



**SHENANDOAH  
ASSET  
MANAGEMENT, L.L.C.**

## **Why Midcap?**

*a statistical analysis of the risk and return characteristics of  
midcap vs. large cap, small cap and broad market indices*

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# Shenandoah Research: *Why Midcap?*

Medium-sized companies (midcap) are often overlooked in traditional US equity asset allocation structures. Many plans and consultants divide the universe of US stocks into “large cap” and “small cap” sub-categories, viewing midcap as a hybrid of these two extremes. **Our research indicates that, given the strong returns and risk-adjusted results achieved in the midcap arena, investors should strongly consider a dedicated allocation to midcap stocks.**

**What is midcap?** The Russell and S&P midcap indices have different definitions for midcap, with the Russell Midcap index maintaining a larger capitalization bias than the S&P 400 Midcap. The following table outlines the capitalization profile of these two midcap benchmarks:

**Table 1: Defining Midcap**

Capitalization Range:	Russell Midcap Index		S&P 400 Midcap Index	
	# Stocks	% of Total Capitalization	# Stocks	% of Total Capitalization
>\$10 billion	75	23%	2	2%
\$5 to \$10 billion	184	35%	33	19%
\$1 to \$5 billion	538	42%	325	76%
<\$1 billion	3	0%	40	3%
<i>Total</i>	<i>800</i>	<i>100%</i>	<i>400</i>	<i>100%</i>

**Table 2: Index Risk and Returns Summary – 12/31/1993 to 6/30/2005**

Index	Market Cap. Range	Ann Return	Ann Std Dev	Sharpe Ratio (ann)	Return Rank	Sharpe Ratio Rank
S&P 400 Midcap	Midcap	13.9%	16.8%	0.64	1	1
Russell Midcap	Midcap	12.7%	15.6%	0.60	2	2
Russell 2500	SMID	11.9%	17.5%	0.51	4	3
S&P 600 Smallcap	Small	12.0%	18.1%	0.51	3	4
S&P 500	Large	10.5%	15.0%	0.49	5	5
Russell 3000	Broad	10.4%	15.0%	0.48	6	6
Russell Top 200	Large	10.0%	15.5%	0.45	7	7
Russell 2000	Small	9.7%	19.2%	0.38	8	8

