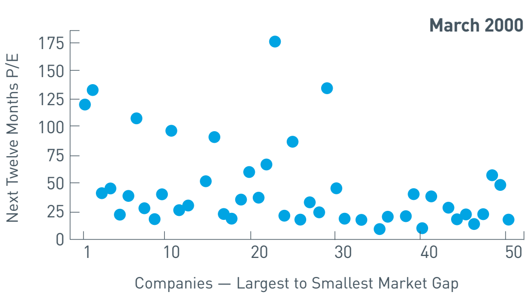
If these companies are under stress, it would be hard to tell. They have unassailable market positions, among the strongest balance sheets in the world and still can boast reasonable growth rates.

Most companies don't handle stress so well and that is usually how we find our investments. In every market there are pockets of real suffering, but with the economy healthy and interest rates low, those places are pretty rare these days. One of the only industries with true pain is autos, and while we don't own any car makers, we have invested in several auto parts suppliers.

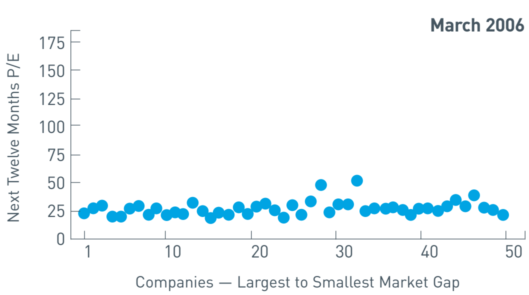
Clearly, some of these companies have a long way to go before their earnings return to normal, but in other situations, investors have unfairly punished companies that are suffering temporary setbacks. We like those situations — they remind us of the market's reaction to aircraft makers in 2001 and 2002. At the time, investors were so focused on the dismal state of the aircraft industry, that they forgot about Boeing's strong market position and solid defense business. The same is currently true for companies such as Johnson Controls, where the risks to its business are manageable and its growth prospects remain intact.

By owning high-quality names alongside stressed companies such as the auto parts makers, our portfolios are increasingly looking like barbells. While the stocks all come from the market's cheapest quintile, that's about all they have in common at the moment.

Valuation Disparity of Market's 50 Largest Stocks



Source: ISI Group.



Source: ISI Group.

By owning high-quality names alongside stressed companies such as auto parts makers, our portfolios are increasingly looking like barbells. For every high-quality name like Whirlpool, there's a Fannie Mae.

For every high-quality name such as Johnson & Johnson, there's a company under stress like Rent-A-Center. For every Whirlpool, there's a Fannie Mae.

In some ways our portfolios are the opposite of the overall stock market, where valuations have been mushed together in some uninspiring middle. Consider the top 50 stocks in terms of market cap. Back in March 2000, 25 stocks had 12 month forward P/E ratios above 30 (six were over 100) and 16 were between 15 and 25. Today, just two stocks in the (vastly different) group have P/Es above 30 and 28 stocks have P/Es between 15 and 25. That's the result of tight bond spreads, strong corporate balance sheets and a healthy economy.

Value on the Fringes

Our investments sit on the edges of that space. We own high-quality stocks — names where the valuation does not reflect the company's earnings power. And we own the stressed companies where low valuation more than makes up for any temporary profit drought.

Most of the rest of the stocks in that middle ground are fairly valued or even overvalued relative to their earnings power and risks. One hallmark of the broad financial markets of the past couple of years has been the systematic underpricing of risk. For example, the difference between the yield on low investment-grade corporate bonds and 10-year treasurys is at one of its lowest levels in the past decade. So far, few investors have been punished for underestimating the downside, but eventually spreads will widen and the value of riskier investments will fall.

We run our computer models every week to find the cheapest stocks in our universe on a price to normalized earnings basis. Week to week, these names don't change much. Some we own, most we've passed on. Occasionally a fresh name appears in the top quintile, and increasingly over the last year or so, the new name is a high-quality company such as Oracle, Kimberly Clark, Microsoft, or Johnson & Johnson.

Microsoft stock has been effectively flat for four years and is trading at the same price it did in 1998. Back then, Microsoft's price to earnings ratio was approximately 80, today, we believe the company is trading at 11.6 times its normal earnings.

