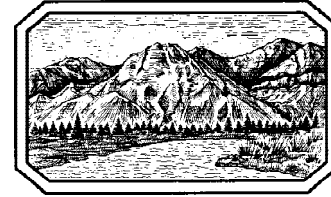


## Quarterly Asset Mix Recommendations— July 2000

**V**olatility was the name of the game in the stock market during the second quarter of 2000 as investors vacillated between confidence and nervousness regarding economic growth, interest rates, earnings and historically high stock valuations. High growth stocks in particular experienced a correction. The Nasdaq Index was down -41% from peak to trough, its second largest correction since its inception in 1971. The correction began in mid-March and reached its nadir in mid-May. From mid-May through the end of the quarter, stocks rallied as economic data seemed to show a slowing economy. Our view of the market remains the same. We are optimistic about the economy and its potential to sustain growth without inflation, but we believe there are risks due to the historically high stock valuations. We recommend a 60% stock/40% fixed income asset allocation.

Our topic this quarter is the evolution in measuring investment performance. This is a more interesting topic than it might appear to be at first blush. Because measuring performance is actually affecting performance, we think it's an interesting topic for investors and investment managers to explore.

## DENVER INVESTMENT ADVISORS LLC



*Strategy  
Statement  
Summary*

*The definition of performance measurement has changed and it's affected the way money is managed.*

straight-forward enough but it's not that easy. Over the years, the definition of performance measurement has changed and it's affected the way money is managed, so we think it's an important topic for our clients to think about. We'll focus our discussion specifically on stocks. While our comments are probably more applicable to institutional investors, there is also information here for individual investors.

Back in the stone ages of the 1940's and 1950's, the term "performance measurement" could be taken literally. It referred to the math that was necessary to calculate a rate of return for an investment account. Positive returns were good and negative returns were bad. In other words, performance was thought of in absolute terms. During the 1960's, the S&P 500 Index became more widely quoted as a stock market gauge and investors added another dimension to the term "performance measurement." Rates of return were thought of in absolute terms and also relative to the S&P 500. During the 1970's and 1980's the "small-cap effect" became well documented. The Frank Russell Company introduced the Russell 2000 as an index for small-capitalization stocks and some investment managers began to specialize. "Performance measurement" meant measuring performance on an absolute basis and also relative to a benchmark that theoretically mirrored an investment manager's universe of potential investments.

The 1990's were all about specialization. Indexes sprang up to measure the performance of large-cap, mid-cap and small-cap stocks, as well as growth and value stocks. And the size and style characteristics were combined to yield large-cap value indexes and small-cap growth indexes. The upshot is that the most recent copy of Prudential Securities' exhaustive [Benchmark Study](#) tracks 86 different indexes, and that's only for U.S. stocks. The trend toward specialization was fueled from several directions. First, academic research showed the stock market was not monolithic but was made up of different segments that did not perform with particularly high correlation (e.g., large-cap vs. small-cap and growth vs. value). Second, large pension plans were employing investment consultants who wanted to diversify the plans and hire multiple, specialty managers. Third, Morningstar rose to a position of power in the mutual fund review arena and began categorizing mutual funds using a grid system that was three boxes wide by three boxes high. Thus, it had a slot for any combination of large, mid-, or small-cap and value, growth or blend style. Finally, investment managers were happy to specialize because they often felt they had a particular strength and it was clear the industry was moving to specialized managers.

outperformed other segments, virtually everyone enjoyed double-digit annualized returns. Since absolute performance seemed so easy to come by, the push in performance measurement moved heavily toward relative performance. With the rise of Morningstar, relative performance has come to mean not only relative to a benchmark, but also relative to a peer group. In this Strategy Statement, however, we'll concentrate on benchmarks.

### **The Sausage Factory**

So, where do all these indexes come from? Lots of different places, but the two most important are Standard & Poor's and the Frank Russell Company. These two companies have quite different approaches to constructing indexes. S&P constructs its indexes using committees of people that meet periodically to review an index. The indexes are constructed with the aim of matching the economic sector distributions of the equity universes from which they are drawn, to paraphrase S&P. Each committee will vote stocks in or out of an index based on a variety of factors including its market capitalization and whether or not an index needs more or less exposure to a particular economic sector. S&P tries to keep turnover in its indexes relatively low. Stocks are weighted based on market capitalization.

