

Vanguard Index Funds

Quarterly Review | September 30, 2023



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Executive summary

Capital markets stall in Q3

The market's positive start to 2023 stalled during the third quarter as both equities and fixed income experienced negative returns. Despite finishing with a positive return year to date, global stocks experienced their first negative quarter of the year. The S&P 500 finished with its largest monthly decline since last December, and it is the first back-to-back quarterly drawdown sequence in a year. Government bonds across developed markets fell in lockstep with equities; however, high-yield bonds, which tend to be less interest rate sensitive, provided small positive gains.

Markets hit year-to-date highs in July in part driven by AI optimism, a resilient U.S. economy, and big names in the technology sector. Despite investors becoming increasingly confident that we are approaching the peak in the global hiking cycle following a downward trend in inflation, yields rose in the U.S. and elsewhere as the Federal Reserve indicated that rates would need to remain higher for longer than anticipated. This combined with economic growth concerns in China and abroad weighed on both stocks and bonds. Value stocks held up better than growth stocks in the third quarter, but still trail growth stocks by a wide margin year to date. Commodities fueled by rising oil prices were a notable outperformer during the quarter.

Rising yields contributed to the strengthening of the U.S. dollar, resulting in headwinds for emerging markets whose currency is linked to the U.S. dollar. Chinese property firm Evergrande filed for bankruptcy in New York in August, leading to a sharp decline in the country's equity market and questions about China's economic recovery. The best-performing developed equity market was Japan, which returned 2.5% over the quarter as a weakening Yen served as a performance tailwind.

Despite market volatility, Vanguard, through its investor-owned* structure, has strived to consistently add value over its 40+ 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)	4Q 2022	1Q 2023	2Q 2023	3Q 2023	1-year
Vanguard Total Bond Market Index Fund (09/18/1995)	1.67%	3.16%	-0.90%	-3.08%	0.74%
Vanguard Total International Bond Index Fund (05/31/2013)	-0.02%	3.54%	0.18%	-1.50%	2.16%
Vanguard Total Stock Market Index Fund (07/07/1997)	7.16%	7.15%	8.42%	-3.30%	20.38%
Vanguard Total International Stock Index Fund (11/29/2010)	14.72%	6.65%	2.61%	-4.01%	20.50%
Vanguard Short-Term Inflation-Protected Securities Index Fund (10/17/2012)	1.27%	2.28%	-0.69%	0.43%	3.31%

Source of performance figures: Vanguard, Institutional share class, as of September 30, 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 (%)

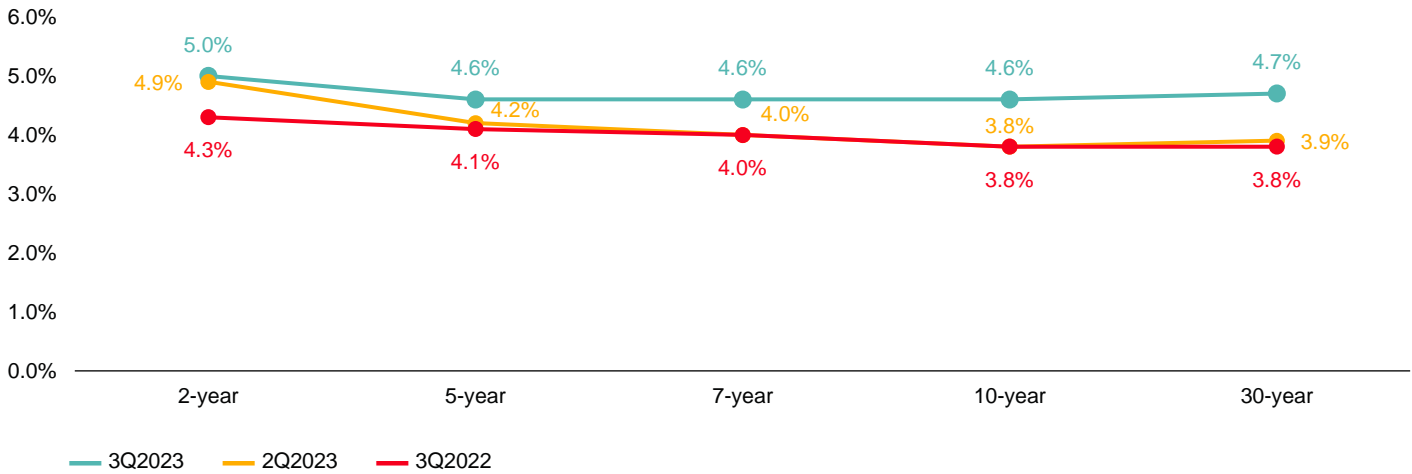
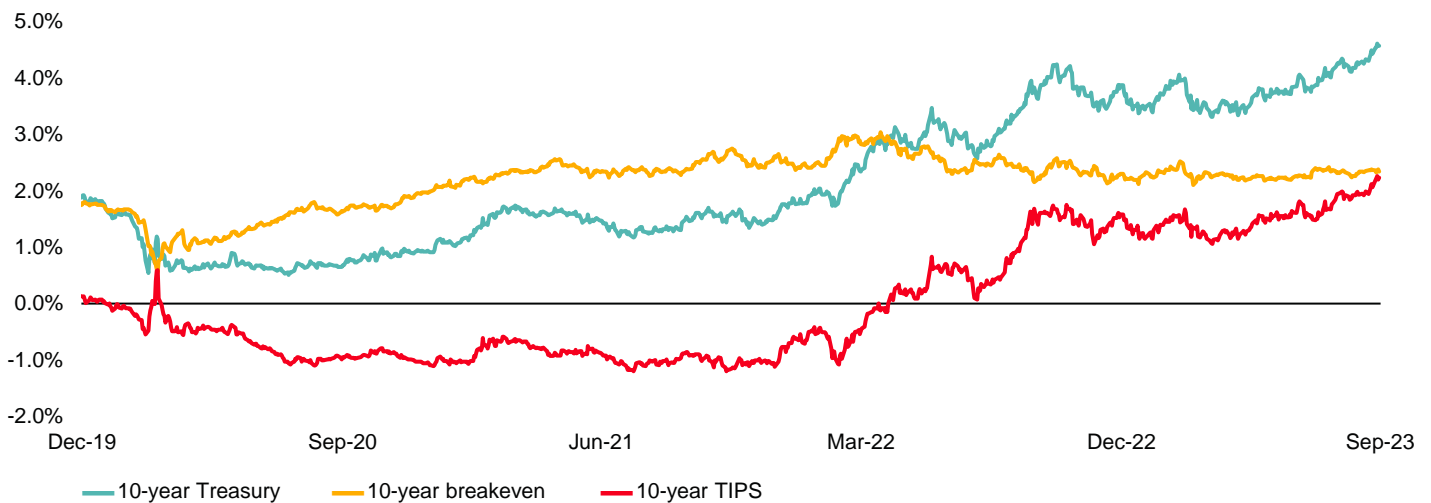


Figure 5.2 Inflation expectations*



Source: Vanguard. All data as of September 30, 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)

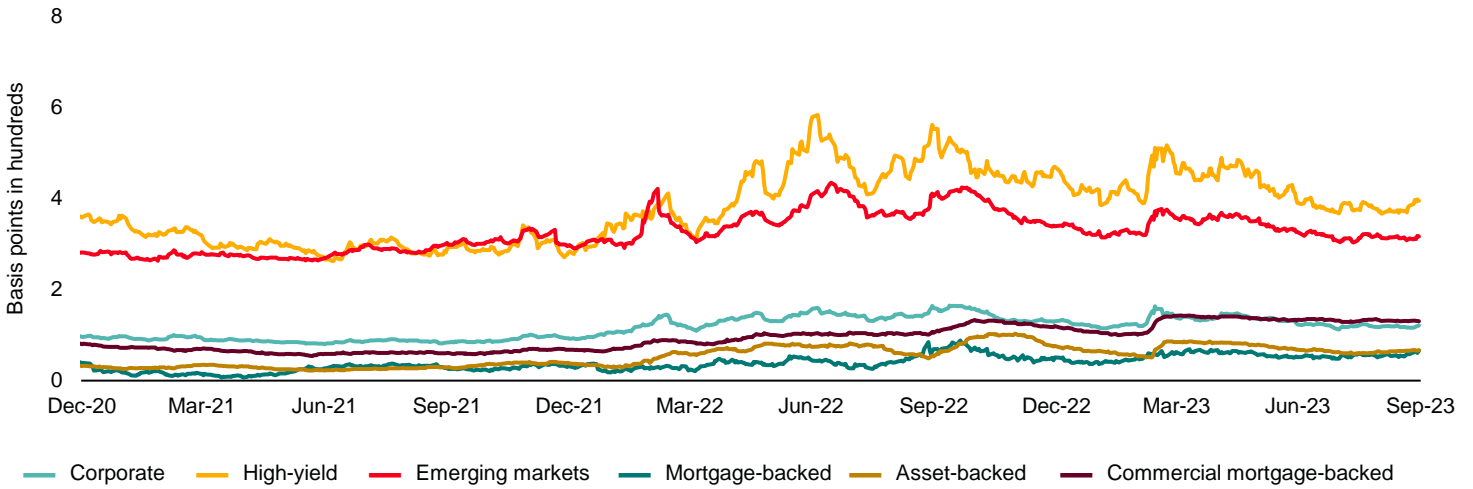
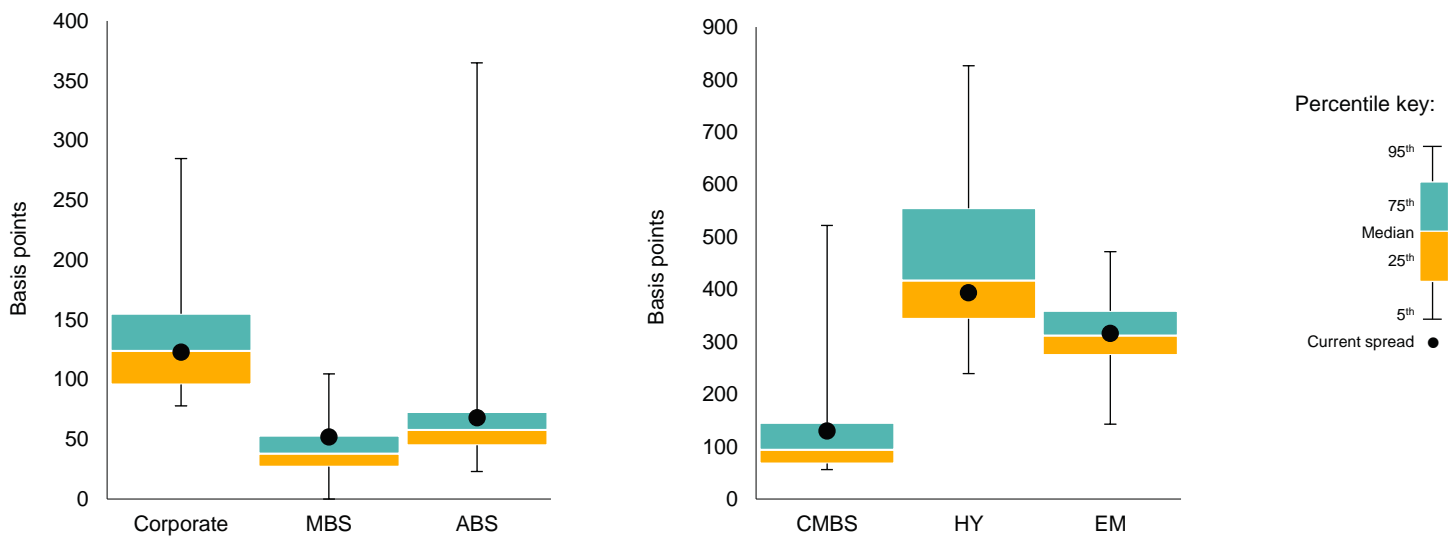


Figure 6.2 Credit spreads relative to comparable Treasuries over 20 years



Sources: Vanguard and Bloomberg. All data as of September 30, 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

