

Bill Miller Commentary

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Calendar year 2006 was the first year since I took over sole management of the Legg Mason Value Trust in the late fall of 1990 that the Fund trailed the return of the S&P 500. Those 15 consecutive years of outperformance led to a lot of publicity, commentary, and questions about “the streak,” with comparisons being made to Cal Ripken’s consecutive games played streak, or Joe DiMaggio’s hitting streak, or Greg Maddux’s 17 consecutive years with 15 or more wins, among others. Now that it is over, I thought shareholders might be interested in a few reflections on it, and on what significance, if any, it has.

A common question I’ve gotten is whether I am in some sense relieved that it is over. The answer is no. Active managers are paid to add value over what can be earned at low cost from passive investing, and failure to do that is failure. We underperformed the S&P 500 in 2006 and did not add value for our clients and shareholders. It is little consolation that most mutual fund managers failed to beat the index in 2006, or that most managers of US large-capitalization stocks fail to outperform in most years, or that under 25% of them can outperform over long periods such as 10 years, or that the next longest streak among active managers going into 2006—8 years—also ended this year, or that it is believed that no one else has outperformed for 15 consecutive calendar years. We are paid to do a job and we didn’t do it this year, which is what the end of the streak means, and I am not at all happy or relieved about that.

There was, of course, a lot of luck involved in the streak. It could hardly be otherwise, as the late Stephen Jay Gould pointed out in his analysis of Joe DiMaggio’s 56 game hitting streak. My colleague Michael Mauboussin applied some of Gould’s analysis to investing in Chapter 6 of his book *More Than You Know*. What are the chances it was 100% luck? There are two broad ways to look at it, one involving *a priori*, and the other *a posteriori*, probabilities. If beating the market was purely random, like tossing a coin, then the odds of 15

consecutive years of beating it would be the same as the odds of tossing heads 15 times in a row: 1 in 2^{15} , or 1 in 32,768. Using the actual probabilities of beating the market in each of the years from 1991 to 2005 makes the number 1 in 2.3 million. So there was probably some skill involved. On the other hand, something with odds of 1 in 2.3 million happens to about 130 people per day in the US, so you never know.

Looking at the sources of our outperformance over those 15 years yields some observations that I think are applicable to investing generally. They fall into two broad categories, security analysis and portfolio construction. Analytically, we are value investors and our securities are chosen based on our assessment of intrinsic business value. Intrinsic business value is the present value of the future free cash flows of the business.

I want to stress that that is THE definition of value, not MY definition of value. When some look at our portfolio and see high-multiple names such as Google residing there with low-multiple names such as Citigroup, they sometimes ask what my definition of value is, as if multiples of earnings or book value were all that was involved in valuation. Valuation is inherently uncertain, since it involves the future. As I often remind our analysts, 100% of the information you have about a company represents the past, and 100% of the value depends on the future. There are some things you can say about the future with a probability approaching certainty, such as that Citi will make its next dividend payment, and some that are much iffier, such as that the present value of Google’s free cash flows exceeds its current \$150 billion dollar market value. Some value investors such as those at Ruane Cunniff have a high epistemic threshold and do exhaustive analysis to create near certainty, or at least very high conviction, about their investments. Others such as Marty Whitman take a credit-driven approach and ground their margin of safety by insisting on strong balance sheets or asset cover-

age. What unites all value investors is that valuation is the driving force in their analysis.

Trying to figure out the present value of the future free cash flows of a business involves a high degree of estimation error, and is highly sensitive to inputs, which is why we use every valuation methodology known to assess business value, and don't just do discounted cash flow analysis. We pay a great deal of attention to factors that historically have correlated with stock outperformance, such as free cash flow yield and significant stock repurchase activity. It all eventually comes down to expectations. Whether a company's valuation looks low or high, if it is going to outperform, the market will have to revise its expectations upward.

Being valuation driven means that we minimize our exposure to the panoply of social psychological cognitive errors identified by the behavioral finance researchers. I think those are the source of the only enduring anomalies in an otherwise very efficient market, since they cannot be arbitrated away.

What we try to do is to take advantage of errors others make, usually because they are too short-term oriented, or they react to dramatic events, or they overestimate the impact of events, and so on. Usually that involves buying things other people hate, like Kodak, or that they think will never conquer their problems, like Sprint. Sometimes it involves owning things people don't understand properly, such as Amazon, where investors wrongly believe today's low operating margins are going to be the norm for years.

It is trying to invest long-term in a short-term world, and being contrarian when conformity is more comfortable, and being willing to court controversy and be wrong, that has helped us outperform. "Don't you read the papers?" one exasperated client asked us after we bought a stock that was embroiled in scandal. As I also like to remind our analysts, if it's in the papers, it's in the price. The market does reflect the available information, as the professors tell us. But just as the funhouse mirrors don't always accurately reflect your weight, the markets don't always accurately reflect that information. Usually they are too pessimistic when it is bad, and too optimistic when it is good.

So grounding our security analysis on valuation, and trying to abstract away from the sorts of emotionally

driven decisions that may motivate others, are what leads to the stocks that we own, and it is the performance of those stocks that has led to our performance.

The other factor in our results is portfolio construction. We construct portfolios the way theory says one should, which is different from the way many, if not most, construct their portfolios. We do it on risk-adjusted rate of return. We do not do it based on the sector or industry or company weightings in the index. We do not approach things saying we want to be overweight financials because we think the Fed will ease, we want to have tech exposure because it is the right time in the cycle to own tech, or whatever. That is, we don't do things the way most others appear to do them.

