The Case for Micro-Cap Equities

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MICRO-CAP EQUITIES PRESENT A COMPELLING INVESTMENT OPPORTUNITY FOR LONG-TERM INVESTORS

In an increasingly efficient and competitive market, this segment is perhaps the only one that has become less efficient. With Wall Street research coverage and investment manager attention increasingly focused on larger stocks, institutional neglect has increased in recent years. Imperfect information flows, market cap and share price restrictions, and illiquidity frequently create tremendous opportunities to buy companies at dramatic discounts to intrinsic value. Micro-caps have therefore become even more attractive to those who are willing and able to put in the work needed to capitalize on a unique opportunity set.

Here is an outline of the rationale for investing in micro-caps, both as an asset class and specifically in Ariel's deep value strategy:

- Over long periods of time, micro-cap stocks have outperformed other equities.
- Micro-cap stocks may improve a portfolio's risk/return characteristics.
- Adding a deep value approach to a micro-cap strategy may increase the potential for outperformance.
- Ariel's proven approach provides further opportunities by exploiting inefficiencies, which has led to a long-term past record of northwest quadrant performance and low correlation with other equities.
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At Ariel Investments, we define a micro-cap stock as one with total market capitalization at the time of initial purchase less than $500 million. This is in line with other definitions; for instance, the Center for Research in Security Prices (CRSP) at the University of Chicago Booth School of Business uses deciles 9 and 10 of its comprehensive US equity data base. At year-end 2012, this corresponded with stocks under $423 million in market cap.[1]

LONG-TERM OUTPERFORMANCE OF MICRO-CAP STOCKS

More than 85 years of data support the case that micro-cap stocks have been by far the highest returning segment of the domestic equity market. CRSP has data from 1926-2011 which show the following average annual returns:[2]

Micro-Cap	+12.0%
Low-Cap	+11.3%
Mid-Cap	+10.9%
Large-Cap	+9.8%

Over long periods of time this advantage becomes quite significant. Hypothetically $1,000 invested in each of these classes would grow to the following values over the following time frames:

	5 years	10 years	25 years	Life of Study
Micro-Cap	$1,762	$3,106	$17,000	$17.09 mm
Low-Cap	$1,708	$2,917	$14,534	$9.97 mm
Mid-Cap	$1,677	$2,814	$13,283	$7.31 mm
Large-Cap	$1,596	$2,547	$10,353	$3.10 mm

In addition, this outperformance has been persistent. Richard Imperiale has documented that micro-caps outperform large-caps 98% of the time for rolling 20-year periods.[3]

POSITIVE IMPACT ON PORTFOLIO RISK/RETURN PROFILE

Most readers will not be surprised by the return data shown above; informed investors assume higher returns found in very small stocks are simply a trade-off for taking on higher risk. That is, smaller companies are inherently riskier than larger ones. Many assume that further implies adding them to a portfolio will add to its overall riskiness.The data says otherwise. Micro-cap stocks do not behave merely like a smaller version of small-cap stocks (i.e. low-cap, or those in the deciles 6-8). Because micro-caps are generally far off of the radar of Wall Street, their individual and collective return profiles do not correlate highly with larger stocks. Over the 20 years from January 1992 to December 2012 the Dow Jones U.S. Micro-Cap Total Stock Market Index has shown a correlation of .70 with the S&P 500.[4] Micro-cap stocks are indeed a separate asset class – and adding them to a typical balanced portfolio can produce surprising results, as shown in the following table produced by Richard Imperiale:[5]

Micro-Cap Contribution, Stock Bond Portfolio, 25 years as of 12/31/03				
Allocation				
Stocks	Bonds	Micro-Caps	Annual Return	Standard Deviation
60	40	0	7.7%	13.3%
55	40	5	8.2%	12.7%
50	40	10	8.7%	11.6%
45	40	15	9.2%	10.6%
40	40	20	9.6%	9.9%
35	40	25	10.2%	9.3%
30	40	30	10.6%	9.0%
25	40	35	10.9%	8.8%
20	40	40	11.1%	8.6%
15	40	45	11.2%	8.9%

Stocks: S&P 500, Bonds: Lehman Government Corporation, Micro-caps: Wilshire Micro-cap

As expected, the annual return of the model portfolio increased as the 60% in total equities contained progressively larger weightings of micro-caps. What is remarkable is that up until the equity portfolio was well beyond 50% in micro-caps, the overall portfolio volatility actually decreased.

