

Portfolio Managers:

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Investment Style:

Mid-Cap Growth

NEEDHAM GROWTH FUND**2Q19 Quarterly Commentary****Needham Growth Fund (NEEGX/NEEIX): Review of the 2nd Quarter & 1st Half 2019**

Our mission is to create wealth for long-term investors and the second quarter of 2019 was a good step forward. In the second quarter, the Needham Growth Fund Institutional and Retail classes returned 9.92% and 9.77%, respectively. The Russell 2000 Index returned 2.10% and the S&P 500 Index returned 4.30%. For the half year 2019, the Needham Growth Fund Institutional and Retail classes returned 25.83% and 25.45%, respectively. The Russell 2000 Index returned 16.98% and the S&P 500 Index returned 18.54%.

For the second quarter, Amber Road Inc. (AMBR) was the top contributor and returned 50.2%. It was also a top contributor for the half. Amber Road supplies Global Trade Management software and it understands import and export regulations better than anyone. In May, the company agreed to be acquired for \$13.05 per share cash by E2Open, which is owned by Insight Venture Partners. E2Open made a hostile bid for Amber Road in 2018 for \$10.50 per share. The Fund owned Amber Road since 2015 and had opportunistically added shares through the years. E2Open provides supply chain management software and Amber Road is a good fit.

Returning 180% in the second quarter, Aspen Aerogels, Inc. (ASPN) was the second best second quarter contributor and also a top contributor for the half-year. Aspen rallied from \$2.13 per share at the end of 2018 to \$7.13 on June 30. We believe the market had been wrongly concerned about Aspen's liquidity and also missed its importance to partner BASF SE (BASF). In April, BASF and Aspen announced a second phase of their partnership, which included cash as a prepayment for the new SLENTEX aerogel used in construction. Aspen also announced first quarter and second quarter results and guidance consistent with a growing company. The Fund opportunistically added to its Aspen position in the fourth quarter of 2018.

CarMax, Inc. (KMX) was the third-leading contributor in the second quarter and returned 24.4%. CarMax was also a top contributor for the half and is a 10-year holding of the Fund. CarMax is the nation's leading used car seller, but has just a mid-single-digit share of the used car market. It is also well-positioned to buy and sell cars online. The company reported strong comparable-store sales in March and June. We believe CarMax has strategic advantages in its data about car values, its fleet movement logistics, and its sales organization and model of no-haggle pricing. We believe CarMax has years of growth ahead.

For the first half, PDF Solutions, Inc. (PDFS) was the top contributor and returned 55.6%. The company made continued progress on its new initiatives, including a January announcement of a new agreement for Design-for-Inspection (DFI) with its lead customer, which we believe to be Taiwan Semiconductor Manufacturing Co., Ltd (TSM). DFI is used to detect electrical failures on semiconductors during the manufacturing process. PDF's business model is to provide e-beam testers, the Exensio Big Data Analytics platform and software-applications-as-a-service, which results in recurring revenue for PDF. Exensio revenue grew 43% in 2018 and could represent 40% of revenue in 2019. The Fund owns the stock in anticipation of addressing these markets and growing to a much larger company over the years ahead. PDF has been in a five-year investment period. We look forward to PDF's October investor day, which will be only its second in 18 years as a public company.

The Fund's largest position, Thermo Fisher Scientific (TMO), was the second best contributor in the first half and returned 31.4%. The company develops instruments and consumables used in life science and other research-oriented industries. In February, Thermo Fisher reported 9% organic revenue growth for the fourth quarter of 2018 and 7% for the first quarter of 2019, well above the 4-6% Wall Street expectations. We see continued organic growth and acquisition opportunities. Thermo Fisher is a 19-year holding of the Fund, and has compounded at a near 19% annual rate.

For the second quarter MKS Instruments, Inc. (MKSI) was the only detractor of note and fell 16.1%. MKS reported disappointing earnings and guidance at the end of April. The market was anticipating a broad second half 2019 recovery in semiconductor capital equipment, which has been pushed out to 2020. However, spending on some of the leading-edge semiconductor manufacturing equipment is anticipated to be strong in the second half of 2019, and MKS should benefit.

