Oberweis Asset Management

MICRO-CAP GROWTH STRATEGY 2Q 2019

The Quarter in Review

The Oberweis Micro-Cap Composite returned 2.44% (2.24% net of fees) in the second quarter versus 0.43% for the Russell Microcap Growth Index, an outperformance of 201 basis points (181 basis points net of fees). Against the Russell 2000 Growth Index, which returned 2.75%, the Composite lagged by 31 basis points (51 basis points net of fees). On a year-to-date basis, the Composite returned 24.57% (24.07% net of fees) compared to 16.50% for the Russell Microcap Growth Index and 20.36% for the Russell 2000 Growth Index, outperforming by 807 and 421 basis points (757 and 371 basis points net of fees), respectively.

Solid performance was generated despite some mixed portfolio-level headwinds. Although the portfolio benefitted from a growth style tailwind year-to-date[1], micro-cap value stocks were the stronger performers during the quarter[2]. Higher-ROE companies outperformed to our benefit in the last three months, however it was the lower-quality, low-ROE companies (a cohort we are underweight) that have performed more strongly year-to-date[3]. Capitalization has been an impediment all year, with the bottom two quintiles in the Russell 2000 Growth Index generating negative returns in the second quarter and underperforming significantly over the first six months. Generally speaking, small-cap stocks have dramatically underperformed large caps since June 2018, and now look cheap on a relative basis. According to Jefferies small-cap strategist Steven DeSanctis, the Russell 2000 trades at a high-teens percentage relative discount to the Russell 1000 (compared to the long-term average) on price/book, price/sales, and trailing P/E.

Despite the sizable bounce in equities thus far in 2019, investors remain concerned that sustained trade tensions and uncertainties are contributing to weakening economic readings worldwide. U.S. real GDP growth is expected to decelerate to an anemic 1.5%[4] in the second quarter, and the latest Manufacturing Purchasing Managers Index readings signaled contraction[5] in China, Japan, Taiwan, Korea, Germany, the U.K., Italy, and Spain. Interestingly, the U.S. PMI in June still signaled modest expansion with a reading of 50.6.

Sentiment as measured by multiple indicators is persistently negative and aggregated investor activity is increasingly defensive as economic activity slows globally and the trade war with China hangs over the market like an unabating dark cloud. According to Bank of America Merrill Lynch, investors are almost universally calling a top in the market and the economy, with a record 87% of respondents labeling the economy as “late cycle” and just 10% expecting interest rates to rise over the next year (compared to 63% in November, 2018). Merrill’s most recent global fund manager survey was the most bearish since the Global Financial Crisis in 2008 and showed a large rotation in June into defensive plays such as bonds, cash, staples, and utilities, and out of equities, where fund outflows have eclipsed $50 billion year-to-date. According to research by JP Morgan, defensive issues are as expensive relative to cyclicals as they have been since 2014.

The money has flowed into “safe havens” such as gold, which gained 9.2% during the quarter, and government bonds, which roared to multi-year highs. The U.S. 10-year Treasury yield dropped below 2% late in the quarter, down over 120 basis points since last November as rate cuts by the Federal Reserve are expected as soon as July. Ten-year yields are negative again in Germany, and even Greek 10-year bonds have rallied to the point that they inexplicably yield only about 25 basis points more than similarly termed U.S. paper.

We find it difficult and almost futile to determine if the pervasive recessionary fears in the market are justified, and the historical track record of economists, investors, and the market successfully predicting a recession is notoriously poor. In our experience, consensus expectations are often wrong and market tops typically occur when optimism is robust and valuations are high. Fortunately, we believe valuations among small-cap stocks are currently fair (neither cheap nor expensive by historical norms), and we continue to find a typical number of new investment ideas where a significant positive earnings surprise signals that a company’s underlying fundamentals are misunderstood or underestimated.

In our opinion, the volatility witnessed in the market since last autumn represents a case study about the perils of making investment decisions based on “macro” factors. Sentiment and equity prices have oscillated based on near-term interpretations of macro-level risks that are largely unchanged. While sentiment may swing wildly in the short-run in response to tweets, headlines, and TV soundbites, our bottom-up investment strategy focuses instead on companies demonstrating better-than-expected earnings power driven by transformational change. The P/E multiples afforded such companies may vary from quarter to quarter, but we believe a diversified portfolio of these investments is likely to outperform the market over the longer-term.

[1] The Russell Microcap Growth Index returned 16.50% year-to-date versus 12.00% for the Russell Microcap Value Index.
[2] The Russell Microcap Value Index returned 1.41% in 2q19 versus 0.43% for the Russell Microcap Growth Index.
[3] The lowest two ROE quintiles within the Russell 2000 Growth Index performed the best year-to-date.
[4] According to the Federal Reserve Bank of Atlanta forecasts.
[5] Readings under 50 signal a contraction of economic activity.

