

Vanguard Index Funds

Quarterly Review | December 31, 2023



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Executive summary

Global markets finish strong in 2023

Markets worldwide finished 2023 off strong as fears of a recession faded and a “soft landing” became more likely. Despite a slow start to the fourth quarter, equities rallied following the release of positive economic and business reports. Bonds also finished the year with positive gains as optimism around central bank rate cuts in 2024 grew.

Global stock market returns were positive nearly across the board, with all three major U.S. indexes reaching new highs in December from central bank tailwinds. The market rally was led by the “Magnificent Seven” stocks, due in part to continued enthusiasm around artificial intelligence and technological innovations. Thus, growth stocks outperformed the broad market, although value stocks also posted strong gains.

Inflation appears to be cooling across the globe, falling in the U.S., the U.K., Japan, China, and the euro zone. Although inflation rates are still above many central banks’ targets, investors anticipate central banks nearing the end of their current rate cycle in contrast to the “higher for longer” sentiment at the beginning of the year. As a result, yields on domestic and international fixed income decreased, leading to strong global bond market returns.

Despite market volatility, Vanguard, through its investor-owned* structure, has strived to consistently add value over its 40-plus-year history of managing index portfolios by proactively reducing costs and applying conservative securities-lending and collateral reinvestment practices. Vanguard’s investment principles are rooted in setting clear goals, maintaining balance, minimizing cost, and staying disciplined with a long-term perspective.

Performance of key Vanguard index funds

Fund name (inception date)	1Q 2023	2Q 2023	3Q 2023	4Q 2023	1-year
Vanguard Total Stock Market Index Fund (07/07/1997)	7.15%	8.42%	-3.30%	12.17%	26.02%
Vanguard Total International Stock Index Fund (11/29/2010)	6.65%	2.61%	-4.01%	9.98%	15.53%
Vanguard Total Bond Market Index Fund (09/18/1995)	3.16%	-0.90%	-3.08%	6.69%	5.72%
Vanguard Total International Bond Index Fund (05/31/2013)	3.54%	0.18%	-1.50%	6.54%	8.85%
Vanguard Short-Term Inflation-Protected Securities Index Fund (10/17/2012)	2.28%	-0.69%	0.43%	2.55%	4.61%

Source of performance figures: Vanguard, Institutional share class, as of December 31, 2023.

*Vanguard is owned by its funds, which are owned by Vanguard’s fund shareholder clients.

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors’ shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at institutional.vanguard.com. Standard performance of the funds can be located on pages 8 and 22–23 of the Quarterly Review.



Fixed income market and fund performance

IN THIS SECTION:

Fixed income markets overview

Performance and attribution for Vanguard
taxable fixed income index funds



Fixed income markets overview

Figure 5.1 Treasury yields (%)

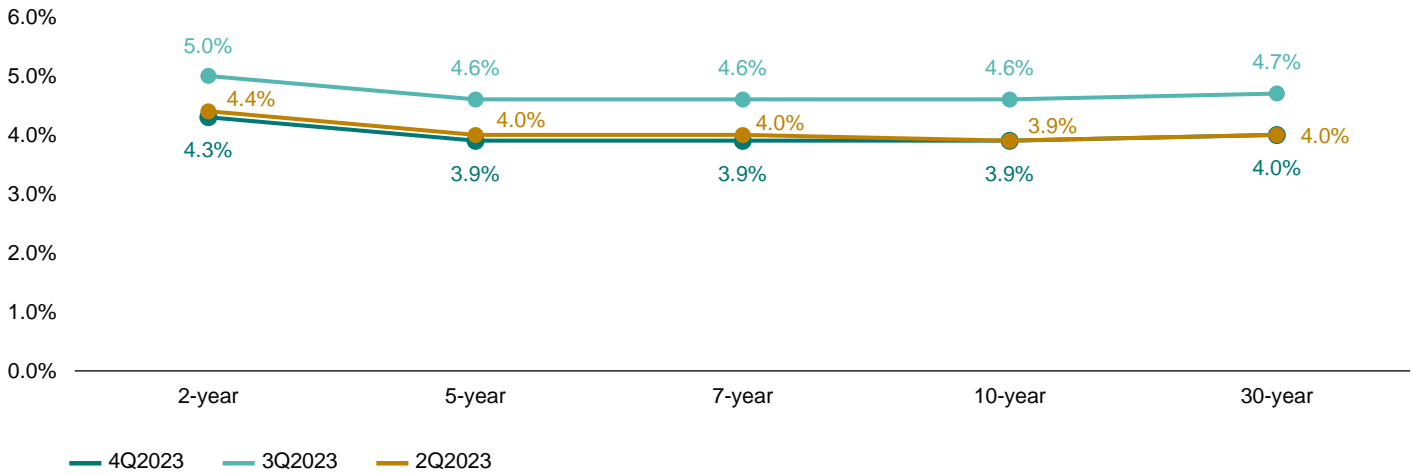
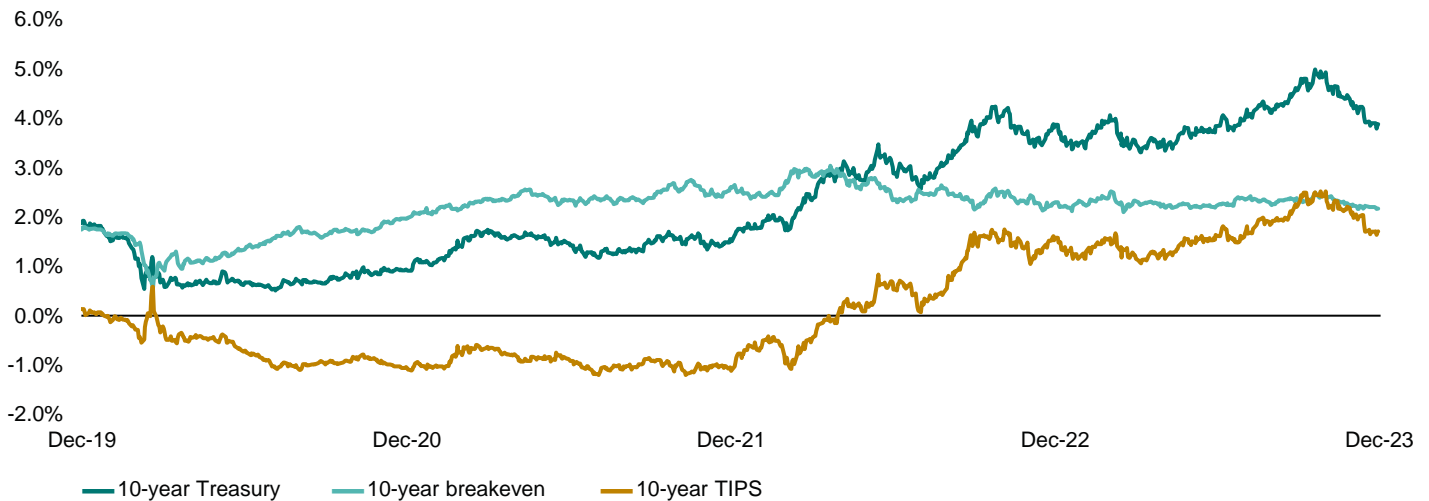


Figure 5.2 Inflation expectations*



Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

* The break-even inflation rate represents a measure of expected inflation derived from the difference between the nominal yield on the 10-year Treasury—which includes inflation expectations—and the yield of the 10-year Treasury Inflation-Protected Security (TIPS)—which does not include inflation expectations. This delta implies what the market believes will be the average rate of inflation over the next 10 years.



Fixed income markets overview

Figure 6.1 Credit spreads (1-year)

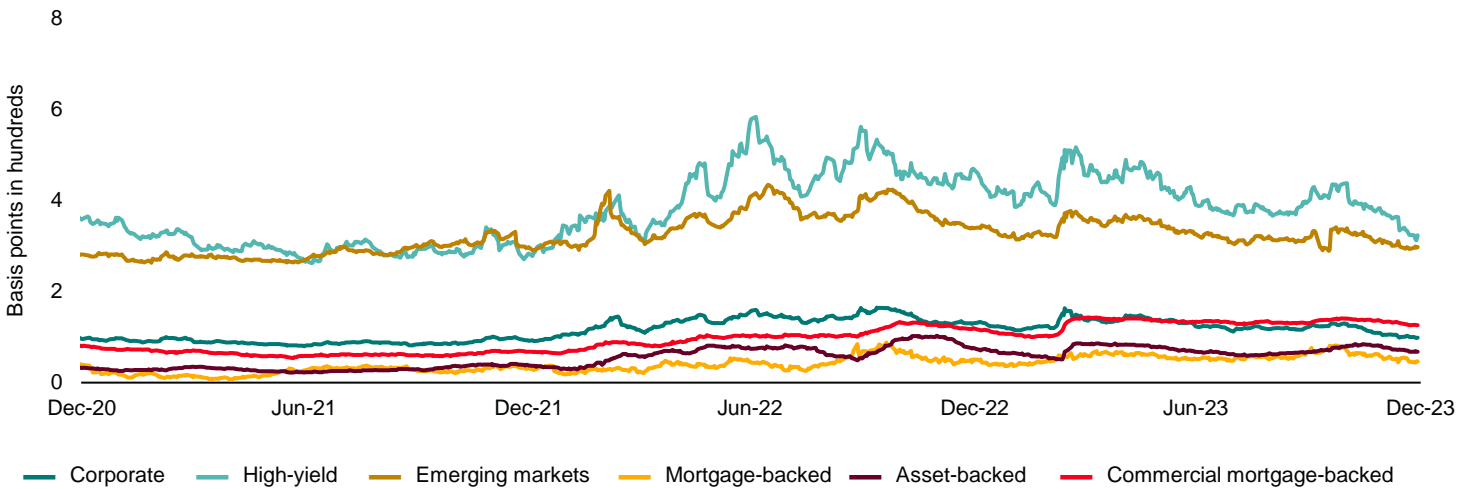
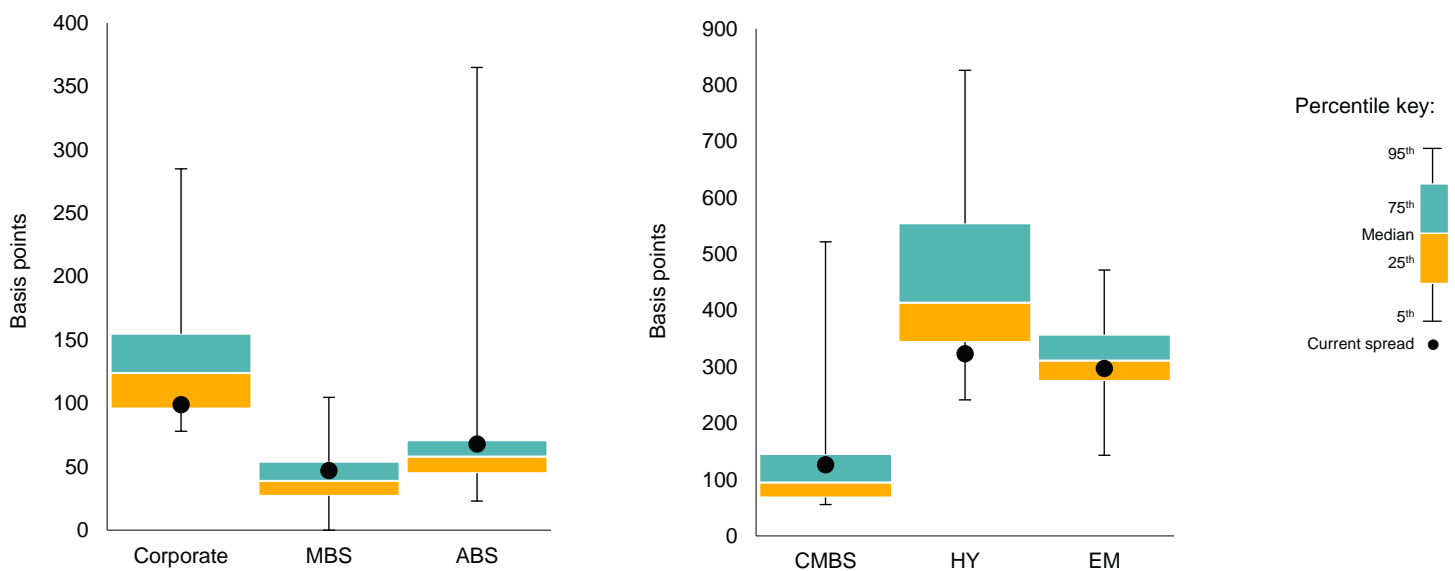


Figure 6.2 Credit spreads relative to comparable Treasuries over 20 years



Sources: Vanguard and Bloomberg. All data as of December 31, 2023, unless otherwise noted.

Note: Sectors represented by data from Bloomberg indexes: Bloomberg US Agg Corporate, Bloomberg US Corporate High Yield, Bloomberg EM USD Agg, Bloomberg US MBS Fixed Rate, Bloomberg US Agg ABS, and Bloomberg US Agg CMBS.



Fixed income markets overview

Figure 7.1 U.S. total return by sector

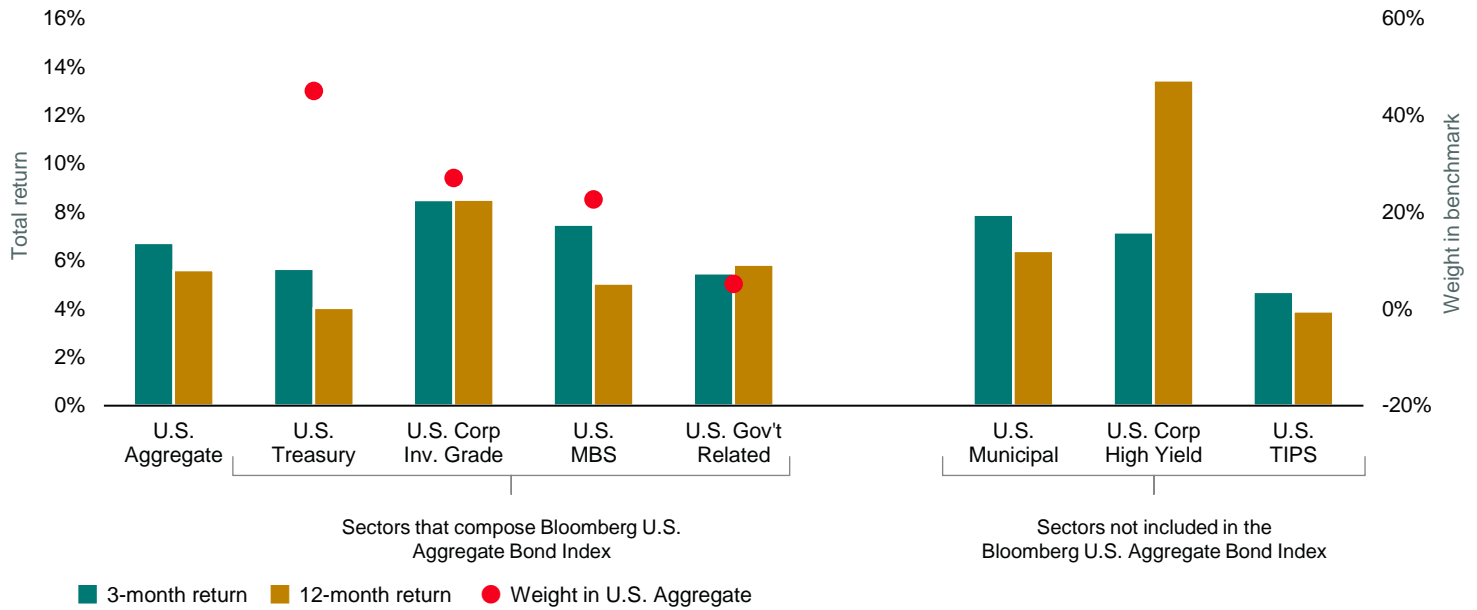
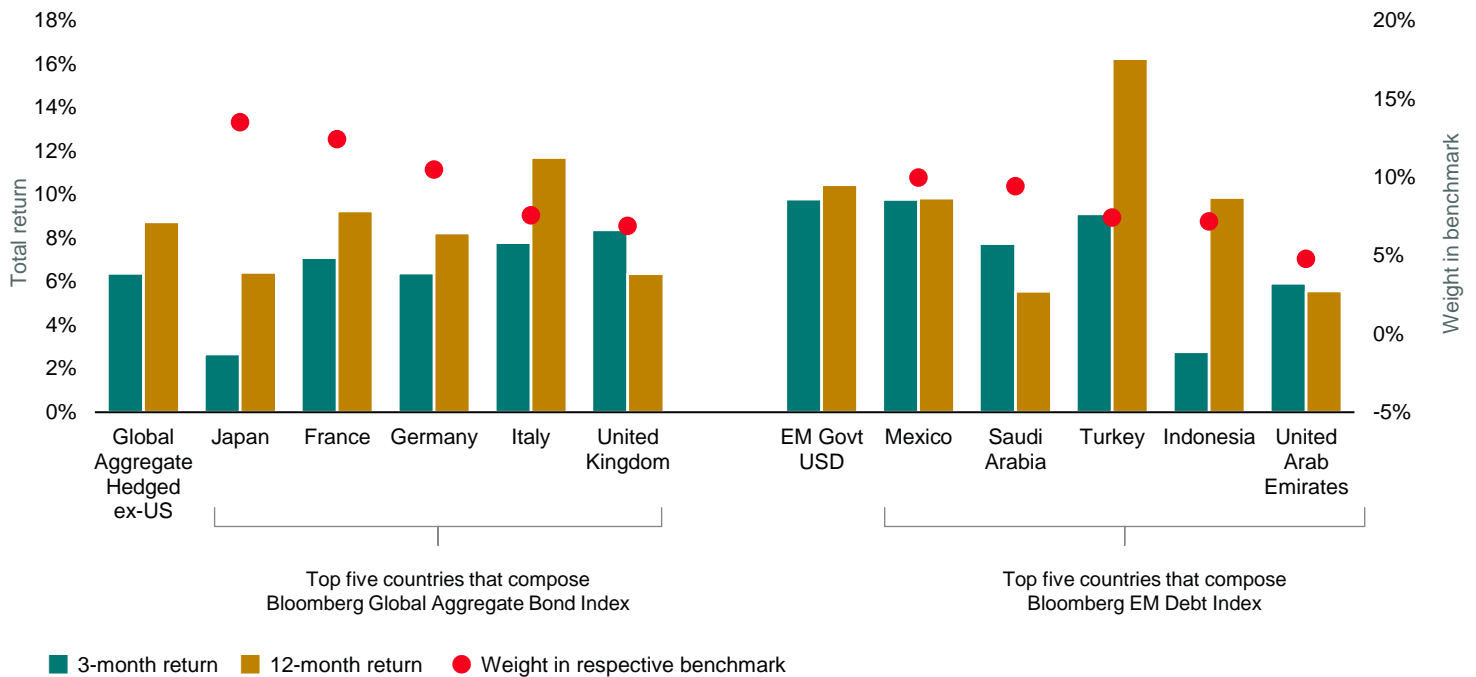