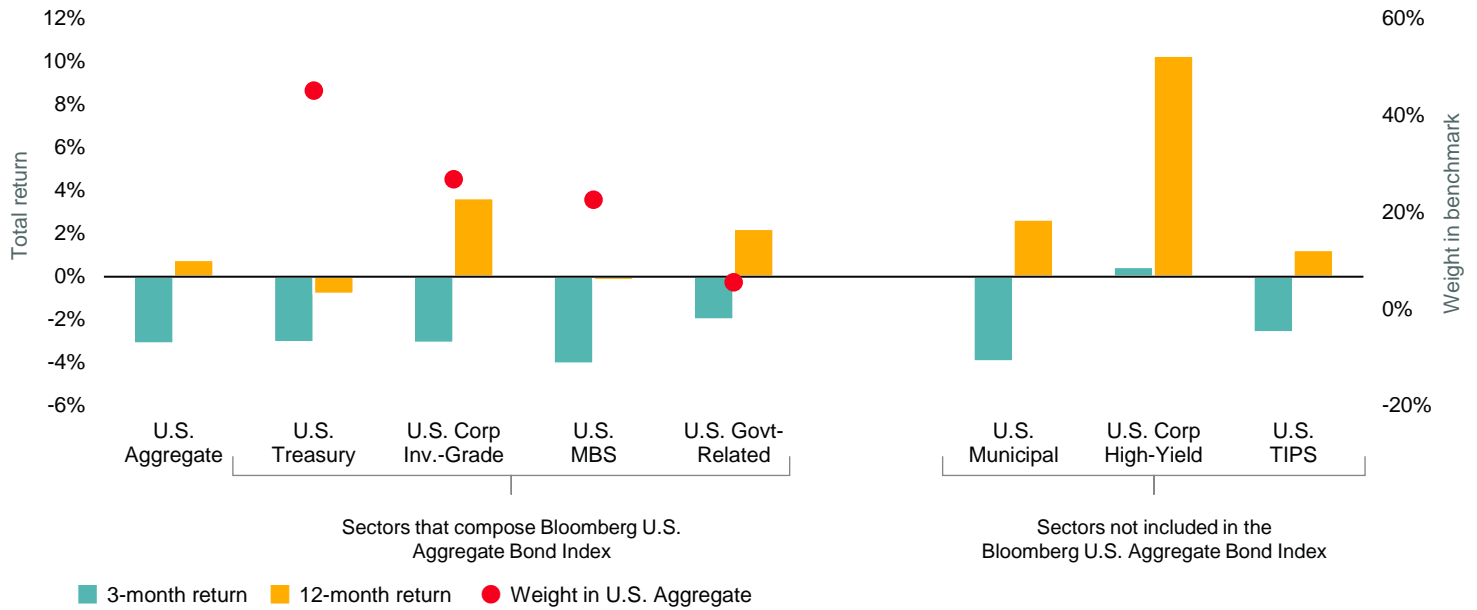
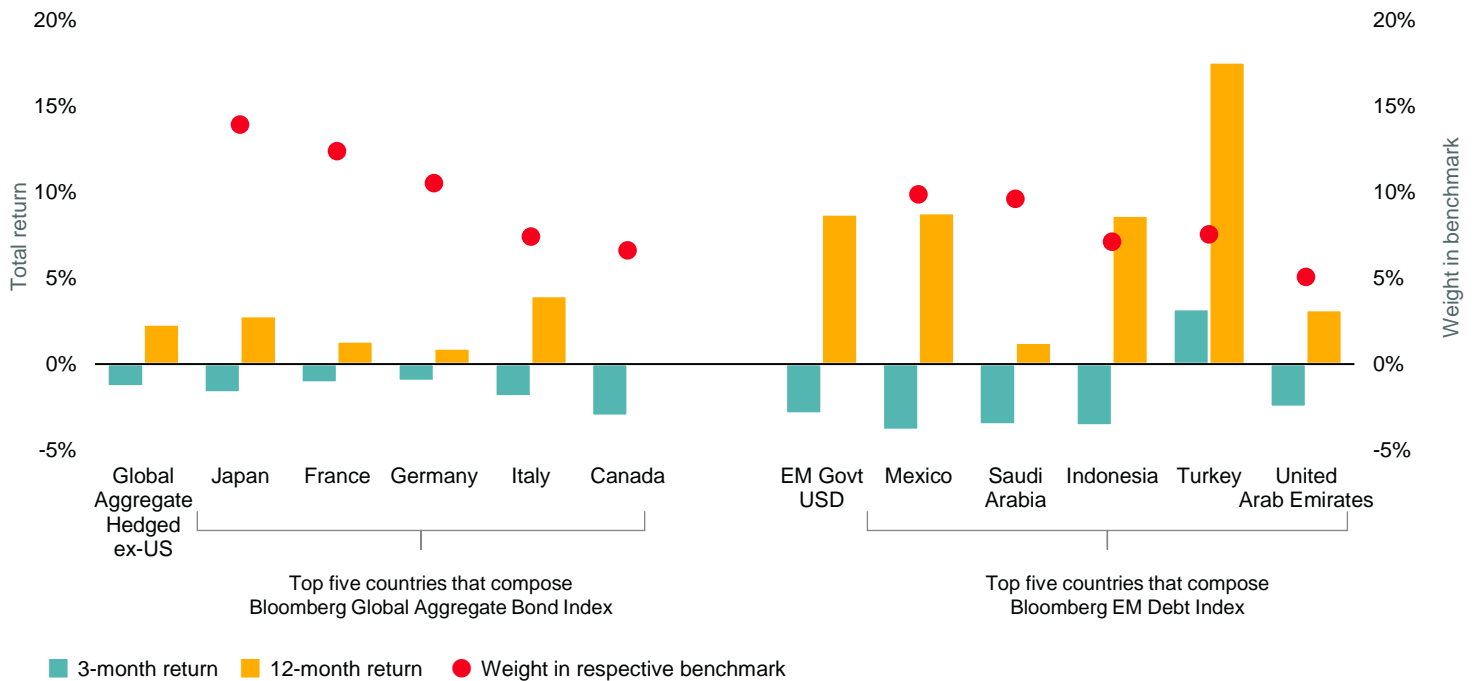


Figure 7.2 Developed and emerging markets total return by country



Sources: Vanguard and Bloomberg. All data as of September 30, 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)	-3.08	0.74	-5.20	0.15	1.12	4.08	9/18/1995
Total Bond Market II Index Fund (VTBNX)	-3.12	0.72	-5.20	0.08	1.08	2.21	2/17/2009
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	-3.87	0.15	-5.03	-0.83	—	0.47	10/31/2013
Vanguard Total Corporate Bond ETF (VTC)							
Market price	-3.31	3.59	-5.02	0.79	—	0.35	11/7/2017
NAV	-3.35	3.61	-5.02	0.79	—	0.35	11/7/2017
Short-term							
Vanguard Short-Term Bond Index Fund (VBITX)	0.16	2.52	-1.66	1.10	1.05	1.09	9/27/2011
Vanguard Short-Term Inflation-Protected Securities Index Fund (VTSPX)	0.43	3.31	1.89	2.77	1.67	1.45	10/17/2012
Vanguard Short-Term Treasury Index Fund (VSBIX)	0.70	2.40	-0.96	0.98	0.74	0.74	8/23/2010
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	0.22	3.93	-1.08	1.62	1.72	2.32	11/19/2009
Intermediate-term							
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	-3.03	1.13	-5.38	0.74	1.58	3.59	1/26/2006
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	-1.89	0.43	-4.83	0.39	0.80	1.72	3/19/2010
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	-2.73	4.05	-4.52	1.28	2.40	3.65	11/19/2009
Long-term							
Vanguard Long-Term Bond Index Fund (VBLLX)	-9.36	-2.88	-11.85	-1.16	1.96	4.00	2/2/2006
Vanguard Long-Term Treasury Index Fund (VLGIX)	-11.81	-9.09	-15.72	-2.82	0.70	1.72	7/30/2010
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	-7.24	2.32	-9.06	-0.22	2.75	4.14	11/19/2009
Vanguard Extended Duration Treasury Index Fund (VEDTX)	-18.89	-16.78	-22.25	-5.44	0.57	2.70	11/28/2007
International/Global							
Vanguard Total International Bond Index Fund (VTIFX)	-1.50	2.16	-4.19	0.01	1.84	1.74	5/31/2013
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	-2.88	8.64	-4.52	-0.18	—	1.78	2/11/2015
Vanguard Total World Bond ETF (BNDW)							
Market price	-2.42	1.53	-4.70	0.07	—	0.01	9/4/2018
NAV	-2.47	1.47	-4.69	0.08	—	0.01	9/4/2018

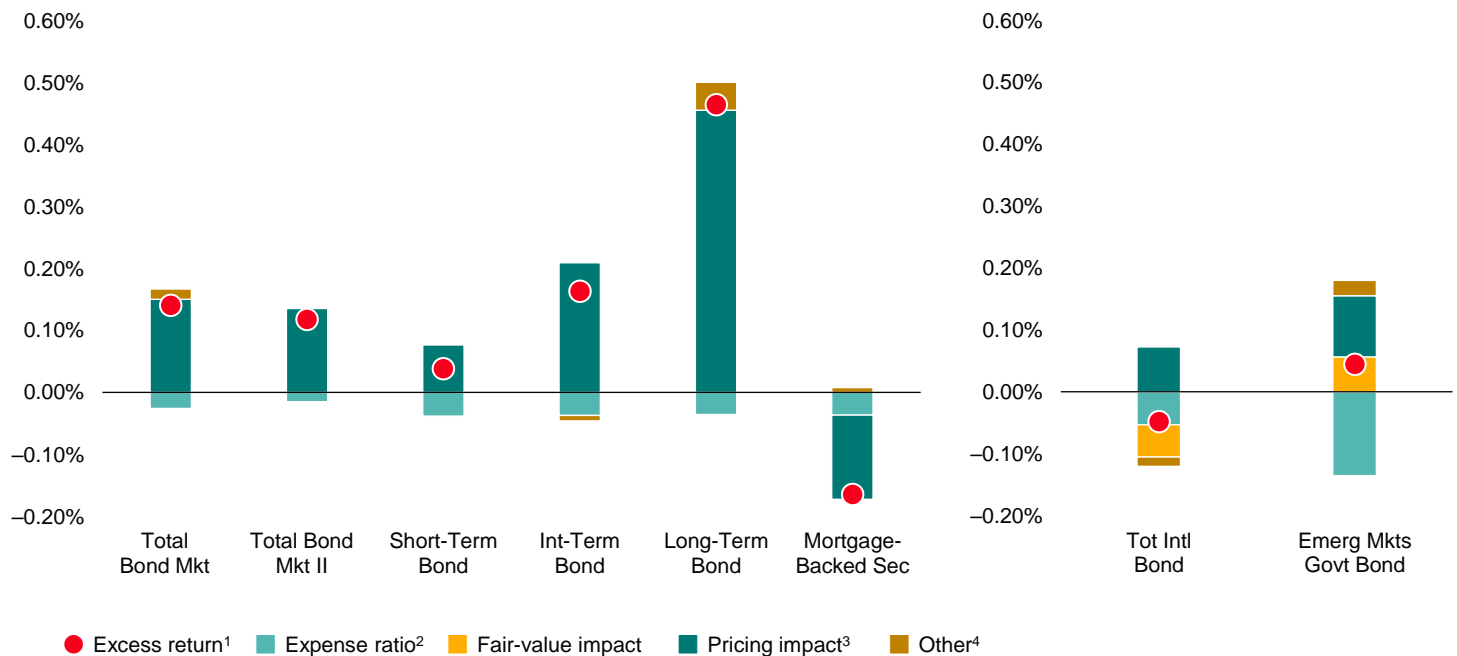
Source: Vanguard. All data as of September 30, 2023, unless otherwise noted.

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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 September 30, 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)	-1.056	-0.026	0.000	0.151	0.017	-0.915	0.142
Vanguard Total Bond Market II Index Fund (VTBNX)	-1.056	-0.015	0.000	0.136	-0.002	-0.937	0.119
Vanguard Short-Term Bond Index Fund (VBITX)	1.398	-0.038	0.000	0.077	0.000	1.437	0.039
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	-0.896	-0.037	0.000	0.210	-0.009	-0.732	0.164
Vanguard Long-Term Bond Index Fund (VBLLX)	-5.396	-0.036	0.000	0.457	0.045	-4.930	0.466
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	-2.009	-0.037	0.000	-0.136	0.008	-2.173	-0.165
Vanguard Total International Bond Index Fund (VTIFX)	2.224	-0.054	-0.052	0.072	-0.015	2.176	-0.048
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	0.610	-0.136	0.056	0.099	0.025	0.655	0.044

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

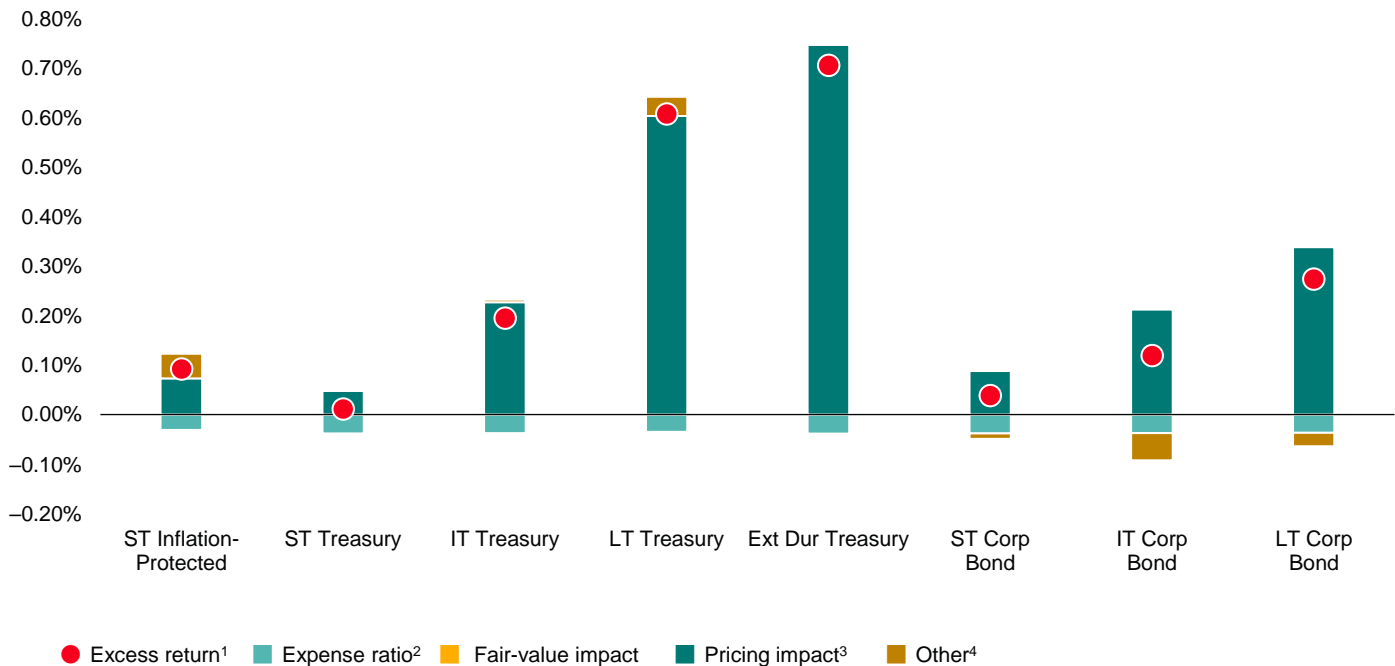
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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 September 30, 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)	1.922	-0.031	0.000	0.073	0.050	2.014	0.093
Vanguard Short-Term Treasury Index Fund (VSBIX)	1.693	-0.038	0.000	0.048	0.002	1.705	0.012
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	-0.740	-0.037	0.000	0.227	0.006	-0.544	0.196
Vanguard Long-Term Treasury Index Fund (VLGIX)	-8.553	-0.034	0.000	0.604	0.039	-7.944	0.608
Vanguard Extended Duration Treasury Index Fund (VEDTX)	-14.713	-0.039	0.000	0.748	-0.003	-14.006	0.707
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	2.006	-0.038	0.000	0.088	-0.011	2.045	0.039
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	0.373	-0.038	0.000	0.213	-0.055	0.493	0.120
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	-2.706	-0.036	0.000	0.339	-0.027	-2.431	0.275

