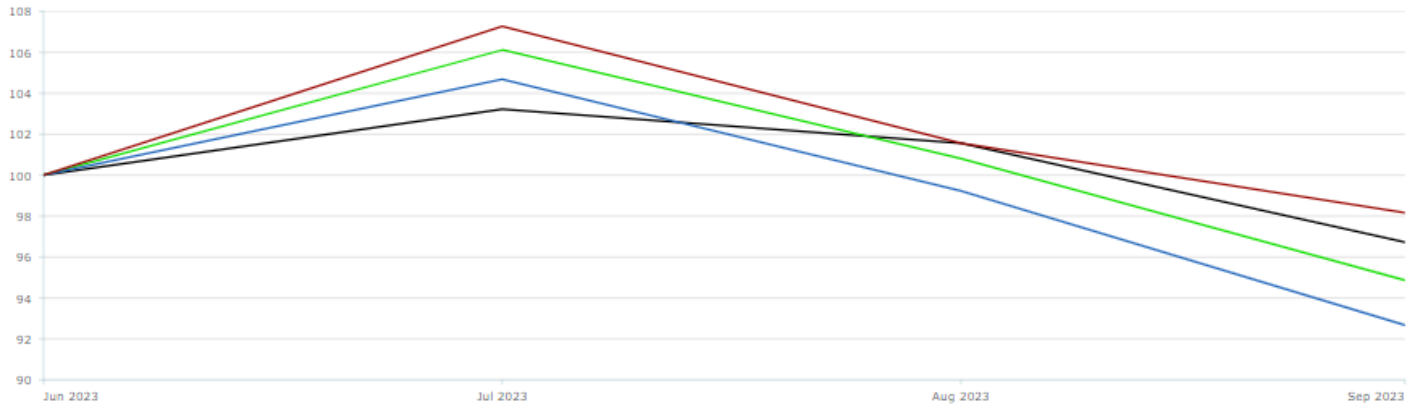


### MARKET REVIEW

- In 3Q23, the Russell 2000 Growth and Russell 2000 Indices were down 7.32% and 5.13%, respectively, and the S&P 500 lost 3.27%.
- In July, the Federal Reserve raised interest rates 25 bps to 5.25% - 5.50% and then paused in September. The Fed indicates that there could be one more rate increase in 2023.<sup>1</sup>
- 10-year Treasury yields increased from 3.8% to 4.6%, the highest level since 2007.



	RETURN
Needham Aggressive Growth Institutional	(1.84)
Russell 2000 Growth	(7.32)
Russell 2000	(5.13)
S&P 500	(3.27)

Source: Zephyr Informais

### MACRO OBSERVATIONS

- The economy continued to move forward with estimated 3Q23 GDP growth of 5.8%, well above 2Q23's 1.7%. This marks the fifth successive growth quarter.
- 3Q23 is estimated to be the fifth quarter of 3-4% consumer price index inflation, after 5-7% the preceding four quarters.
- We were shocked and saddened by the Hamas terror attack on Israel on October 7. Our portfolio companies have employees in Israel, and every one of those employees is affected. We believe Israel will prevail over those that seek its destruction.
- Our investment focus on the reshoring of U.S. manufacturing and infrastructure seems all the more relevant. We consider Israel to be an important participant in providing technology and products for its own infrastructure and for that of the United States.

### IMPACTS ON PERFORMANCE

- In 3Q23, the Fund's Institutional (NEAIX) and Retail (NEAGX) classes returned -1.84% and -1.95%, respectively, outperforming the Russell 2000 Growth's -7.32%.
- The Fund's top two contributors in 3Q23 were Vertiv Holdings Co. (VRT) and Super Micro Computer, Inc. (SMCI). Both supply "picks and shovels" to data centers<sup>2</sup> and have seen strong results from customer spending on artificial intelligence.
- Vertiv supplies power, cooling, and infrastructure management systems for data centers. Vertiv is a newer position, as we first purchased in 2021.