Figure 7.2 Developed and emerging markets total return by country



Sources: Vanguard and Bloomberg. All data as of December 31, 2023, unless otherwise noted.

Past performance is not a guarantee of future results. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.



Performance for all Vanguard taxable fixed income index funds

	3 months	1 year	3 years	5 years	10 years	Since inception	Inception date
Broad-market							
Vanguard Total Bond Market Index Fund (VBTIX)	6.69	5.72	-3.34	1.13	1.80	4.28	9/18/1995
Total Bond Market II Index Fund (VTBNX)	6.66	5.66	-3.36	1.05	1.76	2.62	2/17/2009
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	7.34	5.01	-2.86	0.20	1.29	1.17	10/31/2013
Vanguard Total Corporate Bond ETF (VTC)							
Market price	8.51	8.60	-3.37	2.48	--	1.68	11/7/2017
NAV	8.49	8.64	-3.35	2.48	--	1.68	11/7/2017
Short-term							
Vanguard Short-Term Bond Index Fund (VBITX)	3.40	4.88	-0.66	1.49	1.38	1.35	9/27/2011
Vanguard Short-Term Inflation-Protected Securities Index Fund (VTSPX)	2.55	4.61	2.31	3.34	1.95	1.64	10/17/2012
Vanguard Short-Term Treasury Index Fund (VSBIX)	2.53	4.28	-0.14	1.23	0.99	0.91	8/23/2010
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	4.08	6.21	-0.09	2.28	2.07	2.57	11/19/2009
Intermediate-term							
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	6.87	6.09	-3.50	1.70	2.32	3.92	1/26/2006
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	5.00	4.43	-3.13	0.79	1.39	2.05	3/19/2010
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	8.33	8.87	-2.67	2.85	3.15	4.18	11/19/2009
Long-term							
Vanguard Long-Term Bond Index Fund (VBLLX)	13.12	7.54	-8.65	1.09	3.27	4.66	2/2/2006
Vanguard Long-Term Treasury Index Fund (VLGIX)	12.64	3.70	-11.43	-1.34	2.26	2.60	7/30/2010
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	13.81	11.05	-6.59	2.69	3.95	5.02	11/19/2009
Vanguard Extended Duration Treasury Index Fund (VEDTX)	18.72	2.09	-16.67	-3.06	2.86	3.75	11/28/2007
International/Global							
Vanguard Total International Bond Index Fund (VTIFX)	6.54	8.85	-2.48	0.91	2.45	2.30	5/31/2013
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	9.75	10.47	-3.34	1.73	--	2.80	2/11/2015
Vanguard Total World Bond ETF (BNDW)							
Market price	6.60	7.18	-2.96	1.02	--	1.22	9/4/2018
NAV	6.60	7.20	-2.94	1.02	--	1.22	9/4/2018

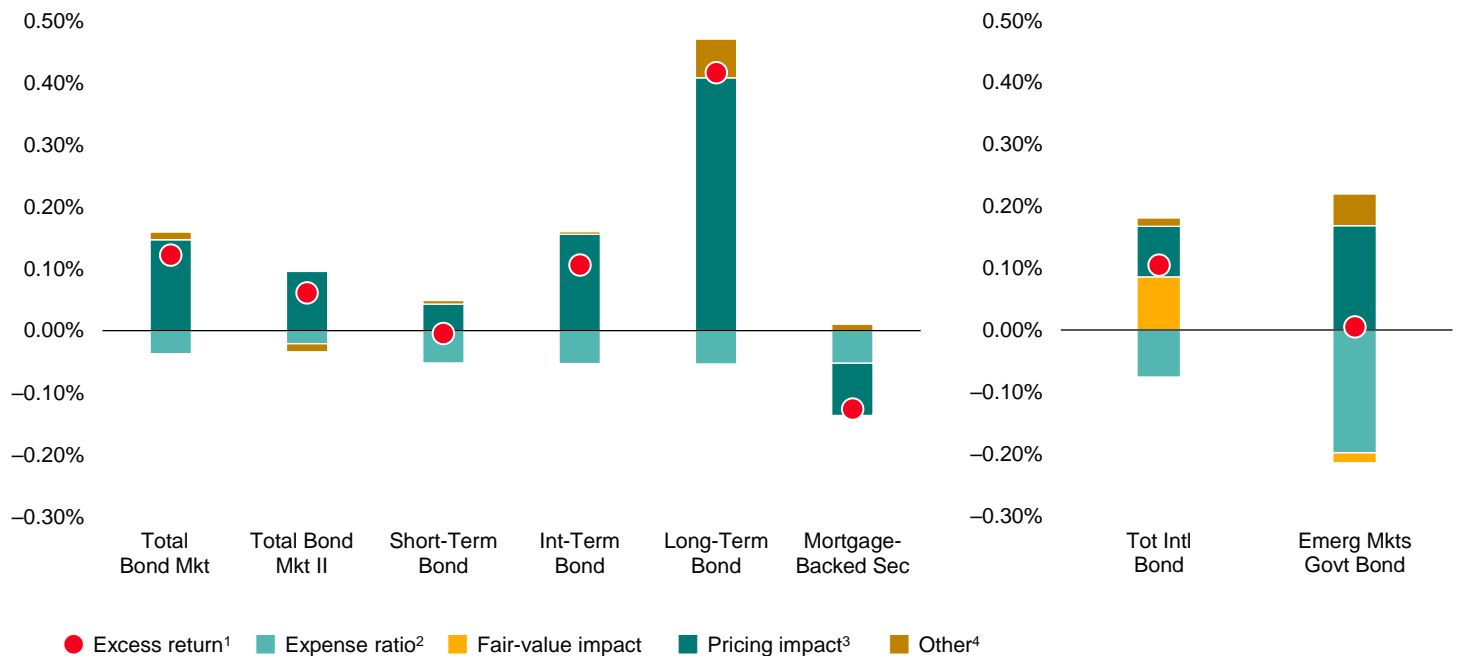
Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

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Attribution for all Vanguard taxable fixed income index funds

Figure 9.1 Year-to-date excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Total Bond Market Index Fund (VBTIX)	5.596	-0.037	0.000	0.147	0.012	5.718	0.122
Vanguard Total Bond Market II Index Fund (VTBNX)	5.596	-0.021	0.000	0.096	-0.013	5.657	0.062
Vanguard Short-Term Bond Index Fund (VBITX)	4.888	-0.052	0.000	0.043	0.006	4.884	-0.004
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	5.985	-0.053	0.000	0.156	0.004	6.092	0.107
Vanguard Long-Term Bond Index Fund (VBLLX)	7.126	-0.054	0.000	0.409	0.063	7.543	0.418
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	5.136	-0.053	0.000	-0.084	0.011	5.010	-0.126
Vanguard Total International Bond Index Fund (VTIFX)	8.749	-0.076	0.086	0.082	0.014	8.854	0.105
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	10.462	-0.199	-0.016	0.169	0.051	10.467	0.005

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

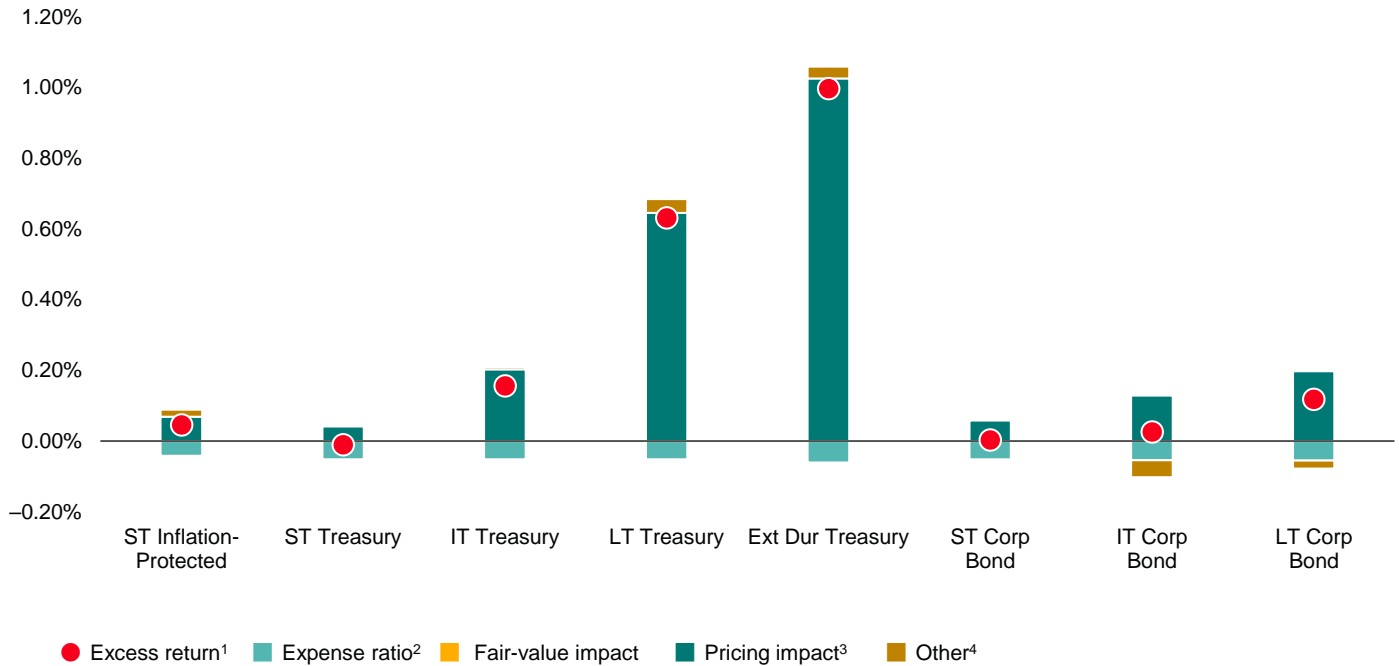
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

Past performance is no guarantee of future returns.



Attribution for all Vanguard taxable fixed income index funds

Figure 10.1 Year-to-date excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Short-Term Inflation-Protected Securities Index Fund (VTSPX)	4.568	-0.042	0.000	0.068	0.020	4.615	0.046
Vanguard Short-Term Treasury Index Fund (VSBIX)	4.293	-0.052	0.000	0.041	0.000	4.283	-0.010
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	4.272	-0.052	0.000	0.202	0.006	4.428	0.156
Vanguard Long-Term Treasury Index Fund (VLGIX)	3.063	-0.052	0.000	0.645	0.039	3.696	0.632
Vanguard Extended Duration Treasury Index Fund (VEDTX)	1.092	-0.061	0.000	1.026	0.033	2.090	0.998
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	6.204	-0.053	0.000	0.058	-0.001	6.208	0.004
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	8.840	-0.054	0.000	0.128	-0.048	8.866	0.026
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	10.928	-0.056	0.000	0.197	-0.023	11.046	0.119

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

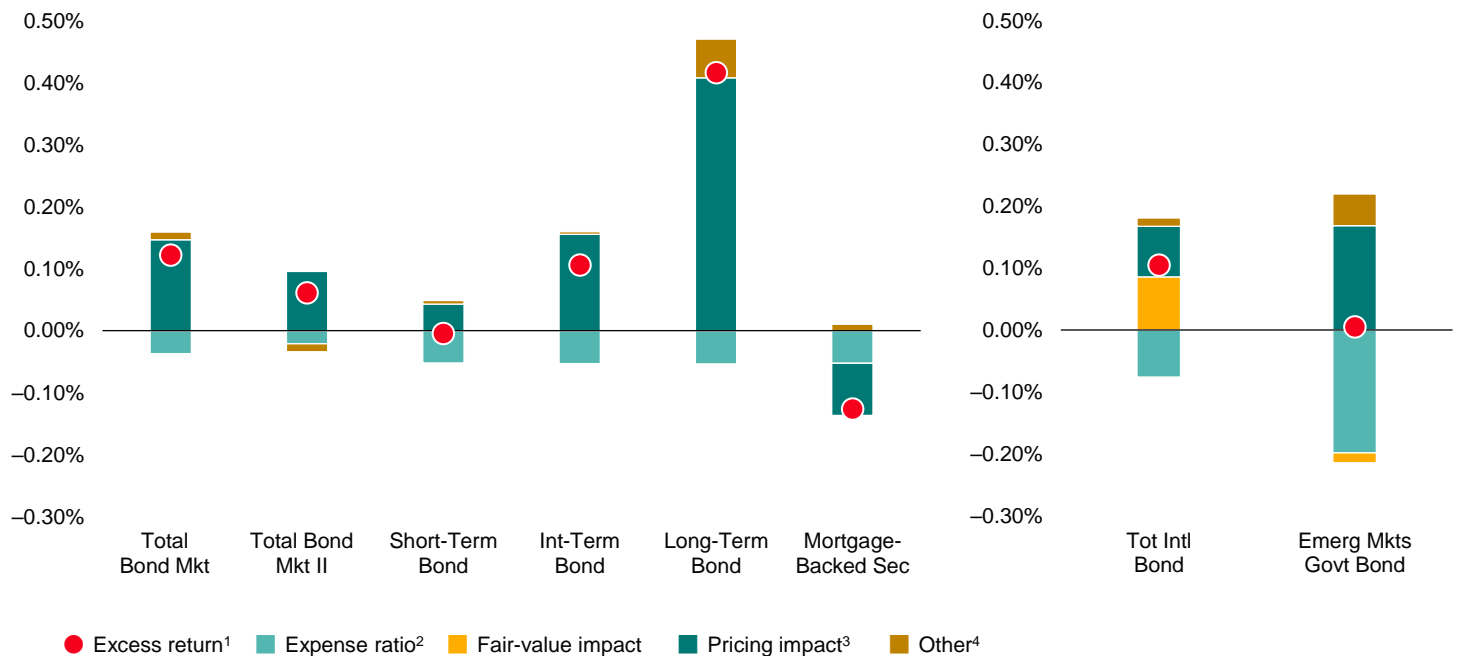
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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Attribution for all Vanguard taxable fixed income index funds