**Source:** Frank Russell Company, Standard & Poors

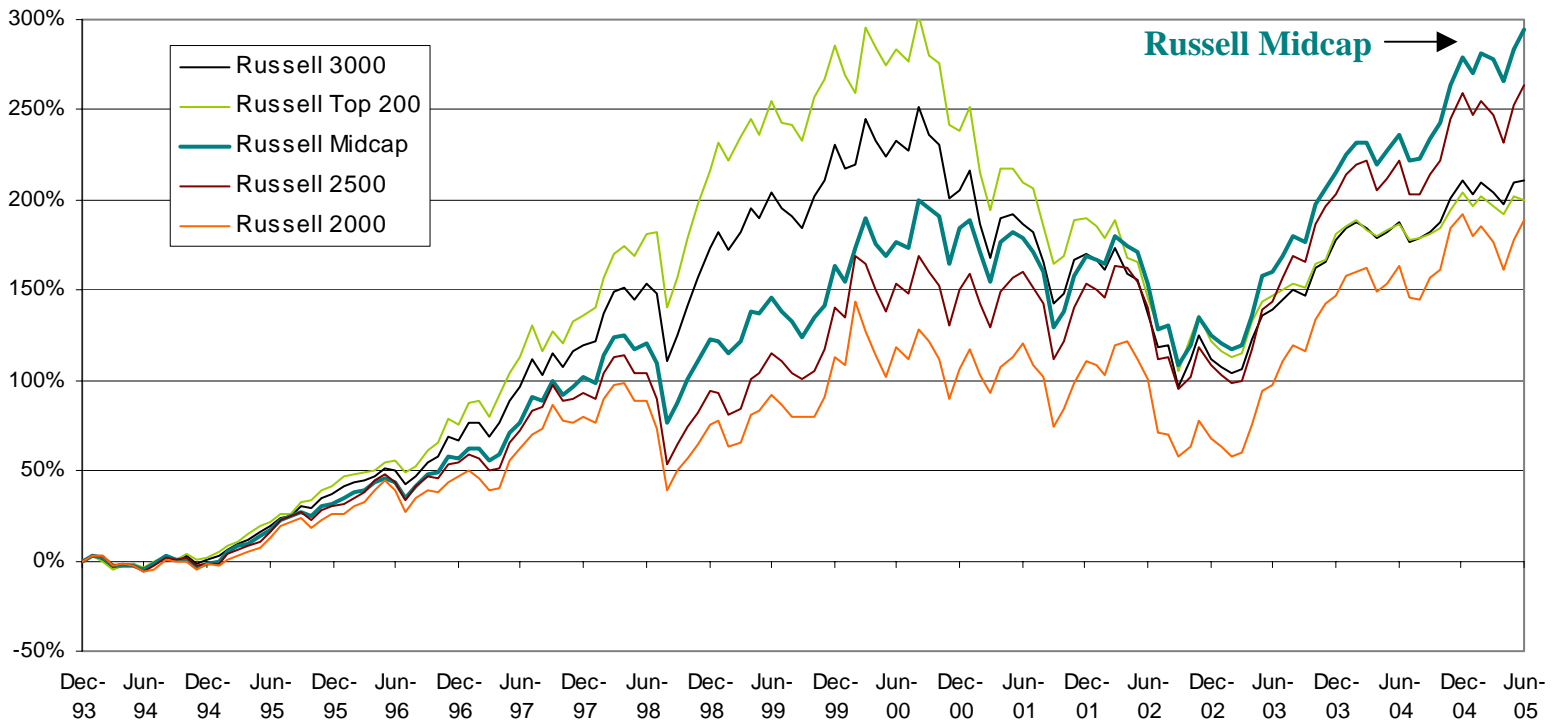
## Observations:

- The study covered a 11.5 year period from 12/31/1993 through 6/30/2005. The timeframe for the study covers the full time period for which we have complete returns data on all eight indices.
- **As Table 2 (above) illustrates, the case for investing in midcap stocks is compelling. The S&P 400 Midcap and Russell Midcap indices rank first and second on both an absolute return and risk-adjusted return (Sharpe Ratio) basis over this timeframe when compared to various broad market, large cap, small cap and SMID benchmarks.**
- Page 2 contains an analysis of the five Russell indices, and a similar comparison of the three S&P benchmarks is included on page 3. Correlation data is located on page 4 of this document, along with definitions of selected terms and indices.
- ***Shenandoah currently manages a two distinct midcap strategies that are benchmarked against the Russell Midcap index and S&P 400 Midcap index, respectively. Expected excess returns for both strategies are +2-3% p.a. over a market cycle with <4.0% tracking error versus the respective benchmarks.***

# Russell Index Comparisons

12/31/1993 through 6/30/2005

Russell Index Returns



	Cuml Return	Ann Return	Ann Std Dev	Sharpe Ratio (ann)	Information Ratio	1 Yr Retn	3 Yr Ann Retn	5 Yr Ann Retn	10 Yr Ann Retn
Russell Midcap	294.2%	12.7%	15.6%	0.60	0.81	17.1%	15.9%	7.3%	12.9%
Russell 2500	263.4%	11.9%	17.5%	0.51	0.68	12.7%	14.8%	7.4%	12.1%
Russell 3000	211.4%	10.4%	15.0%	0.48	0.69	8.1%	9.5%	-1.4%	10.1%
Russell Top 200	200.1%	10.0%	15.5%	0.45	0.65	4.5%	6.9%	-4.8%	9.4%
Russell 2000	188.9%	9.7%	19.2%	0.38	0.50	9.5%	12.8%	5.7%	9.9%

