

Quarterly Review As of 09/30/2022

MassMutual Mid Cap Growth Fund

T. Rowe Price & Associates, Inc. | Frontier Capital Management Company, LLC

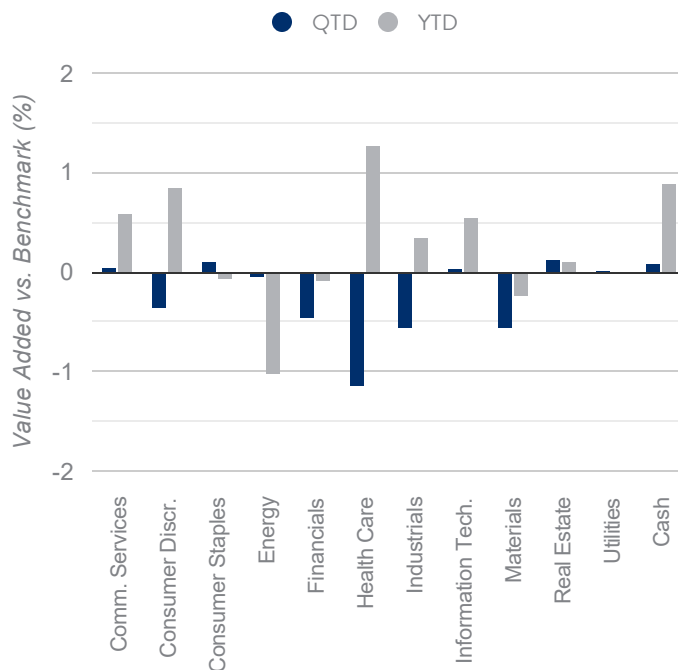
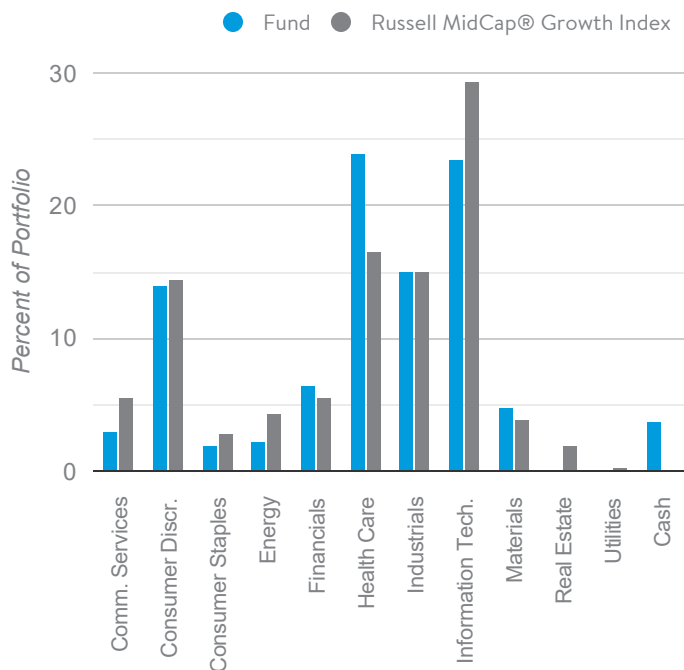
MassMutual
Funds

I SHARE CLASS • TICKER: MEFZX

Fund Objective: This Fund seeks growth of capital over the long-term.

Sector Weightings: Defines what % of each sector this fund holds compared to its benchmark listed here.

Portfolio Attribution: Describes how fund manager sector and stock weighting decisions affected returns.



Sector Attribution Details:

Sector	Fund Weight	QTD	YTD
Communication Services	3.05	0.05	0.60
Consumer Discretionary	14.07	-0.37	0.85
Consumer Staples	1.95	0.12	-0.07
Energy	2.24	-0.05	-1.04
Financials	6.41	-0.48	-0.09
Health Care	23.98	-1.16	1.27
Industrials	15.08	-0.58	0.36
Information Technology	23.57	0.03	0.55
Materials	4.79	-0.58	-0.25
Real Estate	0.00	0.14	0.11
Utilities	0.00	0.01	-0.02
Cash	3.78	0.10	0.90

Quarterly Portfolio Commentary:



Jason Marino, CFA, CAIA *Investment Director*
Investment Experience: **20 Years**

HIGHLIGHTS

- The Russell Midcap® Growth Index posted its third consecutive quarterly decline, its longest losing streak since the Global Financial Crisis.
- Seven of the Index's 11 sectors posted losses in the period with the sharpest declines coming from the real estate and health care sectors.
- Stock selection, negative in five of nine invested sectors, was the main driver of the Fund's relative underperformance.
- Sector allocation detracted due to a significant overweight to the health care sector.

