

## MICRO-CAP GROWTH STRATEGY

3Q 2018

### The Quarter in Review

The Oberweis Micro-Cap Growth Composite returned 6.40% (6.20% net of fees) in the third quarter of 2018 compared to 5.52% for the Russell 2000 Growth Index, an outperformance of 88 basis points (68 basis points net of fees). Compared to the Russell Microcap Growth Index, which returned 3.15%, the Composite outperformed by 325 basis points (305 basis points net of fees). Year-to-date, the Composite returned 18.05% (17.31% net of fees) versus 15.76% for the Russell 2000 Growth Index and 14.32% for the Russell Microcap Growth Index, an outperformance of 229 basis points (155 basis points net of fees) and 373 basis points (299 basis points net of fees), respectively.

Both absolute and relative returns were solidly positive despite numerous undercurrents that have required careful navigation so far this year. Growth stocks continued to perform better than value stocks during the quarter and have now outperformed by 862 basis points year-to-date<sup>1</sup>. Valuation just hasn't mattered much this year, and this theme has infiltrated the growth universe as well, with the Russell 2000 Growth Index return driven by the highest P/E quintile and companies without earnings (such as biotech and software stocks). This is also reflected in ROE data; benchmark returns have been driven by the lower two ROE quintiles in 2018. In a portfolio populated with attractively valued (based on our above-consensus estimates) companies growing earnings beyond expectations, it's a backdrop that hasn't been particularly favorable, although one we were able to overcome through positive stock selection. From a capitalization perspective, small-cap stocks significantly outperformed large caps over the first half of 2018 but gave back nearly all of those gains in the third quarter<sup>2</sup>.

We believe concerns in the marketplace over a "trade war" influenced returns as investors have generally discounted an escalating situation by emphasizing investment in sectors and industries relatively less exposed to global trade. The year-to-date benchmark return was driven by the technology and healthcare sectors, while energy, materials, and producer durables were the clear losers. More interesting, technology and healthcare performance was acutely bolstered by industries perceived to be unscathed by tariffs, threatened or actual. Within tech, for example, software stocks returned nearly 39% so far in 2018 and 12% during the September quarter. Medical equipment stocks returned 61% and 24%, respectively, and biotechs, while not a huge driver in the quarter, returned 16% this year.

To us it seems like a relatively crowded trade at this point, with a consensus opinion that tensions will ratchet higher from here. Witness the following comment from JP Morgan in early October: "A full-blown trade war becomes our new base case scenario for 2019." Meanwhile, the Trump administration just completed a revamped trade agreement with Mexico and Canada, dubbed USMCA, suggesting to us the possibility that trade tensions may have actually peaked.

The elephant in the room now is clearly China. While we don't know when a deal will get done, we believe President Trump views himself first and foremost as a skilled deal-maker and ultimately – after all the bluster and rhetoric and threats – a deal we shall get. We think most underestimate Trump's desire to do a deal and overestimate the concessions necessary by China to reach an agreement. Look no further than the USMCA for supporting evidence, which The Brookings Institution labeled as "a new trade deal that looks remarkably similar to the old NAFTA." Trump's big win with Canada? Greater access to Canada's market for U.S. dairy products. If Trump can hold up a piece of paper with President Xi's signature it's a win for Trump with his support base – details be damned. The defensive posturing by investors could quickly and painfully unwind when it happens.

Despite trade fears, equity returns have been supported by continued economic strength in the U.S., and current economic data appear to support persistence into 2019. Corporate America, benefitting from tax reform and an accelerating economy, has posted record profits this year. The U.S. manufacturing Purchasing Managers' Index has remained solidly above 50 (suggesting expansion), and developed markets readings in Europe and Asia ex-China are similarly robust, although emerging markets readings have not been as solid and are flashing a warning signal. U.S. unemployment declined to 3.7% in September, and while wages are inflating as a result, the rate of wage increases remains muted relative to historical standards. The consumer has benefited, with incrementally more disposable income, record household net worth and historically low debt-service ratios.