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

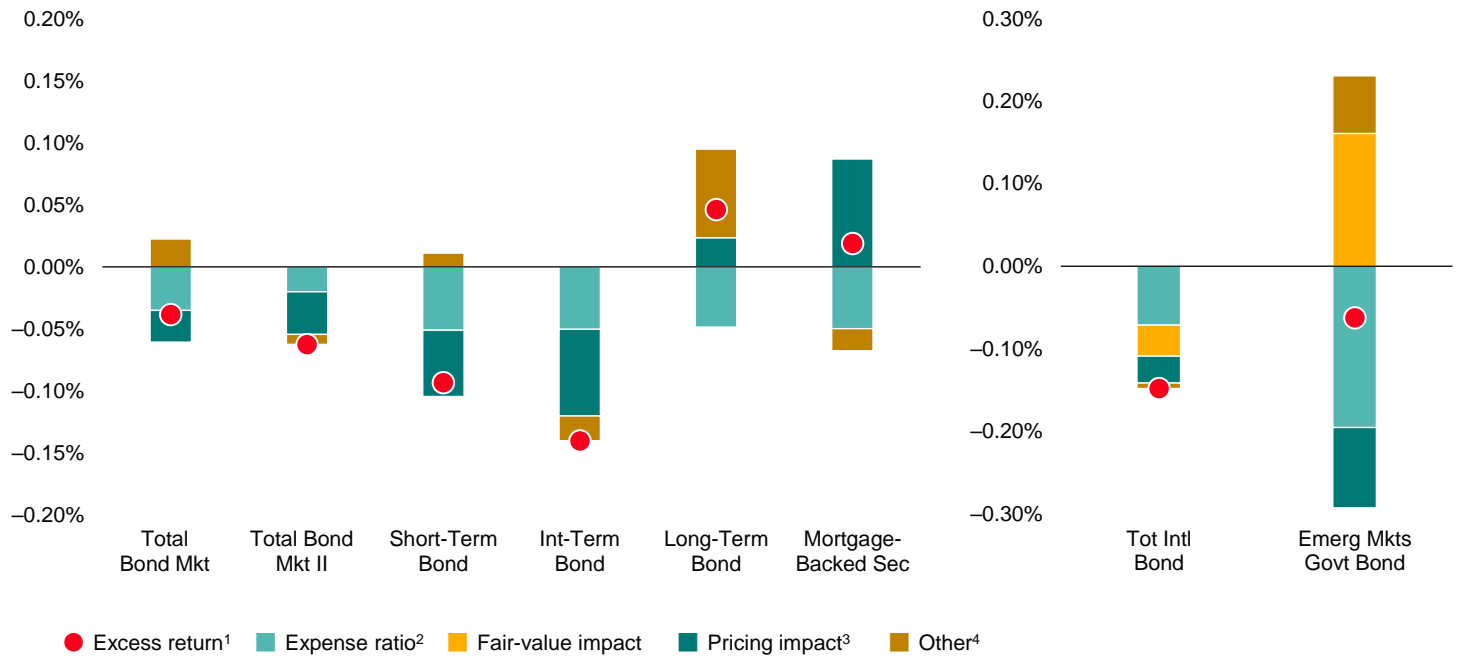
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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Attribution for all Vanguard taxable fixed income index funds

Figure 11.1 One-year excess return performance attribution as of September 30, 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)	0.779	-0.035	0.000	-0.026	0.023	0.741	-0.038
Vanguard Total Bond Market II Index Fund (VTBNX)	0.779	-0.020	0.000	-0.034	-0.008	0.716	-0.063
Vanguard Short-Term Bond Index Fund (VBITX)	2.617	-0.051	0.000	-0.053	0.011	2.524	-0.094
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	1.275	-0.051	0.000	-0.070	-0.020	1.134	-0.141
Vanguard Long-Term Bond Index Fund (VBLLX)	-2.929	-0.049	0.000	0.024	0.071	-2.882	0.047
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	0.132	-0.050	0.000	0.087	-0.018	0.151	0.019
Vanguard Total International Bond Index Fund (VTIFX)	2.308	-0.072	-0.038	-0.033	-0.007	2.159	-0.148
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	8.703	-0.196	0.161	-0.098	0.070	8.640	-0.063

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

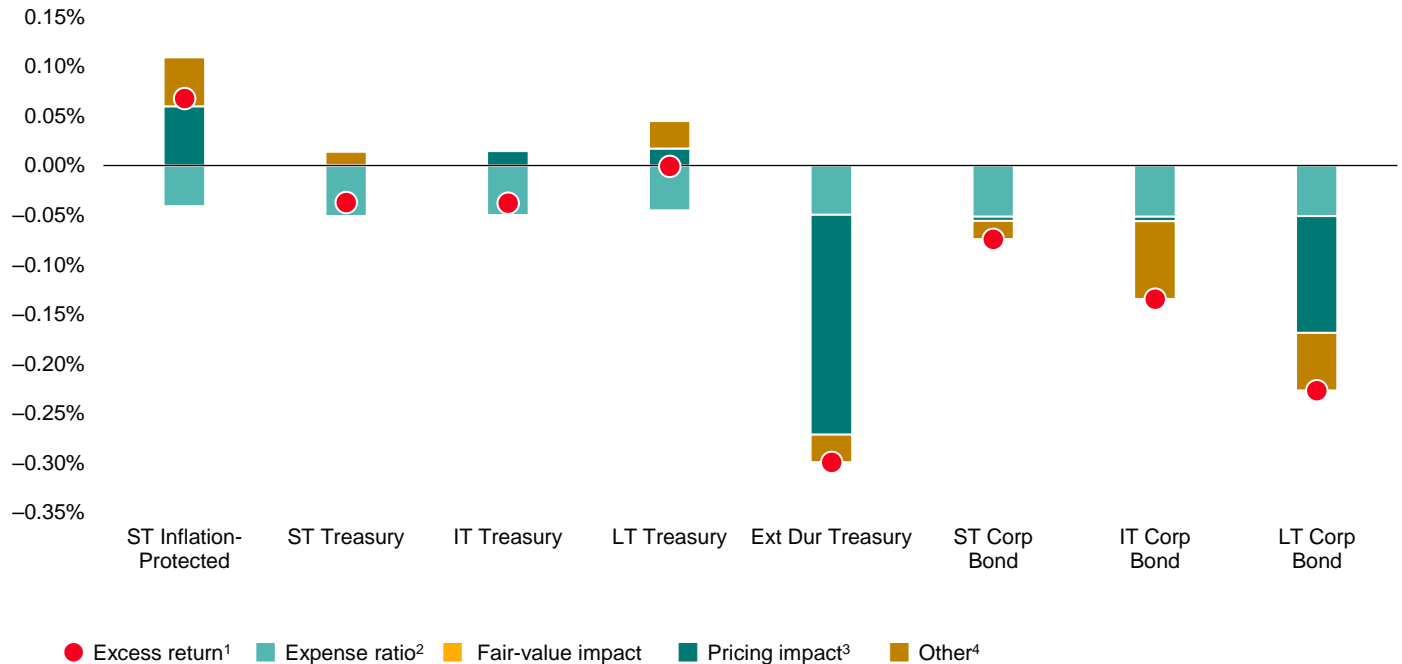
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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Attribution for all Vanguard taxable fixed income index funds

Figure 12.1 One-year excess return performance attribution as of September 30, 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)	3.240	-0.041	0.000	0.060	0.049	3.308	0.068
Vanguard Short-Term Treasury Index Fund (VSBIX)	2.440	-0.051	0.000	0.000	0.014	2.403	-0.037
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	0.472	-0.050	0.000	0.014	-0.002	0.434	-0.038
Vanguard Long-Term Treasury Index Fund (VLGIX)	-9.092	-0.045	0.000	0.017	0.028	-9.093	-0.001
Vanguard Extended Duration Treasury Index Fund (VEDTX)	-16.475	-0.050	0.000	-0.222	-0.028	-16.775	-0.300
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	4.000	-0.052	0.000	-0.004	-0.018	3.925	-0.074
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	4.180	-0.052	0.000	-0.004	-0.079	4.045	-0.135
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	2.551	-0.051	0.000	-0.118	-0.058	2.324	-0.228

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

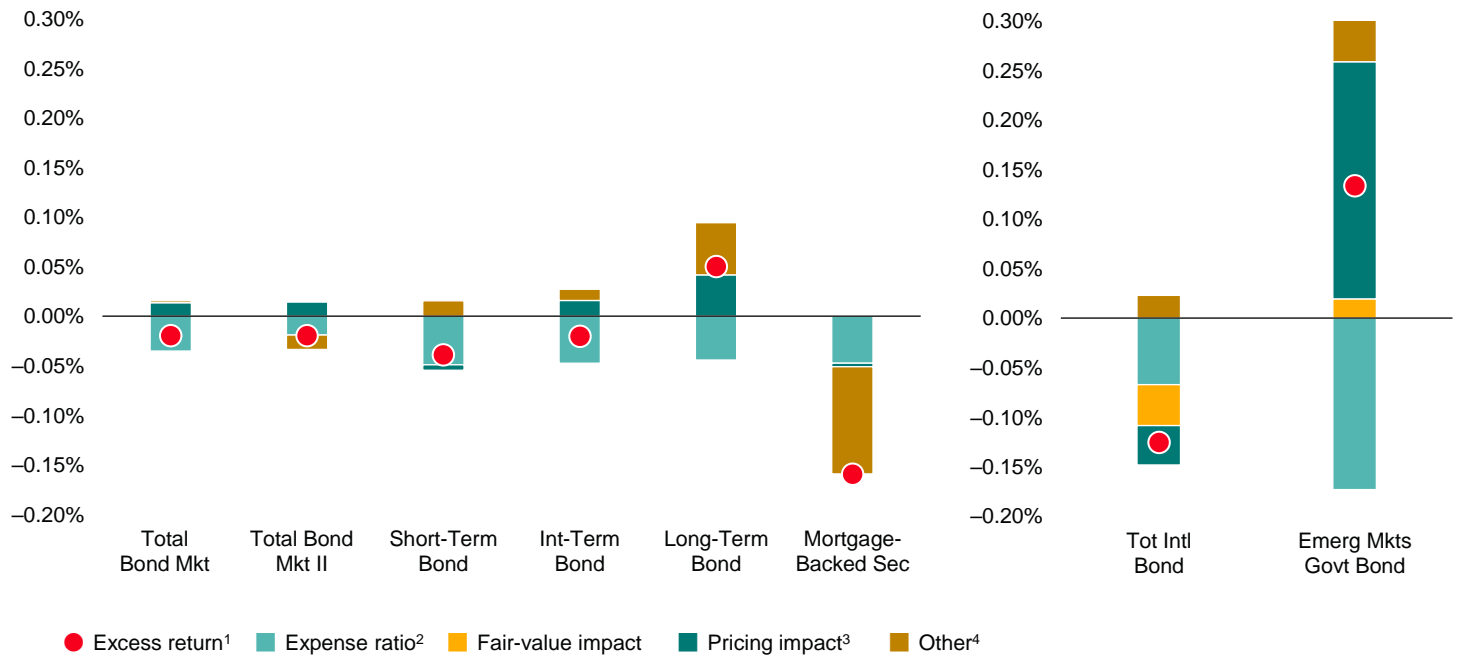
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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 September 30, 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)	-5.178	-0.035	0.000	0.014	0.002	-5.197	-0.019
Vanguard Total Bond Market II Index Fund (VTBNX)	-5.178	-0.019	0.000	0.014	-0.015	-5.197	-0.019
Vanguard Short-Term Bond Index Fund (VBITX)	-1.624	-0.049	0.000	-0.005	0.016	-1.663	-0.039
Vanguard Intermediate-Term Bond Index Fund (VBIMX)	-5.360	-0.047	0.000	0.016	0.011	-5.380	-0.020
Vanguard Long-Term Bond Index Fund (VBLLX)	-11.903	-0.044	0.000	0.042	0.053	-11.852	0.051
Vanguard Mortgage-Backed Securities Index Fund (VMBIX)	-4.874	-0.047	0.000	-0.004	-0.108	-5.033	-0.159
Vanguard Total International Bond Index Fund (VTIFX)	-4.064	-0.067	-0.041	-0.040	0.023	-4.190	-0.125
Vanguard Emerging Markets Government Bond Index Fund (VGIVX)	-4.656	-0.173	0.020	0.240	0.048	-4.522	0.134

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

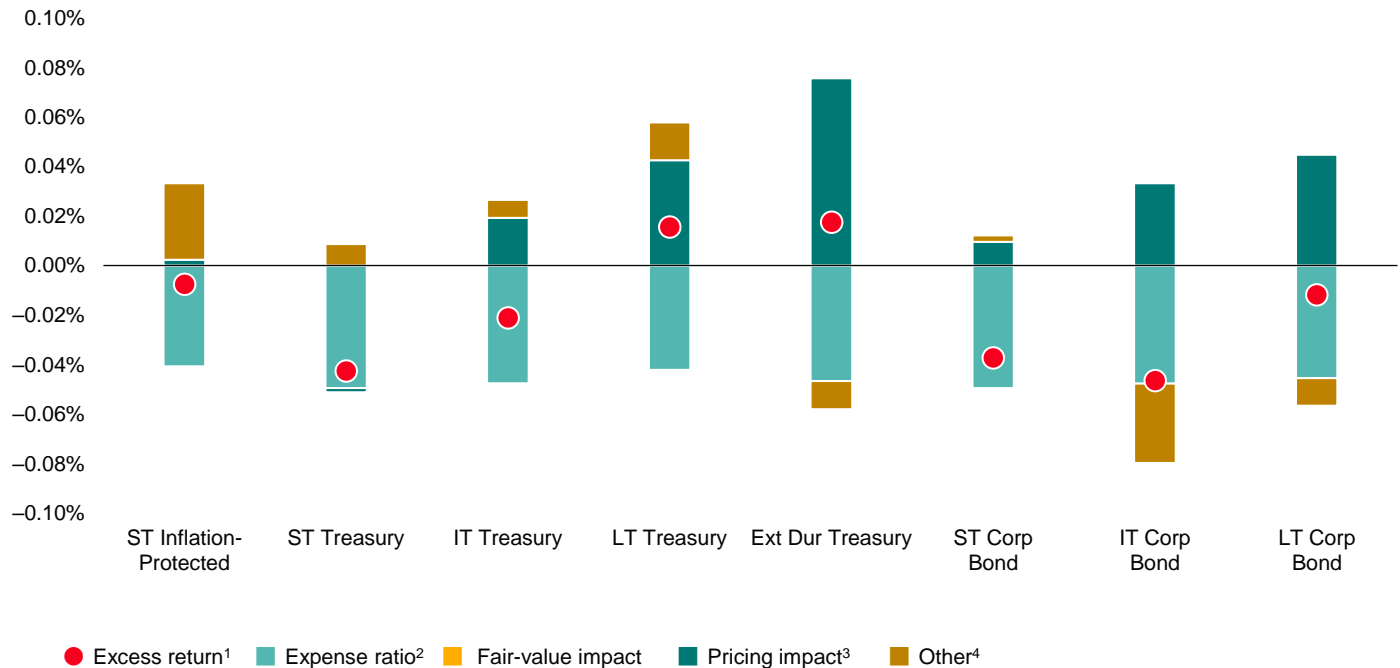
⁴ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, and tax withholding differences (funds with international investments only).

