Needham Funds

Portfolio Managers:
John O. Barr
Christopher J. Retzler

Investment Style:
Mid-Cap Growth

NEEDHAM GROWTH FUND

1Q20 Quarterly Commentary

Needham Growth Fund (NEEGX/NEEIX): Review of the First Quarter 2020

Our mission is to create wealth for long-term investors, and the first quarter of 2020 was unprecedented, as a significant portion of the world stayed at home to limit the spread of COVID-19.

In the quarter ended March 31, 2020, Needham Growth Fund's Institutional and Retail classes returned -18.61% and -18.74%, respectively, well ahead of the Russell 2000 Index decline of -30.61% and the S&P 500 Index decline of -19.60%.

In April, the Fund recovered nearly its entire first quarter decline. The Fund's Institutional and Retail classes returned 16.81% and 16.79%, respectively, while the Russell 2000 gained 13.74% and the S&P 500, 12.82%. If one only saw the year-to-date returns as of the end of April, they would hardly know anything extraordinary had happened.

Macroeconomic Commentary

Entering the year, we were optimistic about 2020. We anticipated strategic progress and growth from our companies. That all changed with COVID- 19. From late February until March 23, the S&P 500 declined 34%, its largest drop in history. It was one of the worst quarters in the recorded history of the United States' markets, and in April 2020, the S&P 500 posted its best month since January 1987.

Along with the stock market performance, the monetary and fiscal policy responses to COVID-19 have also been unprecedented. The Federal Reserve announced an unlimited bond-buying program. These bonds include high-yield ETFs, bonds that were rated investment grade before the crisis, small business loans, municipals, asset-backed securities, collateralized loan obligations and commercial mortgage-backed securities. The fiscal response included the CARES Act with over $2 trillion of grants and loans to all kinds of businesses, including airlines, hospitals and small business, payments to state and local governments, and a $1,200 direct payment to some individuals. We believe that the liquidity from the policy responses could be positive for equities.

Company earnings for the March quarter were as expected. Business in the U.S. was strong until shelter-in-place restrictions went into effect in mid-March. Although most companies have followed the legalistic path of withdrawing guidance, their commentary on second quarter revenue and bookings was much better than we expected.

Some of the companies that had reasonably positive outlooks are involved with infrastructure build-out. This type of infrastructure is not what one typically thinks of as infrastructure. We see the beneficiaries as companies involved with the build-out of cloud data centers, communications, software-as-a service applications, technology-based manufacturing and life-sciences research.

The ease with which much of the white-collar workforce has adapted to work from home is a testament to the communications infrastructure. In his book Digital Cathedrals, Mark Mills writes that the cloud is the first "foundationally new infrastructure in nearly a century." Datacenters are the physical representations of this infrastructure. Mills states that we are still very early in the build-out of this infrastructure and even earlier in the applications and societal benefits it will bring. Many of our portfolio companies are directly involved with datacenter build-out and delivery of applications to users:

- Taiwan Semiconductor Manufacturing ADR (TSMC) and Vicor Corporation (VICR) supply semiconductors used in computers and storage systems inside data centers. Super Micro Computer Inc. (SMCI) supplies computers and storage systems.
- II-VI, Inc. (IIVI) and Corning, Inc. (GLW) provide communications equipment to connect data centers to the world.
- Akamai Technologies Inc.'s (AKAM) distributed content delivery network and security services make delivery of data more efficient.
- Appian Corporation (APPN), Coupa Software Inc. (COUP), Everbridge, Inc. (EVBG) and Q2 Holdings, Inc. (QTWO) are SaaS providers.

COVID-19 has also highlighted the risk of a concentrated supply chain. Manufacturing and pharmaceutical companies may look to build out capacity in the United States, Mexico and Canada to diversify supply chains and reduce transit routes. Our portfolio companies Aspen Aerogels, Inc. (ASPN), Clean Harbors, Inc. (CLH), IPG Photonics Corp. (IPGP), MKS Instruments Inc. (MKSI), National Instruments Corp. (NATI), nLight, Inc. (LASR), and Vishay Precision Group, Inc. (VPG) could benefit from supply chain diversification.

We also see a build-out in scientific infrastructure used for life sciences research. Several of our portfolio companies supply equipment, consumables and services used for life science research, including Becton Dickinson & Co. (BDX), Bruker Corp. (BRKR), Corning, Inc., Entegris Inc., (ENTG), Laboratory Corporation of America (LH), MKS Instruments Inc. (MKSI), Quest Diagnostics Inc. (DGX) and Thermo Fisher Scientific, Inc. (TMO). CryoPort, Inc. (CYRX) supplies cold-chain logistics to transport CAR-T immunotherapies and samples used for cancer research and treatment.