These materials and the platform of investments made available by MassMutual are offered without regard to the individualized needs of any plan, its participants, or beneficiaries. These materials are not intended as impartial investment advice or to give advice in a fiduciary capacity to any plan.

Russell MidCap® Growth Index measures the performance of the mid-cap growth segment of the U.S. equity universe. It includes Russell Midcap® Index companies with higher price-to-book ratios and higher forecasted growth values. It is market-capitalization weighted. The Index does not reflect any deduction for fees, expenses, or taxes and cannot be purchased directly by investors.

NOT FDIC INSURED • MAY LOSE VALUE • NO BANK GUARANTEE

MassMutual Mid Cap Growth Fund

Quarterly Portfolio Commentary:

The Russell Midcap® Growth Index posted its first three consecutive quarter decline since 2008-2009 and one of its poorest 6-month returns in 20 years. Growth stocks outperformed their value counterparts up and down the domestic market cap spectrum with much of the lead built in July when investors hoped for a quick pivot from the Federal Reserve (the Fed) on interest rate hikes. Seven of the eleven sectors in the Index posted declines in the period with the sharpest declines in the real estate and health care sectors. The impact of the decline in real estate was contained by the relatively small, less than 2%, allocation within the Index. Health care stocks, however, represent the second largest allocation within the Index so their decline had a large impact on the overall Index. Within the sector, two stocks, Avantor and IQVIA Holdings, were particularly impactful. Avantor shares declined after the company missed analyst expectations for sales growth in the second quarter. IQVIA topped analyst expectations on both revenue and earnings in the quarter, however issued disappointing guidance for the upcoming quarter. The energy sector was the top performing sector in the quarter. Like real estate, its overall impact was muted by a relatively small, less than 5%, allocation within the Index. The consumer discretionary sector was the second strongest performing sector. Shares of Chipotle Mexican Grill had the largest impact, advancing nearly 15% in the quarter. The burrito chain posted strong results in the quarter, topping analyst expectations. The company showed little indication of inflation’s impact as comparable-store sales grew by double digits and the company announced another planned increase in menu prices.

The Fund underperformed the Index and ranked in the third quartile of the peer group for the quarter. The Index was particularly difficult to outperform in the quarter, ranking just outside the top third of the peer group. In contrast to the second quarter, both stock selection and sector allocation were weak. Stock selection was the primary driver of relative underperformance, however. Most of the weakness occurred in the month of July when the Index gained more than 12% and some of the Fund’s larger positions in Hologic, Textron, and Teleflex failed to keep pace.

Stock selection was negative in most invested sectors with particular weakness in the health care and industrials sectors. One of the Fund’s top overall detractors, Catalent Inc., came from the health care sector. Shares of the contract drug maker declined more than 32% in the quarter. The company announced better-than-expected earnings but disappointed on revenue and issued lower-than-expected guidance. The Fund’s third overall detractor from returns – Avantor – also came from the sector. The company’s share price declined more than 35% in the quarter after missing analyst expectations for sales growth. Within the industrials sector, TransUnion and Southwest Airlines were among the largest relative detractors. The share price TransUnion, the consumer credit reporting agency, declined more than 25% as the company cut its guidance for the full year. Shares of Southwest Airlines declined as the company modestly reduced third-quarter revenue guidance on weaker-than-expected business travel trends. The company noted, however, it continued to see positive trends in leisure travel.

Stock selection was positive within the information technology sector, the second largest allocation in the Fund. Semiconductor company Wolfspeed was the most impactful stock in the sector, advancing more than 62% in the quarter. The company reported losses narrowed versus the prior year and an increase in revenue. An avoidance of Zoom Video communications was also beneficial as the company’s stock declined more than 31% in the quarter.

Sector allocation detracted from relative performance due to a substantial overweight to the health care sector. The largest allocation within the sector is to health care equipment and suppliers, such as top five Fund holdings woman’s health care company Hologic and medical technology company Teleflex.

The Fund’s largest underweight allocation remains to the information technology sector followed by communication services while the largest overweight allocation remains the health care sector.

