







TAM ASSET MANAGEMENT REVIEW

Modern Investment Principles
For Serious Investors

April, 1994
Vol. 2 No. 4

Asset Class Returns* Through March 31, 1994

	United States	YTD 1994
	1-Yr. Bonds	+0.3%
	5-Yr. Bonds	-2.4%
	Large Stocks	-3.8%
	Large Value Stocks	-5.8%
	Small Stocks	+1.2%
	Small Value Stocks	+1.3%
	International	
	Large Stocks	+3.5%
	Japan	
	Small Stocks	+28.4%
	Continental Europe	
	Small Stocks	+12.5%
	United Kingdom	
	Small Stocks	+6.6%
	Pacific Rim	
	Small Stocks	-14.6%

The value of U.S. large stocks and U.S. bonds have been on a steady decline since the Fed raised short-term interest rates the first week of February. Offsetting these declines, as we *expect* they will the majority of the time, have been the returns of most of the international markets.

*See "Performance Notes" on back page for explanations.

High Book-to-Market Stocks— Valuable Sub-Markets of U.S. Stocks

By Jeff Troutner

In March, we added two new asset classes to our portfolios: U.S. Large and Small "Value" stocks. Value stocks have high book-to-market ratios. We are using two index funds managed by Dimensional Fund Advisors to represent these asset classes and have divided the U.S. large and small stock allocations in half between the overall market and value stocks. For example, the Moderate model portfolio has a U.S. large stock allocation of 20% that is now divided into 10% Vanguard 500 Index fund and 10% DFA U.S. Large Cap Value fund. The 15% allocated to U.S. small stocks is now 7.5% DFA 9-10 Small Company fund and 7.5% DFA Small Cap Value fund.

Our goal was to increase expected returns of the portfolios while reducing overall risk. This opportunity became known to us through the research of Eugene Fama and Kenneth French of the University of Chicago.

Book value is the "net asset value" of a company. It is calculated by adding up all the assets, subtracting all liabilities (including all stock issues ahead of the common), and then dividing by the number of common shares outstanding. Book value is essentially the accounting value of a company. Its relationship to a stock's market value depends on the investing public's (the market's) opinion of the company's past record and future potential. If the market highly favors a company, its market value will be substantially higher than its book value.

Fama and French found in their research that stock returns have three dimensions. The first dimension is the overall behavior of the

stock market. An investment's performance relative to the market's performance appears to be a function of two additional dimensions, company size and book-to-market ratio. This is why, in constructing client portfolio, we first identify markets (U.S. and international stocks), then divide them into large and small sub-classes, and now into value sub-classes.

Continued on back...

Note: Chapter 5: Time, of Charles Ellis' book Investment Policy, Second Edition, will be included in next month's TAM Review.


TAM Portfolio Returns Net of Fees*

Through March 31, 1994

Risk (% stocks)	YTD 1994	1993	Total Return 12/92-3/94
Moderate (65%)	+0.8%	+14.0%	+14.9%
Growth (85%)	+1.5%	+16.6%	+18.4%
Aggressive (95%)	+4.0%	+21.1%	+25.9%
Benchmarks Comparisons			
Balanced Fund Index	-3.0%	+11.7%	+8.4%
Capital Apprec. Index	-3.3%	+14.8%	+11.1%
S&P 500 Stock Index	-3.8%	+10.1%	+5.9%
Salomon Broad Bond Index	-2.8%	+9.9%	+6.8%

*See "Performance Notes" on back page for explanations.

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High Book-to-Market Stocks (cont.)

Fama and French find that all equity investments take about the same amount of market risk and derive the same expected return from the market. Differences in returns from the market are due solely to the investment's exposure to size and book-to-market factors.

Simple market portfolios, i.e., those based on the S&P 500, are weighted heavily towards big stocks and low book-to-market stocks. This appears to be a poor way to form a portfolio for anyone who associates risk with return volatility. We believe investors can achieve greater returns for a given level of risk by increasing commitments to small stocks and high book-to-market stocks.