- Super Micro was again one of the Fund's top contributors. Super Micro designs and manufactures servers. It reported strong results driven by its high-growth Artificial Intelligence GPU (graphics processing units) and rack-scale solutions. Super Micro was the Fund's largest position at 6.58% of net assets as of September 30. The Fund has owned the stock since 2009.
- The Fund's top detractor in 3Q23 was PDF Solutions, Inc. (PDFS). PDF's Exensio® data analytics platform helps customers across the electronics manufacturing industry improve manufacturing yield. PDF reported strong 2Q23 earnings, but analysts' estimates of second half revenue growth were reduced from 18% to 13%. We took advantage of the market weakness and added to our position.
- KVH Industries, Inc. (KVHI) was the second leading detractor. On its earnings call, KVH announced that the Board of Directors had concluded its review of strategic alternatives without changes. The market was expecting a merger or sale to take advantage of economies of scale. We believe KVH now needs to improve profitability and seek consolidation.
- With 9% turnover, the Fund does not rotate into or out of sectors but invests in companies we believe can outperform over the long term.

## PORTFOLIO CHANGES

- The Fund made several new investments and added to a number of existing holdings. It also sold a few small positions and reduced one major holding.
- New purchases:
  - The largest new holding is Carter's, Inc. (CRI), the leader in children's apparel. The stock and business have suffered due to the weak consumer cycle. We believe it is a durable, growing company with great management.
  - Alteryx, Inc. (AYX) – a data analytics software company that we believe is undergoing a misunderstood transition to SaaS.
  - Fortrea Holdings, Inc. (FTRE) – Fortrea performs randomized drug trials. The Fund received shares from its spin-out from Laboratory Corporation of America Holdings (LH) and purchased additional shares.
  - Genius Sports Limited (GENI) – an analytics and technology partner for sports leagues and gaming companies. We think it could benefit as online gaming expands and as sports leagues look to enhance the viewing experience.
- Major additions:
  - Vishay Precision Group, Inc. (VPG) – a specialty sensor company and top 10 holding of the Fund.
  - FARO Technologies, Inc. (FARO) – a metrology company serving engineering, manufacturing, and public safety markets.
  - Vicor Corporation (VICR) – a top 10 holding for years. Vicor makes power conversion devices used for data centers, electric vehicles, and more. We added on weakness.
- Reduced position:
  - ESI Group SA (ESI-FR) – the Fund sold about 40% of its holding in ESI as we await the completion of its acquisition by Keysight Technologies, Inc. (KEYS). We believe the acquisition may close in 1Q24.

## RECOMMENDED READING - Outlive by Peter Attia, MD

- I'd like to close with an optimistic note. Some think that the investment story of 2023 is not AI, but the GLP-1 (glucagon-like peptide) agonist drugs, such as Novo Nordisk's Ozempic and Wegovy, and Eli Lilly's Mounjaro. These "miracle drugs" are credited with managing diabetes and weight loss and have ongoing studies for the treatment of other chronic diseases. These drugs help the body deal with glucose, and their rapid adoption has affected stocks for medical devices, retailers, and even food companies.
- However, the benefits of GLP-1s reverse when one stops taking them, and their long-term side effects are unknown. The drugs are so expensive that they could overwhelm government and private payors. We see GLP-1s as providing benefits for patients without alternatives. However, there is an alternative for many.

**3Q23 Quarterly Commentary**

- My favorite private company is Virta Health,<sup>3</sup> which has a mission to reduce Type-2 diabetes in millions of people through nutrition, coaching, and education. We featured Virta in The Growth Factor 28.<sup>4</sup>
- I recommend Dr. Peter Attia's Outlive,<sup>5</sup> which presents the case for a different healthcare model built around exercise, nutrition, sleep, and emotional health. Our legacy healthcare model – built on hospitals, specialists, and drugs like GLP-1 – attempts to address acute diseases but is terrible at adding years of functional life. It is incredibly hopeful to imagine a future with true, functional health and enough cost savings to eliminate the Federal deficit. For more information, we recommend the writings and podcasts featuring Virta's CEO, Sam Inkinen<sup>6</sup> and Dr. Attia's, The Drive podcast. I believe there will be more to follow on this topic in future commentaries and Growth Factors.

