

**Portfolio Managers:**

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**Investment Style:**

Mid-Cap Growth

**NEEDHAM GROWTH FUND****4Q19 Quarterly Commentary****Needham Growth Fund (NEEGX/NEEIX): Review of the Fourth Quarter & Calendar Year 2019**

Our mission is to create wealth for long-term investors, and the fourth quarter and full year ending December 31, 2019 were big steps forward.

The Needham Growth Fund's Institutional and Retail classes returned 11.32% and 11.17%, respectively, in the quarter ended December 31, 2019. The Russell 2000 Index returned 9.94% and the S&P 500 Index returned 9.07% in the quarter. For the year ending December 31, 2019, the Fund's Institutional and Retail classes returned 43.13% and 42.31%, respectively. The Russell 2000 Index returned 25.52% and the S&P 500 Index returned 31.49%.

PDF Solutions (PDFS) was the Needham Growth Fund's leading contributor in the fourth quarter and in 2019. In October, PDF hosted only its second investor day since going public in 2001. The company highlighted its four-year journey to become an analytics software company for semiconductor manufacturing. Over 50% of revenue is from this fast-growing, high-value offering. PDF's Exensio big data platform provides access to organized data from a customer's supply chain, as well as Exensio's automated intelligence and machine learning capabilities.

Vicor Corporation was the Fund's second best contributor in the quarter. Vicor makes modular power components and power systems for converting electrical power worldwide. In the third quarter, Vicor resumed product shipments for a large datacenter customer (we believe to be Google). On its earnings conference call in October, the company said it expects further substantial orders for its new power conversion products, and that it expects growth from its power solutions for artificial intelligence processors starting in 2020. We believe Vicor is uniquely positioned for the future power conversion needs of data centers, artificial intelligence processors, super computers, electric vehicles and other products.

Thermo Fisher Scientific, Inc. (TMO) was the second leading contributor for the year and a top contributor for the fourth quarter. Thermo Fisher has been the largest holding of the Needham Growth Fund for four years. The company develops instruments and consumables used in life science and other research-oriented industries. For the 4 quarters reported in 2019, Thermo Fisher averaged 7% organic growth above the 4-6% Wall Street expectations. We see continued organic growth and acquisition opportunities for the company.

Entegris, Inc. (ENTG) was the third-leading contributor in 2019, as well as a leading contributor in the fourth quarter. Entegris supplies filters and chemicals used in advanced semiconductor manufacturing processes. Based on confidence in its business, Entegris said the second quarter of 2019 represented a bottom, and revenue grew in the third and fourth quarters. The company also announced \$20 million in annual cost savings, which was in place by the end of 2019.

In April, Entegris announced a merger with Versum Materials, which was bested by an offer from Merck AG (MKGAF). Throughout 2019, Entegris continued with its acquisition strategy by acquiring Digital Specialty Chemicals (DSC) in March, MPD Chemicals for \$165 million cash in July, and Hangzhou Anow Microfiltration for \$73 million in September. Entegris is doing its own version of what might have been with Versum.

Entegris sees 2020 as a healthy year for its logic and foundry customers, led by Taiwan Semiconductor Manufacturing Company Ltd. (TSM) and Intel Corporation (INTC). Entegris also sees an increasingly positive environment for its memory customers. Over time, we believe that semiconductors will increase as a percentage of industrial output and that Entegris' filtration and specialty materials products will grow even faster than the semiconductor industry.

Aspen Aerogels Inc. (ASPN) and FormFactor Inc. (FORM) were other top contributors to the Fund's performance for the fourth quarter and 2019. Aspen Aerogels makes aerogel insulation used in the energy, infrastructure and building materials markets. Its aerogel is a superior alternative to conventional fiber and foam insulation, yet, the market has been slow to change. After a disappointing 2018 with \$104 million of revenue, we estimate Aspen will have revenue of \$135 million in 2019 with continued growth in 2020. Aspen Aerogels' stock was at an all-time low on December 28, 2018 as the market was concerned about Aspen's liquidity. In April, Aspen announced a second phase of their partnership with BASF SE (BASF), which included a cash prepayment for the new SLENTEX aerogel used in commercial construction. We are excited about Aspen's prospects in the electric vehicle battery market.

FormFactor reported second quarter results at the high end of revenue, gross margin and earnings expectations. FormFactor makes probe cards that are used to test wafers for new semiconductor designs. At the start of the year, the company suffered from a delay in Intel Corporation's (INTC) latest generation 14/10 nanometer manufacturing process. Demand at Intel recovered in the second quarter and stayed strong throughout the year. Over the last seven years, FormFactor has diversified its business by acquiring leading probe card companies for RF (radio frequency) design and logic/ system-on chip design.

For the fourth quarter and 2019, the Fund's short position in Ubiquiti, Inc. (UI) was the only major detractor. The company's limited float and stock repurchases funded with bank debt have supported the stock price at a premium valuation. The stock spiked in November as the company reported 14% year-over-year revenue growth. While we remain skeptical about Ubiquiti's business model and governance, it is time to move on from this short position. As of December 31, 2019, the Ubiquiti short position is down to 0.4% of net assets and it will no longer have a significant impact on the Fund.

Additions to the Fund in 2019 included Cambium Networks Corporation (CMBM), FARO Technologies, Inc. (FARO), Intevac, Inc. (IVAC) and Wabtech Corp. (WAB), all of which were 50 basis point or above positions on December 31, 2019. The Fund exited only three positions that were over 50 basis points as of December 31, 2018 - Amber Road, Inc., Aquantia Corp., and Electronics for Imaging Inc. were all acquired.