Figure 11.1 One-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Total Bond Market Index Fund (VBTIX)	5.596	-0.037	0.000	0.147	0.012	5.718	0.122
Vanguard Total Bond Market II Index Fund (VTBNX)	5.596	-0.021	0.000	0.096	-0.013	5.657	0.062
Vanguard Short-Term Bond Index Fund (VBITX)	4.888	-0.052	0.000	0.043	0.006	4.884	-0.004
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	5.985	-0.053	0.000	0.156	0.004	6.092	0.107
Vanguard Long-Term Bond Index Fund (VBLIX)	7.126	-0.054	0.000	0.409	0.063	7.543	0.418
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	5.136	-0.053	0.000	-0.084	0.011	5.010	-0.126
Vanguard Total International Bond Index Fund (VTIFX)	8.749	-0.076	0.086	0.082	0.014	8.854	0.105
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	10.462	-0.199	-0.016	0.169	0.051	10.467	0.005

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

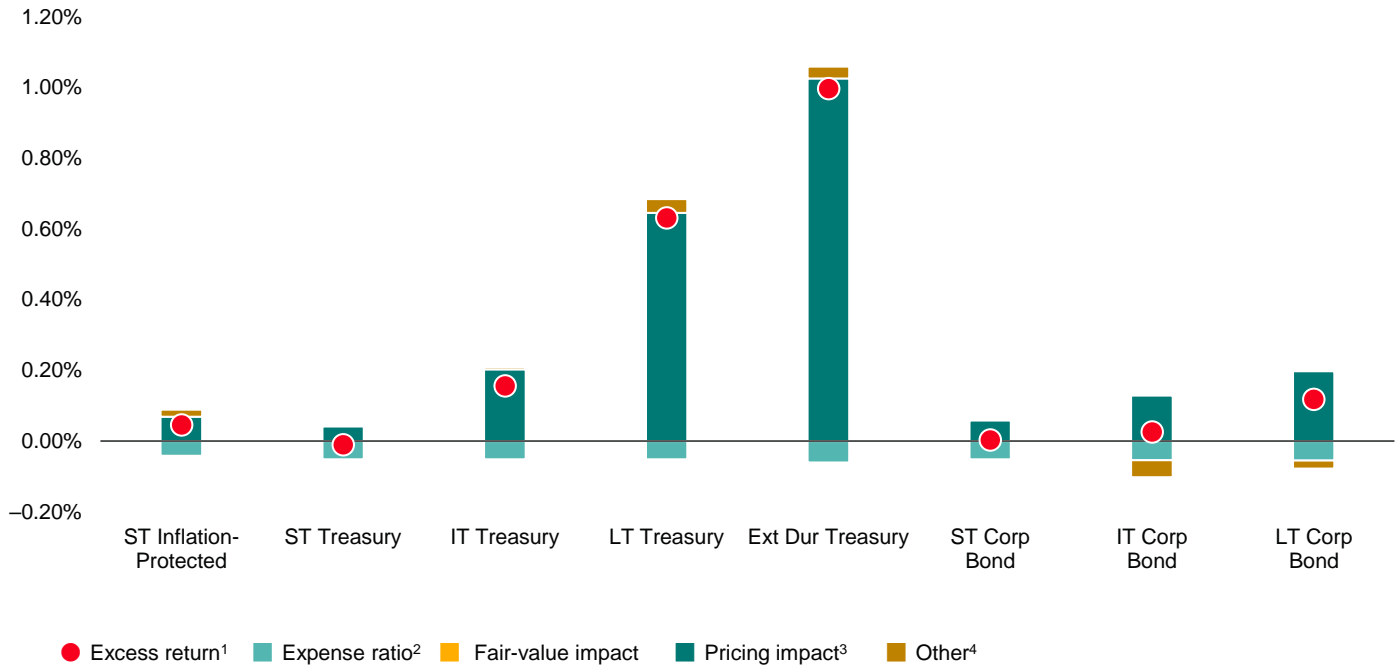
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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Attribution for all Vanguard taxable fixed income index funds

Figure 12.1 One-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Short-Term Inflation-Protected Securities Index Fund (VTSPX)	4.568	-0.042	0.000	0.068	0.020	4.615	0.046
Vanguard Short-Term Treasury Index Fund (VSBIX)	4.293	-0.052	0.000	0.041	0.000	4.283	-0.010
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	4.272	-0.052	0.000	0.202	0.006	4.428	0.156
Vanguard Long-Term Treasury Index Fund (VLGIX)	3.063	-0.052	0.000	0.645	0.039	3.696	0.632
Vanguard Extended Duration Treasury Index Fund (VEDTX)	1.092	-0.061	0.000	1.026	0.033	2.090	0.998
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	6.204	-0.053	0.000	0.058	-0.001	6.208	0.004
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	8.840	-0.054	0.000	0.128	-0.048	8.866	0.026
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	10.928	-0.056	0.000	0.197	-0.023	11.046	0.119

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

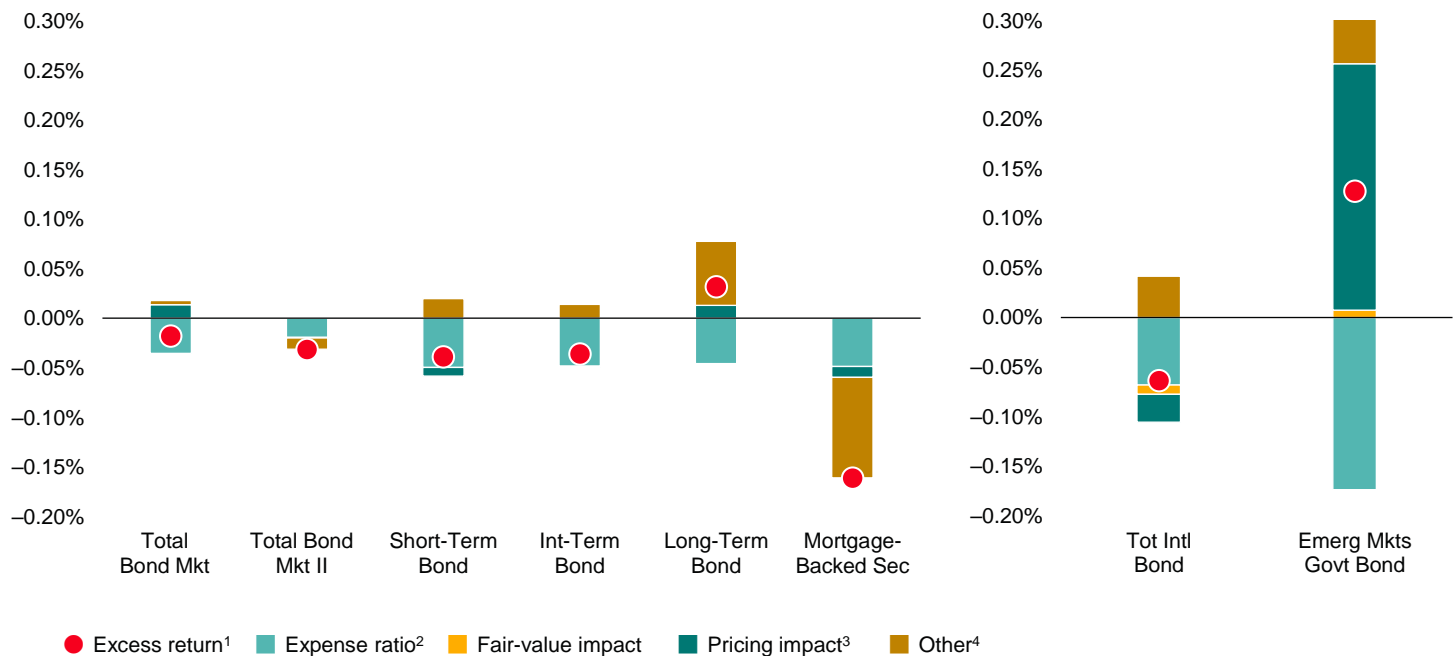
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

Past performance is no guarantee of future returns.



Attribution for all Vanguard taxable fixed income index funds

Figure 13.1 Three-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Total Bond Market Index Fund (VBTIX)	-3.326	-0.035	0.000	0.014	0.004	-3.344	-0.018
Vanguard Total Bond Market II Index Fund (VTBNX)	-3.326	-0.019	0.000	-0.000	-0.012	-3.357	-0.031
Vanguard Short-Term Bond Index Fund (VBITX)	-0.617	-0.050	0.000	-0.009	0.020	-0.656	-0.039
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	-3.460	-0.048	0.000	-0.002	0.014	-3.496	-0.036
Vanguard Long-Term Bond Index Fund (VBLLX)	-8.685	-0.046	0.000	0.013	0.065	-8.653	0.032
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	-2.699	-0.049	0.000	-0.011	-0.102	-2.860	-0.161
Vanguard Total International Bond Index Fund (VTIFX)	-2.415	-0.068	-0.009	-0.028	0.042	-2.479	-0.064
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	-3.469	-0.174	0.007	0.249	0.045	-3.341	0.128

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

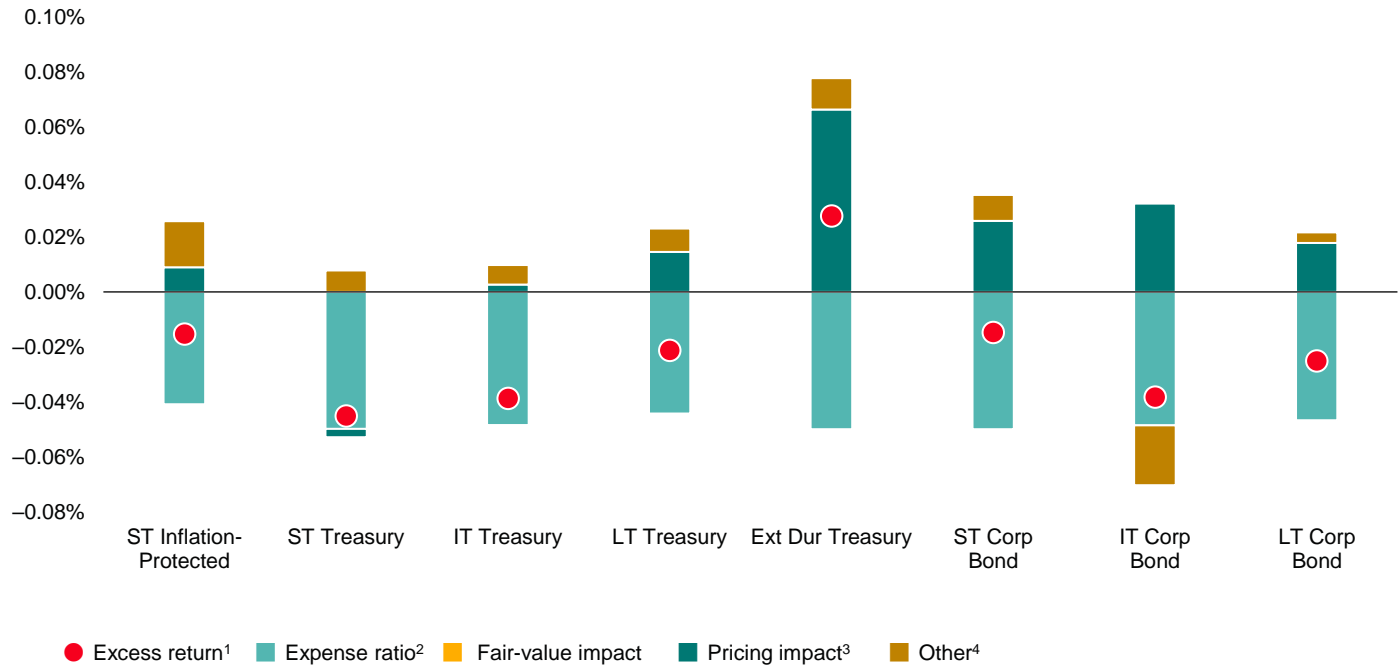
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

Past performance is no guarantee of future returns.



Attribution for all Vanguard taxable fixed income index funds

Figure 14.1 Three-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Pricing impact ³	Other ⁴	Fund return	Excess return ¹
Vanguard Short-Term Inflation-Protected Securities Index Fund (VTSPX)	2.325	-0.041	0.000	0.009	0.017	2.309	-0.015
Vanguard Short-Term Treasury Index Fund (VSBIX)	-0.097	-0.050	0.000	-0.003	0.008	-0.142	-0.045
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	-3.096	-0.048	0.000	0.003	0.007	-3.135	-0.039
Vanguard Long-Term Treasury Index Fund (VLGIX)	-11.411	-0.044	0.000	0.014	0.009	-11.433	-0.021
Vanguard Extended Duration Treasury Index Fund (VEDTX)	-16.700	-0.050	0.000	0.066	0.011	-16.673	0.028
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	-0.080	-0.050	0.000	0.026	0.009	-0.095	-0.015
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	-2.636	-0.049	0.000	0.032	-0.022	-2.675	-0.038
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	-6.562	-0.047	0.000	0.018	0.004	-6.587	-0.025

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Pricing impact includes differences in external pricing vendor inputs.

⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

Past performance is no guarantee of future returns.



Equity market and fund performance

IN THIS SECTION:

Equity markets overview

Performance and attribution for Vanguard equity index funds



U.S. equity markets overview

Figure 16.1 U.S. size returns

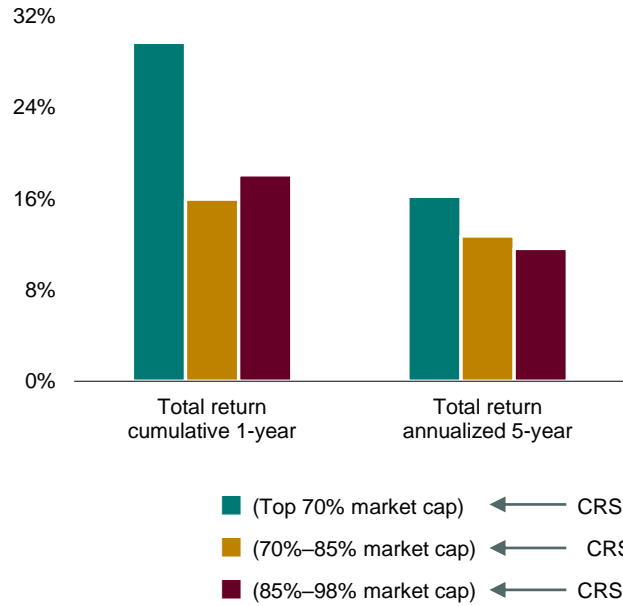


Figure 16.2 U.S. style returns

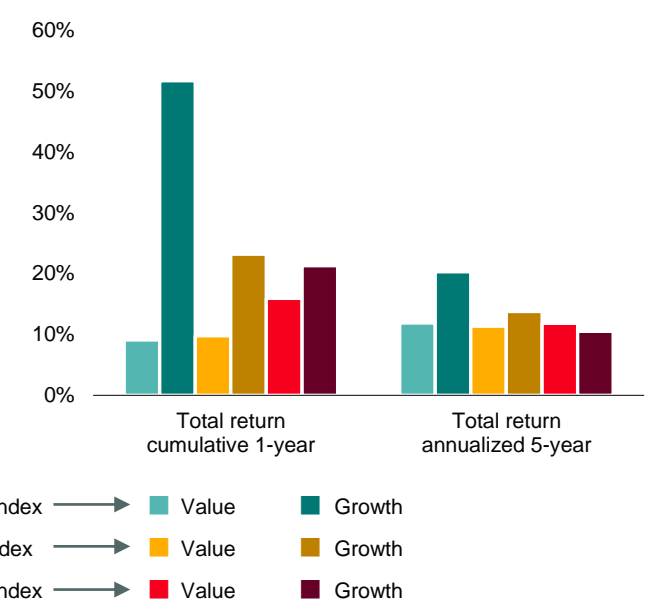
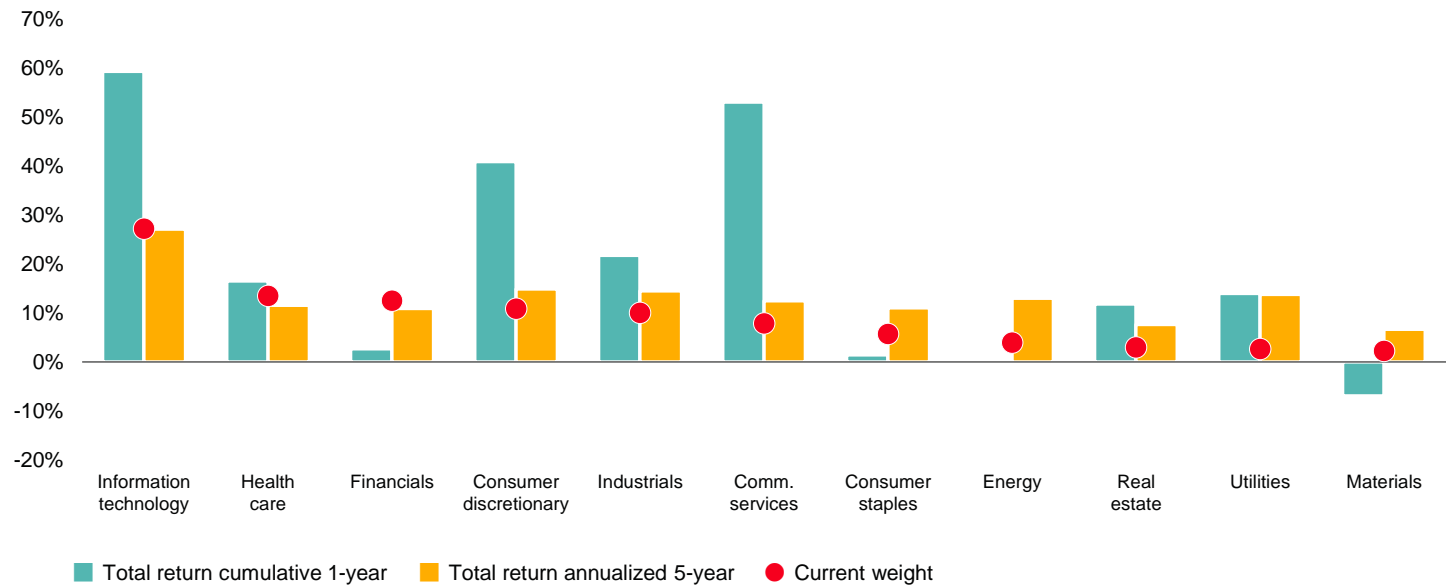


Figure 16.3 CRSP Total Stock Market: Sector exposures and returns



Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.



