

Which asset classes performed best in rising-rate environments?

Federated Hermes analyzed the performance of 51 commonly used benchmark indexes during rising-rate environments. We ranked the top 10 indexes based on median annualized return during the 12 periods since 1998 when the 10-year Treasury yield rose 1% or more. All were equity indexes, but select fixed-income asset classes also delivered attractive returns.

Out of 51 equity and fixed-income indexes, the top 10 performers were small-cap, mid-cap and non-U.S. equities.

Annualized total return (%) during periods when the 10-year Treasury yield rose 1% or more since 1998

= Highest-performing index during the period.

Rising-rate period	10/5/98 to 1/20/00	11/7/01 to 4/1/02	6/13/03 to 9/2/03	3/16/04 to 6/14/04	6/1/05 to 6/28/06	12/30/08 to 6/10/09	10/7/10 to 2/8/11	7/24/12 to 1/1/14	7/8/16 to 3/13/17	9/7/17 to 11/8/18	8/4/20 to 3/31/21	8/3/21 to 6/14/22	Median annualized return
Percent 10-year yield rose by (%)	2.63	1.25	1.49	1.19	1.36	1.89	1.35	1.64	1.03	1.21	1.43	1.43	-
Top 10 indexes ranked by median annualized return													
1 Russell 2000® Growth Index	69.86	8.47	14.04	-1.44	11.07	21.20	20.96	35.42	17.21	14.43	37.53	-32.67	15.82
2 S&P MidCap 400® Index	39.17	15.16	7.55	0.16	10.84	18.33	19.34	31.19	16.08	10.71	39.79	-14.07	15.62
3 Russell 1000® Growth Index	54.05	0.21	4.61	3.04	3.36	18.14	16.89	26.65	14.03	17.65	16.68	-23.23	15.36
4 MSCI World Small Cap Index	-	11.09	10.71	-0.02	18.34	21.98	17.53	32.35	15.15	5.79	38.47	-21.15	15.15
5 Russell 2500™ Index	41.09	13.49	10.09	-0.54	11.80	16.42	19.52	33.58	16.51	11.58	41.92	-18.75	14.96
6 MSCI Emerging Markets Index	-	27.98	15.72	-10.45	30.09	43.23	2.22	9.17	14.80	-5.04	23.24	-19.85	14.80
7 Russell 2000® Index	38.98	14.56	11.39	-1.38	12.00	13.20	19.15	33.97	20.29	12.03	48.52	-22.09	13.88
8 MSCI ACWI SMID Cap Index	44.70	11.18	7.59	0.90	18.44	22.18	13.96	28.69	13.74	3.32	32.02	-20.24	13.85
9 Russell Midcap® Growth Index	79.61	6.15	8.38	1.82	10.93	26.40	20.25	31.26	11.57	13.96	18.26	-31.85	12.76
10 Russell 3000® Index	36.19	4.66	3.66	1.62	7.28	11.08	15.83	28.52	15.24	13.41	24.94	-16.20	12.25

As of 7/31/22. Graph shows the top 10 performing indexes out of 51 common benchmark indexes (21 stock, 29 bond and one bank loan index). Returns for periods less than one year are cumulative.

Out of 30 fixed-income indexes, top performers included leveraged loans, high-yield bonds and short-term bonds.

Annualized total return (%) during periods when the 10-year Treasury yield rose 1% or more since 1998

= Highest-performing index during the period.