TICKER: MEFZX • Fund Inception: 5/31/2000
Morningstar Category: Mid-Cap Growth

	Average Annual Total Return					
	QTD	YTD	1 Year	3 Year	5 Year	10 Year
MassMutual Mid Cap Growth I	-3.39%	-29.55%	-26.68%	3.05%	6.47%	11.15%
Russell MidCap® Growth Index	-0.65%	-31.45%	-29.50%	4.26%	7.62%	10.85%
Category Average Returns	--	--	-29.18%	5.10%	7.27%	10.14%
Category Rank ¹	--	--	37	73	65	25
# of Funds in Category	--	--	582	532	491	379

Performance shown is for class I shares. Gross expenses = 0.70%, Net expense = 0.65%. Max Sales charge for I is 0.00%.The expenses reflect a contractual agreement by MML Advisers to cap the fees and expenses of the Fund through January 31, 2024. Please refer to the Funds prospectus for more information.

Performance shown is past performance. Past performance does not guarantee future results. The investment return and the principal value of an investment will fluctuate; so an investor's shares, when redeemed, may be worth more or less than their original cost. For more current information, including a list of the fund's holdings and month-end performance, please call 1-866-444-2601. You cannot invest directly in an index.

Investors should consider an investment option’s objectives, risks, fees, and expenses carefully before investing. This and other information can be found in the applicable prospectuses or summary prospectuses, which are available from MassMutual by calling 1-866-444-2601. Please read them carefully before investing.

The Fund’s **Principal Risks** include - Equity Securities Risk, Small and Mid-Cap Company Risk, Foreign Investment Risk, Emerging Markets Risk, Currency Risk, Growth Company Risk, Cash Position Risk, Convertible Securities Risk, Liquidity Risk, Management Risk, Market Risk, Preferred Stock Risk, Restricted Securities Risk, Sector Risk, Valuation Risk.

¹The Morningstar percentile ranking is based on the fund’s total-return percentile rank relative to all funds that have the same category for the same time period. The highest (or most favorable) percentile rank is 1%, and the lowest (or least favorable) percentile rank is 100%. Morningstar total return includes both income and capital gains or losses and is not adjusted for sales charges. ©2022 Morningstar, Inc. All Rights Reserved. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information.

MassMutual Mid Cap Growth Fund

Portfolio Holdings:

Quarter to Date:

Top 5 Contributors	Fund Weight	Absolute Return**	Portfolio Contribution
The Trade Desk Inc Class A	0.98	42.64	0.31
Signify Health Inc Ordinary Shares - Class A	0.36	111.23	0.26
Alnylam Pharmaceuticals Inc	0.80	37.24	0.25
Wolfspeed Inc	0.55	62.90	0.25
Chipotle Mexican Grill Inc	1.22	14.95	0.16
Top 5 Detractors	Fund Weight	Absolute Return**	Portfolio Contribution
Ball Corp	1.51	-29.49	-0.52
Catalent Inc	1.52	-32.56	-0.51
Avantor Inc	1.10	-36.98	-0.51
Teleflex Inc	1.80	-17.95	-0.37
Veeva Systems Inc Class A	1.39	-16.74	-0.24

Year to Date:

Top 5 Contributors	Fund Weight	Absolute Return**	Portfolio Contribution
Signify Health Inc Ordinary Shares - Class A	0.20	104.99	0.19
Acadia Healthcare Co Inc	0.89	28.80	0.18
LPL Financial Holdings Inc	0.55	37.00	0.13
Ionis Pharmaceuticals Inc	0.39	45.35	0.12
EPAM Systems Inc	0.32	74.34	0.11
Top 5 Detractors	Fund Weight	Absolute Return**	Portfolio Contribution
RIVIAN AUTOMOTIVE INC LOCKUP TC3ZOCL40	0.49	-72.23	-1.27
Marvell Technology Inc	1.87	-50.81	-1.16
Burlington Stores Inc	1.29	-61.62	-0.99
Ball Corp	1.96	-49.37	-0.98
Avantor Inc	1.13	-53.49	-0.69

Fund Weightings are shown as an average for the time period.

**Absolute Return is the return that an asset achieves over a certain period of time. This measure looks at the appreciation or depreciation (expressed as a percentage) that a holding achieves over a given period of time.

For a complete listing of fund holdings, visit massmutualfunds.com or please call 1-866-444-2601. The mention of individual stocks and other securities in this document does not constitute investment advice.

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