- [1] <https://www.barrons.com/livecoverage/fed-september-meeting-rate-decision-powell-speech-today/card/fed-s-dot-plot-points-to-one-more-rate-increase-this-year-VVKoDxho88efLq15BdOY>  
 [2] Growth Factor 37: Investing in the “Picks and Shovels”  
 [3] [https://www.virtahealth.com/join/benefits?utm\\_source=Googlead&utm\\_medium=GA-Brand-Exact-Search&utm\\_campaign=2022-Q3-Brand-Exact&utm\\_content=GA-Brand-Exact&campaignid=16934261972&adgroupid=135659886717&adid=593274558903&gad=1&gclid=EAJalQobChMI2eTh7erzgQMV11IBHAR2aGA8tEAAAYASAAEgJ7KPD\\_BwE](https://www.virtahealth.com/join/benefits?utm_source=Googlead&utm_medium=GA-Brand-Exact-Search&utm_campaign=2022-Q3-Brand-Exact&utm_content=GA-Brand-Exact&campaignid=16934261972&adgroupid=135659886717&adid=593274558903&gad=1&gclid=EAJalQobChMI2eTh7erzgQMV11IBHAR2aGA8tEAAAYASAAEgJ7KPD_BwE)  
 [4] [https://www.needhamfunds.com/gf\\_commentary/private-company-profile-virta-health-inc/](https://www.needhamfunds.com/gf_commentary/private-company-profile-virta-health-inc/)  
 [5] Attia, Peter, and Bill Gifford. *Outlive: The Science & Art of Longevity*. Vermilion, 2023.  
 [6] <https://www.ncqa.org/videos/quality-talks-2022-sami-inkinen-on-taking-diabetes-reversal-mainstream/>

	3 MO	YTD	1YR	3YR	5YR	10YR	SINCE INCEPT.
Needham Aggressive Growth Fund Inst Class**	-1.84%	25.25%	31.05%	15.67%	17.89%	13.01%	11.66%
After Taxes on Distributions	-1.84%	25.25%	31.05%	14.71%	16.00%	11.42%	10.63%
After Taxes on Distributions & Redemptions	-1.09%	14.95%	18.38%	12.29%	13.90%	10.23%	9.85%
Needham Aggressive Growth Fund Retail Class	-1.95%	24.83%	30.37%	14.95%	17.19%	12.35%	11.03%
After Taxes on Distributions	-1.95%	24.83%	30.37%	13.96%	15.27%	10.76%	10.00%
After Taxes on Distributions and Redemptions	-1.15%	14.70%	17.98%	11.71%	13.32%	9.67%	9.27%
Russell 2000 Growth Index	-7.32%	5.24%	9.59%	1.09%	1.55%	6.72%	7.38%
Russell 2000 Index	-5.13%	2.54%	8.93%	7.16%	2.40%	6.65%	7.69%
S&P 500 Index	-3.27%	13.07%	21.62%	10.15%	9.92%	11.91%	8.30%

Average Annual Returns as of September 30, 2023. The Needham Aggressive Growth Fund inception date is September 4, 2001.

\*\*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.

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.

The Needham Aggressive Growth Fund’s Gross Expense Ratio is 1.85% for the Retail Class and 1.58% for the Institutional Class. The Needham Aggressive Growth Fund’s Net Expense Ratio is 1.88% for the Retail Class and 1.21% 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, 2024, to the extent the Gross Expense Ratio exceeds 1.85% and 1.18% of the average daily net assets of Retail Class Shares and Institutional Class Shares (Expense Cap), respectively. 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.

[Needham Aggressive Growth Fund Fact Sheet Link](#) [Prospectus Link](#)

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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 Aggressive Growth Fund’s ownership as a percentage of net assets in the stated securities as of September 30, 2023: VRT: 2.87%, SMCI: 6.58%, PDFS: 4.16%, KVHI: 1.15%, CRI: 1.13%, AYX: 0.71%, FTRE: 0.24%, LH: 0.85%, GENI: 0.18%, VPG: 2.39%, FARO: 0.65%, VICR: 3.55%, ESI-FR: 2.50%, KEYS: 0.00%, NVO: 0.00%, LLY: 0.00% and Virta Health (Private): 0.00%.

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