Source: Frank Russell Company

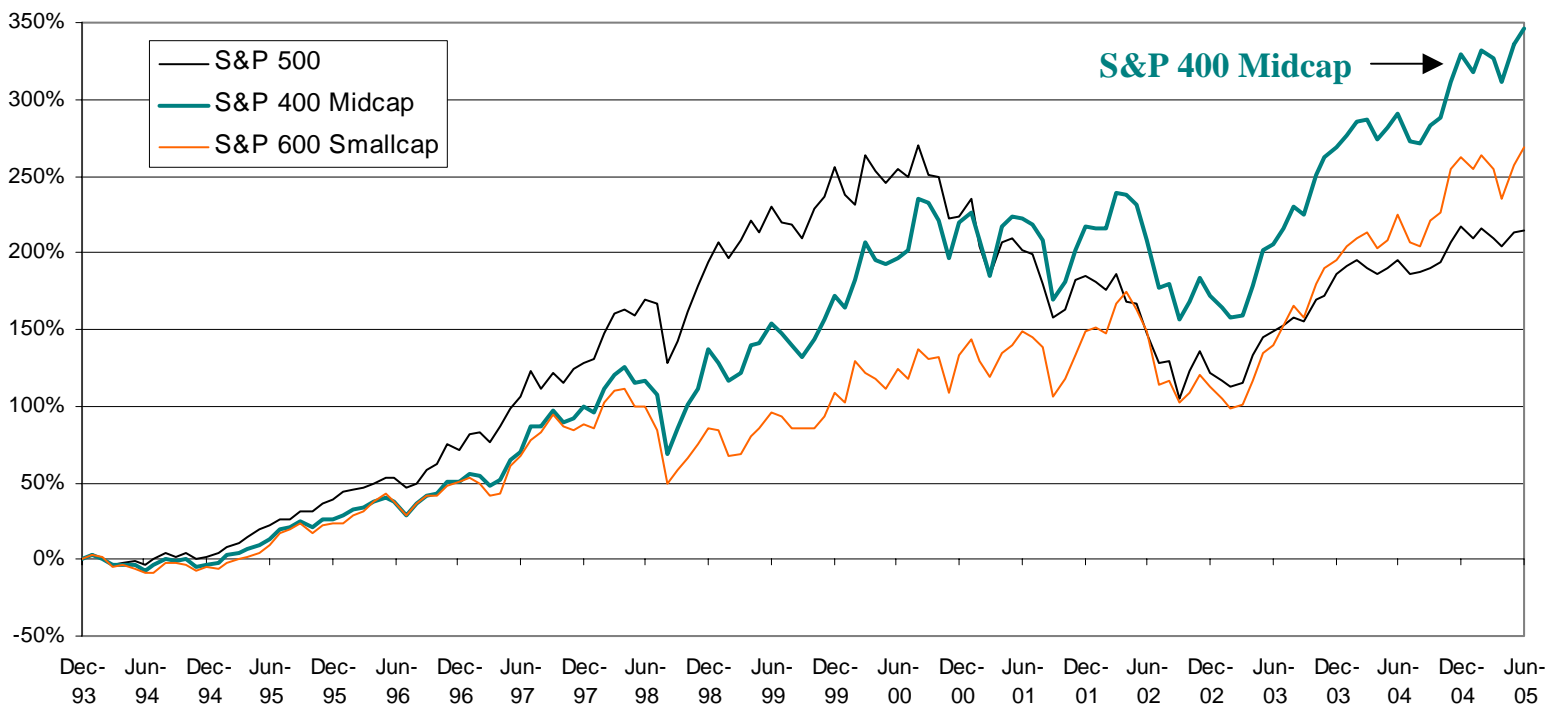
## Comments:

- Index return data in the table above are sorted by Sharpe Ratio.
- The Russell Midcap Index dominates all other broad Russell indices on both an absolute return and risk-adjusted return basis:
  - ✓ The annualized return of the Russell Midcap index for this period (1/1994 through 6/2005) is 12.7%, outperforming all other broad Russell indices by 80-300 bps per year.
  - ✓ The Sharpe Ratio for the Russell Midcap index is 0.60, by far the highest of all five indices shown above.
- The Russell Midcap index includes 800 stocks, representing \$3.8 trillion in market capitalization. The index is rebalanced each June to include the 201<sup>st</sup> through 1000<sup>th</sup> largest companies (by market cap) in the Russell 3000.
- *Shenandoah currently manages a midcap strategy that is benchmarked against the Russell Midcap index. Expected returns are +2-3% p.a. over a market cycle with 4.0% tracking error.*