For the half year, the leading detractors were the short positions in Medallion Financial Corp. (MFIN) and Ubiquiti Networks, Inc. (UBNT). Ubiquiti was up 32.8% during the first half. Ubiquiti furthered its retreat from the public eye by stopping its investor conference calls in January. The head of Investor Relations left the company in the first quarter. The company hasn't had a CFO since April 2015. In October 2018, Ben Moore, long-time VP of Business Development and one of only three named officers, resigned. In November 2018, Ubiquiti released earnings that showed ongoing tax audits in the U.S. and Hong Kong, and a Notice of Proposed Adjustment from the IRS relating to 2015 and 2016, indicating the company owes \$50 million. Ubiquiti disagrees and hasn't recorded a tax liability. In November 2018, Ubiquiti announced a new \$200 million stock repurchase program. Its previous buybacks have mostly been funded with bank debt.

Medallion Financial's shares were up 43.7% in the first half. We continue to believe that Medallion Financial has overstated earnings and the value of assets on its balance sheet, but the stock market has not cared. We have not changed our thesis on Ubiquiti or Medallion Financial. However, it's hard for a mutual fund to compound returns when a short position keeps requiring capital that can be used to buy positions, which we'd like to hold for years. Consequently, we reduced both of these short positions. Combined they were -6.20% of net assets on December 31, 2018 and down to -1.70% on June 30, 2019. They were a neutral contributor in the second quarter.

In the first half, the Needham Growth Fund added a position in Wabtec (Westinghouse Air Brake Technologies Corp.) (WAB), a leading locomotive manufacturer. Wabtec closed its transformational acquisition of General Electric's locomotive business. We believe there is likely to be a strong market for new and retrofit locomotives over the next few years, as technology is more widely adopted and the cost of trucking and shortage of drivers makes rail an even more attractive shipping option.

The Fund added to its positions in DIRTT Environmental Solutions (DRT:TSE) and Navigator Holdings (NVGS) on price weakness. The Fund sold its position in Genmark Diagnostics, Inc. (GNMK) and Hess Corp. (HES). Amber Road was acquired. The Fund reduced its positions in Electronics for Imaging, Inc. (EFII), FormFactor, Inc. (FORM), Super Micro Computer, Inc. (SMCI), Thermo Fisher Scientific, and ViaSat (VSAT).

As of June 30, 2019, the top 10 positions were 55.63% of the Fund's net assets. Trailing 12-month turnover was just 8% and the Fund's Active Share vs. the S&P 500 was 99.1%. The Fund was short 1.8% of total investments. Once again, the Fund looks nothing like the S&P 500 and its performance was not correlated.

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 at cretzler@needhamco.com or jbarr@needhamco.com. For information about the Needham Growth Fund, please visit our website at www.needhamfunds.com.

Sincerely,



John Barr, Portfolio Manager



Chris Retzler, Portfolio Manager

AVERAGE ANNUAL RETURNS AS OF 6/30/19

	3 MO	YTD	1YR	3YR	5YR	10YR	SINCE INCEPT.
Needham Growth Fund Inst Class**	9.92%	25.83%	9.38%	10.71%	6.55%	12.56%	12.84%
After Taxes on Distributions	9.92%	25.83%	5.73%	8.34%	4.55%	11.23%	11.47%
After Taxes on Distributions & Redemptions	5.88%	15.29%	7.48%	7.99%	4.86%	10.31%	10.95%
Needham Growth Fund Retail Class	9.77%	25.45%	8.77%	10.15%	6.05%	12.06%	12.35%
After Taxes on Distributions	9.77%	25.45%	5.10%	7.78%	4.05%	10.73%	10.99%
After Taxes on Distributions and Redemptions	5.78%	15.06%	7.14%	7.56%	4.47%	9.88%	10.51%
S&P 500 Index	4.30%	18.54%	10.42%	14.19%	10.71%	14.70%	8.93%
S&P 400 Index	3.05%	17.97%	1.36%	10.90%	8.02%	14.64%	11.29%
Russell 2000 Index	2.10%	16.98%	-3.31%	12.30%	7.06%	13.45%	8.49%

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.

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 6/30/19: AMBR: 0.00%; ASPN: 2.71%; BASF: 0.00%; KMX: 7.42%; PDFS: 6.73%; TMO: 9.13%; MKSI: 2.02%; MFIN: -0.47%; UBNT: -1.23%; WAB: 0.84%; DRT: 0.59%; NVGS: 0.32%; HES: 0.00%; GNMK: 0.00%; FORM: 2.64%; VSAT: 1.63%; SMCI: 2.46%; EFII: 1.53%.

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