InvestorLit Review 2011(6)

"US Small Cap"

US small cap has outperformed US large cap by over 2% per annum since 1926, although underperforms at times and is more volatile than large cap. Being a less efficient market, it also allows manager alpha, typically expected to be about 3% per annum.

Introduction

This paper on U.S. small cap[1] is not the normal review of investment literature but comments on an asset class, and is hopefully of value to our readers. US small cap has outperformed US large cap by over 2% per annum since inception of the CRSP[2] data base in 1926 (this premium sometimes being called "structural alpha")[3]. Small cap can lag large cap for considerable periods and is more volatile, as we show, but over the long term it has returned an attractive premium.

In addition, because small cap is a less efficient market, the potential for manager value-added (manager alpha) is greater. Sponsors typically set a 3% per annum value-added objective for small cap managers, vs. 1% for large cap. The potential of a total premium of 5% over passive US large cap (structural alpha plus manager alpha) makes small cap (and value style in particular) an attractive alternative to US large cap.

Given small cap's expected total premium over large cap, it can be used as an alternative to private equity fund investing, which also has an expected premium of some 5% over US large cap – see *InvestorLit Review 2011(5)* for more on this. It can also be used simply as an alternative to US large cap, where alpha is scarce.

In this paper we review the history of small cap returns, show actual manager valued-added using Mercer performance data, and note performance of large/small cap and value/growth. One might quite reasonably ask: "Why US small cap as opposed to non-US?" My views are based on experience with US small cap and its managers. The same arguments about inefficiency probably also apply to non-US small cap. However, the US is a large part of the world - recently 42% of MSCI Developed Market World Index – and it is a challenging market due to its efficiency. For these reasons, I think US small cap seems a good place to devote attention.

Finally, we note, a yet unpublished paper by Chen, Ibbotson, and Hu suggests that illiquidity (defined by turnover) can be a separate and significant premium to size and style– a somewhat related topic we may explore in the future[4].

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[1] Written originally as part of a private equity theme for a Federated Press Annual Alternative Investment Strategies Conference in 2003, this topic was expanded and updated in 2006, 2007, and 2008 - the last version with David Hecht of the Brandes Institute.
[2] Centre for Research in Security Prices – this database contains all securities listed on the NYSE since 1926.
[3] Leibowitz, Hammond and Bova call this asset class premium "structural alpha" in "The Endowment Model", Wiley, 2009.
[4] Chen, Ibbotson, and Hu, upcoming in *Financial Analysts Journal*: "Illiquidity as an Investment Style", September 10, 2010, Draft available on SSRN: http://ssrn.com/abstract=1675108

US Small Cap Returns

Exhibit 1 shows returns and standard deviations of large-cap and small-cap U.S. public stocks from March 1926 through March 2011. The data was kindly provided by the Brandes Institute. The S&P 500 Index is used for large cap. The Ibbotson Database is used for small cap. The annualized return of small cap over this period exceeded large cap by 2.2%, although with higher volatility.

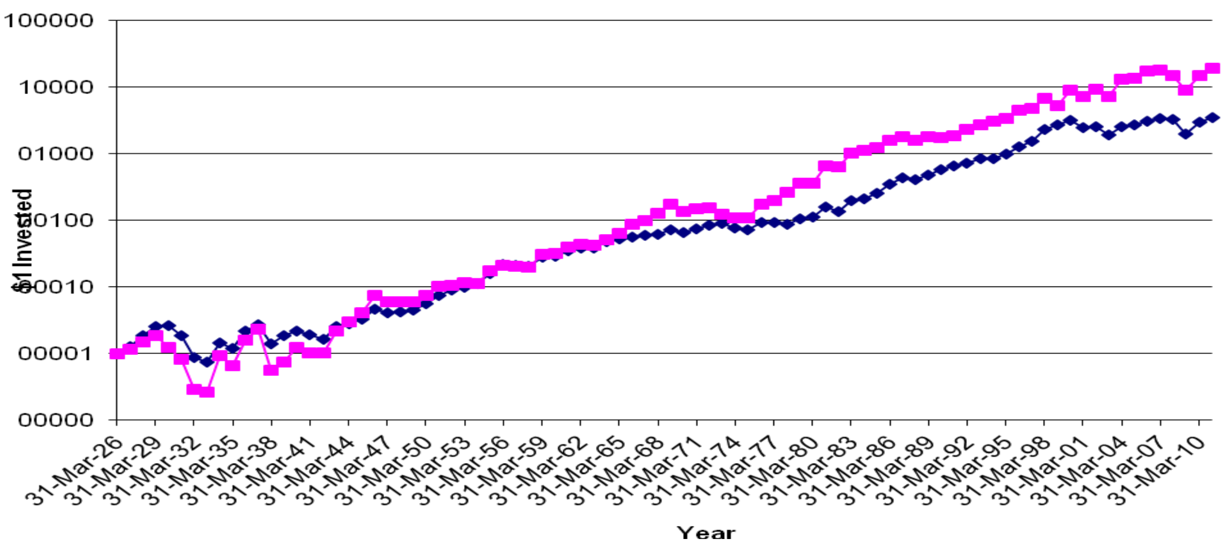
Exhibit 1: Annualized Return and Standard Deviation: Small Cap vs. Large Cap, March 1926 – March 2011