Global equity markets overview

Figure 17.1 Regional returns

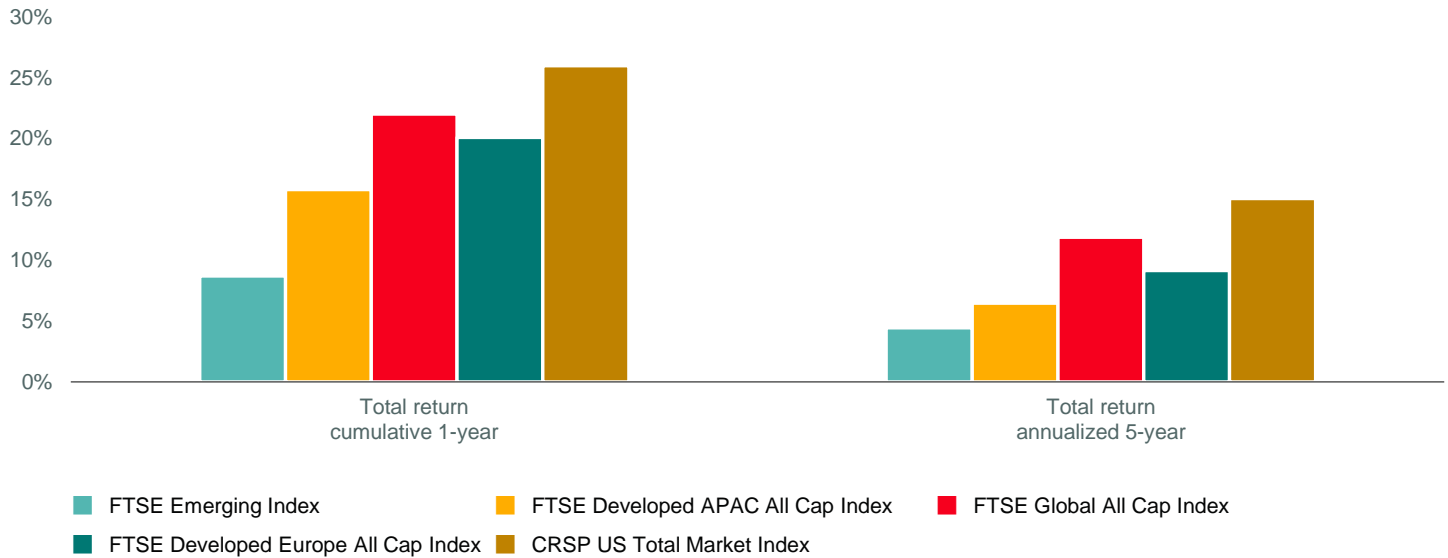


Figure 17.2 FTSE All Cap Developed ex-U.S.: Largest markets and returns¹

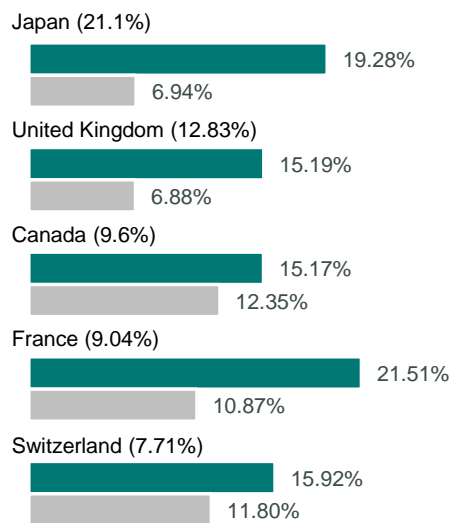
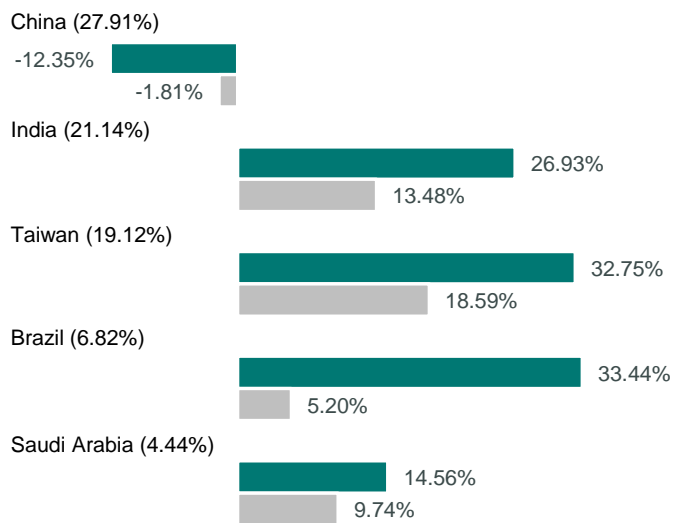


Figure 17.3 FTSE All Cap Emerging: Largest markets and returns¹



Market name (index weight) ■ Total return cumulative 1-year ■ Total return annualized 5-year

Source: FactSet. All data as of December 31, 2023, unless otherwise noted.

¹ Global benchmarks include other countries not listed above.

Past performance is no guarantee of future returns. The performance of an index is not an exact representation of any particular investment, as you cannot invest directly in an index.



Performance for selected Vanguard equity index funds

Figure 18.1 Fund net returns since inception

	3 months	1 year	3 years	5 years	10 years	Since inception	Inception date
Vanguard Total Stock Market Index Fund Institutional Shares	12.17	26.02	8.44	15.08	11.44	8.60	7/7/1997
Vanguard Mega Cap Index Fund Institutional Shares	11.90	29.69	9.84	16.17	12.41	10.68	2/22/2008
Vanguard Institutional Index Fund Institutional Shares	11.68	26.24	9.96	15.66	12.00	10.30	7/31/1990
Vanguard Extended Market Index Fund Institutional Shares	15.13	25.41	1.23	11.92	8.56	8.72	7/7/1997
Vanguard Large-Cap Index Fund Institutional Shares	11.97	27.28	9.10	15.61	11.91	10.05	6/30/2005
Vanguard Mid-Cap Index Fund Institutional Shares	12.29	16.00	5.50	12.72	9.42	9.81	5/21/1998
Vanguard Small-Cap Index Fund Institutional Shares	13.41	18.22	4.67	11.72	8.44	8.88	7/7/1997
Vanguard Developed Markets Index Fund Institutional Shares	11.18	17.84	3.59	8.41	4.56	4.67	1/4/2001
Vanguard Emerging Markets Stock Index Fund Institutional Shares	6.57	9.23	-3.21	4.70	3.02	6.37	6/22/2000
Vanguard Total International Stock Index Fund Institutional Shares	9.98	15.53	1.80	7.37	4.12	4.89	11/29/2010

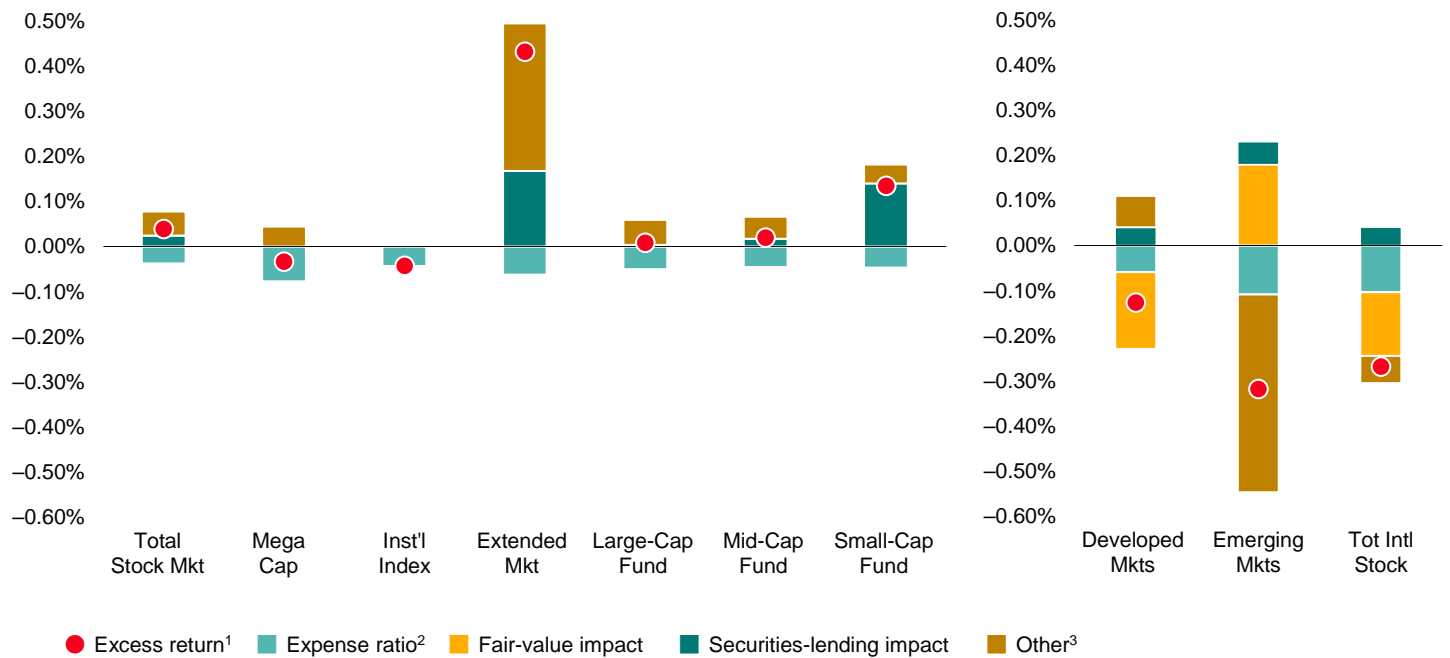
Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at institutional.vanguard.com/performance.



Attribution for selected Vanguard equity index funds

Figure 19.1 Year-to-date excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Securities-lending impact	Other ³	Fund return	Excess return ¹
Vanguard Total Stock Market Index Fund (VITSX)	25.976	-0.038	0.000	0.024	0.053	26.015	0.039
Vanguard Mega Cap Index Fund (VMCTX)	29.720	-0.078	0.000	0.000	0.044	29.686	-0.034
Vanguard Institutional Index Fund (VINIX)	26.288	-0.044	0.000	0.000	0.001	26.245	-0.043
Vanguard Extended Market Index Fund (VIEIX)	24.973	-0.063	0.000	0.168	0.328	25.406	0.433
Vanguard Large-Cap Index Fund (VLISX)	27.275	-0.051	0.000	0.003	0.056	27.283	0.008
Vanguard Mid-Cap Index Fund (VMCIX)	15.979	-0.046	0.000	0.017	0.049	15.998	0.020
Vanguard Small-Cap Index Fund (VSCIX)	18.087	-0.047	0.000	0.140	0.042	18.222	0.135
Vanguard Developed Markets Index Fund (VTMNX)	17.966	-0.059	-0.171	0.035	0.068	17.839	-0.127
Vanguard Emerging Markets Stock Index Fund (VEMIX)	9.545	-0.109	0.180	0.052	-0.441	9.227	-0.319
Vanguard Total International Stock Index Fund (VTSNX)	15.794	-0.104	-0.142	0.037	-0.060	15.525	-0.269

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

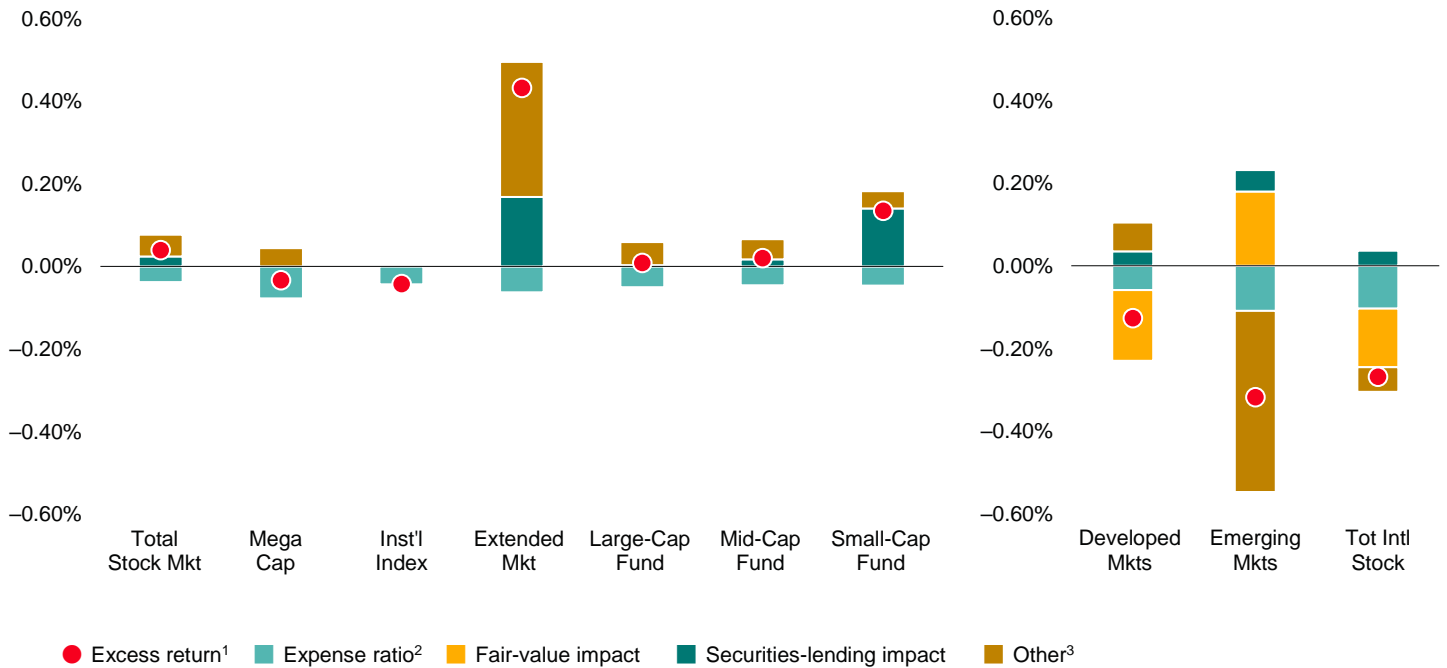
³ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

Past performance is no guarantee of future returns.