The Federal Reserve's response is tighter monetary policy, executed through rate increases and a contracting balance sheet. The Fed's target is inflation; price spikes in emerging economies and a 21% increase in oil this year are warning signs, but overall inflation remains under control in the U.S. and throughout the developed world. A more rapid rise in rates and prices likely represents the biggest risk to equity markets as we enter 2019.

While macro factors can drive correlations toward one and influence stocks as a group in shorter time periods, we believe that investing in companies growing earnings beyond expectations results in superior investment performance over the long-term. Rather than ruminate about macro-economic indicators or geopolitical events, we focus on investing in individual businesses where we believe something fundamentally misunderstood or under-estimated is likely to drive earnings growth in excess of consensus expectations. While the multiple paid for such companies may oscillate in the short-run, we believe building portfolios

<sup>1</sup> During the quarter, the Russell 2000 Growth Index returned 5.52% versus 1.60% for the Russell 2000 Value Index, a differential of 392 basis points. Year-to-date, the Russell 2000 Growth Index returned 15.76% versus 7.14% for the Russell 2000 Value Index, a differential of 862 basis points

<sup>2</sup> During the quarter, the Russell 2000 Growth Index underperformed the Russell 1000 Growth Index by 365 basis points.

## Portfolio Highlights

As of September 30, 2018, the portfolio was 96.5% invested in 84 different positions. The portfolio had its largest weightings in consumer discretionary (23.1% average weighting during the quarter versus 17.8% for the Russell 2000 Growth Index), producer durables (21.8% versus 15.5%), and technology (19.6% versus 16.1%). The portfolio was most underweight health care (14.2% versus 25.7%), financial services (4.6% versus 10.3%), and utilities (0.0% versus 1.7%). Our under-weighting in health care cost the portfolio 29 basis points of performance during the quarter.

In the third quarter the portfolio benefited from favorable stock selection in health care (where our holdings returned 29.08% versus an 8.05% return for the benchmark's health care holdings), while performance was negatively impacted by stock selection within technology (1.70% versus 8.97%).

## 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**

### PORTFOLIO CHARACTERISTICS

*(AS OF SEPTEMBER 30, 2018)*

Number of Stocks	84
Weighted Market Capitalization (in millions)	\$1,086
Median Market Capitalization (in millions)	\$865
P/E Forward 4 Quarters (estimated)	14.9x
Long-Term Debt to Total Equity	13%
Return on Equity	6%
Cash Position	3.5%
Portfolio Turnover (2017)	85.7%

Source: Thomson Reuters Eikon

**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](mailto:brian.lee@oberweis.net)**

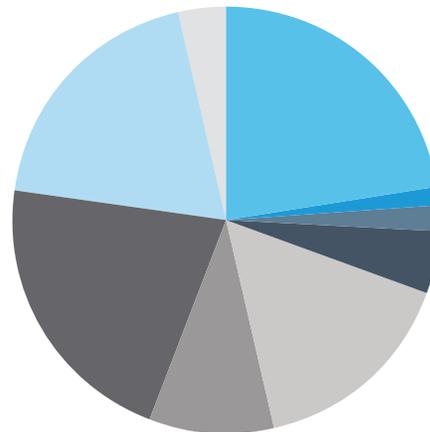
**TOP TEN HOLDINGS (as of September 30, 2018)**

Company		Line of Business
1	Malibu Boats, Inc.	2.7% Designs, manufactures, and markets sport boats
2	Skyline Champion Corp.	2.7% Manufacturer of mobile home and truck campers
3	Comtech Telecommunications	2.1% Provider of advanced communication solutions
4	DMC Global, Inc.	2.1% Global technology company that offers collaboration, research, development, and other services
5	Mesa Air Group, Inc.	2.0% Operates a regional airline
6	Control 4 Corp.	2.0% Provides smart solutions for home entertainment, lighting, and security
7	LHC Group, Inc.	1.9% Provides home health care services
8	Harsco Corp.	1.9% Provides outsourced services for metals and mining companies
9	Career Education Corp.	1.9% Provides for-profit secondary education in the U.S.
10	Curo Group Holdings	1.9% Operates a consumer finance company