As Imperiale notes in his book, it is highly unlikely that an institution would allocate 40% of assets to micro-caps. The lack of liquidity would certainly become a major negative at that size. Nevertheless, the data suggests allocations considerably higher than often practiced, for long-term investors, can provide significantly increased expected returns with a meaningfully reduced overall risk profile.

DEEP VALUE INVESTING AND MICRO-CAP STOCKS

A number of academic studies support the notion that there is a "value effect," which is particularly strong in small stocks. Fama and French are the most prominent scholars to examine the relationship between company size and the value premium. When price-to-book value is used to define value, there was a notable advantage for small value stocks – and particularly so since 1963.[6] Works by Lakonishok, Shleifer & Vishny, as well as Thaler & DeBondt also support the idea that behavioral biases by investors lead to superior results for such value-based strategies.[7]

We believe that this value phenomenon is consistent with the investment philosophies of Benjamin Graham and David Dodd. Because the level and sustainability of growth is difficult to estimate properly, investors tend to misprice very small stocks on an earnings basis. Asset values (i.e. cash, receivables, and property, plant & equipment) tend to be more stable, and when investors take a dim view of the earnings power of a company, a margin of safety often appears. For the patient investor, a free (or at least very inexpensive) lunch is often available. Micro-cap stocks are often so misunderstood and/or neglected that their risk/return profiles become truly asymmetric. That is, they sometimes trade at prices at or below liquidation values (i.e with a margin of safety), thereby assigning little or no value to operations which may ultimately prosper and produce exceptional returns.

ILLIQUIDITY IS OUR FRIEND

We have long been of the view that micro-cap illiquidity, so often feared by market observers, is actually a benefit to long-term value investors.

Roger Ibbotson recently produced data supporting this view. He has shown that illiquid stocks outperform liquid stocks across all market cap ranges. He believes that investors avoid thinly traded stocks, thereby creating bargains. Over long periods of time these bargain prices provide excess returns. In micro-caps, Ibbotson's data show that the most thinly traded stocks outperform the more liquid stocks by 12 percentage points per year.[8]

From a practical standpoint, we believe that we can take advantage of impatience to buy at larger discounts and sell at higher premiums. For instance, often a margin of safety will result from the forced liquidation of a large position in an illiquid stock. Likewise, newfound enthusiasm by Wall Street analysts or traders may cause a stock's price to suddenly spike higher – providing the opportunity to reduce a position at an attractive price.

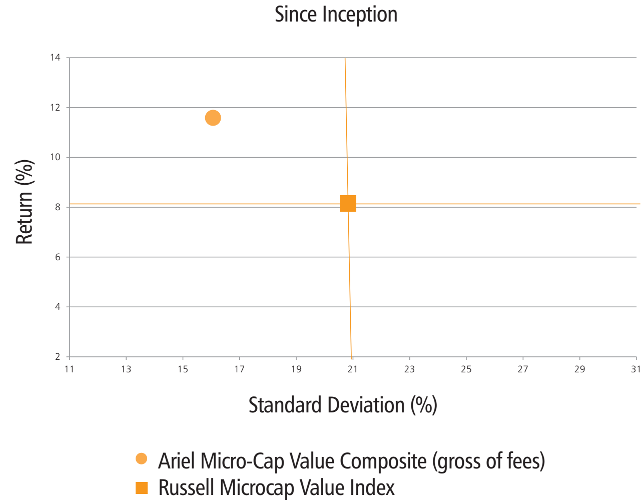
ADDING VALUE WITH ARIEL'S PROVEN APPROACH TO MICRO-CAP INVESTING

Ariel Investments has a well-established, in-depth, bottom-up approach to stock selection. This method is ideally suited to the world of micro-cap equities, where institutional neglect leads to imperfect information flows, inefficiency in the short-term and, therefore, opportunity. For major sell-side and buy-side firms, the costs of analyzing very small companies simply cannot be justified. For example, stocks in the Russell Micro-Cap Index currently are followed by an average of 3.1 Wall Street analysts, while those with market capitalizations over $50 billion are followed on average by 25.3 analysts.[9]

At the smallest end of the capitalization spectrum, there are often no sell-side analysts following our companies, and we are typically one of only a handful of institutional investors who own them and closely follow their progress. We believe that our visits with management teams, extensive reading, financial statement analysis and discussions with industry contacts give us insights which allow us to add significant value as an active manager.