Attribution for selected Vanguard equity index funds

Figure 20.1 One-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Securities-lending impact	Other ³	Fund return	Excess return ¹
Vanguard Total Stock Market Index Fund (VITSX)	25.976	-0.038	0.000	0.024	0.053	26.015	0.039
Vanguard Mega Cap Index Fund (VMCTX)	29.720	-0.078	0.000	0.000	0.044	29.686	-0.034
Vanguard Institutional Index Fund (VINIX)	26.288	-0.044	0.000	0.000	0.001	26.245	-0.043
Vanguard Extended Market Index Fund (VIEIX)	24.973	-0.063	0.000	0.168	0.328	25.406	0.433
Vanguard Large-Cap Index Fund (VLISX)	27.275	-0.051	0.000	0.003	0.056	27.283	0.008
Vanguard Mid-Cap Index Fund (VMCIX)	15.979	-0.046	0.000	0.017	0.049	15.998	0.020
Vanguard Small-Cap Index Fund (VSCIX)	18.087	-0.047	0.000	0.140	0.042	18.222	0.135
Vanguard Developed Markets Index Fund (VTMNX)	17.966	-0.059	-0.171	0.035	0.068	17.839	-0.127
Vanguard Emerging Markets Stock Index Fund (VEMIX)	9.545	-0.109	0.180	0.052	-0.441	9.227	-0.319
Vanguard Total International Stock Index Fund (VTSNX)	15.794	-0.104	-0.142	0.037	-0.060	15.525	-0.269

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

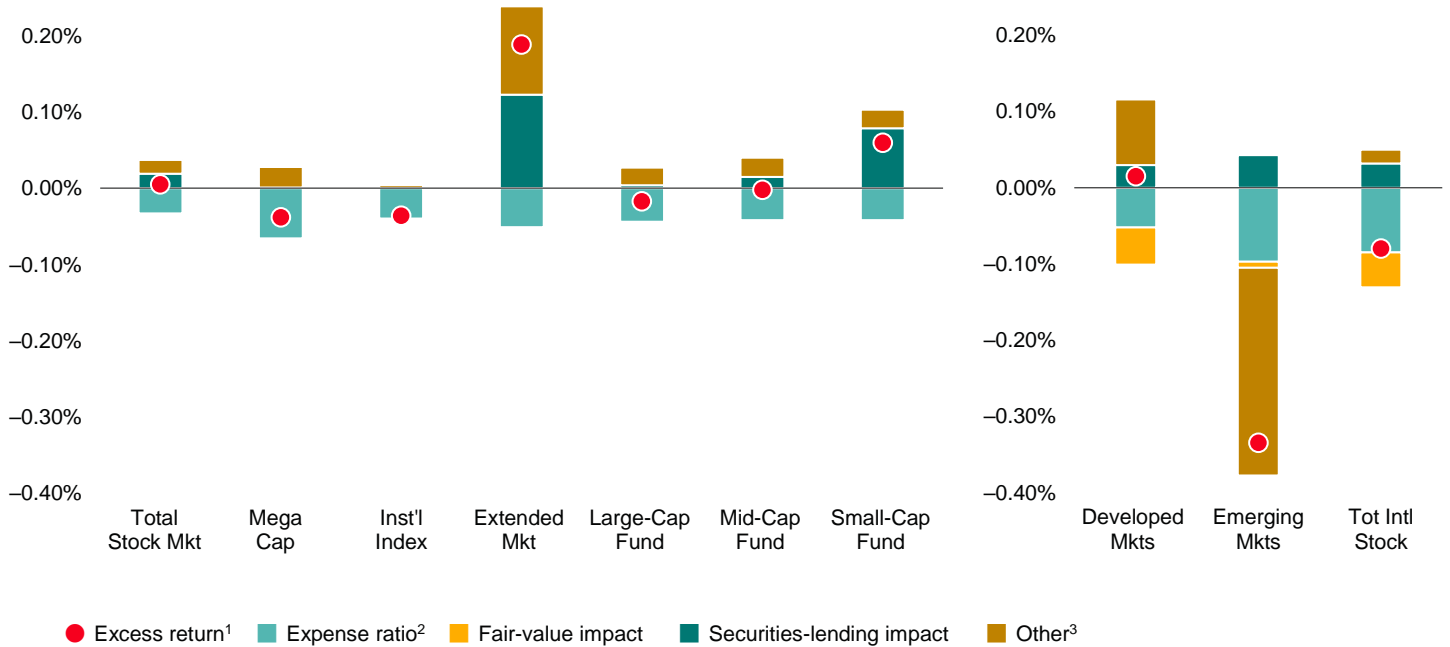
Past performance is no guarantee of future returns.





Attribution for selected Vanguard equity index funds

Figure 21.1 Three-year excess return performance attribution as of December 31, 2023



	Benchmark return	Expense ratio ²	Fair-value impact	Securities-lending impact	Other ³	Fund return	Excess return ¹
Vanguard Total Stock Market Index Fund (VITSX)	8.438	-0.033	0.000	0.019	0.018	8.443	0.005
Vanguard Mega Cap Index Fund (VMCTX)	9.875	-0.066	0.000	0.001	0.027	9.837	-0.038
Vanguard Institutional Index Fund (VINIX)	10.000	-0.040	0.000	0.000	0.004	9.964	-0.036
Vanguard Extended Market Index Fund (VIEIX)	1.037	-0.051	0.000	0.123	0.116	1.225	0.189
Vanguard Large-Cap Index Fund (VLISX)	9.116	-0.044	0.000	0.004	0.023	9.100	-0.017
Vanguard Mid-Cap Index Fund (VMCIX)	5.504	-0.042	0.000	0.015	0.025	5.502	-0.002
Vanguard Small-Cap Index Fund (VSCIX)	4.612	-0.042	0.000	0.079	0.024	4.673	0.060
Vanguard Developed Markets Index Fund (VTMNX)	3.577	-0.052	-0.049	0.030	0.086	3.593	0.015
Vanguard Emerging Markets Stock Index Fund (VEMIX)	-2.873	-0.097	-0.008	0.043	-0.273	-3.208	-0.335
Vanguard Total International Stock Index Fund (VTSNX)	1.877	-0.085	-0.046	0.032	0.018	1.796	-0.080

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Excess return equals fund return minus benchmark return.

² Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

³ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

Past performance is no guarantee of future returns.



Performance for all Vanguard equity index funds

	3 months	1 year	3 years	5 years	10 years	Since inception	Inception date
All-cap							
Vanguard Total Stock Market Index Fund Institutional Shares	12.17	26.02	8.44	15.08	11.44	8.60	7/7/1997
Vanguard Institutional Total Stock Market Index Fund Institutional Shares	12.17	26.05	8.47	15.11	11.47	9.06	8/31/2001
Vanguard High Dividend Yield ETF (VYM)							
Market price	9.21	6.59	10.20	10.96	9.38	8.11	11/10/2006
Vanguard High Dividend Yield ETF	9.10	6.53	10.20	10.95	9.38	8.11	11/10/2006
Vanguard Russell 3000 Index Fund Institutional Shares	12.08	25.92	8.48	15.10	11.40	12.93	11/1/2010
Large-cap							
Vanguard Institutional Index Fund Institutional Shares	11.68	26.24	9.96	15.66	12.00	10.30	7/31/1990
Vanguard Tax-Managed Capital Appreciation Fund Institutional Shares	11.92	26.67	9.18	15.69	11.96	7.96	2/24/1999
Vanguard FTSE Social Index Fund Institutional Shares	13.19	31.78	8.47	15.97	12.53	9.85	1/14/2003
Vanguard Large-Cap Index Fund Institutional Shares	11.97	27.28	9.10	15.61	11.91	10.05	6/30/2005
Vanguard Mega Cap Index Fund Institutional Shares	11.90	29.69	9.84	16.17	12.41	10.68	2/22/2008
Vanguard Mega Cap Growth Index Fund Institutional Shares	14.54	51.58	8.98	20.22	14.76	12.85	4/3/2008
Vanguard Mega Cap Value Index Fund Institutional Shares	8.62	9.17	10.74	11.84	9.94	8.63	3/5/2008
Vanguard Value Index Fund Institutional Shares	9.09	9.26	10.62	11.74	9.73	7.17	7/2/1998
Vanguard Growth Index Fund Institutional Shares	14.41	46.78	7.69	19.17	13.98	8.54	5/14/1998
Vanguard 500 Index Fund Admiral Shares	11.68	26.24	9.96	15.65	11.99	7.62	11/13/2000
Vanguard S&P 500 Growth ETF (VOOG)							
Market price	10.17	29.98	6.50	16.13	13.22	15.00	9/7/2010
Vanguard S&P 500 Growth ETF	10.08	29.90	6.50	16.11	13.21	14.99	9/7/2010
Vanguard S&P 500 Value Index Fund Institutional Shares	13.60	22.14	13.01	14.03	--	9.77	3/3/2015
Vanguard Russell 1000 Index Fund Institutional Shares	11.97	26.50	8.92	15.46	11.72	13.17	10/15/2010
Vanguard Russell 1000 Value Index Fund Institutional Shares	9.48	11.42	8.79	10.85	8.32	10.17	12/10/2010
Vanguard Russell 1000 Growth Index Fund Institutional Shares	14.20	42.65	8.81	19.43	14.79	15.22	12/6/2010
Vanguard Dividend Appreciation Index Fund Admiral Shares	10.25	14.46	8.47	13.83	10.69	10.89	12/19/2013
Mid-cap							
Vanguard Extended Market Index Fund Institutional Shares	15.13	25.41	1.23	11.92	8.56	8.72	7/7/1997
Vanguard Mid-Cap Index Fund Institutional Shares	12.29	16.00	5.50	12.72	9.42	9.81	5/21/1998
Vanguard S&P Mid-Cap 400 Index Fund Institutional Shares	11.65	16.36	8.02	12.55	9.21	10.28	3/28/2011
Vanguard S&P Mid-Cap 400 Growth Index Fund Institutional Shares	9.93	17.40	4.17	11.83	8.97	10.06	3/28/2011
Vanguard S&P Mid-Cap 400 Value Index Fund Institutional Shares	13.60	15.35	11.89	12.85	9.11	11.11	11/2/2010
Vanguard Mid-Cap Growth Index Fund Admiral Shares	13.11	23.14	1.82	13.70	10.12	12.29	9/27/2011
Vanguard Mid-Cap Value Index Fund Admiral Shares	11.51	9.76	9.18	11.31	8.49	11.84	9/27/2011
Small-cap							
Vanguard Tax-Managed Small-Cap Fund Institutional Shares	15.05	15.99	7.34	11.12	8.68	10.06	4/21/1999
Vanguard Small-Cap Index Fund Institutional Shares	13.41	18.22	4.67	11.72	8.44	8.88	7/7/1997
Vanguard Small-Cap Value Index Fund Institutional Shares	13.61	15.99	10.46	11.87	8.51	9.88	12/7/1999
Vanguard Small-Cap Growth Index Fund Institutional Shares	13.15	21.44	-2.77	10.55	7.87	8.93	5/24/2000
Vanguard S&P Small-Cap 600 Index Fund Institutional Shares	15.10	15.99	7.21	11.01	8.64	10.35	4/1/2011
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)							
Market price	14.37	17.06	4.09	10.30	8.79	12.63	9/7/2010
Vanguard S&P Small-Cap 600 Growth ETF	14.24	16.95	4.10	10.27	8.79	12.63	9/7/2010
Vanguard S&P Small-Cap 600 Value Index Fund Institutional Shares	15.82	14.83	10.13	11.33	--	8.60	11/19/2014
Vanguard Russell 2000 Index Fund Institutional Shares	14.04	17.03	2.27	10.05	7.25	9.05	12/22/2010
Vanguard Russell 2000 Value Index Fund Institutional Shares	15.27	14.74	7.94	10.05	6.78	9.42	7/13/2012
Vanguard Russell 2000 Growth Index Fund Institutional Shares	12.77	18.82	-3.42	9.34	7.29	9.12	5/25/2011

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

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Performance for all Vanguard equity index funds

	3 months	1 year	3 years	5 years	10 years	Since inception	Inception date
Sector							
Vanguard Real Estate Index Fund Institutional Shares	18.13	11.82	5.05	7.35	7.38	8.07	12/2/2003
Vanguard Energy Index Fund Admiral Shares	-6.62	0.03	36.53	13.27	2.66	6.88	10/7/2004
Vanguard Materials Index Fund Admiral Shares	10.66	13.69	8.50	13.52	8.33	8.87	2/11/2004
Vanguard Industrials Index Fund Admiral Shares	13.57	22.39	10.57	14.59	10.04	8.83	5/8/2006
Vanguard Consumer Discretionary Index Fund Admiral Shares	13.21	40.40	4.36	16.53	12.34	11.12	7/14/2005
Vanguard Consumer Staples Index Fund Admiral Shares	5.58	2.37	5.74	10.58	8.33	9.37	1/30/2004
Vanguard Health Care Index Fund Admiral Shares	7.10	2.48	5.28	10.97	11.04	9.89	2/5/2004
Vanguard Financials Index Fund Admiral Shares	15.48	14.08	10.63	11.79	9.88	5.41	2/4/2004
Vanguard Information Technology Index Fund Admiral Shares	16.88	52.68	11.87	24.89	19.67	13.70	3/25/2004
Vanguard Communication Services Index Fund Admiral Shares	12.22	44.72	0.27	10.73	5.57	6.96	3/11/2005
Vanguard Utilities Index Fund Admiral Shares	8.58	-7.45	3.18	6.36	8.55	8.88	4/28/2004
International							
Vanguard Developed Markets Index Fund Institutional Shares	11.18	17.84	3.59	8.41	4.56	4.67	1/4/2001
Vanguard European Stock Index Fund Institutional Shares	12.13	20.01	5.45	9.18	4.36	4.47	5/15/2000
Vanguard Pacific Stock Index Fund Institutional Shares	9.90	15.59	-0.17	6.41	4.53	3.40	5/15/2000
Vanguard Emerging Markets Stock Index Fund Institutional Shares	6.57	9.23	-3.21	4.70	3.02	6.37	6/22/2000
Vanguard International Dividend Appreciation Index Fund Admiral Shares	11.75	16.08	2.85	9.73	--	8.31	3/2/2016
Vanguard International High Dividend Yield Index Fund Admiral Shares	8.85	16.83	7.78	8.01	--	7.54	3/2/2016
Vanguard Total World Stock Index Fund Institutional Shares	11.26	21.89	5.72	11.83	8.09	10.23	10/9/2008
Vanguard FTSE All-World ex-US Index Fund Institutional Shares	9.95	15.61	1.86	7.44	4.16	3.07	4/30/2007
Vanguard FTSE All-World ex-US Small-Cap Index Fund Institutional Shares	10.41	15.19	0.76	6.87	3.94	8.47	4/2/2009
Vanguard Global ex-U.S. Real Estate Index Fund Institutional Shares	12.98	6.39	-4.47	-0.31	1.52	2.77	4/19/2011
Vanguard Total International Stock Index Fund Institutional Shares	9.98	15.53	1.80	7.37	4.12	4.89	11/29/2010

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

The performance data shown represent past performance, which is not a guarantee of future results. Investment returns and principal value will fluctuate, so investors' shares, when sold, may be worth more or less than their original cost. Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at institutional.vanguard.com/performance.



