

# Financial Planning

## The Smaller, the Better

*Rumors that the small-cap effect is dead are most definitely premature.*

By Scott A. Leonard

September 1, 2006- We are starting to hear, in serious investment circles, a suggestion that the small-cap effect is over-that small-cap stocks' performance relative to that of other securities is merely cyclical, and doesn't provide any long-term excess returns over larger-cap securities. As evidence, one might point to the fact that the Russell 2000 Index has underperformed the Standard & Poor's 500 Index from 1979 (the earliest data for the Russell Index) through 2005. Over that time, the two indexes' annualized returns came to 13.12% versus 13.38%, respectively.

The problem with this argument is that the small-cap effect was never measured by the Russell 2000 Index. The benchmark that was used to identify the effect followed the original Ibbotson definition of small cap: the bottom fifth of the market, represented among academics by the CRSP 9-10 Index. (In the investment world, this is most closely replicated by the DFA 9-10 Small Cap portfolio, which has been renamed the DFA Micro Cap.) For that same period of 1979 through 2005, the CRSP 9-10 Index returned 14.51%. From 1926 through 2005--the longest period for which data is available for both indexes--the annualized returns for the S&P 500 Index were 10.36% versus 12.64% for the CRSP 9-10 Index. (See "The Wrong Benchmark," below.)

**The Wrong Benchmark**

The small-cap effect disappears when the S&P is compared with the Russell 2000 but reappears when the S&P is compared with the proper benchmark, the CRSP 9-10 Index.

Average Annual Returns		
	1979 to 2005	1926 to 2005
S&P 500 Index	13.23%	10.36%
Russell 2000 Index	13.12%	N/A
CRSP 9-10 Index	14.51%	12.64%

Source: Morningstar Principia

In general, it appears that the small-cap effect is most pronounced in the smallest of the small-capitalization stocks. To see this most clearly, look at some statistics from the recent bear market of January 2000 through December 2002. "Bearing Up," below, provides the total returns of six different small-cap index mutual funds, each representing a different definition of small-cap stocks.

The average market cap of each portfolio is shown as the typical measure of the size of companies within a fund. The three-year R-squared represents the correlation of the funds with the S&P 500 Index. For advisors who are building portfolios based on the concepts of asset allocation and modern portfolio theory, the lower the correlation with the S&P 500, the higher the potential diversification.

Notice that small-cap value stocks generated exceptional returns during the period, especially when viewed on a relative basis with the overall losses of large-cap and growth stocks. Of the six small-cap funds shown, three--Vanguard Small Cap, DFA Small Cap and DFA Micro--do not distinguish between growth and value. They purchase all the stocks within their size parameters. Of those three, the smaller-cap portfolios clearly offered better performance, both from a return and a diversification perspective, as measured by the R-squared to the S&P 500.

## Bearing Up

Small-cap funds outperformed the S&P Index during the bear market of January 2000 through December 2002—especially the value funds. Of the blended funds, those with smaller-cap companies did best.

Returns for January 2000 through December 2002

Fund	Geom. Avg. Market Cap (Millions)*	Total Return	3-Year R <sup>2</sup> vs. S&P 500
S&P 500 Index	\$42,533	-37.71%	100
Vanguard Small Cap Index (Russell 2000)	\$964	-19.74%	72
DFA Small Cap (CRSP 6-10 Index)	\$607	-6.65%	72
DFA Micro (Ibbotson Small Cap/CSRP 9-10)	\$279	2.64%	65
Wishare Target Small Cap Value	\$653	22.06%	56
Wishare Target Small Cap Growth	\$706	-15.75%	73
DFA Small Cap Value (CRSP 6-10/High BtM)	\$442	21.31%	59

\*Market cap and R<sup>2</sup> as of December 2002  
Source: Morningstar Principia

## BEATING BACK THE BEAR

Three years, of course, is not much time from which to draw any lasting conclusions. It should be apparent, however, that asset allocation, following the more academic definitions of size, could have mitigated the worst effects of the last bear market—which, of course, is one of the main objectives of diversification for client portfolios.