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 September 30, 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)	1.896	-0.041	0.000	0.002	0.031	1.888	-0.007
Vanguard Short-Term Treasury Index Fund (VSBIX)	-0.919	-0.050	0.000	-0.002	0.009	-0.961	-0.043
Vanguard Intermediate-Term Treasury Index Fund (VIIGX)	-4.811	-0.048	0.000	0.019	0.007	-4.832	-0.021
Vanguard Long-Term Treasury Index Fund (VLGIX)	-15.733	-0.042	0.000	0.043	0.015	-15.718	0.016
Vanguard Extended Duration Treasury Index Fund (VEDTX)	-22.265	-0.047	0.000	0.076	-0.011	-22.248	0.018
Vanguard Short-Term Corporate Bond Index Fund (VSTBX)	-1.043	-0.049	0.000	0.010	0.003	-1.080	-0.037
Vanguard Intermediate-Term Corporate Bond Index Fund (VICBX)	-4.473	-0.048	0.000	0.033	-0.032	-4.519	-0.046
Vanguard Long-Term Corporate Bond Index Fund (VLCIX)	-9.051	-0.045	0.000	0.045	-0.011	-9.062	-0.012

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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

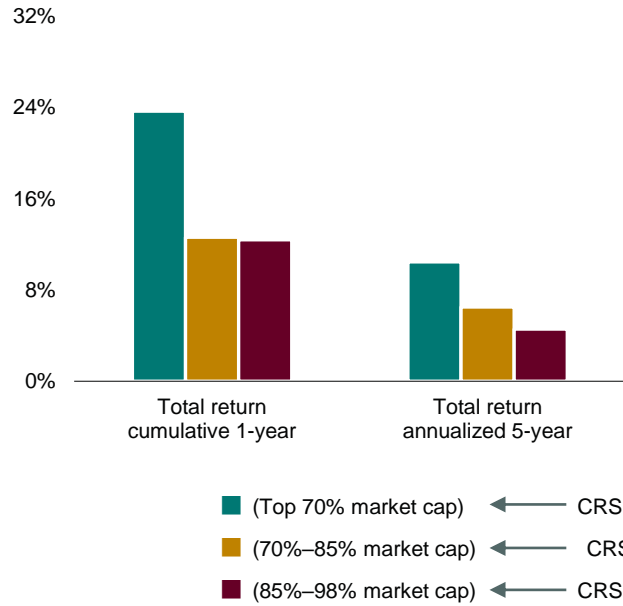


Figure 16.2 U.S. style returns

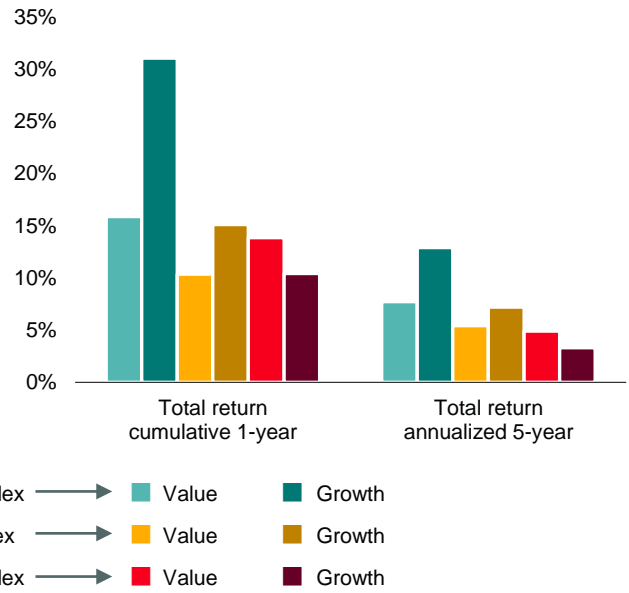
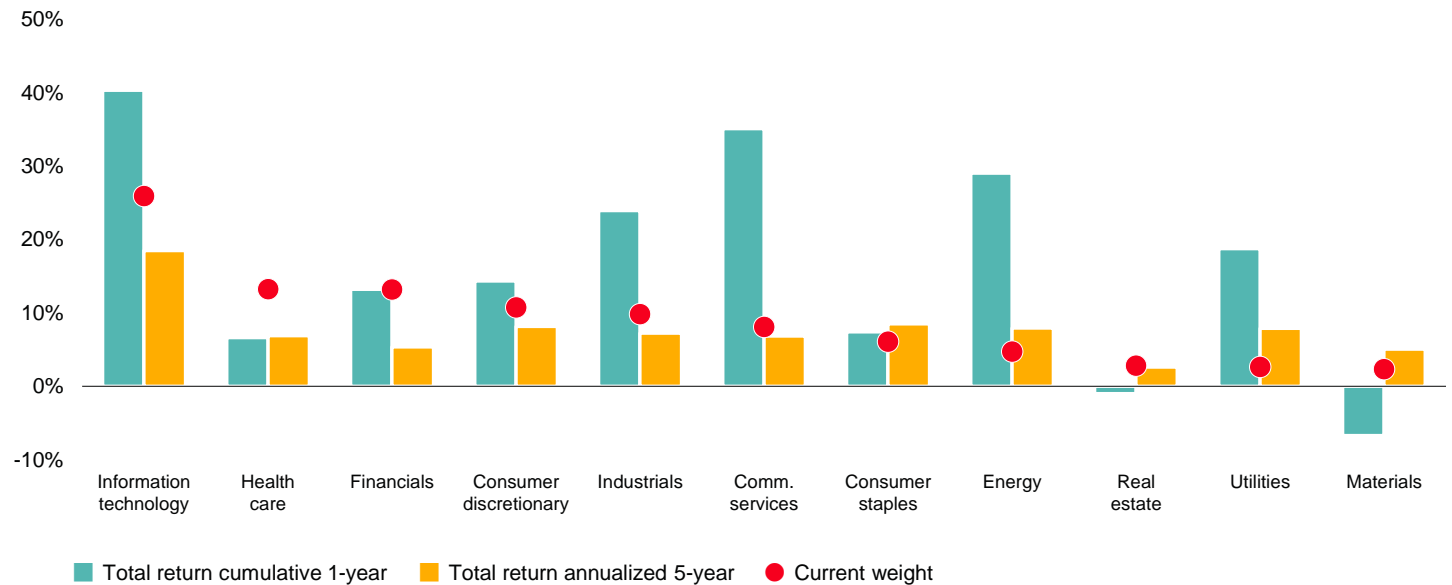


Figure 16.3 CRSP Total Stock Market: Sector exposures and returns



Source: Vanguard. All data as of September 30, 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

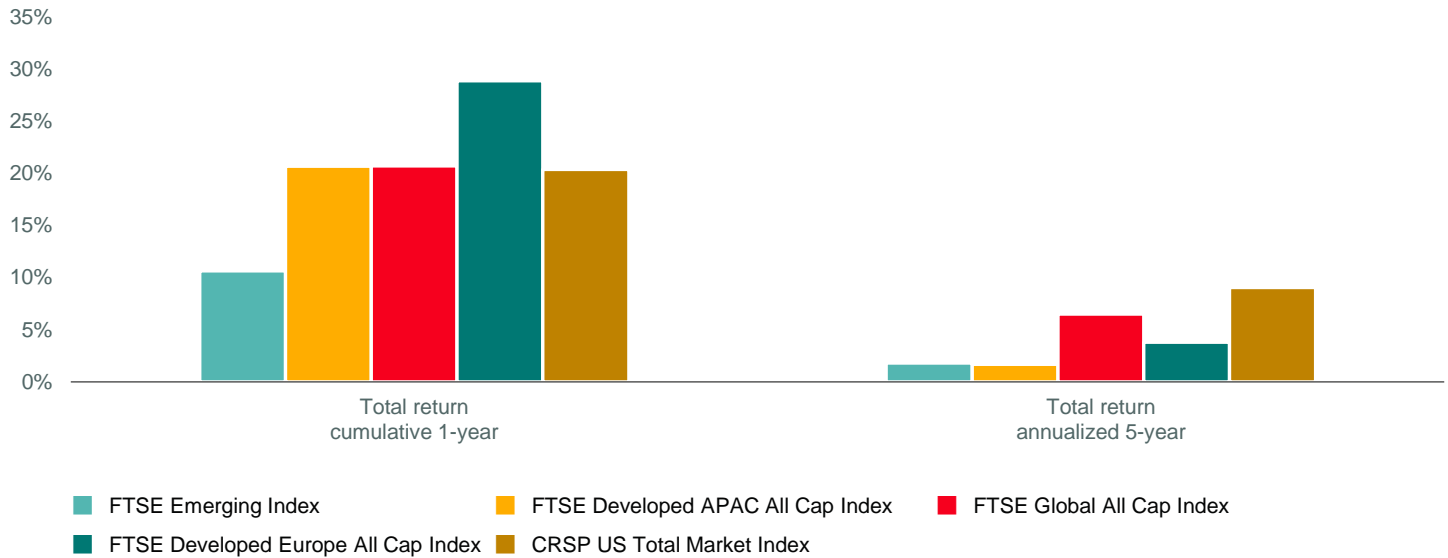


Figure 17.2 FTSE All Cap Developed ex-U.S.: Largest markets and returns¹

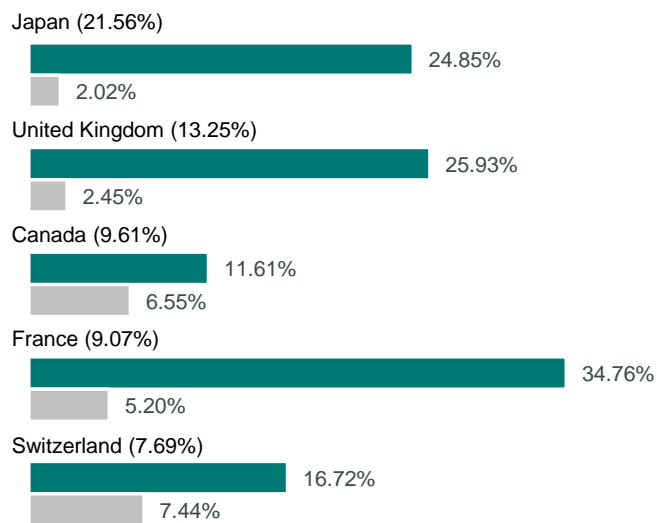
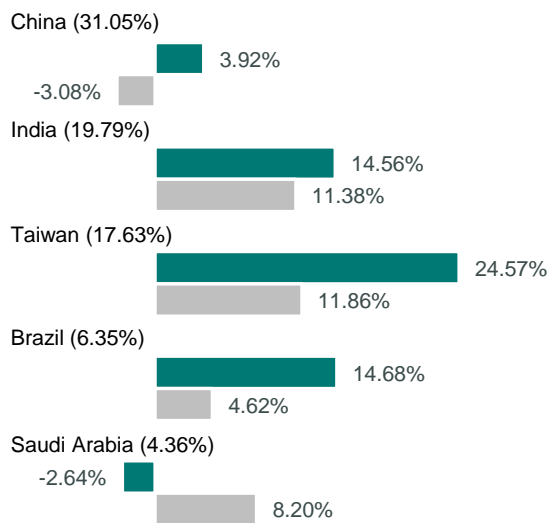


Figure 17.3 FTSE All Cap Emerging: Largest markets and returns¹



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

Source: FactSet. All data as of September 30, 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	-3.30	20.38	9.25	9.06	11.23	8.21	7/7/1997
Vanguard Mega Cap Index Fund Institutional Shares	-2.68	23.61	9.78	10.44	12.28	10.07	2/22/2008
Vanguard Institutional Index Fund Institutional Shares	-3.28	21.58	10.12	9.89	11.88	10.02	7/31/1990
Vanguard Extended Market Index Fund Institutional Shares	-3.34	14.49	4.71	4.53	7.92	8.22	7/7/1997
Vanguard Large-Cap Index Fund Institutional Shares	-3.07	21.72	9.36	9.79	11.74	9.52	6/30/2005
Vanguard Mid-Cap Index Fund Institutional Shares	-5.07	12.61	7.27	6.50	9.06	9.41	5/21/1998
Vanguard Small-Cap Index Fund Institutional Shares	-4.61	12.54	8.72	4.62	8.00	8.45	7/7/1997
Vanguard Developed Markets Index Fund Institutional Shares	-4.67	24.11	5.37	3.19	4.02	4.24	1/4/2001
Vanguard Emerging Markets Stock Index Fund Institutional Shares	-2.14	10.91	-0.19	2.04	2.53	6.15	6/22/2000
Vanguard Total International Stock Index Fund Institutional Shares	-4.01	20.50	3.89	2.76	3.63	4.21	11/29/2010