Oberweis Asset Management

MICRO-CAP GROWTH

2Q 2019

Portfolio Highlights

As of June 30, 2019, the portfolio was 99.0% invested in 77 different positions. The portfolio had its largest over-weightings in technology (24.2% average weighting during the quarter versus 16.9% for the Russell 2000 Growth Index), producer durables (19.5% versus 15.8%), and energy (3.9% versus 1.7%). The portfolio was most underweight in health care (18.1% versus 25.1%), due mainly to our lack of biotech exposure, financial services (4.9% versus 10.8%), and utilities (0.0% versus 1.9%).

In the second quarter the portfolio benefited from favorable stock selection in materials (where our holdings returned 21.21% versus a 6.41% return for the benchmark's materials holdings), health care (3.80% versus 0.10%), and consumer discretionary (4.86% versus 1.81%). Performance was negatively impacted by stock selection in technology (-4.01% versus 1.81%).

PORTFOLIO CHARACTERISTICS
(AS OF JUNE 30, 2019)

Number of Stocks	77
Weighted Market Capitalization (in millions)	$1,037
Median Market Capitalization (in millions)	$810
P/E Forward 4 Quarters (estimated)	14.8x
Long-Term Debt to Total Equity	9.7%
Return on Equity	5.3%
Cash Position	1.0%
Portfolio Turnover (2018)	116.0%

Source: Thomson Reuters Eikon

Key Benefits

The Micro-Cap Growth strategy seeks to capitalize on the exceptional growth potential of companies in the early stages of their life cycle. The strategy invests in very small companies which, at the time of purchase, have a market capitalization

less than $600 million or are within the range of companies represented in the Russell Micro-Cap Growth Index, whichever is greater. These companies often boast exciting products and/or services driving organic revenue and earnings growth. Our fundamental research process is specifically designed to uncover such opportunities.

The key benefits of the Micro-Cap Growth strategy are:

- Access to one of the least efficient segments of the equity market
- Potential for significant alpha over a full market cycle
- Combines empirically-proven Behavioral Finance principles with the very best of fundamental bottom-up research
- Disciplined and repeatable investment process managed by a passionate and experienced investment team
- Fundamental research process specifically designed to efficiently discover micro-cap companies that are misunderstood by traditional Wall Street research analysts
- Exposure to micro-cap companies offering the potential for earnings growth that differs from consensus expectations
- Diversified portfolio with a focus on risk management

Minimum Account Size: $5 million for Institutional Account Management

For more information please contact:
Brian K. Lee
Oberweis Asset Management, Inc.
3333 Warrenville Rd., Suite 500, Lisle, IL 60532
(800) 323-6166 | (630) 577-2321 | brian.lee@oberweis.net

MICRO-CAP GROWTH

2Q 2019

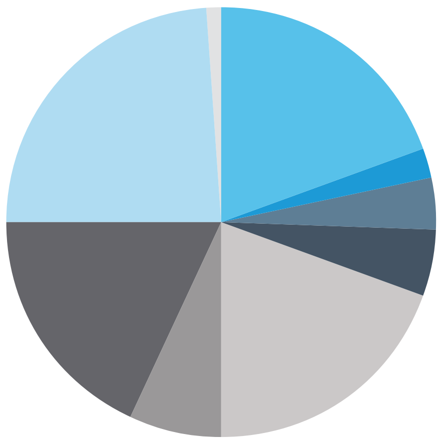
TOP TEN HOLDINGS *(as of June 30, 2019)*

	Company		Line of Business
1	DMC Global, Inc.	3.7%	Global technology company that offers collaboration, research, development, and other services
2	Tandem Diabetes Care, Inc.	2.8%	Develops pump systems for diabetes patients
3	Vericel Corp.	2.7%	Develops cell therapy products for the treatment of patients in the sports medicine and burn care markets
4	Career Education Corp.	2.6%	Provides for-profit secondary education in the U.S.
5	CareDx, Inc.	2.5%	Develops diagnostic tests for transplant patients
6	Mesa Air Group, Inc.	2.3%	Operates a regional airline
7	MTS Systems Corp.	2.1%	Supplier of high performance test systems and sensors
8	Mobileiron, Inc.	2.1%	Develops software platforms for mobile devices
9	Skyline Champion Corp.	2.1%	Manufacturer of mobile home and truck campers
10	Bandwidth, Inc.	2.0%	Develops cloud-based communications platforms

Top 10 holdings as a percentage of Total Net Assets. Portfolio Holdings are subject to change at any time. References to specific securities should not be construed as a recommendation to buy or sell and should not be assumed profitable. Source: Thomson Reuters Eikon

SECTOR WEIGHTINGS *(as of June 30, 2019)*

Sector	Weight
Consumer Discretionary	19.5%
Consumer Staples	2.3%
Energy	4.0%
Financial Services	4.9%
Health Care	19.5%
Materials & Processing	6.9%
Producer Durables	17.9%
Technology	24.0%
Utilities	0.0%
Cash	1.0%
Total	100.0%