Readjustment to a post-COVID-19 world will be difficult. The unprecedented unemployment is the biggest issue. The economy has serious issues ahead for the travel, retail, entertainment, hospitality and other consumer-facing industries. Some of those industries may employ less people than before. Opportunities in the growing sectors require new skills for displaced workers. There's a great deal of uncertainty ahead. However, April provided a preview of elements of an optimistic future. We are hopeful.

Needham Growth Fund First Quarter Performance

There was only one significant contributor to the Fund's first quarter performance. Gilead Sciences, Inc. (GILD), a 9-year holding of the Needham Growth Fund, was 6.85% of the Fund's net assets at March 31, 2020. In late January, Gilead's remdesivir emerged as a leading therapeutic to treat COVID-19 patients. In 2015, Gilead worked with the U.S. Centers for Disease Control and Prevention (CDC) and the U.S. Army Medical Research Institute of Infectious Diseases (USAMRIID) to develop a drug, which turned out to be remdesivir, to treat Ebola and coronavirus diseases. The first COVID-19 patient in the U.S. was hospitalized on January 20 in Snohomish County, Washington. On January 27, this first patient received Gilead's remdesivir in a compassionate use authorization. The next day, the patient's condition improved, however, the patient received many other confounding treatments that make it impossible to isolate remdesivir's role. From that date forward, the activity around remdesivir accelerated. On May 1, the FDA issued an Emergency Use Authorization (EUA) for remdesivir.

Gilead will donate its first 1.5 million doses, representing treatment for 150,000 COVID-19 patients. Remdesivir could represent a $1-2 billion a year opportunity for Gilead starting in late 2020/ early 2021. Gilead had $22 billion of revenue in 2019, so remdesivir would be a relatively small, but welcome addition.

On March 2, Gilead announced plans to acquire Forty Seven, Inc. (FTSV) for $4.9 billion. Forty Seven's lead product candidate is magrolimab, which is an anti-CD47 agent for treatment of bone marrow and blood cell cancers including MDS (myelodysplastic syndromes), AML (acute myeloid leukemia) and DLBCL (diffuse large B-cell lymphoma). The acquisition is expected to close in the second quarter of 2020.

CarMax, Inc. (KMX) was the Fund's leading detractor in the first quarter and was 4.79% of net assets at March 31. With shelter-in-place restrictions, car sales fell dramatically starting in mid-March. We believe CarMax sales may be down significantly in the quarter ending May 31. While high unemployment may hurt sales, we believe CarMax could benefit from pent-up demand as the country reopens. CarMax took swift action to control expenses and has liquidity to manage for many quarters.

PDF Solutions, Inc. (PDFS) was a leading contributor in 2019, but the second-largest detractor in the quarter. PDF's 2019 results showed continued progress with its Exensio big data platform. Over 50% of PDF's revenue is from the Exensio platform, which provides access to a customer's supply chain data, as well as Exensio's automated intelligence and machine learning capabilities. PDF's stock began to trade down in early February when China was the center of the COVID-19 outbreak. PDF has an engineering team based in Shanghai and generated 16% of revenue from China in 2019. We believe Exensio data analytics will provide even more value for a semiconductor manufacturing team in an era of less operators and manufacturing engineers on a plant floor.

The third detractor was Thermo Fisher Scientific, Inc. (TMO), the Fund's largest holding at 9.17% of net assets on March 31. In late January, Thermo Fisher announced good 4th quarter results and somewhat cautious guidance over COVID-19 concerns. At the time, COVID-19 was seen as primarily a risk to their China business.

On March 3, Thermo Fisher announced an agreement to acquire QIAGEN N.V. (QGEN) for $11.5 billion in cash. QIAGEN is a global leader in sample preparation products for molecular biology research and molecular diagnostics for infectious diseases and oncology. Accurate and rapid sample preparation is important for any type of diagnostics. As a supplier of life sciences equipment and consumables, we believe Thermo Fisher is a long-term beneficiary in a post-COVID-19 world.