# S&P Index Comparisons

12/31/1993 through 6/30/2005

## S&P Index Returns



	Cuml Return	Ann Return	Ann Std Dev	Sharpe Ratio (ann)	Information Ratio	1 Yr Retn	3 Yr Ann Retn	5 Yr Ann Retn	10 Yr Ann Retn
S&P 400 Midcap	345.5%	13.9%	16.8%	0.64	0.83	14.0%	13.2%	8.5%	14.7%
S&P 600 Smallcap	268.6%	12.0%	18.1%	0.51	0.66	13.4%	13.9%	10.5%	12.9%
S&P 500	214.2%	10.5%	15.0%	0.49	0.70	6.3%	8.3%	-2.4%	9.9%

Source: Standard & Poors

## Comments:

- Index return data in the table above are sorted by Sharpe Ratio.
- The S&P 400 Midcap Index dominates all other broad S&P indices on both an absolute return and risk-adjusted return basis:
  - ✓ The annualized return of the S&P 400 Midcap index for this period (1/1994 through 6/2005) is 13.9%, outperforming all other broad S&P indices by 190-340 bps per year.
  - ✓ The Sharpe Ratio for the S&P 400 Midcap index is 0.64, by far the highest of the three indices shown above.
- The S&P 400 Midcap index includes 400 stocks, representing \$1.1 trillion in market capitalization.
- Shenandoah currently manages a midcap strategy that is benchmarked against the S&P 400 Midcap index. Expected returns are +2-3% p.a. over a market cycle with 4.0% tracking error.

# Index Correlation Data

	S&P 500	S&P 400 Midcap	S&P 600 Smallcap	Russell 3000	Russell Top 200	Russell Midcap	Russell 2500	Russell 2000
<b>S&amp;P 500</b>	1							
<b>S&amp;P 400 Midcap</b>	0.86	1						
<b>S&amp;P 600 Smallcap</b>	0.72	0.90	1					
<b>Russell 3000</b>	0.99	0.91	0.79	1				
<b>Russell Top 200</b>	1.00	0.83	0.67	0.98	1			
<b>Russell Midcap</b>	0.89	0.97	0.91	0.94	0.86	1		
<b>Russell 2500</b>	0.78	0.93	0.97	0.85	0.74	0.96	1	
<b>Russell 2000</b>	0.71	0.88	0.97	0.79	0.67	0.91	0.99	1

## Definitions

- **Ann Return:** Annualized returns for periods over one year.
- **Ann Std Dev:** Annualized standard deviation of returns from 12/31/1993 through 6/30/2005.
- **Cuml Return:** Cumulative Return from 12/31/1993 through 6/30/2005.
- **Information Ratio:** Annualized Return divided by annualized standard deviation of returns.
- **Sharpe Ratio:** Average annual excess return (relative to the risk free rate) divided by the annualized standard deviation of the excess returns.

## Index Definitions

- **Russell 3000:** Frank Russell Company's broad market index of the 3000 largest US stocks; reconstituted annually in June.
- **Russell Top 200:** Frank Russell Company's large capitalization index of the 200 largest US stocks ; reconstituted annually in June.
- **Russell Midcap:** Frank Russell Company's medium capitalization index of 800 US stocks. The index is comprised of stocks ranked 201 through 1000 by market cap. at the time of the annual reconstitution (each June).
- **Russell 2500:** Frank Russell Company's SMID index of 2500 US stocks. The index is comprised of stocks ranked 501 through 3000 by market cap. at the time of the annual reconstitution (each June).
- **Russell 2000:** Frank Russell Company's small capitalization index of 2000 US stocks. The index is comprised of stocks ranked 1001 through 3000 by market cap. at the time of the annual reconstitution (each June).
- **S&P 500:** Standard & Poors' large capitalization index of 500 stocks as selected by the S&P investment committee.
- **S&P 400 Midcap:** Standard & Poors' medium capitalization index of 400 stocks as selected by the S&P investment committee.
- **S&P 600 Smallcap:** Standard & Poors' small capitalization index of 600 stocks as selected by the S&P investment committee.