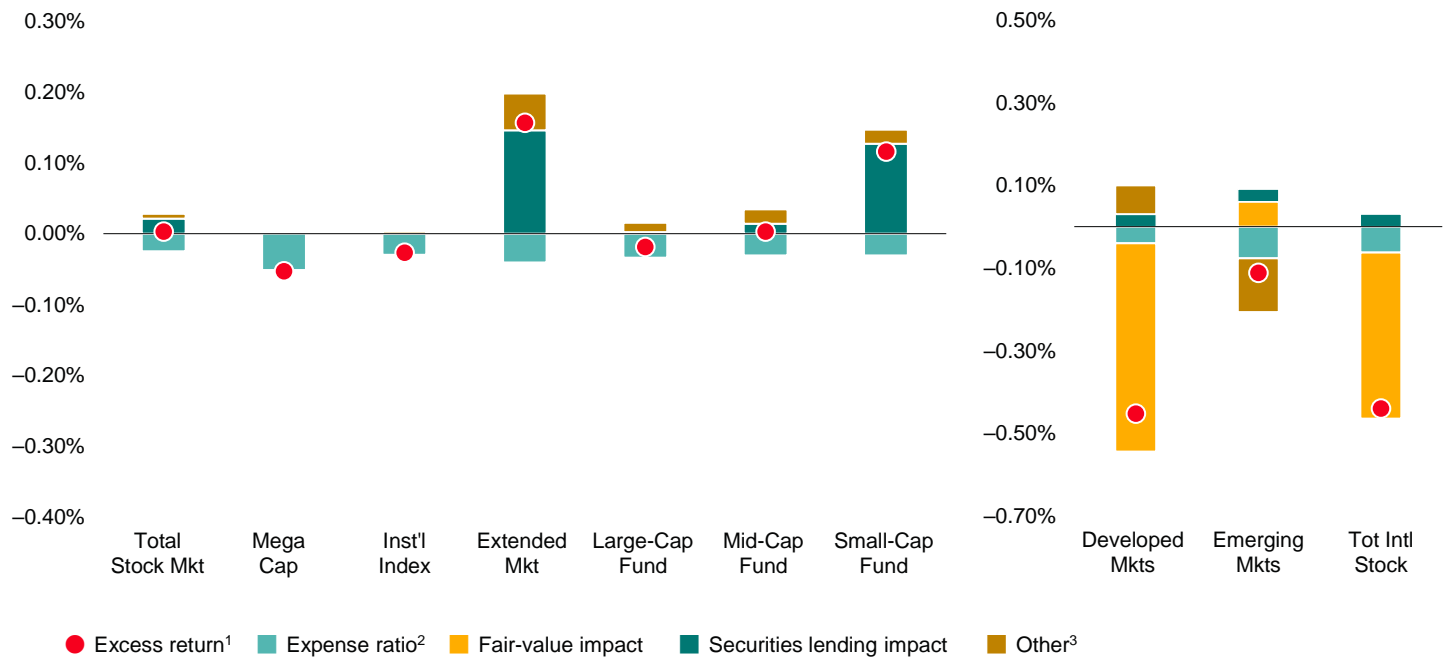
Source: Vanguard. All data as of September 30, 2023, unless otherwise noted.

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 September 30, 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)	12.341	-0.025	0.000	0.021	0.007	12.344	0.003
Vanguard Mega Cap Index Fund (VMCTX)	15.946	-0.052	0.000	0.000	-0.001	15.893	-0.053
Vanguard Institutional Index Fund (VINIX)	13.068	-0.030	0.000	0.000	0.003	13.042	-0.027
Vanguard Extended Market Index Fund (VIEIX)	8.764	-0.041	0.000	0.146	0.052	8.921	0.157
Vanguard Large-Cap Index Fund (VLISX)	13.693	-0.034	0.000	0.002	0.013	13.674	-0.019
Vanguard Mid-Cap Index Fund (VMCIX)	3.301	-0.031	0.000	0.014	0.020	3.304	0.003
Vanguard Small-Cap Index Fund (VSCIX)	4.124	-0.031	0.000	0.127	0.020	4.239	0.116
Vanguard Developed Markets Index Fund (VTMNX)	6.442	-0.040	-0.506	0.025	0.067	5.989	-0.453
Vanguard Emerging Markets Stock Index Fund (VEMIX)	2.603	-0.077	0.061	0.034	-0.130	2.491	-0.112
Vanguard Total International Stock Index Fund (VTSNX)	5.484	-0.063	-0.403	0.027	-0.002	5.043	-0.441

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

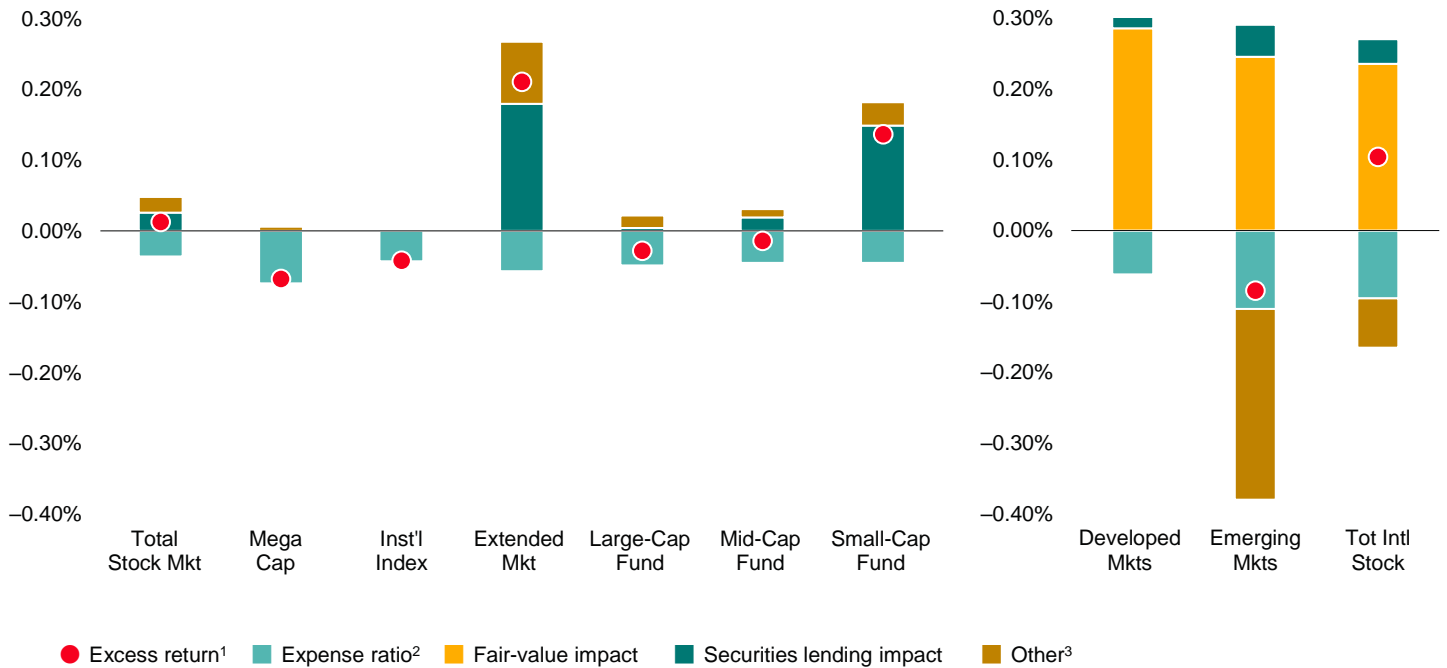
³ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

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 September 30, 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)	20.371	-0.036	0.000	0.026	0.022	20.383	0.013
Vanguard Mega Cap Index Fund (VMCTX)	23.683	-0.074	0.000	0.000	0.006	23.615	-0.068
Vanguard Institutional Index Fund (VINIX)	21.617	-0.043	0.000	0.000	0.000	21.576	-0.042
Vanguard Extended Market Index Fund (VIEIX)	14.283	-0.057	0.000	0.180	0.088	14.493	0.211
Vanguard Large-Cap Index Fund (VLISX)	21.746	-0.049	0.000	0.004	0.018	21.718	-0.028
Vanguard Mid-Cap Index Fund (VMCIX)	12.625	-0.045	0.000	0.019	0.012	12.611	-0.014
Vanguard Small-Cap Index Fund (VSCIX)	12.405	-0.045	0.000	0.149	0.033	12.541	0.137
Vanguard Developed Markets Index Fund (VTMNX)	23.770	-0.062	0.286	0.034	0.082	24.110	0.340
Vanguard Emerging Markets Stock Index Fund (VEMIX)	10.995	-0.111	0.246	0.045	-0.265	10.911	-0.085
Vanguard Total International Stock Index Fund (VTSNX)	20.397	-0.096	0.236	0.035	-0.071	20.502	0.104

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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.

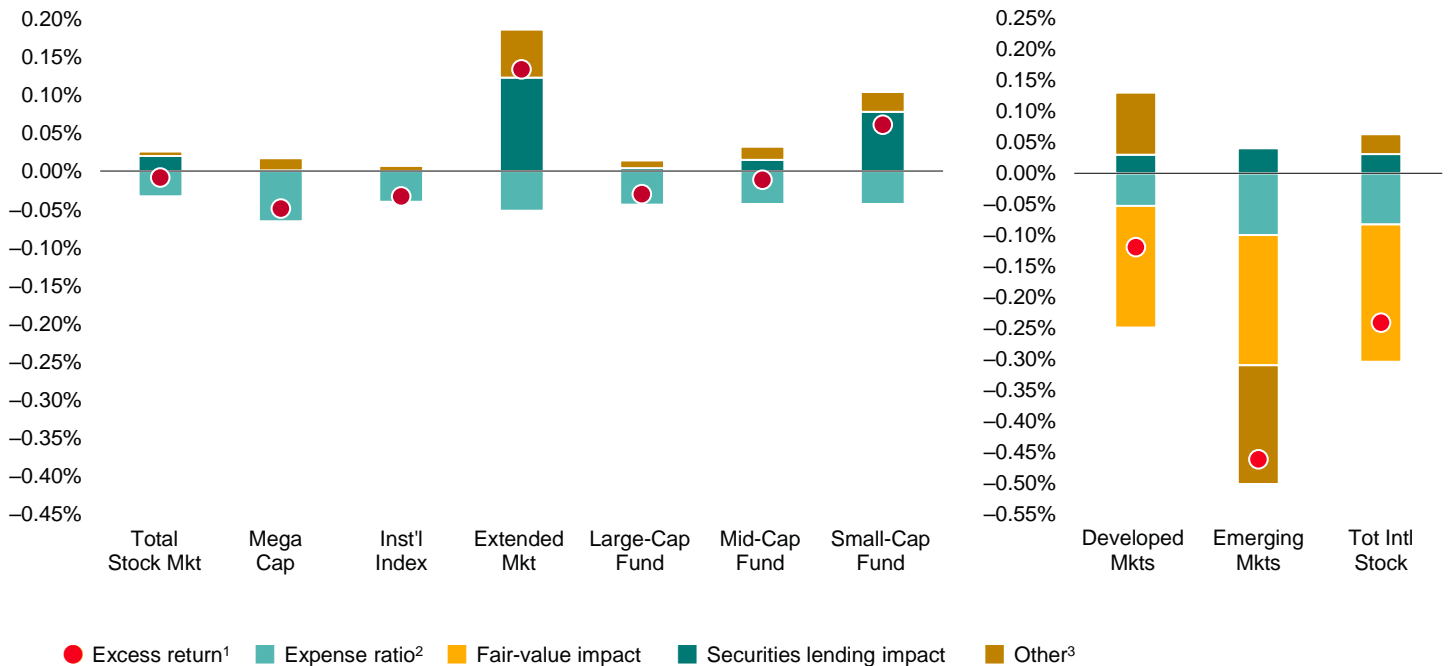
³ Other category may include performance impacts from the following sources: portfolio manager investment decisions, trading impact, tax withholding differences (funds with international investments only), and security pricing differences.

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 September 30, 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)	9.256	-0.033	0.000	0.020	0.006	9.249	-0.008
Vanguard Mega Cap Index Fund (VMCTX)	9.828	-0.066	0.000	0.001	0.016	9.779	-0.049
Vanguard Institutional Index Fund (VINIX)	10.150	-0.040	0.000	0.000	0.007	10.118	-0.033
Vanguard Extended Market Index Fund (VIEIX)	4.575	-0.052	0.000	0.123	0.063	4.709	0.134
Vanguard Large-Cap Index Fund (VLISX)	9.388	-0.044	0.000	0.004	0.010	9.358	-0.030
Vanguard Mid-Cap Index Fund (VMCIX)	7.278	-0.043	0.000	0.015	0.017	7.267	-0.011
Vanguard Small-Cap Index Fund (VSCIX)	8.663	-0.043	0.000	0.078	0.026	8.724	0.061
Vanguard Developed Markets Index Fund (VTMNX)	5.489	-0.053	-0.197	0.030	0.100	5.368	-0.120
Vanguard Emerging Markets Stock Index Fund (VEMIX)	0.277	-0.100	-0.211	0.040	-0.192	-0.186	-0.463
Vanguard Total International Stock Index Fund (VTSNX)	4.128	-0.083	-0.222	0.031	0.032	3.886	-0.242

Numbers may not total 100% due to rounding.