Asset Class	Annualized Return	Standard Deviation of Annual Returns
US Large-Cap Stocks	10.1%	24.3%
US Small-Cap Stocks	12.3%	43.7%

Source: Ibbotson, Brandes Institute.

Small-cap's outperformance is shown graphically in Exhibit 2. The scale is a log scale, so it shows percentage return differences between small cap and large cap fairly in all periods – otherwise the large dollar differences in later years swamp the early-year return differences. It may be noted that small cap underperformed large cap for a long period following the depression in 1929. In later periods, for example, from 1950 through 2006, small-cap stocks outperformed large-cap stocks by about 2.8% per annum.

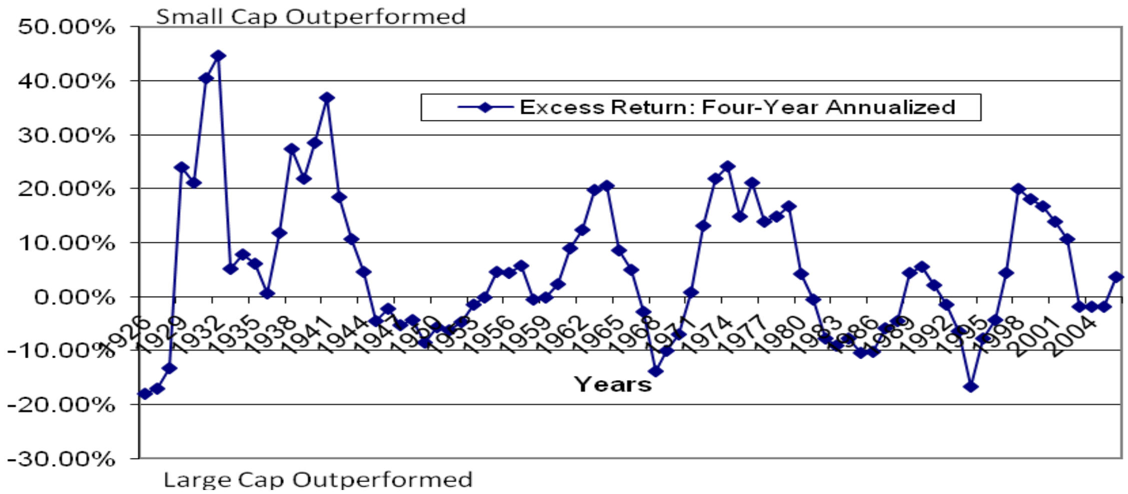
Exhibit 2: Cumulative Returns, Small Cap (Pink) vs. Large Cap (Blue), March 1926 – March 2011



Source: Ibbotson, Brandes Institute.

Exhibit 3 shows the out-performance of small-cap stocks vs. large caps in 4-year rolling periods – a time frame commonly used by institutional investors. Small cap out-performance has varied but persisted over the long term.

<u>Exhibit 3: Rolling Four-Year Excess Return, Annualized – Small Cap vs. Large Cap, 1930-2011</u>



Source: Ibbotson, Brandes Institute.

<u>US Small Cap Manager Performance</u>

As mentioned, in US small cap, superior stock selection can permit managers to add value. Evidence of this value-added is seen in Mercer's manager performance data comparing the median manager return to the related benchmark.

Exhibit 4 shows rolling four-year <u>excess return</u> (Median less Index) and <u>frequency of outperformance</u> over 1989 to 2010 for large cap core, value, and growth and small cap, core, value, and growth.

Excess return in the small cap asset class is significantly better than that in the large cap asset class in every style – core, value and growth.