Rising-rate period	10/5/98 to 1/20/00	11/7/01 to 4/1/02	6/13/03 to 9/2/03	3/16/04 to 6/14/04	6/1/05 to 6/28/06	12/30/08 to 6/10/09	10/7/10 to 2/8/11	7/24/12 to 1/1/14	7/8/16 to 3/13/17	9/7/17 to 11/8/18	8/4/20 to 3/31/21	8/3/21 to 6/14/22	Median annualized return
Percent 10-year yield rose by (%)	2.63	1.25	1.49	1.19	1.36	1.89	1.35	1.64	1.03	1.21	1.43	1.43	-
Top 10 fixed-income indexes by median annualized return													
1 ICE BofA 0-3 Dura-Worst US HY Constrained Index	-	-	-	-	-	35.91	4.00	7.99	6.67	3.54	5.91	-5.47	5.91
2 Credit Suisse Leveraged Loan Index	4.28	3.99	2.32	1.10	6.43	17.72	5.33	7.60	6.60	5.11	8.05	-0.63	5.22
3 Bloomberg US HY 2% Issuer Capped Index	3.51	5.00	1.89	-2.07	5.14	35.12	5.35	9.97	8.14	2.37	7.05	-11.98	5.07
4 ICE BofA Global HY Index Constrained - USD Hedged	4.14	3.85	1.23	-1.60	5.65	34.03	4.56	10.96	8.18	1.80	7.46	-13.26	4.35
5 Bloomberg Municipal 1-Year 1-2 Index	3.09	0.69	0.09	-0.50	2.10	1.77	0.23	0.73	0.25	0.39	0.40	-1.63	0.40
6 Bloomberg Short-Term Govt/ Corporate Index	-	-	-	-	3.62	0.75	0.12	0.28	0.41	1.60	0.16	-0.54	0.35
7 ICE BofA 6-Month U.S. Treasury Bill Index	4.63	0.76	0.18	0.08	3.73	0.27	0.10	0.19	0.32	1.61	0.12	-0.17	0.23
8 ICE BofA 3-Month U.S. Treasury Bill Index	4.81	0.74	0.22	0.22	3.89	0.09	0.05	0.10	0.24	1.62	0.07	0.08	0.22
9 ICE BofA 1-Year U.S. Treasury Note Index	3.86	0.48	-0.06	-0.48	2.74	0.12	0.07	0.26	0.15	1.11	0.13	-1.82	0.14
10 S&P Municipal Bond Short Index	-	0.40	-0.07	-0.96	1.97	2.31	-0.24	0.97	-0.08	0.03	0.44	-2.76	0.03

As of 7/31/22. Fixed-income analysis excludes the 21 equity indexes used in the previous analysis to determine the top-performing fixed-income asset classes. Graph shows the top 10 performing indexes out of 30 commonly used government and credit indexes (29 bond indexes and one bank loan index). Returns for periods less than one year are cumulative.

Sources: Federated Hermes analysis, Morningstar Inc., MSCI, Bloomberg, Russell, Bank of America Securities. For more information on how the analysis was conducted, including a list of all of the indexes compared, please see the disclaimers. For illustrative purposes only and not representative of any specific investment.

Past performance is no guarantee of future results.

Which asset classes performed best in rising-rate environments?

Past performance is no guarantee of future results.

Analysis of asset class performance in rising-rate environments compared the returns of all indexes that are listed as Federated Hermes benchmarks in Morningstar Inc., 51 in total. Rising-rate environments for this analysis are periods from 1/1/98 to 7/31/22 in which the 10-year Treasury yield rose by 1% or more (without having more than 50 basis points of decreasing yields). By this definition, there are twelve such periods of rising-rate environments 1/1/98 to 7/31/22. For periods longer than one year, returns were annualized. Analysis shows the top 10 performing indexes based on median returns over the 12 periods. Fixed-income analysis excludes stock indexes to determine the top 10 performing fixed-income indexes based on median returns. For indexes, also with inception dates later than 1/1/98, median returns are calculated over the number of periods for which data is available.

Indexes analyzed:

MSCI ACWI SMID Cap Index, MSCI ACWI ex USA SMID Cap Index, S&P Municipal Bond Index, S&P Municipal Bond Short Index, S&P Municipal Bond Intermediate Index, Bloomberg Short-term Gov/Corporate Index, S&P Municipal Bond Ohio Index, S&P Municipal Bond Pennsylvania Index, JPM EMBI Global Index, Bloomberg Municipal 1 Year 1-2 Index, JPM GBI Global ex US Index, Bloomberg US Govt/Credit 1-3 Year Index, Bloomberg US Govt/Credit 1-5 Year Index, Bloomberg Global Aggregate Index, Russell 1000® Growth Index, Russell 1000® Value Index, Russell 2000® Growth Index, Russell 2000® Value Index, Russell MidCap® Growth Index, Bloomberg US Aggregate Bond Index, Bloomberg US Credit Index, Bloomberg US Government Index, Bloomberg US Intermediate Credit Index, Bloomberg US MBS Index, Russell 2000® Index, Russell 3000® Index, MSCI EAFE Index, MSCI World ex USA Index, ICE BofA 1-Year U.S. Treasury Note Index, ICE BofA 3-Month U.S. Treasury Bill Index, ICE BofA 6-Month U.S. Treasury Bill Index, ICE BofA 1-3 Year U.S. Treasury Index, ICE BofA 3-5 Year U.S. Treasury Index, ICE BofA Current 5-Year U.S. Treasury Index, MSCI ACWI Index, MSCI EM Index, MSCI World Small Cap Index, Bloomberg US Treasury US TIPS Index, MSCI ACWI ex USA Index, S&P 500 Index, S&P MidCap 400 Index, Bloomberg US Corporate HY 2% Issuer Capped Index, MSCI ACWI ex USA Growth Index, Credit Suisse Leveraged Loan Index, Dow Jones U.S. Select Div Index, MSCI World ex USA HDY Index, Russell 2500™ Index, ICE BofA 0-3 Dura-Worst US HY Constrained Index, ICE BofA Global HY Index Constrained - USD Hedged, Bloomberg US Corporate 1-5 Year Index, Bloomberg Municipal Managed Money Short Index.

Bloomberg Municipal 1-Year 1-2 Index measures the performance of USD-denominated long-term tax exempt bond market with maturities of 1 years (1-2), including state and local general obligation bonds, revenue bonds, insured bonds and prerefunded bonds.

Bloomberg Short-term Government/Corporate Index represents securities that have fallen out of the US Government/Corporate Index because of the standard minimum one year maturity constraint. Sectors include treasuries, agencies, industrials, utilities and financial institutions.

Bloomberg US Corporate High Yield 2% Issuer Capped Index is an issuer-constrained version of the flagship US Corporate High Yield Index, which measures the USD-denominated, high-yield, fixed-rate corporate bond market. The index follows the same rules as the uncapped version, but limits the exposure of each issuer to 2% of the total market value and redistributes any excess market value index wide on a pro-rata basis. The index was created in 2002, with history backfilled to January 1, 1993.

Credit Suisse Leveraged Loan Index is designed to mirror the investable universe of the U.S. dollar-denominated leveraged loan market. Average values are computed over the index for coupon, current yield, initial spread and price. The average coupon, current yield and initial spread are weighted by market value (amount outstanding multiplied by the price) at the end of the measurement period for each loan currently paying interest in the Index. Total return is computed for each loan, which is the percent change in the value of each loan during the measurement period. Total return is the sum of three components: principal, interest and reinvestment return.

ICE BofA 0-3 Year Duration-to-Worst US High Yield Constrained Index tracks the performance of short-term U.S. dollar denominated below investment-grade corporate debt publicly issued in the U.S. domestic market. Qualifying securities must have a duration-to-worst less than three years, a remaining to final maturity of at least one month, at least 18 months to final maturity at point of issuance, a below investment grade rating (based on an average of Moody's, S&P and Fitch), a fixed coupon schedule and a minimum amount outstanding of \$250 million.

ICE BofA 1-Year U.S. Treasury Note Index is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month, that issue is sold and rolled into a newly selected issue. The issue selected at each month-end rebalancing is the outstanding two-year Treasury note that matures closest to, but not beyond, one year from the rebalancing date. To qualify for selection, an issue must have settled on or before the month-end rebalancing date.

ICE BofA 3-Month U.S. Treasury Bill Index is comprised of a single issue purchased at the beginning of the month and held for a full month. At the end of the month that issue is sold and rolled into a newly selected issue. The issue selected at each month end rebalancing is the outstanding Treasury Bill that matures closest to, but not beyond, three months from the rebalancing date. To qualify for selection, an issue must have settled on or before the month-end rebalancing date.

ICE BofA 6-Month U.S. Treasury Bill Index is an unmanaged index tracking 6-month U.S. government securities. The index is produced by ICE BofA, Pierce, Fenner & Smith, Inc.

ICE BofA Global High Yield Index Constrained-USD Hedged tracks the performance of below investment-grade corporate debt denominated in U.S. dollars, Canadian dollars, pounds and euros that are publicly issued in the major U.S. or Eurobond markets. The weighting of index constituents is limited to a maximum 2%.