The Frank Russell Company has a more mechanical approach to constructing its indexes. It uses the largest 3,000 U.S. stocks, ranked by market capitalization. The first 200 are considered large-cap, the next 800 are mid-cap and the remaining 2,000 are small-cap. It rebalances its indexes every June 30 and turnover can be high. Again, stocks are weighted based on market capitalization.

Both S&P and Frank Russell have style-specific versions of most of their indexes (i.e., growth and value). S&P determines style by looking at price/book value, with half the market capitalization of a particular index called "growth" and the other half called "value." Frank Russell uses a combination of price/book value and a long-term estimated growth rate in a methodology that is proprietary. Some stocks qualify for inclusion in both growth and value indexes (go figure).

*Since absolute performance seemed so easy to come by, the push in performance measurement moved heavily toward relative performance.*

*Managers who don't pay attention to their benchmarks do so at notable business risk.*

cap stocks or growth stocks may do better than value stocks. Looking at the performance of various size and/or style-specific indexes is helpful in understanding performance cycles. Second, most indexes can be inexpensively replicated. Because of this, they represent a passive alternative to active management. Indexes can be a tool in helping investors measure the value added of active management.

The downside of the proliferation and focus on indexes as benchmarks is the emphasis that is being placed on relative performance. Managers are motivated to think about stocks in terms of relative bets versus their benchmark rather than absolute performance. Consider the case of a manager who is benchmarked against the S&P 500. This particular manager thinks General Electric is a wonderful company that has produced consistent earnings growth, but the stock is expensively priced at 40 times the current year's earnings per share. The manager thinks there are more attractive alternatives for purchase than GE, but GE is 4% of the S&P 500 index. Twenty years ago, the manager would not have bought the stock, but with an emphasis on relative performance, the manager may decide to buy some of the stock in order to hedge the risk of owning none of it. If the manager buys a 2% position, then he is still hoping the stock doesn't do well because he is underweighted in it relative to his benchmark. The manager is in the odd position of betting against a stock he owns. The opposite situation can happen, too. A manager who likes GE needs to buy more than 4% in order for it to help relative performance. It could end up being his largest position even though it is not his highest conviction holding.

At least the manager above knows that GE is a stable component of the S&P 500. The manager who benchmarks against a mid- or small-cap Russell benchmark has a different dilemma. Suppose he owns 2% of stock XYZ and the Russell index he uses as a benchmark has a 2% weight in XYZ. He is "neutral" on the stock. Further, suppose that on June 30, stock XYZ leaves the Russell index during the annual Russell rebalancing. Overnight, the manager has gone from a neutral bet on XYZ to a positive 2% bet. Unless his view of the stock changed overnight as well, he needs to sell the stock in order to maintain the same relative bet.

There are some interesting sidelights to the focus on relative performance. First, the manufacturers of the more popular indexes have enormous power, whether they intend to or not. For example, a stock that is added to the S&P 500 Index generally experiences a 10% or so increase in price. Also, portfolio managers who are benchmarked against Frank Russell indexes must pay close attention to the changes in

take under advisement. First, indexes are not created by immaculate conception. They don't always perfectly reflect the universe of stocks a particular investment manager chooses from. In fact, they are a bit like a sausage: you might eat it but you probably don't want to see it made. The point here is that if an investment manager underperforms his benchmark for some period of time, the conclusion that he is failing to "add value" is not necessarily correct. Second, the proliferation of specialized benchmarks, along with great stock market returns, is fostering an environment where only relative return matters. From the point of view of a pension plan sponsor, however, absolute return is what matters most, with the volatility of the return another consideration.

So what's an investor to do? The answer is to establish performance objectives in which the goals of the investor and the investment manager are aligned. The first step is the investor should carefully choose the segments of the stock market he wants to be exposed to based on his return needs and his ability to tolerate volatility. By the time the investor hires an investment manager he should be as committed to the asset class as is the investment manager. Absolute return should be a part of the performance objectives, as should volatility relative to the segment of the stock market the investment manager is exploiting. Where relative performance is considered, it should be over the long term, with the mutual understanding that in shorter term periods the manager may deviate from the index return. Following these recommendations should help insure the investor and investment manager act as partners in managing the assets.