As well, excess return is more <u>consistently</u> earned in small cap than large cap. Excess return is earned in almost all (17 or 18 out of the 18) rolling periods for small cap. This compares to excess return in 75% (13 or 14 out of 18) of rolling periods for large cap.

Exhibit 4: Annualized Rolling 4-Year Geometric Excess Returns, Sept. 30, 1989 - Sept. 30, 2010

Rolling 4 Years to	Large Cap Core Median vs. Russell 1000 Index	Large Cap Value Median vs. Russell 1000 Value	Large Cap Growth Median vs. Russell 1000 Growth	Small Cap Core Median vs. Russell 2000 Index	Small Cap Value Median vs. Russell 2000 Value	Small Cap Growth Median vs. Russell 2000 Growth
Sept-93	1.20%	0.10%	2.00%	6.20%	3.10%	10.20%
Sept-94	0.90%	0.80%	0.90%	3.10%	0.10%	6.90%
Sept-95	0.10%	-0.20%	0.50%	3.60%	-1.00%	5.90%
Sept-96	0.20%	0.10%	-0.20%	4.70%	1.00%	6.30%
Sept-97	-0.50%	1.20%	-2.10%	5.90%	1.70%	3.90%
Sept-98	-2.00%	-2.20%	-3.00%	4.90%	0.00%	5.00%
Sept-99	-1.60%	-2.60%	-2.60%	4.20%	1.70%	3.70%
Sept-00	-0.40%	-2.00%	-0.40%	3.80%	2.50%	8.10%
Sept-01	0.90%	0.40%	4.10%	5.20%	1.40%	7.60%
Sept-02	1.80%	1.70%	5.40%	5.70%	4.20%	8.70%
Sept-03	1.70%	1.70%	5.00%	4.90%	2.00%	6.50%
Sept-04	1.70%	1.60%	2.70%	3.60%	1.50%	1.90%
Sept-05	0.30%	0.20%	1.40%	2.60%	1.50%	2.00%
Sept-06	0.00%	-0.70%	1.00%	0.50%	0.30%	0.10%
Sept-07	0.30%	0.00%	1.80%	1.40%	1.40%	1.60%
Sept-08	0.80%	0.80%	1.30%	0.20%	0.90%	-0.10%
Sept-09	0.90%	1.80%	0.20%	-0.10%	2.70%	0.00%
Sept-10	0.50%	2.20%	0.00%	0.60%	4.20%	0.40%
Total Excess Return	**6.80%**	**4.90%**	**18.00%**	**61.00%**	**29.20%**	**78.70%**
Average Excess Return	**0.38%**	**0.27%**	**1.00%**	**3.39%**	**1.62%**	**4.37%**
Frequency of Outperformance	**14/18**	**14/18**	**13/18**	**17/18**	**17/18**	**18/18**

Source: Mercer Investment Consulting, gross returns measured through 9/30/10. Portfolios are institutional separate accounts.

US Small Cap vs. Large Cap, Value vs. Growth

Forty years compound annual returns for value/growth and large/small cap are shown in Exhibit 5[5] over 1970-2010 for US equities:

1/ Size: Small cap has outperformed large cap - in value by 4.5% pa, and in growth by 1.2% pa.

2/ Style: Value has outperformed growth – in large cap by 2.9% pa, in small cap by 6.2% pa.

3/ The best asset class (small cap value) outperformed the worst asset class (large cap growth) by 7.4% pa.

Exhibit 5: Large Cap and Small Cap, Growth and Value, 1970 - 2010

Size and Style	40 Year Annualized Return
Small Cap Value	**15.0%**
Large Cap Value	**10.5%**
Small Cap Growth	**8.8%**
Large Cap Growth	**7.6%**

Source: Morningstar, Stocks Bonds, Bills and Inflation 2011

Conclusions

US small cap has outperformed large cap since inception of the CRSP data base in 1926 by 2.2% per annum and more so in the post depression years. Mercer manager performance data over 22 years shows the median manager in small cap has outperformed their benchmark quite consistently in rolling four-year periods. This is reflected in the typical value added objective that sponsors set for US small cap managers of 3% per annum as opposed to 1% typically set for US large cap managers. Finally, in US small cap, value as a style has outperformed growth quite significantly – 6.2% per annum – over 1970- 2010.

All these observations suggest US small cap and value in particular is an attractive asset class.

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[5] Morningstar 2011. This data was presented by Roger Ibbotson, Professor at the Yale School of Management, at the Canadian Investment Review – Richard Ivey School of Business Investment Innovation Conference, November, 2011.