True, Microsoft's growth rate has slowed since then from 30% plus to about 8%. But its franchise is pretty much impregnable despite recent attacks from a re-invigorated Apple and open-source software. Given high margins in its core products (80% operating margins for Windows and 75% for its Office Suite), the business throws off a ton of free cash, allowing it to make acquisitions, buy back stock and pay special dividends to shareholders.

All Stressed Out

There are always individual companies under stress. In our global and international strategies, we own Compass Group, a British catering company that, among other issues, is being investigated for some

Second Quarter 2006

THE VALUE STOCK CONUNDRUM

By many indicators, we are in the late stages of the economic cycle. One piece of the puzzle doesn't quite fit though. Value stocks are still beating the market, even though they've outperformed since early 2000. Normally, during the late stages of an economic cycle, investor euphoria drives growth stocks higher, while value stocks languish. Value stocks tend to win during periods of recession and the early stages of recovery.

We are once again lagging behind the value benchmarks late in an economic cycle. Last time coincided with the tech stock boom. This time the big driver is the Asia-driven energy-industrial cyclical boom. The result is the same.

The problem is, stocks whose profits are well above their historic levels and whose share prices reflect that are not value stocks. We own almost none of these stocks. Just because the index says these are value stocks doesn't make them value stocks. ◆

of its pricing policies. Fannie Mae and Freddie Mac, though they have performed well since bottoming last fall, remain in the headlines. And Morgan Stanley, which is recovering from a comic tragedy that led to the ouster of its CEO, has lost several key executives in recent months. In all these cases, our analysis shows that these problems are transitory and do not threaten the company's core business.

One area where we have found stress globally is insurance. Three powerful storms, Katrina, Wilma and Eliot Spitzer, plus company-specific problems, knocked down valuations in the insurance business. In Europe, the wounds were more self-inflicted as big exposure to equity markets during the post-bubble downturn and poorly executed strategies left several insurers gasping.

Hurricane Spitzer

Cheap reinsurance stocks can be found in nearly all of our portfolios. IPC Holdings Ltd., XL Capital Ltd. and RenaissanceRe Holdings Ltd. are Bermuda-based reinsurers that were all hit by claims from last year's devastating hurricanes. RenaissanceRe was also pounded by New York Attorney General Eliot Spitzer's investigation into finite risk reinsurance, a type of policy that companies used to smooth out their earnings.

While the hurricanes were costly, they also led to rising insurance rates, which could be a long-term positive for these companies. RenaissanceRe got hurt further by the Spitzer investigation, which led to the resignation of several of the executives responsible for building the company. Not surprisingly, RenRe, as it is known, is among our cheapest holdings. If the company grows in-line with the industry's long-term growth rate, it is priced at 10 times its normal earnings. But if RenRe can get back to its historical return on equity, it is trading for just four times normal earnings. Companies with low single digit multiples are usually teetering on the edge of bankruptcy, which RenRe certainly is not.

In Europe, investors had given up on Royal and Sun Alliance, which is held in our international and global strategies. When we bought it in 2004, Royal and Sun was yielding 6.5%, it had ring-fenced its troubled U.S. business, and problems in its U.K. operation were more than priced into the stock, which was selling for less than our "worst case" book value.

In this and other instances where we have invested in companies under stress, we have identified downside protection and believe the potential reward far outweighs the risk we are taking. Buying these names can be unpleasant — it's no fun to see newspaper reporters play piñata with a different one of our stocks everyday. The alternative though is to pay up for one of the thousands of companies trading at what we see as fair value. There's no reason to do that under normal circumstances, but with high-quality names now trading at low valuations, we see no shortage of opportunities at either end of the barbell. ■

Profits Rise, Stocks Don't

	Price History			EPS History		
	12/1999	3/2006	% Chg.	2001	2006(E)	% Chg.
Johnson & Johnson	$46.63	$59.22	+27%	$1.91	$3.68	+93%
Kimberly Clark	$64.34	$57.80	–10%	$3.27	$3.89	+19%
Microsoft	$58.38	$27.21	–53%	$0.90	$1.41	+57%
Oracle	$28.02	$13.69	–51%	$0.45	$0.79	+76%

Source: ISI Group.

Risk Premium Declines

The Difference in basis points Between Yields on Low-Investment Grade Corporate Bonds and Treasurys

Source: ISI Group.

PZENA INVESTMENT MANAGEMENT, LLC