MSCI ACWI SMID Cap Index captures mid- and small-cap representation across 23 Developed Market (DM) and 24 Emerging Market (EM) countries. With 7,776 constituents, the index covers approximately 28% of the free float-adjusted market capitalization in each country.

MSCI Emerging Markets Index captures large- and mid-cap representation across 24 EM countries. With 1,393 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

MSCI World Small Cap Index captures small-cap representation across 23 DM countries. With 4,493 constituents, the index covers approximately 14% of the free float-adjusted market capitalization in each country.

Russell 1000® Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with relatively higher price-to-book ratios, higher I/B/E/S forecast medium term (2 year) growth and higher sales per share historical growth (5 years). The Russell 1000® Growth Index is constructed to provide a comprehensive and unbiased barometer for the large-cap growth segment. The index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics.

Russell 2000® Index measures the performance of the small-cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000® Index representing approximately 10% of the total market capitalization of that index. It includes approximately 2,000 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2000 is constructed to provide a comprehensive and unbiased small-cap barometer and is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small-cap opportunity set.

Russell 2000® Growth Index measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with relatively higher price-to-book ratios, higher I/B/E/S forecast medium term (2 year) growth and higher sales per share historical growth (5 years). The Russell 2000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the small-cap growth segment. The index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics.

Russell 2500™ Index measures the performance of the small- to mid-cap segment of the U.S. equity universe, commonly referred to as "SMID" cap. The Russell 2500 Index is a subset of the Russell 3000® Index. It includes approximately 2,500 of the smallest securities based on a combination of their market cap and current index membership. The Russell 2500 Index is constructed to provide a comprehensive and unbiased barometer for the small to mid-cap segment. The index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true small- to mid-cap opportunity set.

Russell 3000® Index measures the performance of the largest 3,000 U.S. companies representing approximately 96% of the investable U.S. equity market, as of the most recent reconstitution. The Russell 3000 Index is constructed to provide a comprehensive, unbiased and stable barometer of the broad market and is completely reconstituted annually to ensure new and growing equities are included.

Russell Midcap® Growth Index measures the performance of the midcap growth segment of the U.S. equity universe. It includes those Russell Midcap Index companies with relatively higher price-to-book ratios, higher I/B/E/S forecast medium term (2 year) growth and higher sales per share historical growth (5 years). The Russell Midcap® Growth Index is constructed to provide a comprehensive and unbiased barometer of the mid-cap growth market. The index is completely reconstituted annually to ensure larger stocks do not distort the performance and characteristics of the true mid-cap growth market.

S&P MidCap 400® Index provides investors with a benchmark for mid-sized companies. The index, which is distinct from the large-cap S&P 500®, is designed to measure the performance of 400 mid-sized companies, reflecting the distinctive risk and return characteristics of this market segment.

S&P Municipal Bond Short Index consists of bonds in the S&P Municipal Bond Indexes with a minimum maturity of six months and a maximum maturity of four years.

Indexes are unmanaged and cannot be invested in directly.

International investing involves special risks including currency risk, increased volatility, political risks and differences in auditing and other financial standards.

Prices of Emerging markets securities can be significantly more volatile than the prices of securities in Developed markets countries and currency risk and political risk are accentuated in Emerging markets.

Small-cap companies may have less liquid stock, a more volatile share price, unproven track records, a limited product or service base and limited access to capital. The above factors could make small-cap companies more likely to fail than larger companies and increase the volatility of a fund's portfolio, performance and share price. Suitable securities of small-cap companies also can have limited availability and cause capacity constraints on investment strategies for funds that invest in them.

Bond prices are sensitive to changes in interest rates and a rise in interest rates can cause a decline in their prices. High-yield, lower-rated securities generally entail greater market, credit/default and liquidity risks, and may be more volatile than investment-grade securities.

In addition to the risks generally associated with debt instruments, such as credit, market, interest rate, liquidity and derivatives risks, bank loans are also subject to the risk that the value of the collateral securing a loan may decline, be insufficient to meet the obligations of the borrower or be difficult to liquidate.

Investments are subject to risks and fluctuate in value.