Attribution for all Vanguard equity index funds

Year to date—Institutional share class unless otherwise noted	Benchmark return	Expense ratio ¹	Fair-value impact	Securities lending	Other ²	Fund return	Excess return ³
All-cap							
Vanguard High Dividend Yield ETF (VYM)	6.59	-0.064	0.000	0.005	0.002	6.530	-0.057
Vanguard Institutional Total Stock Market Index Fund (VITNX)	25.98	-0.038	0.000	0.021	0.087	26.047	0.071
Vanguard Russell 3000 Index Fund (VRTTX)	25.96	-0.101	0.000	0.020	0.049	25.925	-0.032
Vanguard Total Stock Market Index Fund (VITSX)	25.98	-0.038	0.000	0.024	0.053	26.015	0.039
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	26.29	-0.051	0.000	0.000	0.002	26.239	-0.049
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	14.52	-0.092	0.000	0.000	0.030	14.456	-0.062
Vanguard FTSE Social Index Fund (VFTNX)	31.92	-0.158	0.000	0.005	0.015	31.781	-0.138
Vanguard Growth Index Fund (VIGIX)	46.86	-0.059	0.000	0.001	-0.022	46.781	-0.079
Vanguard Institutional Index Fund (VINIX)	26.29	-0.044	0.000	0.000	0.001	26.245	-0.043
Vanguard Large-Cap Index Fund (VLISX)	27.28	-0.051	0.000	0.003	0.056	27.283	0.008
Vanguard Mega Cap Growth Index Fund (VMGAX)	51.67	-0.091	0.000	0.000	0.005	51.582	-0.086
Vanguard Mega Cap Index Fund (VMCTX)	29.72	-0.078	0.000	0.000	0.044	29.686	-0.034
Vanguard Mega Cap Value Index Fund (VMVLX)	9.10	-0.066	0.000	0.000	0.126	9.165	0.060
Vanguard Russell 1000 Growth Index Fund (VRGWX)	42.68	-0.100	0.000	0.003	0.072	42.653	-0.025
Vanguard Russell 1000 Index Fund (VRNIX)	26.53	-0.089	0.000	0.012	0.045	26.498	-0.031
Vanguard Russell 1000 Value Index Fund (VRVIX)	11.46	-0.078	0.000	0.021	0.015	11.421	-0.042
Vanguard S&P 500 Growth ETF (VOOG)	30.03	-0.130	0.000	0.000	-0.002	29.902	-0.132
Vanguard S&P 500 Value Index Fund (VSPVX)	22.23	-0.098	0.000	0.000	0.008	22.140	-0.089
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	26.53	-0.076	0.000	0.000	0.216	26.669	0.140
Vanguard Value Index Fund (VIVIX)	9.17	-0.044	0.000	0.005	0.124	9.255	0.085
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	24.97	-0.063	0.000	0.168	0.328	25.406	0.433
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	23.20	-0.086	0.000	0.010	0.008	23.136	-0.068
Vanguard Mid-Cap Index Fund (VMCIX)	15.98	-0.046	0.000	0.017	0.049	15.998	0.020
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	9.78	-0.077	0.000	0.024	0.030	9.760	-0.022
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	17.49	-0.094	0.000	0.002	0.002	17.402	-0.089
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	16.44	-0.093	0.000	0.016	-0.001	16.359	-0.079
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	15.39	-0.092	0.000	0.036	0.013	15.349	-0.043
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	18.66	-0.095	0.000	0.198	0.055	18.816	0.158
Vanguard Russell 2000 Index Fund (VRTIX)	16.93	-0.094	0.000	0.154	0.042	17.031	0.102
Vanguard Russell 2000 Value Index Fund (VRTVX)	14.65	-0.092	0.000	0.120	0.063	14.738	0.091
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	17.10	-0.176	0.000	0.009	0.010	16.946	-0.157
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	16.05	-0.093	0.000	0.016	0.010	15.986	-0.066
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	14.89	-0.092	0.000	0.025	0.009	14.830	-0.058
Vanguard Small-Cap Growth Index Fund (VSGIX)	21.28	-0.073	0.000	0.157	0.078	21.443	0.162
Vanguard Small-Cap Index Fund (VSCIX)	18.09	-0.047	0.000	0.140	0.042	18.222	0.135
Vanguard Small-Cap Value Index Fund (VSIIX)	15.91	-0.070	0.000	0.129	0.027	15.995	0.086
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	16.05	-0.070	0.000	0.000	0.005	15.988	-0.064
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	44.41	-0.145	0.000	0.335	0.122	44.718	0.312
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	40.48	-0.140	0.000	0.040	0.016	40.396	-0.084
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	2.42	-0.102	0.000	0.064	-0.010	2.374	-0.049
Vanguard Energy Index Fund Admiral (VENAX)	0.13	-0.100	0.000	0.003	-0.001	0.027	-0.098
Vanguard Financials Index Fund Admiral (VFAIX)	14.17	-0.114	0.000	0.021	-0.002	14.077	-0.094
Vanguard Health Care Index Fund Admiral (VHCIX)	2.56	-0.103	0.000	0.008	0.021	2.483	-0.074
Vanguard Industrials Index Fund Admiral (VINAX)	22.47	-0.122	0.000	0.018	0.019	22.389	-0.086
Vanguard Information Technology Index Fund Admiral (VITAX)	52.64	-0.153	0.000	0.013	0.179	52.681	0.040
Vanguard Materials Index Fund Admiral (VMIAX)	13.80	-0.114	0.000	0.009	-0.005	13.687	-0.110
Vanguard Real Estate Index Fund (VGSNX)	11.96	-0.112	0.000	0.003	-0.030	11.820	-0.138
Vanguard Utilities Index Fund Admiral (VUIAX)	-7.37	-0.093	0.000	0.001	0.005	-7.452	-0.086
International							
Vanguard Developed Markets Index Fund (VTMNX)	17.97	-0.059	-0.171	0.035	0.068	17.839	-0.127
Vanguard Emerging Markets Stock Index Fund (VEMIX)	9.55	-0.109	0.180	0.052	-0.441	9.227	-0.319
Vanguard European Stock Index Fund (VESIX)	20.11	-0.108	-0.232	0.014	0.223	20.006	-0.104
Vanguard FTSE All-World ex-US Index Fund (VFW SX)	15.82	-0.093	-0.132	0.023	-0.010	15.610	-0.212
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	15.53	-0.138	-0.244	0.180	-0.132	15.194	-0.334
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	6.03	-0.117	-0.141	0.113	0.500	6.387	0.355
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	16.25	-0.186	-0.163	0.008	0.169	16.078	-0.171
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	17.35	-0.257	-0.154	0.018	-0.125	16.829	-0.518
Vanguard Pacific Stock Index Fund (VPKIX)	15.82	-0.093	-0.187	0.052	-0.001	15.594	-0.228
Vanguard Total International Stock Index Fund (VTSNX)	15.79	-0.104	-0.142	0.037	-0.060	15.525	-0.269
Vanguard Total World Stock Index Fund (VTWIX)	22.03	-0.098	-0.055	0.026	-0.014	21.887	-0.140

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

² Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

³ Excess return equals fund return minus benchmark return.



Attribution for all Vanguard equity index funds

One year—Institutional share class unless otherwise noted	Benchmark return	Expense ratio ¹	Fair-value impact	Securities lending	Other ²	Fund return	Excess return ³
All-cap							
Vanguard High Dividend Yield ETF (VYM)	6.59	-0.064	0.000	0.005	0.002	6.530	-0.057
Vanguard Institutional Total Stock Market Index Fund (VITNX)	25.98	-0.038	0.000	0.021	0.087	26.047	0.071
Vanguard Russell 3000 Index Fund (VRTTX)	25.96	-0.101	0.000	0.020	0.049	25.925	-0.032
Vanguard Total Stock Market Index Fund (VITSX)	25.98	-0.038	0.000	0.024	0.053	26.015	0.039
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	26.29	-0.051	0.000	0.000	0.002	26.239	-0.049
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	14.52	-0.092	0.000	0.000	0.030	14.456	-0.062
Vanguard FTSE Social Index Fund (VFTNX)	31.92	-0.158	0.000	0.005	0.015	31.781	-0.138
Vanguard Growth Index Fund (VIGIX)	46.86	-0.059	0.000	0.001	-0.022	46.781	-0.079
Vanguard Institutional Index Fund (VINIX)	26.29	-0.044	0.000	0.000	0.001	26.245	-0.043
Vanguard Large-Cap Index Fund (VLISX)	27.28	-0.051	0.000	0.003	0.056	27.283	0.008
Vanguard Mega Cap Growth Index Fund (VMGAX)	51.67	-0.091	0.000	0.000	0.005	51.582	-0.086
Vanguard Mega Cap Index Fund (VMCTX)	29.72	-0.078	0.000	0.000	0.044	29.686	-0.034
Vanguard Mega Cap Value Index Fund (VMVLX)	9.10	-0.066	0.000	0.000	0.126	9.165	0.060
Vanguard Russell 1000 Growth Index Fund (VRGWX)	42.68	-0.100	0.000	0.003	0.072	42.653	-0.025
Vanguard Russell 1000 Index Fund (VRNIX)	26.53	-0.089	0.000	0.012	0.045	26.498	-0.031
Vanguard Russell 1000 Value Index Fund (VRVIX)	11.46	-0.078	0.000	0.021	0.015	11.421	-0.042
Vanguard S&P 500 Growth ETF (VOOG)	30.03	-0.130	0.000	0.000	-0.002	29.902	-0.132
Vanguard S&P 500 Value Index Fund (VSPVX)	22.23	-0.098	0.000	0.000	0.008	22.140	-0.089
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	26.53	-0.076	0.000	0.000	0.216	26.669	0.140
Vanguard Value Index Fund (VIVIX)	9.17	-0.044	0.000	0.005	0.124	9.255	0.085
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	24.97	-0.063	0.000	0.168	0.328	25.406	0.433
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	23.20	-0.086	0.000	0.010	0.008	23.136	-0.068
Vanguard Mid-Cap Index Fund (VMCIX)	15.98	-0.046	0.000	0.017	0.049	15.998	0.020
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	9.78	-0.077	0.000	0.024	0.030	9.760	-0.022
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	17.49	-0.094	0.000	0.002	0.002	17.402	-0.089
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	16.44	-0.093	0.000	0.016	-0.001	16.359	-0.079
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	15.39	-0.092	0.000	0.036	0.013	15.349	-0.043
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	18.66	-0.095	0.000	0.198	0.055	18.816	0.158
Vanguard Russell 2000 Index Fund (VRTIX)	16.93	-0.094	0.000	0.154	0.042	17.031	0.102
Vanguard Russell 2000 Value Index Fund (VRTVX)	14.65	-0.092	0.000	0.120	0.063	14.738	0.091
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	17.10	-0.176	0.000	0.009	0.010	16.946	-0.157
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	16.05	-0.093	0.000	0.016	0.010	15.986	-0.066
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	14.89	-0.092	0.000	0.025	0.009	14.830	-0.058
Vanguard Small-Cap Growth Index Fund (VSGIX)	21.28	-0.073	0.000	0.157	0.078	21.443	0.162
Vanguard Small-Cap Index Fund (VSCIX)	18.09	-0.047	0.000	0.140	0.042	18.222	0.135
Vanguard Small-Cap Value Index Fund (VSIX)	15.91	-0.070	0.000	0.129	0.027	15.995	0.086
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	16.05	-0.070	0.000	0.000	0.005	15.988	-0.064
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	44.41	-0.145	0.000	0.335	0.122	44.718	0.312
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	40.48	-0.140	0.000	0.040	0.016	40.396	-0.084
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	2.42	-0.102	0.000	0.064	-0.010	2.374	-0.049
Vanguard Energy Index Fund Admiral (VENAX)	0.13	-0.100	0.000	0.003	-0.001	0.027	-0.098
Vanguard Financials Index Fund Admiral (VFAIX)	14.17	-0.114	0.000	0.021	-0.002	14.077	-0.094
Vanguard Health Care Index Fund Admiral (VHCIX)	2.56	-0.103	0.000	0.008	0.021	2.483	-0.074
Vanguard Industrials Index Fund Admiral (VINAX)	22.47	-0.122	0.000	0.018	0.019	22.389	-0.086
Vanguard Information Technology Index Fund Admiral (VITAX)	52.64	-0.153	0.000	0.013	0.179	52.681	0.040
Vanguard Materials Index Fund Admiral (VMIAIX)	13.80	-0.114	0.000	0.009	-0.005	13.687	-0.110
Vanguard Real Estate Index Fund (VGSNX)	11.96	-0.112	0.000	0.003	-0.030	11.820	-0.138
Vanguard Utilities Index Fund Admiral (VUIAX)	-7.37	-0.093	0.000	0.001	0.005	-7.452	-0.086
International							
Vanguard Developed Markets Index Fund (VTMNX)	17.97	-0.059	-0.171	0.035	0.068	17.839	-0.127
Vanguard Emerging Markets Stock Index Fund (VEMIX)	9.55	-0.109	0.180	0.052	-0.441	9.227	-0.319
Vanguard European Stock Index Fund (VESIX)	20.11	-0.108	-0.232	0.014	0.223	20.006	-0.104
Vanguard FTSE All-World ex-US Index Fund (VFWSX)	15.82	-0.093	-0.132	0.023	-0.010	15.610	-0.212
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	15.53	-0.138	-0.244	0.180	-0.132	15.194	-0.334
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	6.03	-0.117	-0.141	0.113	0.500	6.387	0.355
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	16.25	-0.186	-0.163	0.008	0.169	16.078	-0.171
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	17.35	-0.257	-0.154	0.018	-0.125	16.829	-0.518
Vanguard Pacific Stock Index Fund (VPKIX)	15.82	-0.093	-0.187	0.052	-0.001	15.594	-0.228
Vanguard Total International Stock Index Fund (VTSNX)	15.79	-0.104	-0.142	0.037	-0.060	15.525	-0.269
Vanguard Total World Stock Index Fund (VTWIX)	22.03	-0.098	-0.055	0.026	-0.014	21.887	-0.140

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

² Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

³ Excess return equals fund return minus benchmark return.



Attribution for all Vanguard equity index funds

Three years—Institutional share class unless otherwise noted	Benchmark return	Expense ratio ¹	Fair-value impact	Securities lending	Other ²	Fund return	Excess return ³
All-cap							
Vanguard High Dividend Yield ETF (VYM)	10.27	-0.066	0.000	0.004	-0.008	10.196	-0.070
Vanguard Institutional Total Stock Market Index Fund (VITNX)	8.44	-0.033	0.000	0.016	0.048	8.469	0.032
Vanguard Russell 3000 Index Fund (VRTTX)	8.54	-0.087	0.000	0.012	0.012	8.480	-0.062
Vanguard Total Stock Market Index Fund (VITSX)	8.44	-0.033	0.000	0.019	0.018	8.443	0.005
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	10.00	-0.044	0.000	0.000	0.001	9.957	-0.043
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	8.55	-0.087	0.000	0.000	0.003	8.470	-0.084
Vanguard FTSE Social Index Fund (VFTNX)	8.58	-0.130	0.000	0.003	0.018	8.473	-0.109
Vanguard Growth Index Fund (VIGIX)	7.73	-0.043	0.000	0.003	0.007	7.694	-0.033
Vanguard Institutional Index Fund (VINIX)	10.00	-0.040	0.000	0.000	0.004	9.964	-0.036
Vanguard Large-Cap Index Fund (VLISX)	9.12	-0.044	0.000	0.004	0.023	9.100	-0.017
Vanguard Mega Cap Growth Index Fund (VMGAX)	9.04	-0.065	0.000	0.001	0.007	8.983	-0.057
Vanguard Mega Cap Index Fund (VMCTX)	9.87	-0.066	0.000	0.001	0.027	9.837	-0.038
Vanguard Mega Cap Value Index Fund (VMVLX)	10.76	-0.066	0.000	0.001	0.044	10.739	-0.021
Vanguard Russell 1000 Growth Index Fund (VRGWX)	8.86	-0.076	0.000	0.004	0.025	8.813	-0.048
Vanguard Russell 1000 Index Fund (VRNIX)	8.97	-0.076	0.000	0.007	0.018	8.920	-0.051
Vanguard Russell 1000 Value Index Fund (VRVIX)	8.86	-0.076	0.000	0.011	-0.005	8.786	-0.071
Vanguard S&P 500 Growth ETF (VOOG)	6.61	-0.107	0.000	0.000	-0.007	6.501	-0.113
Vanguard S&P 500 Value Index Fund (VSPVX)	13.11	-0.090	0.000	0.001	-0.001	13.014	-0.091
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	8.97	-0.066	0.000	0.000	0.278	9.183	0.212
Vanguard Value Index Fund (VIVIX)	10.61	-0.044	0.000	0.005	0.044	10.617	0.004
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	1.04	-0.051	0.000	0.123	0.116	1.225	0.189
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	1.86	-0.071	0.000	0.010	0.027	1.821	-0.034
Vanguard Mid-Cap Index Fund (VMCIX)	5.50	-0.042	0.000	0.015	0.025	5.502	-0.002
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	9.24	-0.076	0.000	0.020	0.005	9.185	-0.051
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	4.22	-0.083	0.000	0.023	0.006	4.168	-0.055
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	8.09	-0.086	0.000	0.017	0.001	8.024	-0.068
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	11.95	-0.090	0.000	0.013	0.018	11.892	-0.058
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	-3.50	-0.077	0.000	0.128	0.034	-3.417	0.084
Vanguard Russell 2000 Index Fund (VRTIX)	2.22	-0.082	0.000	0.111	0.021	2.273	0.050
Vanguard Russell 2000 Value Index Fund (VRTVX)	7.94	-0.086	0.000	0.072	0.016	7.941	0.002
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	4.26	-0.156	0.000	0.010	-0.008	4.104	-0.155
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	7.28	-0.086	0.000	0.014	-0.006	7.206	-0.078
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	10.20	-0.088	0.000	0.016	0.004	10.132	-0.069
Vanguard Small-Cap Growth Index Fund (VSGIX)	-2.83	-0.058	0.000	0.095	0.026	-2.768	0.062
Vanguard Small-Cap Index Fund (VSCIX)	4.61	-0.042	0.000	0.079	0.024	4.673	0.060
Vanguard Small-Cap Value Index Fund (VSIIX)	10.46	-0.066	0.000	0.065	0.000	10.456	-0.001
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	7.28	-0.064	0.000	0.000	0.117	7.337	0.052
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	0.24	-0.100	0.000	0.116	0.016	0.272	0.031
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	4.44	-0.104	0.000	0.023	0.006	4.361	-0.075
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	5.81	-0.106	0.000	0.037	-0.001	5.737	-0.070
Vanguard Energy Index Fund Admiral (VENAX)	36.66	-0.137	0.000	0.002	0.008	36.532	-0.127
Vanguard Financials Index Fund Admiral (VFAIX)	10.71	-0.111	0.000	0.017	0.016	10.631	-0.078
Vanguard Health Care Index Fund Admiral (VHCIX)	5.37	-0.105	0.000	0.008	0.015	5.282	-0.083
Vanguard Industrials Index Fund Admiral (VINAX)	10.66	-0.111	0.000	0.011	0.005	10.570	-0.094
Vanguard Information Technology Index Fund Admiral (VITAX)	11.94	-0.112	0.000	0.007	0.029	11.867	-0.076
Vanguard Materials Index Fund Admiral (VMIAIX)	8.59	-0.109	0.000	0.009	0.005	8.497	-0.095
Vanguard Real Estate Index Fund (VGSNX)	5.15	-0.105	0.000	0.003	-0.000	5.049	-0.103
Vanguard Utilities Index Fund Admiral (VUIAX)	3.28	-0.103	0.000	0.000	-0.002	3.177	-0.105
International							
Vanguard Developed Markets Index Fund (VTMNX)	3.58	-0.052	-0.049	0.030	0.086	3.593	0.015
Vanguard Emerging Markets Stock Index Fund (VEMIX)	-2.87	-0.097	-0.008	0.043	-0.273	-3.208	-0.335
Vanguard European Stock Index Fund (VESIX)	5.30	-0.099	0.039	0.019	0.192	5.450	0.150
Vanguard FTSE All-World ex-US Index Fund (VFWWSX)	1.98	-0.085	-0.033	0.023	-0.026	1.862	-0.121
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	0.88	-0.115	-0.069	0.131	-0.074	0.758	-0.127
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	-4.84	-0.105	-0.044	0.077	0.444	-4.471	0.371
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	2.95	-0.165	0.001	0.005	0.063	2.852	-0.096
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	8.10	-0.237	-0.038	0.020	-0.061	7.782	-0.317
Vanguard Pacific Stock Index Fund (VPKIX)	0.03	-0.080	-0.122	0.033	-0.026	-0.166	-0.195
Vanguard Total International Stock Index Fund (VTSNX)	1.88	-0.085	-0.046	0.032	0.018	1.796	-0.080
Vanguard Total World Stock Index Fund (VTWIX)	5.82	-0.085	-0.015	0.021	-0.018	5.724	-0.097

Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.

¹ Expense ratio (ER) attribution includes the impact of compounding on fund returns over time. Consequently, a fund's ER (above) may appear larger than the published ER.

² Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

³ Excess return equals fund return minus benchmark return.



Securities-lending

IN THIS SECTION:

Vanguard securities-lending program overview

Vanguard securities-lending by fund

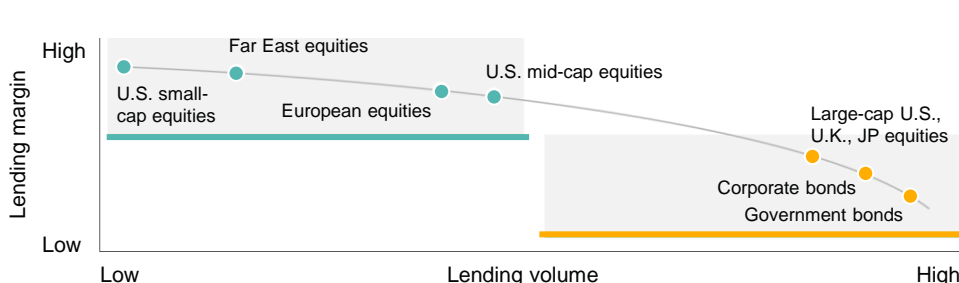


Vanguard securities-lending program overview

Lending securities from equity index funds provides an opportunity to increase portfolio returns. There are two broad strategic approaches to securities-lending: value and volume. Vanguard is a value lender, meaning we seek to optimize client outcomes by maximizing revenue generation while minimizing the percentage of the portfolio on loan to manage risk. Additionally, Vanguard's at-cost lending program returns more than 95% of securities-lending revenues directly back to the funds, one of the highest and most shareholder-friendly return rates in the industry.

Figure 28.1 Securities-lending program overview

Vanguard's lending program focuses on lending "specials"—securities with a high lending margin—to maximize the return generated by each loan.



Asset-weighted cost (2022)	3.3%
Revenue returned to funds (2022)	96.7%
Range of acceptable loans by regulations	Up to 33% of gross assets
– Best practice range by Vanguard	0% to 7% of gross assets
Weighted-average percentage of portfolios on loan	0.4% of gross assets

Sources: Brown Brothers Harriman (BBH) and Vanguard.

Vanguard Fixed Income Group's credit research team manages a list of approved borrowers and assigns each a credit limit. Vanguard considers the financial viability of all approved counterparties on an ongoing basis and monitors individual counterparty exposure daily. If necessary, the amounts on loan are adjusted based on changes in perceived creditworthiness of each borrowing institution. Collateral is reinvested in a conservative, internally managed, money market fund called the Market Liquidity Fund.

Total average market value on loan for 4Q2023

Goldman Sachs & Co. LLC	\$2,879,475,718
Morgan Stanley & Co. LLC	\$2,535,293,275
JP Morgan Securities LLC	\$2,272,511,792
BofA Securities Inc	\$2,086,031,698
Barclays Capital Inc.	\$1,571,565,984



Market Liquidity Fund sector allocation and key characteristics

● Treasuries	29.8%
● Agencies	17.7%
● Certificates of deposit	13.3%
● Repurchase agreements	26.5%
● Commercial paper	12.6%
● Municipals	0.1%

Average maturity	18
Expense ratio	0.5 bps
SEC yield	5.44%
Number of holdings	156

Securities-lending from fixed income funds

Vanguard lends securities only from its equity funds. We lent securities from our fixed income funds until 2009, when market conditions made the risk-reward unattractive. We continually monitor market conditions and other factors, periodically reevaluating our securities-lending program's effectiveness in meeting its goal of giving our clients the best chance for investment success.

Numbers may not total 100% due to rounding.
Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.



Vanguard securities-lending by fund

Figure 29.1 2022/2023 securities-lending data by fund

	Year	Average market value of open loans	Average % on loan	Total period earned income	Income as % of average fund assets
All-cap					
Vanguard Institutional Total Stock Market Index Fund	2022	\$56,530,033	0.20%	\$4,729,782	0.02%
	2023 YTD	\$73,266,654	0.26%	\$5,963,411	0.02%
Vanguard Russell 3000 Index Fund	2022	\$1,977,157	0.09%	\$247,251	0.01%
	2023 YTD	\$7,069,796	0.24%	\$582,676	0.01%
Vanguard High Dividend Yield Index Fund	2022	\$32,973,169	0.06%	\$2,220,475	0.00%
	2023 YTD	\$36,822,279	0.06%	\$3,293,054	0.00%
Vanguard Total Stock Market Index Fund	2022	\$4,058,407,402	0.33%	\$247,749,245	0.02%
	2023 YTD	\$3,448,565,391	0.27%	\$308,412,738	0.02%
Large-cap					
Vanguard 500 Index Fund	2022	\$84,875,436	0.01%	\$3,063,260	0.00%
	2023 YTD	\$78,261,604	0.01%	\$515,874	0.00%
Vanguard Dividend Appreciation Index Fund	2022	\$587,485	0.00%	\$2,331	0.00%
	2023 YTD	\$664,721	0.00%	\$4,607	0.00%
Vanguard Employee Benefit Index Fund	2022	\$10,418,571	0.05%	\$214,326	0.00%
	2023 YTD	\$11,844,156	0.06%	\$258,659	0.00%
Vanguard FTSE Social Index Fund	2022	\$5,385,593	0.04%	\$257,672	0.00%
	2023 YTD	\$8,110,997	0.06%	\$700,422	0.00%
Vanguard Growth Index Fund	2022	\$173,711,319	0.11%	\$6,626,688	0.00%
	2023 YTD	\$91,929,916	0.06%	\$2,333,592	0.00%
Vanguard Institutional Index Fund	2022	\$24,766,190	0.01%	\$920,308	0.00%
	2023 YTD	\$21,684,834	0.01%	\$171,120	0.00%
Vanguard Large-Cap Index Fund	2022	\$33,383,752	0.09%	\$2,080,422	0.01%
	2023 YTD	\$22,115,441	0.06%	\$1,119,570	0.01%
Vanguard Mega Cap Growth Index Fund	2022	\$2,767,948	0.02%	\$154,606	0.00%
	2023 YTD	\$96,451	0.00%	\$1,260	0.00%
Vanguard Mega Cap Index Fund	2022	\$907,278	0.02%	\$82,435	0.00%
	2023 YTD	\$16,383	0.00%	\$274	0.00%
Vanguard Mega Cap Value Index Fund	2022	\$1,571,777	0.03%	\$146,975	0.00%
	2023 YTD	\$0	0.00%	\$79	0.00%
Vanguard Russell 1000 Growth Index Fund	2022	\$6,916,116	0.07%	\$561,253	0.01%
	2023 YTD	\$9,189,082	0.06%	\$454,236	0.01%
Vanguard Russell 1000 Growth Index Trust	2022	\$10,050,661	0.20%	\$240,739	0.00%
	2023 YTD	\$3,798,573	0.08%	\$134,326	0.00%
Vanguard Russell 1000 Index Fund	2022	\$3,642,424	0.07%	\$313,055	0.01%
	2023 YTD	\$7,488,639	0.13%	\$685,292	0.01%
Vanguard Russell 1000 Value Index Fund	2022	\$8,414,683	0.10%	\$603,151	0.01%
	2023 YTD	\$17,030,689	0.21%	\$1,733,580	0.01%
Vanguard Russell 1000 Value Index Trust	2022	\$9,793,179	0.34%	\$221,530	0.01%
	2023 YTD	\$12,338,557	0.45%	\$585,993	0.01%
Vanguard S&P 500 Growth Index Fund	2022	\$41,501	0.00%	\$146	0.00%
	2023 YTD	\$144,383	0.00%	\$3,399	0.00%
Vanguard S&P 500 Value Index Fund	2022	\$465,837	0.02%	\$21,275	0.00%
	2023 YTD	\$1,213,664	0.03%	\$3,256	0.00%
Vanguard Tax-Managed Capital Appreciation Fund	2022	\$0	0.00%	\$0	0.00%
	2023 YTD	\$0	0.00%	\$0	0.00%
Vanguard Value Index Fund	2022	\$113,450,891	0.08%	\$10,247,310	0.01%
	2023 YTD	\$90,514,975	0.06%	\$6,668,070	0.01%

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Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.



Vanguard securities-lending by fund

Figure 30.1 2022/2023 securities-lending data by fund

	Year	Average market value of open loans	Average % on loan	Total period earned income	Income as % of average fund assets
Mid-cap					
Vanguard Extended Market Index Fund	2022	\$1,606,542,965	1.80%	\$126,876,492	0.14%
	2023 YTD	\$1,456,594,393	1.72%	\$141,973,884	0.14%
Vanguard Mid-Cap Growth Index Fund	2022	\$89,329,010	0.43%	\$3,372,381	0.02%
	2023 YTD	\$76,923,670	0.38%	\$2,060,779	0.02%
Vanguard Mid-Cap Index Fund	2022	\$676,482,633	0.46%	\$32,877,415	0.02%
	2023 YTD	\$466,749,867	0.33%	\$23,785,257	0.02%
Vanguard Mid-Cap Value Index Fund	2022	\$115,718,009	0.41%	\$8,027,457	0.03%
	2023 YTD	\$82,274,038	0.30%	\$6,749,974	0.03%
Vanguard S&P Mid-Cap 400 Growth Index Fund	2022	\$5,368,436	0.60%	\$618,868	0.07%
	2023 YTD	\$824,850	0.09%	\$22,124	0.07%
Vanguard S&P Mid-Cap 400 Index Fund	2022	\$10,676,982	0.38%	\$979,208	0.03%
	2023 YTD	\$10,597,155	0.36%	\$464,894	0.03%
Vanguard S&P Mid-Cap 400 Value Index Fund	2022	\$576,375	0.06%	\$10,639	0.00%
	2023 YTD	\$6,110,978	0.69%	\$320,209	0.00%
Small-cap					
Vanguard Russell 2000 Growth Index Fund	2022	\$15,169,162	1.64%	\$1,555,287	0.17%
	2023 YTD	\$25,497,343	2.66%	\$1,898,671	0.17%
Vanguard Russell 2000 Growth Index Trust	2022	\$98,422,270	5.18%	\$3,254,345	0.17%
	2023 YTD	\$72,178,361	3.95%	\$3,256,894	0.17%
Vanguard Russell 2000 Index Fund	2022	\$110,205,684	1.70%	\$8,120,494	0.13%
	2023 YTD	\$155,554,612	2.40%	\$10,006,211	0.13%
Vanguard Russell 2000 Value Index Fund	2022	\$10,019,279	0.90%	\$749,164	0.07%
	2023 YTD	\$20,719,232	2.14%	\$1,163,797	0.07%
Vanguard Russell 2000 Value Index Trust	2022	\$25,002,891	3.92%	\$503,237	0.08%
	2023 YTD	\$17,252,621	3.07%	\$620,375	0.08%
Vanguard S&P Small-Cap 600 Index Fund	2022	\$12,949,066	0.33%	\$287,413	0.01%
	2023 YTD	\$21,602,762	0.53%	\$669,764	0.01%
Vanguard S&P Small-Cap 600 Growth Index Fund	2022	\$464,500	0.09%	\$19,082	0.00%
	2023 YTD	\$1,615,519	0.30%	\$46,630	0.00%
Vanguard S&P Small-Cap 600 Value Index Fund	2022	\$5,569,043	0.42%	\$155,467	0.01%
	2023 YTD	\$9,063,206	0.69%	\$325,205	0.01%
Vanguard Small-Cap Growth Index Fund	2022	\$577,443,940	1.95%	\$31,241,152	0.11%
	2023 YTD	\$604,882,033	2.10%	\$45,193,301	0.11%
Vanguard Small-Cap Index Fund	2022	\$1,624,633,509	1.33%	\$82,164,019	0.07%
	2023 YTD	\$1,598,785,782	1.35%	\$165,861,150	0.07%
Vanguard Small-Cap Value Index Fund	2022	\$286,399,293	0.61%	\$17,147,670	0.04%
	2023 YTD	\$363,672,060	0.77%	\$60,848,100	0.04%
Vanguard Tax-Managed Small-Cap Fund	2022	\$0	0.00%	\$0	0.00%
	2023 YTD	\$0	0.00%	\$0	0.00%

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Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.



Vanguard securities-lending by fund

Figure 31.1 2022/2023 securities-lending data by fund

	Year	Average market value of open loans	Average % on loan	Total period earned income	Income as % of average fund assets
Sector					
Vanguard Consumer Discretionary Index Fund	2022	\$18,460,670	0.31%	\$1,529,351	0.03%
	2023 YTD	\$25,743,279	0.52%	\$2,012,783	0.03%
Vanguard Consumer Staples Index Fund	2022	\$17,723,307	0.23%	\$2,675,962	0.03%
	2023 YTD	\$12,571,974	0.16%	\$5,098,140	0.03%
Vanguard Energy Index Fund	2022	\$5,787,665	0.06%	\$163,665	0.00%
	2023 YTD	\$24,239,156	0.24%	\$328,480	0.00%
Vanguard Financials Index Fund	2022	\$23,480,729	0.22%	\$2,406,662	0.02%
	2023 YTD	\$26,960,922	0.30%	\$1,914,573	0.02%
Vanguard Health Care Index Fund	2022	\$35,231,903	0.18%	\$1,964,580	0.01%
	2023 YTD	\$37,328,070	0.19%	\$1,484,950	0.01%
Vanguard Industrials Index Fund	2022	\$8,799,575	0.21%	\$473,576	0.01%
	2023 YTD	\$13,663,734	0.32%	\$754,699	0.01%
Vanguard Information Technology Index Fund	2022	\$45,589,540	0.09%	\$2,505,494	0.00%
	2023 YTD	\$132,241,032	0.24%	\$7,378,383	0.00%
Vanguard Materials Index Fund	2022	\$8,663,987	0.19%	\$283,540	0.01%
	2023 YTD	\$6,905,519	0.18%	\$339,532	0.01%
Vanguard Real Estate II Index Fund	2022	\$6,271,282	0.07%	\$227,805	0.00%
	2023 YTD	\$30,652,421	0.38%	\$302,051	0.00%
Vanguard Real Estate Index Fund	2022	\$70,982,960	0.09%	\$1,993,378	0.00%
	2023 YTD	\$170,307,321	0.27%	\$2,137,999	0.00%
Vanguard Communication Services Index Fund	2022	\$27,902,242	0.85%	\$1,441,985	0.04%
	2023 YTD	\$21,334,986	0.70%	\$10,228,824	0.04%
Vanguard Utilities Index Fund	2022	\$249,253	0.00%	\$5,421	0.00%
	2023 YTD	\$7,603,431	0.11%	\$78,001	0.00%

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Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.