By employing a contrarian, long-term, deep value approach to the micro-cap universe, Ariel starts with a large pool of potential investments that has demonstrated outstanding returns, both absolutely and risk-adjusted, over long periods of time. We then take advantage of the lack of interest in our world by doing the intense, hands-on research necessary to estimate intrinsic value. We use asset value as a starting point, and gravitate toward cash-rich, debt-free balance sheets and companies with strong corporate governance and insider ownership. We believe we are able to construct a relatively concentrated portfolio with a significant margin of safety and considerable upside potential – as noted earlier, one with a truly asymmetric risk/return profile. We believe that our track record since 2002 in micro-cap stocks demonstrates our ability to add value to this already attractive investment opportunity.

The case for most micro-cap strategies rests upon superior returns or an attractive risk/reward balance; ours has demonstrated both qualities over the longer term as you can see in column to the right.



In fact, through March 31, 2013, the Ariel Micro-Cap Value portfolio has produced results well into the desired northwest quadrant since its inception in 2002. Compared to its primary benchmark, the Russell Micro-Cap Value Index, the strategy has annually returned +12.84% (gross of fees, +10.27% net of fees) vs. +8.15%, while the standard deviation of 16.14% is well below the benchmark's volatility and in line with the S&P 500 Index. In addition, the r-squared vs. the S&P 500 is only 43.50. Altogether, we think this combination makes a handsome addition to more equity portfolios.

Past performance does not guarantee future results. Investing in micro-cap stocks is more risky and more volatile than investing in large-cap stocks. The performance results prior to April 30, 2009 were achieved while David Maley managed the strategy at his prior firm using a substantially similar investment style. Mr. Maley began managing this strategy at Ariel on April 30, 2009. The performance results achieved at Mr. Maley's prior firm are linked to the performance results of the Ariel Micro-Cap Value Composite. The strategy may include the holding of cash for defensive purposes. Also, the strategy may include temporary investments in Exchange Traded Funds (ETFs) while seeking other investment opportunities. During June 2004 through January 2008, the investment strategy included periodically holding short positions in certain ETFs. This practice may have had a material effect on returns. Performance results of the Composite are net of transaction costs and reflect the reinvestment of dividends and other earnings. Gross returns prior to May 2009 also are net of accounting and legal expenses. Net returns beginning May 2009 reflect the deduction of the advisory fee, which is currently 1.25% per annum. Net returns prior to May 2009 are net of a 20% incentive fee, other expenses, management fees, and profit allocations. Net performance shown has been reduced by the amount of the highest fee charged to any client during the performance period. Actual fees may vary depending on, among other things, the applicable fee schedule and portfolio size. Fee information is available upon request and may also be found in Ariel's Form ADV, Part 2.

Endnotes:
[1] CRSP data via *2012 Ibbotson SBBI Risk Premia Over Time Report.*
[2] CRSP.
[3] Imperiale, Richard. *The Micro Cap Investor.* Page 39 Study ended in 2002 (1926-2002).
[4] Zephy StyleADVISOR.
[5] Imperiale, Richard. *The Micro Cap Investor.* Page 49 Study ended in 2003 (25 years).
[6] Fama, Eugene and French, Kenneth. The Anatomy of Value and Growth Stock Returns, *Financial Analysts Journal* vol. 63, no. 6 (2007) 44-54.
[7] Lakonishok, Josef; Shleifer, Andrei; Vishny, Robert. Contrarian Investment, Extrapolation, and Risk, *Journal of Finance* vol. 49, no. 5 (December 1994): 1541-1578
De Bondt, Werner and Thaler, Richard. Does the Stock Market Overreact? *Journal of Finance* vol. 40, no. 3 (July 1985) 793-805.
[8] Daniel Fisher, "Volume Discount" *Forbes Magazine.* November 8, 2010 Page 32.
[9] FactSet.

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