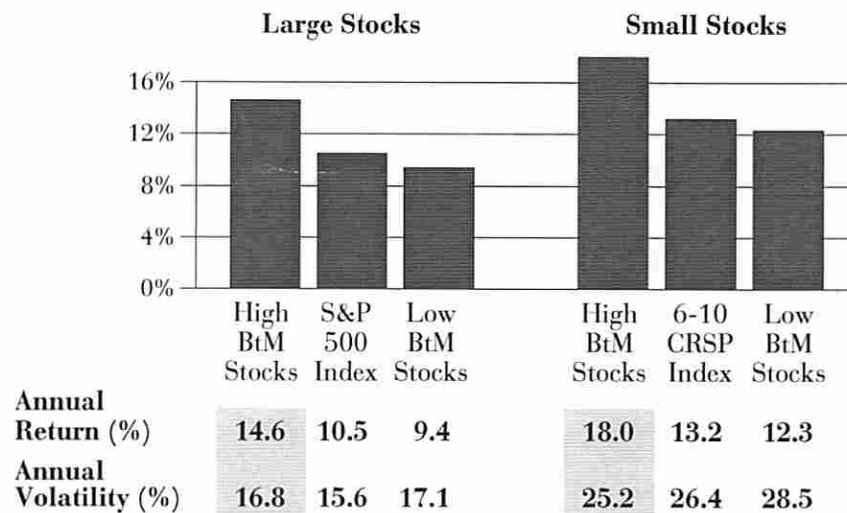
The numbers bear this out. Figure 1 shows the returns for high book-to-market stocks (value stocks) versus low book-to-market stocks (growth stocks) and the overall markets.

With large value stocks, we realize a much higher expected return with only a small increase in risk. With small stocks, we realize about the same percentage increase in return with a *reduction* in risk.

When we measure the impact of adding these asset classes to the diversified TAM portfolios, we find that in every case expected returns are increased and risk is decreased.

Here's what Benjamin Graham, the acknowledged "father of value investing" says about book value in his book *The Intelligent Investor*: "This is a factor of prime importance in present day investing, and it has received less attention than it deserves. The whole structure of stock-market quotations contains a built-in contradiction. The better a

Figure 1: Historical Returns 1964-1993



Jan. 1964-Mar. 1993: Data courtesy Fama-French. High BtM (Value) and Low BtM (Growth) include hold ranges and estimated trading costs. April 1993-Dec. 1993: Dimensional's Value Mutual Fund net of all fees. CRSP 6-10 Smaller half NYSE (plus Amex & NASDAQ/NMS equivalents. Courtesy Center for Research in Security Prices, U. of Chicago and Dimensional Fund Advisors

company's record and prospects, the less relationship the price of its shares will have to their book value. But the greater the premium above book value, the less certain the basis of determining its intrinsic value—i.e., the more this "value" will depend on the changing moods and measurements of the stock market. Thus we reach the final paradox, that the more successful the company, the greater are likely to be the fluctuations in the price of its shares. This really means that, in a very real sense, the better the quality of a common stock, the more *speculative* it is likely to be—at least as compared with the unspectacular middle-grade issues. ...The previous discussion leads us to a conclusion of practical importance to the conservative investor in common stocks. If he is to pay some special attention to the selection of his portfolio, it might be best for him to concentrate on

issues selling at a reasonably close approximation to their tangible-asset value—say, at not more than one-third above that figure."

It is interesting to note that DFA's value funds meet this rule of Graham's. If you compute the inverse of the average book-to-market ratio (resulting in the market-to-book or price-to-book ratio as it is commonly known) for the U.S. Large Cap Value fund and the U.S. Small Cap Value fund, the result is 1.27 and 1.14 respectively—a price no more than one-third above book. The average S&P 500 stock, on the other hand has a price-to-book ratio of 2.56!

One caveat: Do not confuse the DFA funds with most "value" funds which are not limited to high book-to-market stocks, are not nearly as diversified, and generally incur much higher expenses.

Performance Notes:

Asset Class Returns—United States: 1-Yr. Bonds = DFA One-Year Fixed Income Portfolio; 5-Yr. Bonds = DFA Five-Year Government Portfolio; Large Stocks = Vanguard 500 Index Fund; Small Stocks = DFA 9-10 Small Company Portfolio; Small Value Stocks = DFA Small Cap Value Portfolio. International: Large Stocks = 57% Vanguard Pacific Index Fund, 43% Vanguard Europe Index Fund (approximates the return of the Morgan Stanley EAFE Index). Japan: Small Stocks = DFA Japanese Small Company Portfolio. Continental Europe: Small Stocks = DFA Continental Small Company Portfolio. United Kingdom: Small Stocks = DFA United Kingdom Small Company Portfolio. Pacific Rim: Small Stocks = DFA Pacific Rim Small Company Portfolio.

TAM Portfolio Returns Net of Fees—These are the actual returns of TAM portfolios in each risk category net of actual TAM management fees, custodial fees, and fund expenses. The "Growth" returns were calculated using a model portfolio from 12/31/92 to 4/30/93. The "Aggressive" returns were calculated using a model portfolio from 12/31/92 to 3/31/93. In both cases, the maximum TAM fee was deducted, representative custodial costs were deducted, and all mutual fund returns are net of expenses. Past performance is no guarantee of future returns. This is especially the case with model portfolios which are not subject to specific economic or market factors. **Benchmarks**—Balanced Fund & Capital Appreciation Fund Indexes: Lipper Analytical's indexes representing the 30 largest balanced mutual funds and 30 largest capital appreciation mutual funds in the country.