Vanguard securities-lending by fund

Figure 32.1 2022/2023 securities-lending data by fund

	Year	Average market value of open loans	Average % on loan	Total period earned income	Income as % of average fund assets
International					
Vanguard Developed Markets Index Fund	2022	\$2,072,616,673	1.39%	\$47,299,953	0.03%
	2023 YTD	\$2,241,266,061	1.38%	\$56,263,387	0.03%
Vanguard Emerging Markets Stock Index Fund	2022	\$1,072,756,566	1.08%	\$40,952,871	0.04%
	2023 YTD	\$1,301,348,487	1.33%	\$50,319,812	0.04%
Vanguard European Stock Index Fund	2022	\$80,134,316	0.35%	\$3,607,122	0.02%
	2023 YTD	\$96,720,439	0.42%	\$3,237,972	0.02%
Vanguard Fiduciary Trust Company Developed Markets Index Trust	2022	\$49,557	0.00%	\$367,168	0.03%
	2023 YTD	\$1,134,147	0.04%	\$48,213	0.03%
Vanguard FTSE All-World ex-US Index Fund	2022	\$380,019,602	0.78%	\$9,624,500	0.02%
	2023 YTD	\$492,229,175	0.98%	\$11,572,948	0.02%
Vanguard FTSE All-World ex-US Small-Cap Index Fund	2022	\$352,071,388	3.54%	\$12,089,030	0.12%
	2023 YTD	\$491,391,099	4.86%	\$18,192,160	0.12%
Vanguard Global ex-U.S. Real Estate Index Fund	2022	\$94,594,697	1.96%	\$3,755,141	0.08%
	2023 YTD	\$92,994,995	2.28%	\$4,596,763	0.08%
Vanguard Institutional Total International Stock Index Trust	2022	\$190,510,885	1.06%	\$5,976,441	0.03%
	2023 YTD	\$248,015,013	1.10%	\$6,447,012	0.03%
Vanguard Institutional Total International Stock Market Index Trust II	2022	\$955,818,155	0.65%	\$30,792,592	0.02%
	2023 YTD	\$957,371,183	0.57%	\$36,672,790	0.02%
Vanguard International Dividend Appreciation Index Fund	2022	\$11,879,954	0.29%	\$162,990	0.00%
	2023 YTD	\$33,849,047	0.66%	\$429,413	0.00%
Vanguard International High Dividend Yield Index Fund	2022	\$41,106,401	0.97%	\$1,082,393	0.03%
	2023 YTD	\$48,719,213	0.76%	\$1,175,933	0.03%
Vanguard Pacific Stock Index Fund	2022	\$104,409,445	1.26%	\$2,444,281	0.03%
	2023 YTD	\$150,315,364	1.67%	\$4,630,359	0.03%
Vanguard Total International Stock Index Fund	2022	\$4,924,507,132	1.36%	\$120,219,975	0.03%
	2023 YTD	\$5,257,853,479	1.42%	\$137,659,017	0.03%
Vanguard Total World Stock Index Fund	2022	\$177,017,842	0.54%	\$6,670,146	0.02%
	2023 YTD	\$236,448,663	0.64%	\$9,620,693	0.02%

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Source: Vanguard. All data as of December 31, 2023, unless otherwise noted.



Benchmark methodologies

IN THIS SECTION:

Fixed income

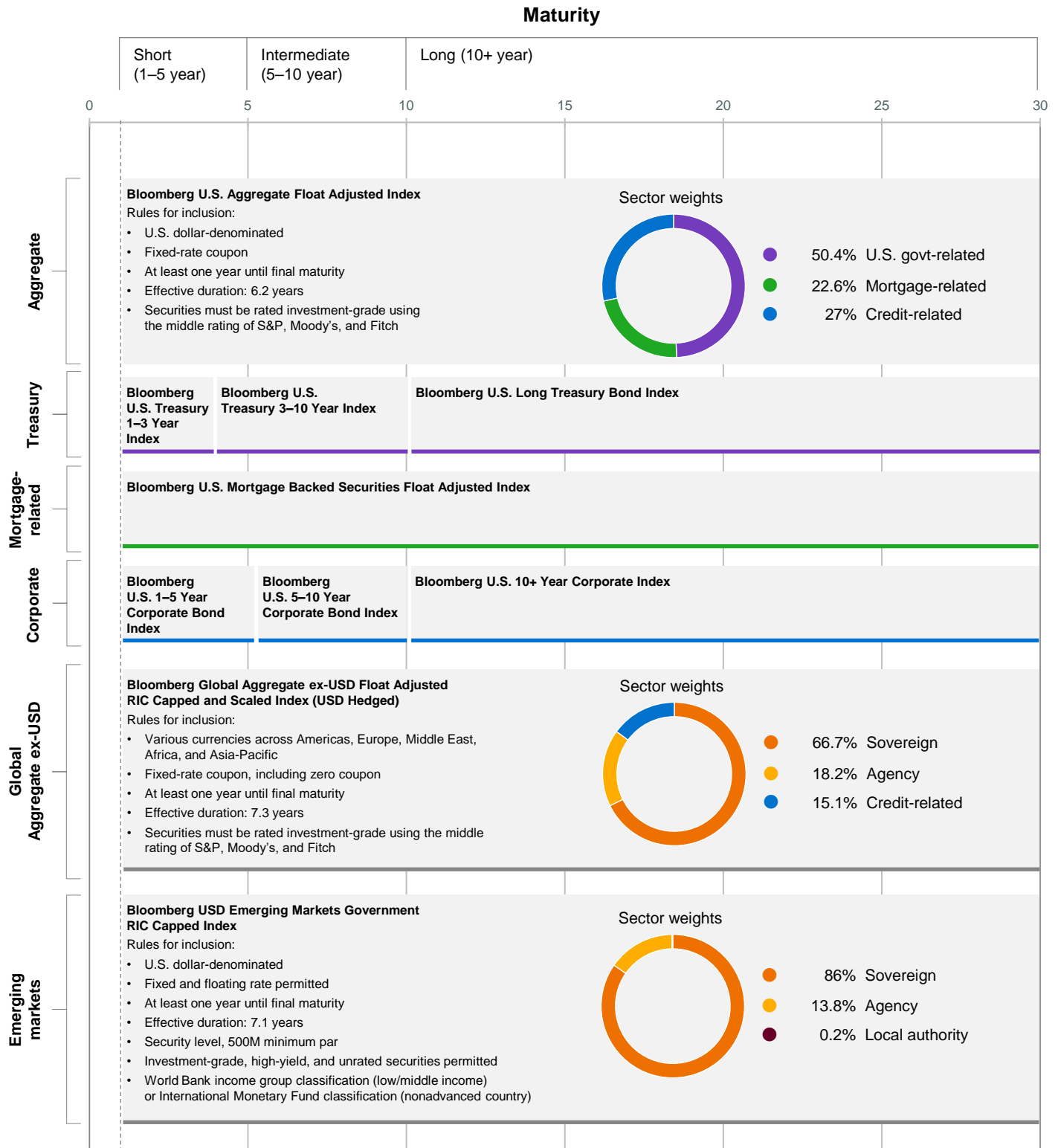
Equity



Benchmark methodologies overview

A review of U.S. and non-U.S. fixed income benchmarks

Figure 34.1 Fixed income benchmark composition



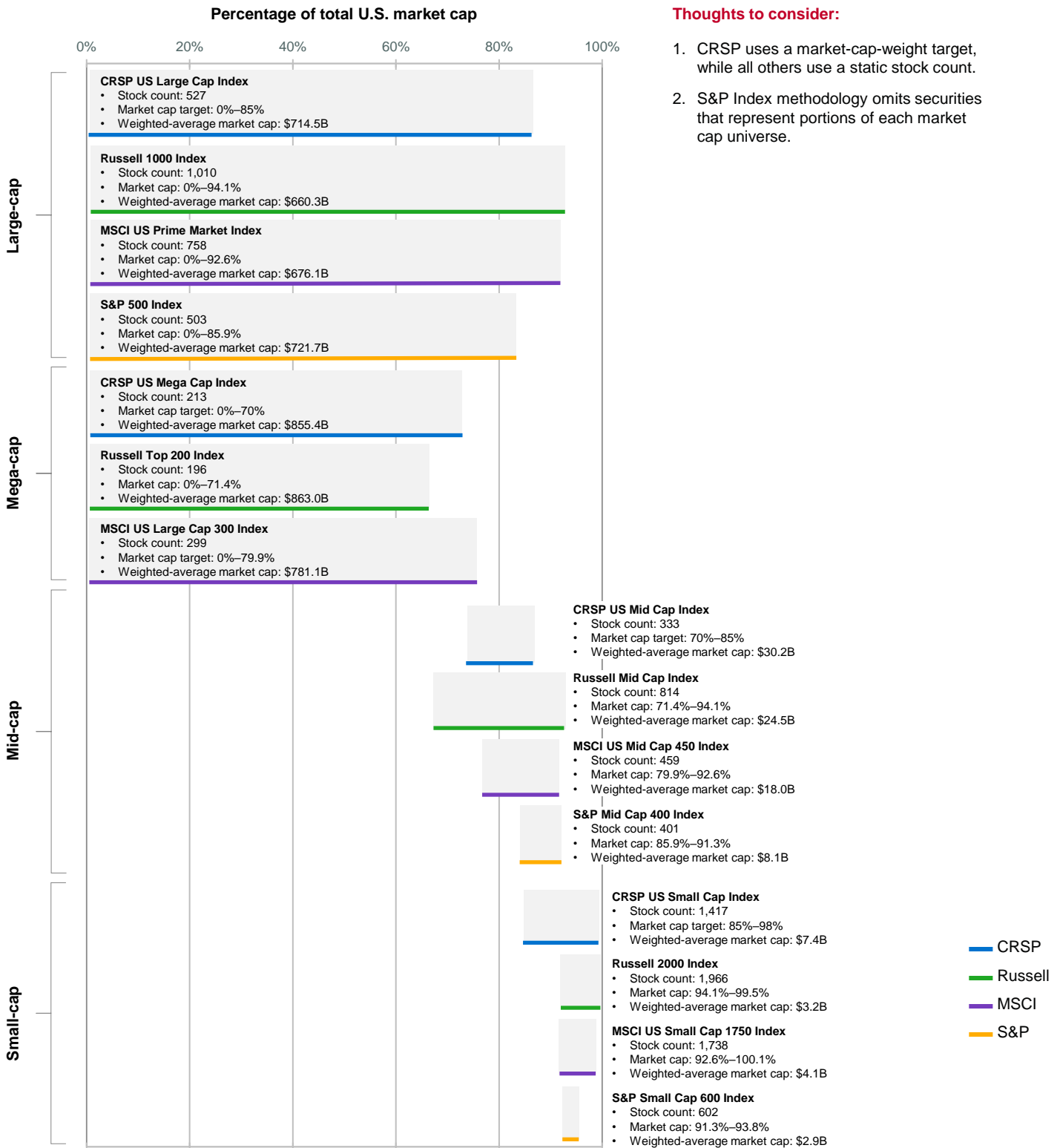
Numbers may not add to 100% due to rounding. All index characteristics data as of December 31, 2023.



Benchmark methodologies overview

Performance differences between indexes are caused by differences in construction methodology. Among the most impactful elements are exposures to market capitalization segments and regional markets, which are depicted by the charts below and on the following page.

Figure 35.1 U.S. equity benchmark methodology comparison

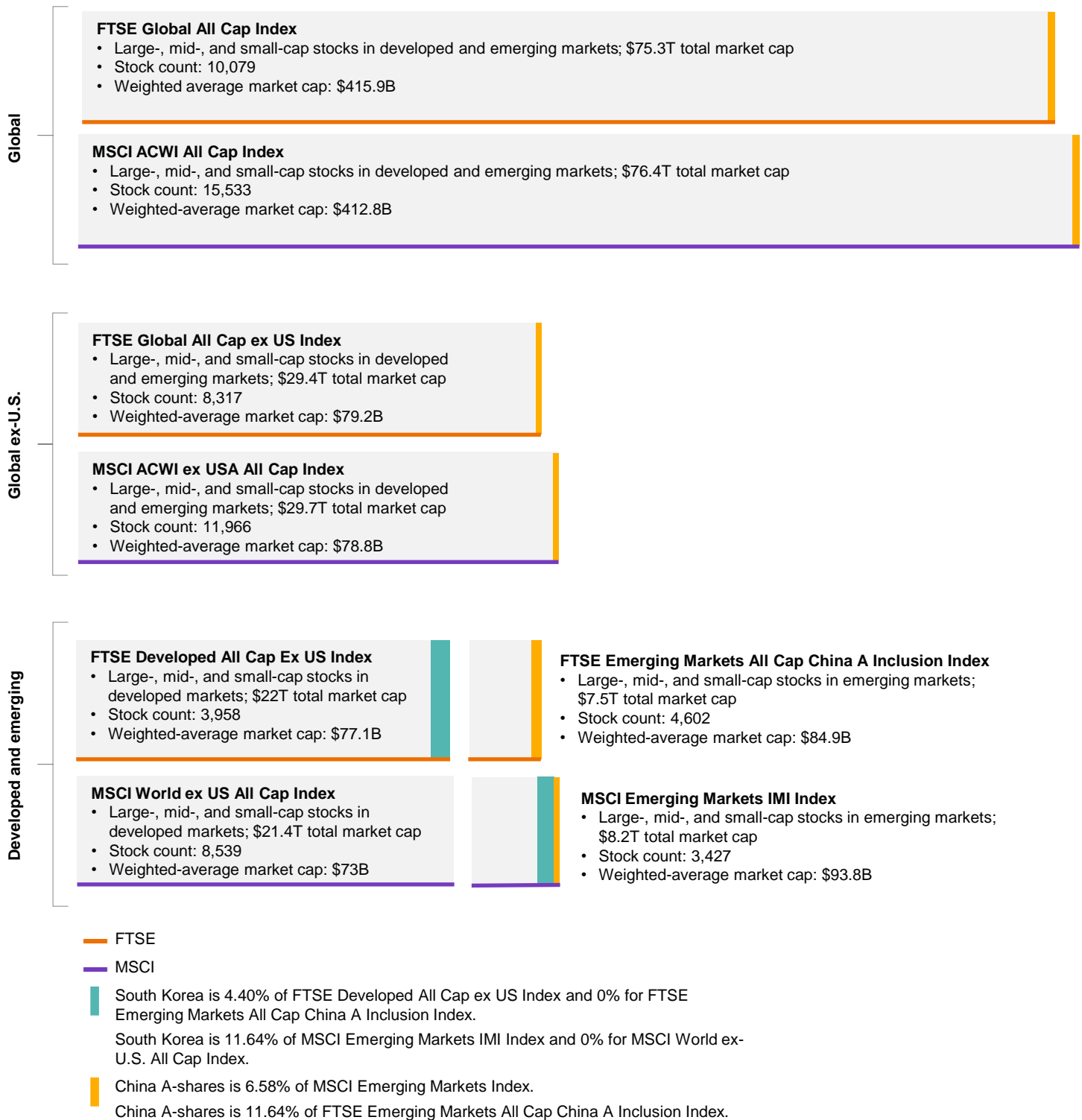


CRSP is shown as a targeted market cap, while the others are shown as a percentage of the S&P Total Stock Market. All index characteristics data as of December 31, 2023.



Benchmark methodologies overview

Figure 36.1 Global equity benchmark methodology comparison



All index characteristics data as of December 31, 2023.

Notes

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For more information about Vanguard funds, visit institutional.vanguard.com or call 800-523-1036 to obtain a prospectus or, if available, a summary prospectus. Investment objectives, risks, charges, expenses, and other important information about a fund are contained in the prospectus; read and consider it carefully before investing.

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ACKNOWLEDGEMENTS

Institutional Investor Group, Investment Solutions

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