The table, "All-Weather Funds," below, shows the returns for various time periods ending in December 2005. Both the trailing 10- and five-year returns are worth pondering. They contain what has been called the third-worst bear market in U.S. history. The decade also contains the best five-year period ever for the S&P 500 Index (an annualized return of 28.56% for January 1995 through December 1999). While 10 years is also too short a time to result in any definitive analysis, it does offer a lot of interesting volatility, including the technology bubble. (This table also shows a strong value effect but that is a subject for another article.)

One quick side analysis is interesting to note. During the best five-year period for the S&P 500, large-cap stocks were beating small caps. As a result, one should assume that the smallest small-cap index, CRSP 9-10, would have performed worse than the Russell 2000, which is the largest of the small-cap indexes. However, from January 1995 through December 1999, the annualized return of the CRSP 9-10 Index was 19.10%, while the Russell 2000 Index only returned 16.70% a year.

Another way to determine the relative benefit of small-cap stocks is to create a simple asset allocation model using the different small-cap indexes and take a look at the overall performance (see "Smaller Caps, Bigger Returns," below). Actual index data was used and the portfolios were rebalanced quarterly. However, this example does not include any transaction costs or taxes. In the real world, the results would be somewhat lower, but proportionately so across the board.

## Smaller Caps, Bigger Returns

Three portfolios that are two-thirds S&P 500 and one-third small-cap index demonstrate a long-term return advantage for the smallest of small caps.

Annualized Returns and Standard Deviations ending December 2005

	1 Year		3 Year		5 Year		10 Year		1/2000 to 12/2002	
	Return	St. Dev.	Return	St. Dev.	Return	St. Dev.	Return	St. Dev.	Return	St. Dev.
S&P 500 Index	4.91%	N/A	14.39%	12.37%	2.75%	19.83%	9.07%	19.51%	14.55%	6.84%
Russell 2000 & S&P	4.81%	N/A	17.03%	15.47%	3.20%	21.26%	9.27%	17.98%	12.12%	8.35%
CRSP 6-10 & S&P	5.21%	N/A	18.33%	17.24%	4.99%	21.91%	10.46%	18.84%	11.41%	9.58%
CRSP 9-10 & S&P	4.46%	N/A	19.45%	21.06%	7.10%	23.12%	11.23%	19.11%	-9.44%	10.97%

Source: Morningstar Principia

"Smaller Caps, Bigger Returns," shows the returns and standard deviations of four different portfolios over various periods. The first portfolio is just the S&P 500 Index. The other three are composed of two-thirds S&P 500 Index and one-third small-cap index. The small-cap portions of the portfolios are represented by the Russell 2000, which is similar to the Vanguard Small Cap portfolio; the CRSP 6-10, which is similar to DFA Small Cap; and CRSP 9-10, which is similar to the DFA Micro portfolios.

What is interesting in this analysis is that during the shorter periods, while returns increased

with smaller stocks in the portfolio, so did the standard deviation. In fact, only the longest of the periods illustrated--10 years--produced a decrease in standard deviation. Of course, standard deviation is nothing more than a measure of volatility. And while an important factor to consider, volatility, by itself, does not tell us much about a portfolio or how well it will help achieve the goals of different clients.

What can we conclude from this? First, many advisors and analysts may need to reevaluate the Russell 2000 as the measure for small-cap stocks. The CRSP 9-10 was the original small-cap index, as published by Ibbotson for many years. Second, by focusing on the smallest of the small caps, we see that the small-cap effect appears to be alive and well. You just need to know where to look for it.

*Scott A. Leonard, CFP, is president of Leonard Wealth Management, a fee-only firm in Redondo Beach, Calif. He teaches investment courses as part of the personal financial planning program through the UCLA extension.*

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