*Establish performance objectives in which the goals of the investor and the investment manager are aligned.*

**Cycle Ends**—In this outcome, we have built in a typical end to the historically long expansion we are currently enjoying. We enter a recession toward the end of this year due to the Federal Reserve's interest rate increases. Although the recession lasts a typical twelve months, it is relatively mild since there are few major excesses in the economy that demand a large correction. After twelve months of declining output, the economy begins a typical recovery. The Fed lowers rates to encourage economic growth, and rates end the three-year period somewhat below today's rates. Corporate profits rebound after the recession but end the three-year period only modestly above where they are today. Stock market returns are poor over the three-year period while bond returns are slightly above average.

**Sustainable Growth**—This scenario is our most positive one. Built into this scenario is the high level of investment in productivity-enhancing capital equipment and technology, the Internet and the move to a Federal budget surplus. Due to improved productivity, the economy is able to sustain a strong growth rate without inflation. The Fed comes to accept this and does not raise interest rates aggressively. In this scenario, stock returns are very strong due both to strong earnings growth and an increase in the price/earnings ratio that investors are willing to pay. Bond returns are reasonable, but pale in comparison to stock returns.

**Soft Landing**—In this scenario, the Fed continues to battle the recent strong economic growth by raising interest rates but, unlike the Cycle Ends scenario, it successfully avoids a recession and navigates a soft landing for the economy. Real GDP growth slows in this scenario but does not become negative. Inflation moves down from the recent 3% level to 2%, a level the Fed is comfortable with. Many of the positives in the Sustainable Growth scenario are included in this scenario, but the impact of the Fed and the business cycle are more pronounced. Stock and bond returns are about average in this scenario.

While these corrections have tended to be relatively short term, the declines in the stock market have been meaningful. Possible events include political instability on a negative wealth effect from the recent correction in high technology stocks. Stock returns are poor over the three-year period while bond returns are above average.

The following table summarizes the capital market impacts under these scenarios:

<b>THREE-YEAR IMPACT</b>						
<b>SCENARIO</b>	<b>EARNINGS</b>	<b>INTEREST RATES</b>	<b>PRICE/EARNINGS RATIOS</b>	<b>STOCK RETURN</b>	<b>BOND RETURN</b>	<b>CASH EQUIVALENT RETURN</b>
Cycle Ends	Up Modestly	Down Modestly	Down Modestly	Poor	Slightly Above Average	Above Average
Sustainable Growth	Very Strong	Down Modestly	Up Notably	Excellent	Average	Average
Soft Landing	Strong	Down Modestly	Up Modestly	Average	Average	Average
External Shock	Poor	Down Notably	Flat	Poor	Above Average	Average

### **Probabilities**

Changes to our probabilities are shown below:

<b>SCENARIO</b>	<b>CURRENT QUARTER PROBABILITIES</b>	<b>PREVIOUS QUARTER PROBABILITIES</b>
Cycle Ends	10%	10%
Sustainable Growth	50%	50%
Soft Landing	30%	30%

INDICATOR	JUNE 30, 2000	MARCH 31, 2000
S&P 500	\$1,454.60	\$1,498.58
P/E Based on Latest 12 Months' Operating Earnings	26.0x	27.9x
Dividend Yield	1.2%	1.2%
Long Treasury Bond Yield-to-Maturity	6.0%	6.1%
90-Day Bill Yield	5.7%	5.9%
CPI Year-Over-Year	3.1%	3.2%

Based on the foregoing probabilities for our scenarios, the following expected returns for the four asset classes we monitor are being used to arrive at recommended asset mixes:

ASSET CLASS	CURRENT QUARTER EXPECTED RETURN THROUGH SECOND QUARTER 2003 <sup>1</sup> %	PREVIOUS QUARTER EXPECTED RETURN THROUGH FIRST QUARTER 2003 <sup>1</sup> %
Stocks	14.4%	14.6%
Long Bonds	7.9%	7.5%
Intermediate Bonds	6.5%	6.8%
T-Bills	6.0%	6.2%

Based on these expectations and our typical account <sup>2</sup> objectives, our current recommended asset mix is 60% stocks, 40% bonds, and 0% cash equivalents.

**DENVER INVESTMENT ADVISORS LLC**

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1. **Compound annual rates.**
2. **Typical account:** In each of our accounts we continuously attempt to balance the individual needs and objectives of the account with the outlook for financial assets. As a starting point for establishing asset mix, we set conservative constraints for a typical account. The constraints are:
  - a) a 90% probability of achieving positive returns over 3 years.
  - b) a 50% probability of earning an 8% compounded annual return for 3 years.