Sector weightings as a percentage of Total Net Assets. Source: Thomson Reuters Eikon

Oberweis Asset Management

MICRO-CAP GROWTH

2Q 2019

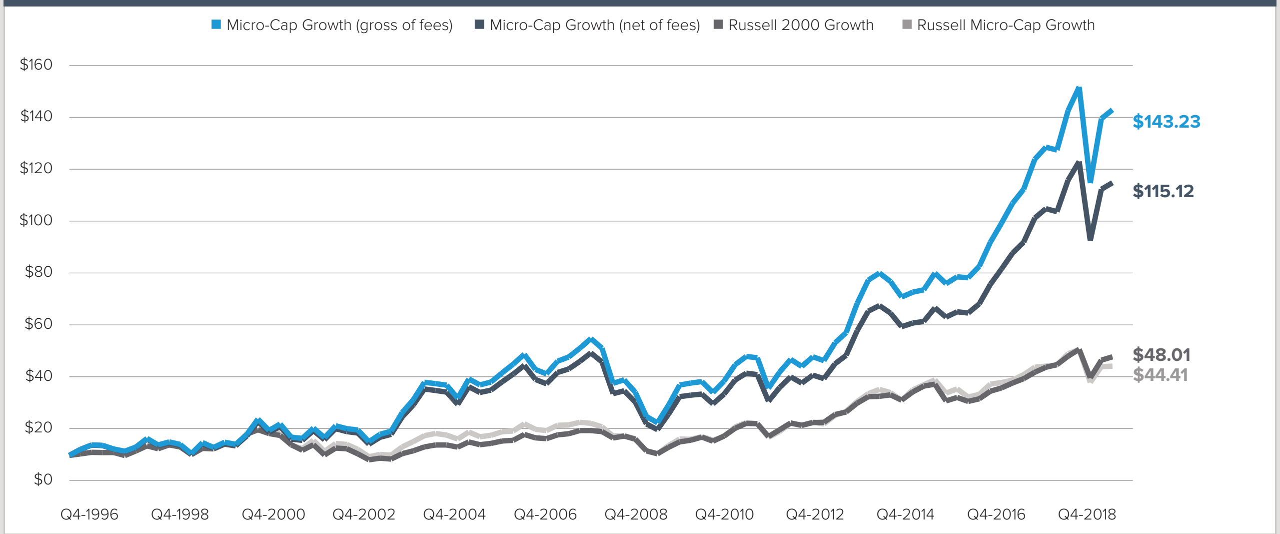
AVERAGE ANNUAL TOTAL RETURNS *(as of June 30, 2019)*	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Since Inception 1/1/1996
Micro-Cap Growth (gross of fees)	**2.44%**	**24.57%**	**0.22%**	**19.99%**	**13.20%**	**17.15%**	**12.02%**
Micro-Cap Growth (net of fees)	**2.24%**	**24.07%**	**-0.86%**	**18.94%**	**12.17%**	**16.09%**	**10.97%**
Russell Microcap Growth Index	0.43%	16.50%	-9.79%	9.82%	4.32%	11.85%	N/A
Russell 2000 Growth Index	2.75%	20.36%	-0.46%	14.69%	8.63%	14.41%	7.13%

Oberweis Asset Management, Inc. ("OAM") is an independent investment management firm that is not affiliated with any parent organization. The composite returns are comprised of all fully discretionary accounts with a minimum value of $5 million. Performance results, from 1-1-96 until 12-31-03 and 9-1-11 to present were derived solely from the performance of the Oberweis Micro-Cap Fund, a registered, open-end mutual fund, for which OAM serves as investment adviser. Prior to November 4, 2001, James D. Oberweis was the sole portfolio manager for the Micro-Cap Fund during the period of the performance results noted. Accounts are dollar-weighted within the composite and reported in U.S. dollars.

The Russell 2000 Index measures the performance of approximately 2,000 companies with small-market capitalizations. The Russell 2000 Growth Index measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted earnings growth rates. The Russell Microcap Growth Index measures the performance of those Russell Micro Cap companies with higher price-to-book ratios and higher forecasted growth values. The performance data includes reinvested dividends. The Russell Microcap Index is represented by the smallest 1,000 securities in the small cap Russell 2000 Index plus the next 1,000 securities. Each index is an unmanaged group of stocks, whose performance does not reflect the deduction of fees, expenses or taxes.

Advisory fees are disclosed in Part II of Form ADV. Performance is historical and includes the reinvestment of dividends and other income. Past performance is not necessarily indicative of future results.

GROWTH OF $10 MILLION — WITH INCOME INVESTED *(January 1, 1996 – June 30, 2019)*



The Russell Microcap Growth Index began on 7/3/00, and the line graph for the Index begins at the same value as the Fund on that date.

Oberweis Asset Management, Inc.

Recognized as a leading small-cap stock specialist, Oberweis has been helping institutional investors manage their assets prudently and effectively for many years.

MEET THE TEAM