Source: Vanguard. All data as of September 30, 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	-3.30	20.38	9.25	9.06	11.23	8.21	7/7/1997
Vanguard Institutional Total Stock Market Index Fund Institutional Shares	-3.30	20.41	9.28	9.09	11.26	8.60	8/31/2001
Vanguard High Dividend Yield ETF (VYM)							
Market price	-1.98	12.24	11.81	6.83	9.40	7.67	11/10/2006
Vanguard High Dividend Yield ETF	-1.92	12.43	11.84	6.85	9.41	7.68	11/10/2006
Vanguard Russell 3000 Index Fund Institutional Shares	-3.26	20.40	9.31	9.08	11.20	12.20	11/1/2010
Large-cap							
Vanguard Institutional Index Fund Institutional Shares	-3.28	21.58	10.12	9.89	11.88	10.02	7/31/1990
Vanguard Tax-Managed Capital Appreciation Fund Institutional Shares	-3.13	21.31	9.73	9.80	11.82	7.55	2/24/1999
Vanguard FTSE Social Index Fund Institutional Shares	-3.50	22.43	8.20	10.00	12.27	9.31	1/14/2003
Vanguard Large-Cap Index Fund Institutional Shares	-3.07	21.72	9.36	9.79	11.74	9.52	6/30/2005
Vanguard Mega Cap Index Fund Institutional Shares	-2.68	23.61	9.78	10.44	12.28	10.07	2/22/2008
Vanguard Mega Cap Growth Index Fund Institutional Shares	-3.50	31.01	7.53	12.86	14.42	12.08	4/3/2008
Vanguard Mega Cap Value Index Fund Institutional Shares	-1.71	15.86	12.54	7.68	10.10	8.20	3/5/2008
Vanguard Value Index Fund Institutional Shares	-2.33	14.84	12.42	7.31	9.84	6.87	7/2/1998
Vanguard Growth Index Fund Institutional Shares	-3.69	28.11	6.76	11.95	13.57	8.06	5/14/1998
Vanguard 500 Index Fund Admiral Shares	-3.28	21.57	10.11	9.88	11.87	7.19	11/13/2000
Vanguard S&P 500 Growth ETF (VOOG)							
Market price	-2.64	19.54	6.67	10.32	13.31	14.45	9/7/2010
Vanguard S&P 500 Growth ETF	-2.61	19.69	6.69	10.33	13.32	14.46	9/7/2010
Vanguard S&P 500 Value Index Fund Institutional Shares	-4.10	22.10	13.30	8.34	—	8.45	3/3/2015
Vanguard Russell 1000 Index Fund Institutional Shares	-3.15	21.14	9.47	9.57	11.54	12.45	10/15/2010
Vanguard Russell 1000 Value Index Fund Institutional Shares	-3.17	14.39	10.98	6.18	8.37	9.60	12/10/2010
Vanguard Russell 1000 Growth Index Fund Institutional Shares	-3.14	27.65	7.91	12.35	14.40	14.35	12/6/2010
Vanguard Dividend Appreciation Index Fund Admiral Shares	-3.91	17.37	8.48	9.04	—	10.08	12/19/2013
Mid-cap							
Vanguard Extended Market Index Fund Institutional Shares	-3.34	14.49	4.71	4.53	7.92	8.22	7/7/1997
Vanguard Mid-Cap Index Fund Institutional Shares	-5.07	12.61	7.27	6.50	9.06	9.41	5/21/1998
Vanguard S&P Mid-Cap 400 Index Fund Institutional Shares	-4.22	15.44	11.98	5.99	8.88	9.53	3/28/2011
Vanguard S&P Mid-Cap 400 Growth Index Fund Institutional Shares	-3.26	16.13	7.56	5.55	8.82	9.44	3/28/2011
Vanguard S&P Mid-Cap 400 Value Index Fund Institutional Shares	-5.24	14.46	16.62	6.01	8.58	10.24	11/2/2010
Vanguard Mid-Cap Growth Index Fund Admiral Shares	-5.28	15.06	3.24	7.18	9.46	11.41	9/27/2011
Vanguard Mid-Cap Value Index Fund Admiral Shares	-4.85	10.35	11.31	5.41	8.40	11.09	9/27/2011
Small-cap							
Vanguard Tax-Managed Small-Cap Fund Institutional Shares	-4.88	10.02	12.02	3.32	8.17	9.53	4/21/1999
Vanguard Small-Cap Index Fund Institutional Shares	-4.61	12.54	8.72	4.62	8.00	8.45	7/7/1997
Vanguard Small-Cap Value Index Fund Institutional Shares	-3.05	13.96	15.33	4.93	8.15	9.40	12/7/1999
Vanguard Small-Cap Growth Index Fund Institutional Shares	-6.61	10.58	0.42	3.33	7.32	8.45	5/24/2000
Vanguard S&P Small-Cap 600 Index Fund Institutional Shares	-4.94	10.01	12.02	3.19	8.13	9.33	4/1/2011
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)							
Market price	-4.35	9.35	8.61	2.77	8.36	11.74	9/7/2010
Vanguard S&P Small-Cap 600 Growth ETF	-4.28	9.46	8.63	2.78	8.37	11.74	9/7/2010
Vanguard S&P Small-Cap 600 Value Index Fund Institutional Shares	-5.61	10.21	15.32	3.24	—	7.07	11/19/2014
Vanguard Russell 2000 Index Fund Institutional Shares	-5.11	9.03	7.23	2.47	6.73	8.12	12/22/2010
Vanguard Russell 2000 Value Index Fund Institutional Shares	-2.95	7.92	13.32	2.64	6.22	8.27	7/13/2012
Vanguard Russell 2000 Growth Index Fund Institutional Shares	-7.29	9.74	1.19	1.66	6.85	8.26	5/25/2011

Source: Vanguard. All data as of September 30, 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	-8.50	-1.22	2.34	2.46	5.53	7.27	12/2/2003
Vanguard Energy Index Fund Admiral Shares	13.06	29.56	52.50	8.11	4.15	7.36	10/7/2004
Vanguard Materials Index Fund Admiral Shares	-4.78	18.60	10.66	7.69	8.31	8.43	2/11/2004
Vanguard Industrials Index Fund Admiral Shares	-4.79	25.68	11.93	7.35	10.00	8.17	5/8/2006
Vanguard Consumer Discretionary Index Fund Admiral Shares	-4.57	15.91	5.57	9.70	12.05	10.52	7/14/2005
Vanguard Consumer Staples Index Fund Admiral Shares	-5.59	9.00	6.35	8.11	8.64	9.20	1/30/2004
Vanguard Health Care Index Fund Admiral Shares	-3.75	6.71	6.25	7.02	11.31	9.64	2/5/2004
Vanguard Financials Index Fund Admiral Shares	-0.53	10.75	13.69	5.42	9.31	4.71	2/4/2004
Vanguard Information Technology Index Fund Admiral Shares	-6.04	36.16	10.87	16.54	19.18	12.98	3/25/2004
Vanguard Communication Services Index Fund Admiral Shares	-0.74	29.13	2.01	4.87	5.14	6.40	3/11/2005
Vanguard Utilities Index Fund Admiral Shares	-9.53	-7.31	2.79	4.79	7.99	8.54	4/28/2004
International							
Vanguard Developed Markets Index Fund Institutional Shares	-4.67	24.11	5.37	3.19	4.02	4.24	1/4/2001
Vanguard European Stock Index Fund Institutional Shares	-5.58	29.63	6.78	3.80	3.98	4.01	5/15/2000
Vanguard Pacific Stock Index Fund Institutional Shares	-3.49	20.25	2.25	1.56	3.72	3.02	5/15/2000
Vanguard Emerging Markets Stock Index Fund Institutional Shares	-2.14	10.91	-0.19	2.04	2.53	6.15	6/22/2000
Vanguard International Dividend Appreciation Index Fund Admiral Shares	-4.65	17.48	3.48	5.09	—	7.02	3/2/2016
Vanguard International High Dividend Yield Index Fund Admiral Shares	-0.85	24.54	10.90	4.06	—	6.60	3/2/2016
Vanguard Total World Stock Index Fund Institutional Shares	-3.50	20.68	7.07	6.44	7.70	9.62	10/9/2008
Vanguard FTSE All-World ex-US Index Fund Institutional Shares	-4.09	20.79	3.95	2.90	3.66	2.52	4/30/2007
Vanguard FTSE All-World ex-US Small-Cap Index Fund Institutional Shares	-3.37	18.04	2.96	1.55	3.46	7.88	4/2/2009
Vanguard Global ex-U.S. Real Estate Index Fund Institutional Shares	-2.58	3.34	-4.57	-3.56	0.19	1.83	4/19/2011
Vanguard Total International Stock Index Fund Institutional Shares	-4.01	20.50	3.89	2.76	3.63	4.21	11/29/2010

Source: Vanguard. All data as of September 30, 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)	-2.33	-0.044	0.000	0.004	0.014	-2.355	-0.026
Vanguard Institutional Total Stock Market Index Fund (VITNX)	12.34	-0.025	0.000	0.019	0.036	12.370	0.030
Vanguard Russell 3000 Index Fund (VRTTX)	12.39	-0.067	0.000	0.018	0.009	12.349	-0.040
Vanguard Total Stock Market Index Fund (VITSX)	12.34	-0.025	0.000	0.021	0.007	12.344	0.003
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	13.07	-0.034	0.000	0.000	0.001	13.036	-0.032
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	3.85	-0.062	0.000	0.000	0.030	3.817	-0.032
Vanguard FTSE Social Index Fund (VFTNX)	16.54	-0.105	0.000	0.004	-0.018	16.422	-0.119
Vanguard Growth Index Fund (VIGIX)	28.35	-0.038	0.000	0.001	-0.011	28.299	-0.048
Vanguard Institutional Index Fund (VINIX)	13.07	-0.030	0.000	0.000	0.003	13.042	-0.027
Vanguard Large-Cap Index Fund (VLISX)	13.69	-0.034	0.000	0.002	0.013	13.674	-0.019
Vanguard Mega Cap Growth Index Fund (VMGAX)	32.40	-0.059	0.000	0.000	0.004	32.341	-0.055
Vanguard Mega Cap Index Fund (VMCTX)	15.95	-0.052	0.000	0.000	-0.001	15.893	-0.053
Vanguard Mega Cap Value Index Fund (VMVLX)	0.53	-0.045	0.000	0.000	0.025	0.505	-0.020
Vanguard Russell 1000 Growth Index Fund (VRGWX)	24.98	-0.065	0.000	0.003	0.001	24.916	-0.062
Vanguard Russell 1000 Index Fund (VRNIX)	13.01	-0.059	0.000	0.012	0.009	12.971	-0.038
Vanguard Russell 1000 Value Index Fund (VRVIX)	1.79	-0.053	0.000	0.020	0.013	1.774	-0.020
Vanguard S&P 500 Growth ETF (VOOG)	18.11	-0.088	0.000	0.000	-0.011	18.012	-0.099
Vanguard S&P 500 Value Index Fund (VSPVX)	7.56	-0.064	0.000	0.000	0.017	7.516	-0.048
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	13.01	-0.051	0.000	0.000	0.217	13.175	0.167
Vanguard Value Index Fund (VIVIX)	0.15	-0.030	0.000	0.003	0.031	0.154	0.005
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	8.76	-0.041	0.000	0.146	0.052	8.921	0.157
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	8.91	-0.057	0.000	0.010	0.002	8.863	-0.045
Vanguard Mid-Cap Index Fund (VMCIX)	3.30	-0.031	0.000	0.014	0.020	3.304	0.003
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	-1.56	-0.052	0.000	0.018	0.023	-1.566	-0.010
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	6.86	-0.064	0.000	0.002	-0.004	6.799	-0.066
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	4.27	-0.062	0.000	0.015	-0.005	4.217	-0.052
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	1.56	-0.061	0.000	0.035	0.006	1.536	-0.020
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	5.24	-0.063	0.000	0.161	0.018	5.359	0.116
Vanguard Russell 2000 Index Fund (VRTIX)	2.54	-0.061	0.000	0.127	0.012	2.620	0.077
Vanguard Russell 2000 Value Index Fund (VRTVX)	-0.53	-0.060	0.000	0.104	0.025	-0.460	0.070
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	2.47	-0.115	0.000	0.008	0.004	2.366	-0.102
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	0.81	-0.060	0.000	0.012	0.011	0.774	-0.036
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	-0.83	-0.059	0.000	0.018	0.012	-0.855	-0.029
Vanguard Small-Cap Growth Index Fund (VSGIX)	7.21	-0.048	0.000	0.136	0.030	7.331	0.118
Vanguard Small-Cap Index Fund (VSCIX)	4.12	-0.031	0.000	0.127	0.020	4.239	0.116
Vanguard Small-Cap Value Index Fund (VSIIX)	2.01	-0.046	0.000	0.122	0.015	2.098	0.091
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	0.81	-0.045	0.000	0.000	0.051	0.816	0.006
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	28.67	-0.096	0.000	0.321	0.066	28.957	0.291
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	24.06	-0.093	0.000	0.032	0.011	24.008	-0.050
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	-3.02	-0.073	0.000	0.058	0.000	-3.034	-0.014
Vanguard Energy Index Fund Admiral (VENAX)	7.21	-0.080	0.000	0.003	-0.008	7.120	-0.085
Vanguard Financials Index Fund Admiral (VFAIX)	-1.17	-0.074	0.000	0.015	0.007	-1.218	-0.052
Vanguard Health Care Index Fund Admiral (VHCIX)	-4.26	-0.072	0.000	0.005	0.015	-4.313	-0.052
Vanguard Industrials Index Fund Admiral (VINAX)	7.82	-0.081	0.000	0.015	0.007	7.762	-0.058
Vanguard Information Technology Index Fund Admiral (VITAX)	30.72	-0.098	0.000	0.011	-0.000	30.632	-0.087
Vanguard Materials Index Fund Admiral (VMIAX)	2.80	-0.077	0.000	0.008	-0.001	2.735	-0.070
Vanguard Real Estate Index Fund (VGSNX)	-5.26	-0.071	0.000	0.002	-0.012	-5.343	-0.081
Vanguard Utilities Index Fund Admiral (VUIAX)	-14.71	-0.064	0.000	0.001	0.006	-14.767	-0.057
International							
Vanguard Developed Markets Index Fund (VTMNX)	6.44	-0.040	-0.506	0.025	0.067	5.989	-0.453
Vanguard Emerging Markets Stock Index Fund (VEMIX)	2.60	-0.077	0.061	0.034	-0.130	2.491	-0.112
Vanguard European Stock Index Fund (VESIX)	7.63	-0.088	-0.749	0.012	0.221	7.023	-0.604
Vanguard FTSE All-World ex-US Index Fund (VFW SX)	5.56	-0.071	-0.407	0.016	0.043	5.145	-0.420
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	4.74	-0.086	-0.407	0.129	-0.045	4.334	-0.409
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	-5.97	-0.078	-0.363	0.070	0.510	-5.835	0.139
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	4.23	-0.124	-0.422	0.006	0.184	3.869	-0.357
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	8.00	-0.177	-0.428	0.014	-0.081	7.333	-0.672
Vanguard Pacific Stock Index Fund (VPKIX)	5.52	-0.063	-0.313	0.034	-0.003	5.178	-0.344
Vanguard Total International Stock Index Fund (VTSNX)	5.48	-0.063	-0.403	0.027	-0.002	5.043	-0.441
Vanguard Total World Stock Index Fund (VTWIX)	9.77	-0.066	-0.164	0.021	-0.013	9.552	-0.222