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 September 30, 2018)**

Consumer Discretionary	22.5%
Consumer Staples	1.4%
Energy	2.2%
Financial Services	4.6%
Health Care	15.8%
Materials & Processing	9.5%
Producer Durables	21.3%
Technology	19.2%
Utilities	0.0%
Cash	3.5%
<b>Total</b>	<b>100.0%</b>



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

## MICRO-CAP GROWTH

3Q 2018

### AVERAGE ANNUAL TOTAL RETURNS (as of September 30, 2018)

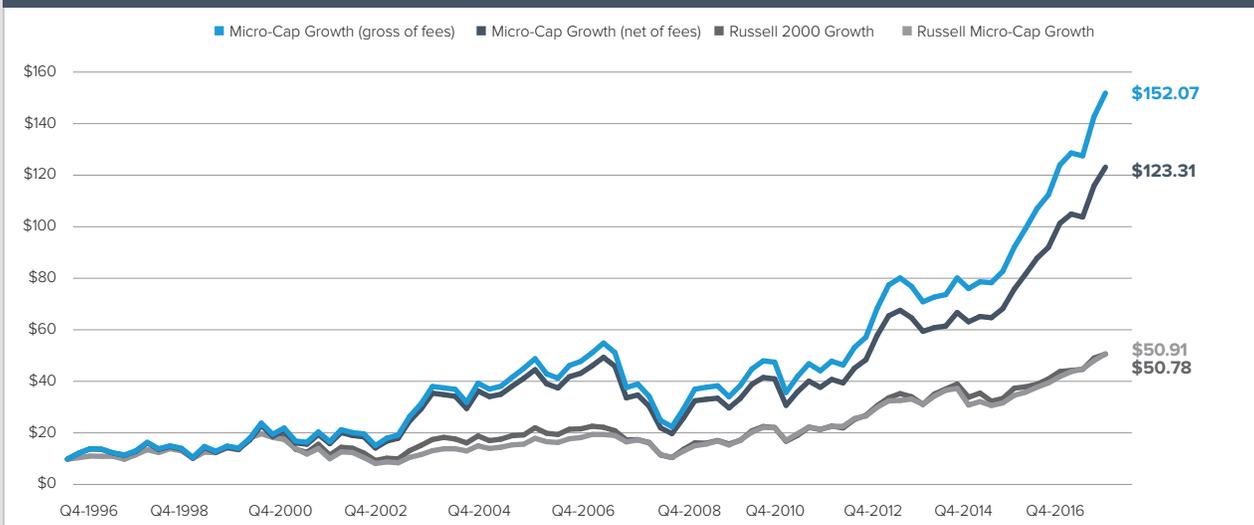
	QTD	YTD	1 Yr	3 Yr	5 Yr	10 Yr	Since Inception 1/1/1996
<b>Micro-Cap Growth (gross of fees)</b>	<b>6.40%</b>	<b>18.05%</b>	<b>22.47%</b>	<b>25.90%</b>	<b>17.24%</b>	<b>16.04%</b>	<b>12.73%</b>
<b>Micro-Cap Growth (net of fees)</b>	<b>6.20%</b>	<b>17.31%</b>	<b>21.49%</b>	<b>24.89%</b>	<b>16.23%</b>	<b>14.98%</b>	<b>11.69%</b>
Russell Microcap Growth Index	3.15%	14.32%	15.38%	14.27%	9.42%	11.38%	N/A
Russell 2000 Growth Index	5.52%	15.76%	21.06%	17.98%	12.14%	12.65%	7.65%

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 \$10,000 — WITH INCOME INVESTED (January 1, 1996 – September 30, 2018)



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.

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