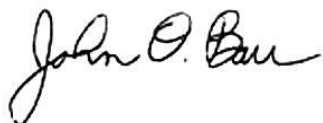
The Fund added to only a few positions; its addition to its position in Vicor Corporation (VICR) was the most significant. The Fund reduced positions in many of its top holdings including FormFactor, Inc. (FORM), Photronics Inc. (PLAB), Super Micro Computer Inc. (SMCI), Thermo Fisher Scientific (TMO) and ViaSat, Inc. (VSAT).

At December 31, 2019, the Fund's top 10 positions were 55.42% of net assets. The Fund had an Active Share of 96.9% versus the S&P 500 and had trailing 12-month turnover of 13%. The Fund was short 0.7% of total investments and held a cash position of 1.7%.

We believe the U.S. remains the best place in the world to be investing, and we continue to see an opportunity to invest in small and mid-cap stocks. Most importantly, we see a revolution happening in technology that has created and continues to create investment opportunities. We see opportunity in our strategy of investing in companies that we know well and that we believe are positioned with secular growth drivers.

We welcome our new investors and thank all of our investors for their continued support. If you have any questions, thoughts or concerns, please contact us at (800) 625-7071 or [jbarr@needhamco.com](mailto:jbarr@needhamco.com) and [cretzler@needhamco.com](mailto:cretzler@needhamco.com). For information about the Needham Growth Fund, please visit our website at [www.needhamfunds.com](http://www.needhamfunds.com).

Sincerely,



John Barr, Portfolio Manager



Chris Retzler, Portfolio Manager

## AVERAGE ANNUAL RETURNS AS OF 12/31/19

	3 MO	YTD	1YR	3YR	5YR	10YR	SINCE INCEPT.
Needham Growth Fund Inst Class**	11.32%	43.13%	43.13%	12.01%	8.27%	11.40%	13.16%
After Taxes on Distributions	8.53%	39.54%	39.54%	9.05%	6.01%	9.80%	11.70%
After Taxes on Distributions & Redemptions	8.48%	27.82%	27.82%	8.94%	6.14%	9.17%	11.22%
Needham Growth Fund Retail Class	11.17%	42.31%	42.31%	11.42%	7.74%	10.90%	12.67%
After Taxes on Distributions	8.33%	38.68%	38.68%	8.45%	5.48%	9.30%	11.22%
After Taxes on Distributions and Redemptions	8.42%	27.37%	27.37%	8.51%	5.72%	8.75%	10.77%
S&P 500 Index	9.07%	31.49%	31.49%	15.27%	11.70%	13.56%	9.20%
S&P 400 Index	7.06%	26.20%	26.20%	9.26%	9.03%	12.72%	11.36%
Russell 2000 Index	9.94%	25.52%	25.52%	8.59%	8.23%	11.83%	8.62%

The Needham Growth Fund inception date is 1/1/96.

\*\*Performance for any periods prior to the inception date of Institutional Class Shares are based on the historical performance of the Retail Class Shares adjusted to assume the expenses associated with Institutional Class Shares.

The Needham Growth Fund's Gross Expense Ratio is 2.76% for the Retail Class and 2.48% for the Institutional Class. The Needham Growth Fund's Net Expense Ratio is 2.76% for the Retail Class and 2.21% for the Institutional Class. The Net Expense Ratio reflects a contractual agreement by the Fund's investment adviser to waive its fee and/or reimburse the Fund through May 1, 2020 to the extent the Gross Expense Ratio exceeds 1.95% and 1.40% of the average daily net assets of Retail Class Shares and Institutional Class Shares (Expense Cap). The Expense Cap excludes taxes, interest, brokerage, dividends on short positions, fees and expenses of "acquired funds," extraordinary items and shareholder redemption fees but includes the management fee.

Fact Sheet Link: [Needham Growth Fund](#)

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This message is not an offer of the Needham Growth Fund, the Needham Aggressive Growth Fund or the Needham Small Cap Growth Fund. Shares are sold only through the currently effective prospectus. Please read the prospectus or summary prospectus and consider the investment objectives, risks and charges and expenses of the Funds carefully before you invest. The prospectus and summary prospectus contain this and other information about the Funds and can be obtained on our website, [www.needhamfunds.com](http://www.needhamfunds.com).

Investment returns and principal value will fluctuate, and when redeemed, shares may be worth more or less than their original cost. Performance data quoted represents past performance, and does not guarantee future results. Current performance may be higher or lower than these results. Performance current to the most recent month-end may be obtained by calling our transfer agent at 1-800-625-7071. Total return figures include reinvestment of all dividends and capital gains.

*All three of the Needham Funds have substantial exposure to small and micro capitalized companies. Funds holding smaller capitalized companies are subject to greater price fluctuation than those of larger companies.*

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Portfolio holdings are subject to change. The Needham Growth Fund's ownership as a percentage of net assets in the stated securities as of 12/31/19: PDFS: 7.39%; VICR: 3.28%; TMO: 8.82%; ENTG: 5.89%; ASPN: 2.63%; FORM: 3.76%; BASF: 0.00%; UI: (0.4%); CMBM: 0.68%; FARO: 0.46%; IVAC: 0.47%; WAB: 1.55%; PLAB: 0.96%; SMCI: 2.83%; VSAT: 1.29%.

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