We do not start out thinking we need to be exposed to each sector in the market, because that would mean we would automatically be invested in the worst part of the market. (Some sector has to be the worst, and if your policy is to be in each of them you are going to be in the worst.) If we are in the worst part of the market, it is because we made a mistake, or we have a different time horizon from others, but it will not be as a matter of policy. We want our clients and shareholders to own a portfolio actively chosen based on long-term value, not based on index construction.

A key reason for the streak has been our factor diversification. By that I mean we own a mix of companies whose fundamental valuation factors differ. We have high PE and low PE, high price-to-book and low price-to-book. Most investors tend to be relatively undiversified with respect to these valuation factors, with traditional value investors clustered in low valuations, and growth investors in high valuations. For most of the 1980's and early 1990's we did the same, and got the same results: when so-called value did well, typically from the bottom of a recession to the peak of the economic cycle, so did we. And when growth did well, again usually as the economy was slowing and growth was harder to come by, we did poorly, along with other value types.

It was in the mid-1990's that we began to create portfolios that had greater factor diversification. In the mid-1990's, many cyclical stocks were down and acting badly, just the sort of thing we tend to like. I looked at steels, and cement companies, and papers and aluminum, all things being bought by classic low PE,

low price-to-book, value investors.

At the same time, though, technology stocks were also selling at very cheap prices. Dell Computer was selling at about 5x earnings. Even Cisco could be had for about 15x earnings. I could not see why one would own cyclical companies that struggled to earn their cost of capital when you could get real growth companies that earned high returns on capital for about the same price. So we bought a lot of tech in the mid-1990's.

Buying tech was not something value investors did back then. That was because tech was not thought to be predictable in the way something like Coke was, for example, since technology changes rapidly. But we had learned from Brian Arthur at the Santa Fe Institute about path dependence and lock in, which meant that while technology changes rapidly, technology market shares often don't, so they were much more predictable than they looked. We bought them and got lucky when tech values turned into a tech mania in 1998 and 1999.

The result was we did well when first-rate value investors such as Mason Hawkins and Bill Nygren did poorly. They had almost no tech, and if you didn't have it, you had almost no chance to outperform.

We realized that real value investing means really asking what are the best values, and not assuming that because something looks expensive that it is, or assuming that because a stock is down in price and trades at low multiples that it is a bargain. Federal regulations mandate how concentrated a mutual fund can be; they require a certain amount of diversification even in funds called non-diversified. Diversification has rightly been called the only free lunch available on Wall Street. It follows from the fact that the future is uncertain that one should multiply independent bets. Indeed, the Kelly formula, discussed in Bill Poundstone's *Fortune's Formula*, would indicate that if you were certain about something earning an excess rate of return, you should put 100% of your money in it.

Although funds are subject to requirements regarding diversification by industry or company, they do not have to be diversified by factor, that is, by PE ratios, or price-to-book, or price-to-cash flow. And they mostly are not: value funds tend to have almost all their money in low PE, low price-to-book or cash flow, and growth funds have the opposite. Sometimes growth funds beat value funds and the market, as from 1995 through 1999,

and sometimes value funds beat growth funds, as from 2000 through 2006. Sometimes growth is cheap, as it was in 1995, and is today in my opinion, and sometimes so-called value is cheap, as it was in 1999. The question is not growth or value, but where is the best value?

We were fortunate to recognize that so-called growth was cheap in the mid-1990's and so avoided the extended underperformance of many of our value brethren in the late 1990's. We were also fortunate to recognize it was expensive in 1999 and sold a lot of those names reasonably well. We were not so smart as to have realized we should have sold them all, so we did less well than many of our value friends during the bear market that ended in March of 2003.

We continue to be factor diversified, which I think is a strength. We own low PE and we own high PE, but we own them for the same reason: we think they are mispriced. We differ from many value investors in being willing to analyze stocks that look expensive to see if they really are. Most, in fact, are, but some are not. To the extent we get that right, we will benefit shareholders and clients.

It has been wrongly suggested that concentration, owning fewer rather than many stocks, is a strategy that adds value. Studies have shown that concentrated portfolios typically outperform others. All true, but an example of what Michael Mauboussin would call attribute-based thinking. The real issue is the circumstances in which concentration pays, not whether it has in the past.

We suffered from being too concentrated last year. Being more broadly diversified would have led to better results. We benefited, though, from our concentration during the streak period. But being too concentrated was one reason the streak ended.

Concentration works when the market has what the academics call fat tails, or in more common parlance, big opportunities. If I am considering buying three \$10 stocks, two of which I think are worth \$15, and the third worth \$50, then I will buy the one worth \$50, since my expected return would be diminished by splitting the money among the three. But if I think all are worth \$15, then I should buy all three, since my risk is then lowered by spreading it around. For much of the past 25 years, there were those \$10 stocks worth \$50 around. For the past few years, they have been largely absent, as inter-industry valuations have only been this homogeneous about 2% of the time.

Putting this stuff together gets us here: the streak was due to our being valuation driven, which typically gets us into stocks where the expectations are too low because of mostly social psychological reasons; being fortunate enough to have figured out tech was cheap when it was, and expensive when it was; concentrating the portfolio when it made sense to do so, constructing the portfolio rationally and not because of the way the S&P is constructed; and being lucky.

The streak ended because all streaks eventually end, and because we made some mistakes, such as not being invested in energy in 2003 when it was cheap, in being too concentrated when concentration added no value, and due to some bad luck. Sometimes luck helps and sometimes it doesn't.

The best thing about the streak is we helped clients and shareholders. For 15 consecutive years we actually added value after expenses and helped those who have entrusted money with us to achieve their goals. I am optimistic and confident we can continue to do so, but as they say, there are no guarantees in this business. One thing I can guarantee is that no one will work harder or care more about your money than the team at Legg Mason Capital Management.

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