Source: Vanguard. All data as of September 30, 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)	12.48	-0.067	0.000	0.006	0.007	12.427	-0.054
Vanguard Institutional Total Stock Market Index Fund (VITNX)	20.37	-0.036	0.000	0.024	0.049	20.407	0.036
Vanguard Russell 3000 Index Fund (VRTTX)	20.46	-0.096	0.000	0.021	0.009	20.396	-0.066
Vanguard Total Stock Market Index Fund (VITSX)	20.37	-0.036	0.000	0.026	0.022	20.383	0.013
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	21.62	-0.049	0.000	0.000	-0.003	21.566	-0.051
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	17.43	-0.094	0.000	0.000	0.035	17.371	-0.059
Vanguard FTSE Social Index Fund (VFTNX)	22.58	-0.147	0.000	0.005	-0.015	22.428	-0.157
Vanguard Growth Index Fund (VIGIX)	28.16	-0.051	0.000	0.002	0.002	28.108	-0.047
Vanguard Institutional Index Fund (VINIX)	21.62	-0.043	0.000	0.000	0.000	21.576	-0.042
Vanguard Large-Cap Index Fund (VLISX)	21.75	-0.049	0.000	0.004	0.018	21.718	-0.028
Vanguard Mega Cap Growth Index Fund (VMGAX)	31.08	-0.079	0.000	0.000	0.004	31.009	-0.075
Vanguard Mega Cap Index Fund (VMCTX)	23.68	-0.074	0.000	0.000	0.006	23.615	-0.068
Vanguard Mega Cap Value Index Fund (VMVLX)	15.90	-0.070	0.000	0.001	0.023	15.857	-0.045
Vanguard Russell 1000 Growth Index Fund (VRGWX)	27.72	-0.089	0.000	0.004	0.012	27.647	-0.074
Vanguard Russell 1000 Index Fund (VRNIX)	21.19	-0.085	0.000	0.014	0.014	21.137	-0.056
Vanguard Russell 1000 Value Index Fund (VRVIX)	14.44	-0.080	0.000	0.024	0.010	14.392	-0.047
Vanguard S&P 500 Growth ETF (VOOG)	19.82	-0.120	0.000	0.000	-0.005	19.694	-0.124
Vanguard S&P 500 Value Index Fund (VSPVX)	22.19	-0.098	0.000	0.001	0.008	22.097	-0.089
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	21.19	-0.073	0.000	0.000	0.188	21.309	0.116
Vanguard Value Index Fund (VIVIX)	14.85	-0.046	0.000	0.005	0.029	14.842	-0.011
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	14.28	-0.057	0.000	0.180	0.088	14.493	0.211
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	15.12	-0.081	0.000	0.014	0.009	15.061	-0.058
Vanguard Mid-Cap Index Fund (VMCIX)	12.63	-0.045	0.000	0.019	0.012	12.611	-0.015
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	10.37	-0.077	0.000	0.025	0.032	10.351	-0.020
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	16.21	-0.093	0.000	0.016	-0.005	16.132	-0.082
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	15.51	-0.092	0.000	0.022	-0.006	15.437	-0.077
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	14.50	-0.092	0.000	0.036	0.012	14.458	-0.043
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	9.59	-0.088	0.000	0.204	0.035	9.742	0.151
Vanguard Russell 2000 Index Fund (VRTIX)	8.93	-0.087	0.000	0.164	0.028	9.035	0.105
Vanguard Russell 2000 Value Index Fund (VRTVX)	7.84	-0.086	0.000	0.125	0.039	7.920	0.078
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	9.62	-0.164	0.000	0.009	0.002	9.464	-0.153
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	10.08	-0.088	0.000	0.015	0.006	10.010	-0.067
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	10.26	-0.088	0.000	0.022	0.012	10.205	-0.054
Vanguard Small-Cap Growth Index Fund (VSGIX)	10.43	-0.066	0.000	0.169	0.042	10.578	0.144
Vanguard Small-Cap Index Fund (VSCIX)	12.40	-0.045	0.000	0.149	0.033	12.541	0.137
Vanguard Small-Cap Value Index Fund (VSIX)	13.86	-0.068	0.000	0.137	0.032	13.959	0.100
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	10.08	-0.066	0.000	0.000	0.011	10.023	-0.055
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	28.84	-0.129	0.000	0.359	0.054	29.128	0.284
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	15.97	-0.116	0.000	0.041	0.014	15.910	-0.061
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	9.04	-0.109	0.000	0.066	0.002	8.998	-0.041
Vanguard Energy Index Fund Admiral (VENAX)	29.70	-0.130	0.000	0.004	-0.018	29.560	-0.144
Vanguard Financials Index Fund Admiral (VFAIX)	10.80	-0.111	0.000	0.020	0.041	10.753	-0.050
Vanguard Health Care Index Fund Admiral (VHCIX)	6.79	-0.107	0.000	0.008	0.019	6.714	-0.080
Vanguard Industrials Index Fund Admiral (VINAX)	25.77	-0.126	0.000	0.020	0.014	25.680	-0.091
Vanguard Information Technology Index Fund Admiral (VITAX)	36.29	-0.136	0.000	0.014	-0.004	36.160	-0.126
Vanguard Materials Index Fund Admiral (VMIAIX)	18.71	-0.119	0.000	0.011	-0.003	18.596	-0.111
Vanguard Real Estate Index Fund (VGSNX)	-1.14	-0.099	0.000	0.003	0.023	-1.216	-0.074
Vanguard Utilities Index Fund Admiral (VUIAX)	-7.23	-0.093	0.000	0.001	0.011	-7.314	-0.081
International							
Vanguard Developed Markets Index Fund (VTMNX)	23.77	-0.062	0.286	0.034	0.082	24.110	0.340
Vanguard Emerging Markets Stock Index Fund (VEMIX)	11.00	-0.111	0.246	0.045	-0.265	10.911	-0.085
Vanguard European Stock Index Fund (VESIX)	28.88	-0.143	0.670	0.015	0.204	29.626	0.747
Vanguard FTSE All-World ex-US Index Fund (VFWSX)	20.67	-0.109	0.220	0.020	-0.011	20.788	0.121
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	17.90	-0.130	0.218	0.166	-0.119	18.037	0.135
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	3.14	-0.114	-0.100	0.092	0.319	3.340	0.197
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	17.16	-0.188	0.236	0.008	0.263	17.484	0.319
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	24.78	-0.274	0.135	0.019	-0.124	24.540	-0.245
Vanguard Pacific Stock Index Fund (VPKIX)	20.68	-0.096	-0.294	0.043	-0.078	20.255	-0.425
Vanguard Total International Stock Index Fund (VTSNX)	20.40	-0.096	0.236	0.035	-0.071	20.502	0.104
Vanguard Total World Stock Index Fund (VTWIX)	20.71	-0.097	0.090	0.027	-0.047	20.681	-0.028

Source: Vanguard. All data as of September 30, 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)	11.91	-0.067	0.000	0.003	-0.002	11.845	-0.065
Vanguard Institutional Total Stock Market Index Fund (VITNX)	9.26	-0.033	0.000	0.017	0.040	9.280	0.024
Vanguard Russell 3000 Index Fund (VRTTX)	9.38	-0.087	0.000	0.013	0.003	9.307	-0.072
Vanguard Total Stock Market Index Fund (VITSX)	9.26	-0.033	0.000	0.020	0.006	9.249	-0.008
Large-cap							
Vanguard 500 Index Fund Admiral™ (VFIAX)	10.15	-0.044	0.000	0.000	0.004	10.110	-0.040
Vanguard Dividend Appreciation Index Fund Admiral (VDADX)	8.57	-0.087	0.000	0.000	0.001	8.480	-0.086
Vanguard FTSE Social Index Fund (VFTNX)	8.32	-0.130	0.000	0.003	0.006	8.195	-0.122
Vanguard Growth Index Fund (VIGIX)	6.79	-0.043	0.000	0.003	0.011	6.759	-0.029
Vanguard Institutional Index Fund (VINIX)	10.15	-0.040	0.000	0.000	0.007	10.118	-0.033
Vanguard Large-Cap Index Fund (VLISX)	9.39	-0.044	0.000	0.004	0.010	9.358	-0.030
Vanguard Mega Cap Growth Index Fund (VMGAX)	7.58	-0.065	0.000	0.001	0.010	7.527	-0.054
Vanguard Mega Cap Index Fund (VMCTX)	9.83	-0.066	0.000	0.001	0.016	9.779	-0.049
Vanguard Mega Cap Value Index Fund (VMVLX)	12.59	-0.068	0.000	0.002	0.014	12.542	-0.052
Vanguard Russell 1000 Growth Index Fund (VRGWX)	7.97	-0.076	0.000	0.004	0.006	7.907	-0.066
Vanguard Russell 1000 Index Fund (VRNIX)	9.53	-0.077	0.000	0.007	0.009	9.468	-0.060
Vanguard Russell 1000 Value Index Fund (VRVIX)	11.05	-0.078	0.000	0.011	-0.005	10.978	-0.072
Vanguard S&P 500 Growth ETF (VOOG)	6.80	-0.107	0.000	0.000	-0.004	6.686	-0.111
Vanguard S&P 500 Value Index Fund (VSPVX)	13.39	-0.091	0.000	0.001	-0.001	13.298	-0.091
Vanguard Tax-Managed Capital Appreciation Fund (VTCIX)	9.53	-0.066	0.000	0.000	0.266	9.728	0.200
Vanguard Value Index Fund (VIVIX)	12.45	-0.045	0.000	0.005	0.014	12.422	-0.026
Mid-cap							
Vanguard Extended Market Index Fund (VIEIX)	4.58	-0.052	0.000	0.123	0.063	4.709	0.134
Vanguard Mid-Cap Growth Index Fund Admiral (VMGMX)	3.27	-0.072	0.000	0.011	0.025	3.238	-0.037
Vanguard Mid-Cap Index Fund (VMCIX)	7.28	-0.043	0.000	0.015	0.017	7.267	-0.011
Vanguard Mid-Cap Value Index Fund Admiral (VMVAX)	11.36	-0.078	0.000	0.019	0.012	11.309	-0.047
Vanguard S&P Mid-Cap 400 Growth Index Fund (VMFGX)	7.62	-0.086	0.000	0.023	0.005	7.560	-0.059
Vanguard S&P Mid-Cap 400 Index Fund (VSPMX)	12.05	-0.090	0.000	0.018	0.004	11.978	-0.068
Vanguard S&P Mid-Cap 400 Value Index Fund (VMFVX)	16.69	-0.093	0.000	0.014	0.011	16.625	-0.069
Small-cap							
Vanguard Russell 2000 Growth Index Fund (VRTGX)	1.09	-0.081	0.000	0.131	0.049	1.186	0.099
Vanguard Russell 2000 Index Fund (VRTIX)	7.16	-0.086	0.000	0.112	0.042	7.232	0.069
Vanguard Russell 2000 Value Index Fund (VRTVX)	13.32	-0.091	0.000	0.073	0.023	13.325	0.006
Vanguard S&P Small-Cap 600 Growth ETF (VIOG)	8.79	-0.163	0.000	0.010	-0.010	8.625	-0.163
Vanguard S&P Small-Cap 600 Index Fund (VSMSX)	12.10	-0.090	0.000	0.015	0.001	12.022	-0.073
Vanguard S&P Small-Cap 600 Value Index Fund (VSMVX)	15.38	-0.092	0.000	0.017	0.012	15.316	-0.063
Vanguard Small-Cap Growth Index Fund (VSGIX)	0.37	-0.060	0.000	0.090	0.021	0.417	0.051
Vanguard Small-Cap Index Fund (VSCIX)	8.66	-0.043	0.000	0.078	0.026	8.724	0.061
Vanguard Small-Cap Value Index Fund (VSIIX)	15.32	-0.069	0.000	0.067	0.013	15.334	0.011
Vanguard Tax-Managed Small-Cap Fund (VTSIX)	12.10	-0.067	0.000	0.000	-0.009	12.019	-0.076
Sector							
Vanguard Communication Services Index Fund Admiral (VTCAX)	1.99	-0.102	0.000	0.111	0.017	2.013	0.026
Vanguard Consumer Discretionary Index Fund Admiral (VCDAX)	5.64	-0.106	0.000	0.023	0.013	5.575	-0.070
Vanguard Consumer Staples Index Fund Admiral (VCSAX)	6.41	-0.106	0.000	0.036	0.004	6.345	-0.066
Vanguard Energy Index Fund Admiral (VENAX)	52.65	-0.153	0.000	0.003	0.002	52.499	-0.147
Vanguard Financials Index Fund Admiral (VFAIX)	13.76	-0.114	0.000	0.015	0.030	13.692	-0.068
Vanguard Health Care Index Fund Admiral (VHCIX)	6.33	-0.106	0.000	0.009	0.016	6.253	-0.082
Vanguard Industrials Index Fund Admiral (VINAX)	12.03	-0.112	0.000	0.011	0.001	11.925	-0.100
Vanguard Information Technology Index Fund Admiral (VITAX)	10.99	-0.111	0.000	0.007	-0.014	10.875	-0.118
Vanguard Materials Index Fund Admiral (VMIAAX)	10.76	-0.111	0.000	0.009	0.004	10.663	-0.098
Vanguard Real Estate Index Fund (VGSNX)	2.45	-0.102	0.000	0.003	-0.003	2.343	-0.102
Vanguard Utilities Index Fund Admiral (VUIAX)	2.89	-0.103	0.000	0.000	0.004	2.788	-0.099
International							
Vanguard Developed Markets Index Fund (VTMNX)	5.49	-0.053	-0.197	0.030	0.100	5.368	-0.120
Vanguard Emerging Markets Stock Index Fund (VEMIX)	0.28	-0.100	-0.211	0.040	-0.192	-0.186	-0.463
Vanguard European Stock Index Fund (VESIX)	6.75	-0.106	-0.097	0.021	0.207	6.778	0.025
Vanguard FTSE All-World ex-US Index Fund (VFWWSX)	4.23	-0.090	-0.210	0.022	-0.005	3.950	-0.282
Vanguard FTSE All-World ex-US Small-Cap Index Fund (VFSNX)	3.16	-0.113	-0.175	0.125	-0.036	2.957	-0.199
Vanguard Global ex-U.S. Real Estate Index Fund (VGRNX)	-4.78	-0.105	-0.237	0.074	0.475	-4.573	0.207
Vanguard International Dividend Appreciation Index Fund Admiral (VIAAX)	3.81	-0.167	-0.198	0.005	0.024	3.479	-0.335
Vanguard International High Dividend Yield Index Fund Admiral (VIHAX)	11.39	-0.246	-0.210	0.020	-0.056	10.897	-0.493
Vanguard Pacific Stock Index Fund (VPKIX)	2.67	-0.082	-0.342	0.029	-0.017	2.253	-0.412
Vanguard Total International Stock Index Fund (VTSNX)	4.13	-0.083	-0.222	0.031	0.032	3.886	-0.242
Vanguard Total World Stock Index Fund (VTWIX)	7.24	-0.086	-0.090	0.021	-0.021	7.065	-0.176