Needham Growth Fund added new positions in AXT, Inc. (AXTI), Alphabet Inc. Class A (GOOGL) and Vishay Precision Group, Inc. (VPG). We hope to build these positions over time. We added significantly to the Fund's existing positions in GenMark Diagnostics, Inc. (GNMK), KVH Industries Inc. (KVHI) and Photronics, Inc. (PLAB). We also added to our positions in Aspen Aerogels Inc. (ASPN), Cambium Networks Corporation (CAMB), Channeladvisor Corporation (ECOM) and Parsons Corporation (PSN).

The Fund exited Bill.com Holdings (BILL) over concern for its small business customer base. It was a small position for the Fund, but a big winner. We hope to repurchase shares in the future. We reduced the Fund's position in DIRTT Environmental Solutions (DRTT) for a tax-loss sale, and we reduced the position in FormFactor Inc. (FORM), which remains a top 20 holding.

At March 31, 2020, the Fund's top 10 positions were 54.81% of net assets. The Fund held 2.8% of net assets in cash. The Fund had an Active Share of 95.5% versus the S&P 500 and had trailing 12-month turnover of 17.5%. The Fund was short 0.1% of total investments.

Morningstar categorizes the Fund as Mid-Cap Growth, and Lipper categorizes it as Multi-Cap Core. When you hold companies for 5-15 years, and they succeed, they grow to larger market cap categories. Our mission is to find companies that may be compounders over many years, independent of their industry or market cap.

We still believe the U.S. remains the best place in the world to be investing, and we continue to see 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 and cretzler@needhamco.com. For information about the Needham Growth Fund, please visit our website at www.needhamfunds.com.

Sincerely,

John O. Barr

Chris Retzler

John Barr, Portfolio Manager

Chris Retzler, Portfolio Manager

AVERAGE ANNUAL RETURNS AS OF 3/31/20

	3 MO	YTD	1YR	3YR	5YR	10YR	SINCE INCEPT.
Needham Growth Fund Inst Class**	-18.61%	-18.61%	1.77%	3.93%	3.15%	8.05%	12.06%
After Taxes on Distributions	-18.61%	-18.61%	-0.78%	1.19%	1.00%	6.50%	10.63%
After Taxes on Distributions & Redemptions	-11.02%	-11.02%	3.39%	3.11%	2.41%	6.49%	10.33%
Needham Growth Fund Retail Class	-18.74%	-18.74%	1.19%	3.38%	2.64%	7.56%	11.57%
After Taxes on Distributions	-18.74%	-18.74%	-1.39%	0.62%	0.48%	6.01%	10.15%
After Taxes on Distributions and Redemptions	-11.10%	-11.10%	3.08%	2.69%	2.03%	6.11%	9.89%
S&P 500 Index	-19.60%	-19.60%	-6.98%	5.10%	6.73%	10.53%	8.13%
S&P 400 Index	-29.70%	-29.70%	-22.51%	-4.09%	0.56%	7.88%	9.63%
Russell 2000 Index	-30.61%	-30.61%	-23.99%	-4.64%	-0.25%	6.90%	6.91%

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 2.01% for the Retail Class and 1.73% for the Institutional Class. The Needham Growth Fund's Net Expense Ratio is 1.98% for the Retail Class and 1.43% 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, 2021 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

The information presented in this commentary is not intended as personalized investment advice and does not constitute a recommendation to buy or sell a particular security or other investments.
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.
Needham & Company, LLC, member FINRA/SIPC, is the distributor of The Needham Funds, Inc.

Portfolio holdings are subject to change. Needham Growth Fund's ownership as a percentage of net assets in the stated securities as of 3/31/20: SMCI: 3.07%; TSMC: 0.48%; VICR: 3.74%; IIVI: 2.70%; GLW: 0.79%; AKAM: 3.30%; APPN: 0.44%; COUP: 0.54%; EVBG: 1.36%; QTWO: 1.13%; ASPN: 2.83%; CLH: 0.20%; IPGP: 0.77%; MKSI: 2.22%; NATI: 0.74%; LASR: 0.18%; VPG: 0.34%; BDX: 4.95%; BRKR: 0.04%; ENTG: 6.10%; LH: 0.28%; DGX: 0.31%; TMO: 9.17%; CYRX: 0.91%; GILD: 6.85%; KMX: 4.79%; PDFS: 6.11%; QGEN: 0.00%; AXTI: 0.54%; GOOGL: 0.32%; GNMK: 0.58%; KVHI: 5.54%; PLAB: 1.15%; CAMB: 0.79%; ECOM: 0.50%; PSN: 0.50%; BILL: 0.00% DRTT: 0.08%; FORM: 3.24%.