Source: Vanguard. All data as of September 30, 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

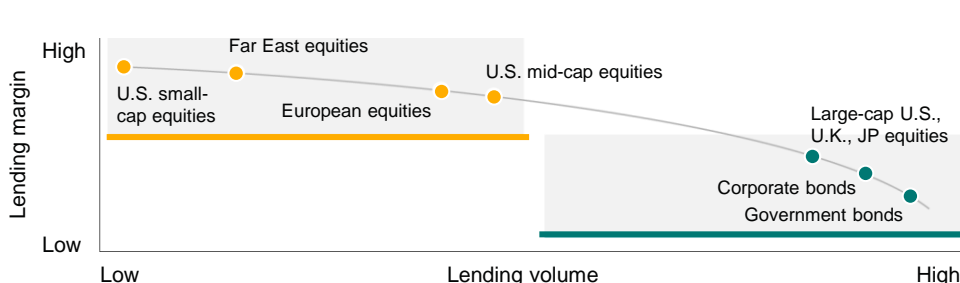


Vanguard securities lending program overview

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 3Q2023

Goldman Sachs & Co. LLC	\$4,609,883,591
JP Morgan Securities LLC	\$3,239,030,737
Morgan Stanley & Co. LLC	\$3,070,936,920
BofA Securities Inc	\$3,026,437,349
Barclays Capital Inc.	\$2,594,709,885



Market Liquidity Fund sector allocation and key characteristics

Treasuries	21.7%
Agencies	29.2%
Certificates of deposit	22.1%
Repurchase agreements	13.0%
Commercial paper	14.0%
Municipals	0.1%

Average maturity	14
Expense ratio	0.5 bps
SEC yield	5.39%
Number of holdings	154

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 September 30, 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	\$87,623,376	0.32%	\$5,325,203	0.02%
Vanguard Russell 3000 Index Fund	2022	\$1,977,157	0.09%	\$247,251	0.01%
	2023 YTD	\$8,854,451	0.29%	\$543,710	0.01%
Vanguard High Dividend Yield Index Fund	2022	\$32,973,169	0.06%	\$2,220,475	0.00%
	2023 YTD	\$42,577,856	0.07%	\$2,555,643	0.00%
Vanguard Total Stock Market Index Fund	2022	\$4,058,407,402	0.33%	\$247,749,245	0.02%
	2023 YTD	\$3,617,728,382	0.29%	\$268,936,604	0.02%
Large-cap					
Vanguard 500 Index Fund	2022	\$84,875,436	0.01%	\$3,063,260	0.00%
	2023 YTD	\$88,254,757	0.01%	\$475,626	0.00%
Vanguard Dividend Appreciation Index Fund	2022	\$587,485	0.00%	\$2,331	0.00%
	2023 YTD	\$738,941	0.00%	\$4,176	0.00%
Vanguard Employee Benefit Index Fund	2022	\$10,418,571	0.05%	\$214,326	0.00%
	2023 YTD	\$14,900,888	0.07%	\$256,639	0.00%
Vanguard FTSE Social Index Fund	2022	\$5,385,593	0.04%	\$257,672	0.00%
	2023 YTD	\$9,350,710	0.07%	\$615,838	0.00%
Vanguard Growth Index Fund	2022	\$173,711,319	0.11%	\$6,626,688	0.00%
	2023 YTD	\$117,068,306	0.07%	\$2,278,099	0.00%
Vanguard Institutional Index Fund	2022	\$24,766,190	0.01%	\$920,308	0.00%
	2023 YTD	\$27,913,021	0.01%	\$167,074	0.00%
Vanguard Large-Cap Index Fund	2022	\$33,383,752	0.09%	\$2,080,422	0.01%
	2023 YTD	\$27,048,624	0.07%	\$916,120	0.01%
Vanguard Mega Cap Growth Index Fund	2022	\$2,767,948	0.02%	\$154,606	0.00%
	2023 YTD	\$128,483	0.00%	\$1,260	0.00%
Vanguard Mega Cap Index Fund	2022	\$907,278	0.02%	\$82,435	0.00%
	2023 YTD	\$21,824	0.00%	\$261	0.00%
Vanguard Mega Cap Value Index Fund	2022	\$1,571,777	0.03%	\$146,975	0.00%
	2023 YTD	\$0	0.00%	\$58	0.00%
Vanguard Russell 1000 Growth Index Fund	2022	\$6,916,116	0.07%	\$561,253	0.01%
	2023 YTD	\$11,702,317	0.08%	\$424,366	0.01%
Vanguard Russell 1000 Growth Index Trust	2022	\$10,050,661	0.20%	\$240,739	0.00%
	2023 YTD	\$4,646,793	0.09%	\$125,995	0.00%
Vanguard Russell 1000 Index Fund	2022	\$3,642,424	0.07%	\$313,055	0.01%
	2023 YTD	\$9,263,789	0.17%	\$650,343	0.01%
Vanguard Russell 1000 Value Index Fund	2022	\$8,414,683	0.10%	\$603,151	0.01%
	2023 YTD	\$20,136,411	0.25%	\$1,636,923	0.01%
Vanguard Russell 1000 Value Index Trust	2022	\$9,793,179	0.34%	\$221,530	0.01%
	2023 YTD	\$14,278,750	0.51%	\$551,134	0.01%
Vanguard S&P 500 Growth Index Fund	2022	\$41,501	0.00%	\$146	0.00%
	2023 YTD	\$192,336	0.00%	\$3,392	0.00%
Vanguard S&P 500 Value Index Fund	2022	\$465,837	0.02%	\$21,275	0.00%
	2023 YTD	\$1,616,743	0.05%	\$3,234	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	\$100,757,731	0.07%	\$5,072,763	0.01%

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Source: Vanguard. All data as of September 30, 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	\$1,517,062,023	1.79%	\$123,396,235	0.14%
Vanguard Mid-Cap Growth Index Fund	2022	\$89,329,010	0.43%	\$3,372,381	0.02%
	2023 YTD	\$98,621,196	0.49%	\$2,017,746	0.02%
Vanguard Mid-Cap Index Fund	2022	\$676,482,633	0.46%	\$32,877,415	0.02%
	2023 YTD	\$549,808,220	0.39%	\$19,781,315	0.02%
Vanguard Mid-Cap Value Index Fund	2022	\$115,718,009	0.41%	\$8,027,457	0.03%
	2023 YTD	\$88,985,918	0.32%	\$5,170,948	0.03%
Vanguard S&P Mid-Cap 400 Growth Index Fund	2022	\$5,368,436	0.60%	\$618,868	0.07%
	2023 YTD	\$1,098,796	0.12%	\$22,108	0.07%
Vanguard S&P Mid-Cap 400 Index Fund	2022	\$10,676,982	0.38%	\$979,208	0.03%
	2023 YTD	\$12,056,967	0.41%	\$445,893	0.03%
Vanguard S&P Mid-Cap 400 Value Index Fund	2022	\$576,375	0.06%	\$10,639	0.00%
	2023 YTD	\$7,082,898	0.80%	\$309,715	0.00%
Small-cap					
Vanguard Russell 2000 Growth Index Fund	2022	\$15,169,162	1.64%	\$1,555,287	0.17%
	2023 YTD	\$29,682,319	3.05%	\$1,561,373	0.17%
Vanguard Russell 2000 Growth Index Trust	2022	\$98,422,270	5.18%	\$3,254,345	0.17%
	2023 YTD	\$71,178,035	3.85%	\$2,566,944	0.17%
Vanguard Russell 2000 Index Fund	2022	\$110,205,684	1.70%	\$8,120,494	0.13%
	2023 YTD	\$168,167,402	2.61%	\$8,147,725	0.13%
Vanguard Russell 2000 Value Index Fund	2022	\$10,019,279	0.90%	\$749,164	0.07%
	2023 YTD	\$24,836,055	2.51%	\$1,034,096	0.07%
Vanguard Russell 2000 Value Index Trust	2022	\$25,002,891	3.92%	\$503,237	0.08%
	2023 YTD	\$17,150,534	2.99%	\$520,785	0.08%
Vanguard S&P Small-Cap 600 Index Fund	2022	\$12,949,066	0.33%	\$287,413	0.01%
	2023 YTD	\$19,740,960	0.48%	\$513,482	0.01%
Vanguard S&P Small-Cap 600 Growth Index Fund	2022	\$464,500	0.09%	\$19,082	0.00%
	2023 YTD	\$2,039,930	0.38%	\$43,844	0.00%
Vanguard S&P Small-Cap 600 Value Index Fund	2022	\$5,569,043	0.42%	\$155,467	0.01%
	2023 YTD	\$7,619,105	0.57%	\$241,378	0.01%
Vanguard Small-Cap Growth Index Fund	2022	\$577,443,940	1.95%	\$31,241,152	0.11%
	2023 YTD	\$620,017,126	2.14%	\$39,471,633	0.11%
Vanguard Small-Cap Index Fund	2022	\$1,624,633,509	1.33%	\$82,164,019	0.07%
	2023 YTD	\$1,630,168,249	1.37%	\$151,293,797	0.07%
Vanguard Small-Cap Value Index Fund	2022	\$286,399,293	0.61%	\$17,147,670	0.04%
	2023 YTD	\$378,626,956	0.79%	\$58,212,520	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 September 30, 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	\$28,154,616	0.58%	\$1,572,547	0.03%
Vanguard Consumer Staples Index Fund	2022	\$17,723,307	0.23%	\$2,675,962	0.03%
	2023 YTD	\$14,634,143	0.18%	\$4,728,255	0.03%
Vanguard Energy Index Fund	2022	\$5,787,665	0.06%	\$163,665	0.00%
	2023 YTD	\$30,214,690	0.31%	\$319,371	0.00%
Vanguard Financials Index Fund	2022	\$23,480,729	0.22%	\$2,406,662	0.02%
	2023 YTD	\$33,689,849	0.37%	\$1,330,509	0.02%
Vanguard Health Care Index Fund	2022	\$35,231,903	0.18%	\$1,964,580	0.01%
	2023 YTD	\$40,233,663	0.20%	\$969,922	0.01%
Vanguard Industrials Index Fund	2022	\$8,799,575	0.21%	\$473,576	0.01%
	2023 YTD	\$14,962,543	0.36%	\$642,633	0.01%
Vanguard Information Technology Index Fund	2022	\$45,589,540	0.09%	\$2,505,494	0.00%
	2023 YTD	\$126,281,988	0.23%	\$6,049,997	0.00%
Vanguard Materials Index Fund	2022	\$8,663,987	0.19%	\$283,540	0.01%
	2023 YTD	\$7,636,260	0.19%	\$320,744	0.01%
Vanguard Real Estate II Index Fund	2022	\$6,271,282	0.07%	\$227,805	0.00%
	2023 YTD	\$32,988,799	0.41%	\$183,885	0.00%
Vanguard Real Estate Index Fund	2022	\$70,982,960	0.09%	\$1,993,378	0.00%
	2023 YTD	\$169,095,415	0.27%	\$1,314,362	0.00%
Vanguard Communication Services Index Fund	2022	\$27,902,242	0.85%	\$1,441,985	0.04%
	2023 YTD	\$24,847,048	0.85%	\$9,363,684	0.04%
Vanguard Utilities Index Fund	2022	\$249,253	0.00%	\$5,421	0.00%
	2023 YTD	\$9,839,735	0.14%	\$48,814	0.00%

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Source: Vanguard. All data as of September 30, 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	\$2,279,291,703	1.41%	\$40,995,756	0.03%
Vanguard Emerging Markets Stock Index Fund	2022	\$1,072,756,566	1.08%	\$40,952,871	0.04%
	2023 YTD	\$1,162,227,480	1.19%	\$33,673,343	0.04%
Vanguard European Stock Index Fund	2022	\$80,134,316	0.35%	\$3,607,122	0.02%
	2023 YTD	\$113,256,235	0.49%	\$2,721,341	0.02%
Vanguard FTSE All-World ex-US Index Fund	2022	\$380,019,602	0.78%	\$9,624,500	0.02%
	2023 YTD	\$481,233,325	0.95%	\$7,949,346	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	\$499,959,636	4.92%	\$13,142,679	0.12%
Vanguard Global ex-U.S. Real Estate Index Fund	2022	\$94,594,697	1.96%	\$3,755,141	0.08%
	2023 YTD	\$99,887,628	2.40%	\$2,917,838	0.08%
Vanguard Institutional Total International Stock Index Trust	2022	\$955,818,155	0.65%	\$30,792,592	0.02%
	2023 YTD	\$946,473,451	0.56%	\$26,433,277	0.02%
Vanguard Institutional Total International Stock Market Index Trust II	2022	\$190,510,885	1.06%	\$5,976,441	0.03%
	2023 YTD	\$245,536,046	1.11%	\$4,645,218	0.03%
Vanguard International Dividend Appreciation Index Fund	2022	\$11,879,954	0.29%	\$162,990	0.00%
	2023 YTD	\$35,240,792	0.70%	\$300,850	0.00%
Vanguard International High Dividend Yield Index Fund	2022	\$41,106,401	0.97%	\$1,082,393	0.03%
	2023 YTD	\$53,937,631	0.87%	\$857,904	0.03%
Vanguard Pacific Stock Index Fund	2022	\$104,409,445	1.26%	\$2,444,281	0.03%
	2023 YTD	\$141,882,443	1.59%	\$3,068,275	0.03%
Vanguard Total International Stock Index Fund	2022	\$4,924,507,132	1.36%	\$120,219,975	0.03%
	2023 YTD	\$5,290,577,654	1.43%	\$98,283,377	0.03%
Vanguard Total World Stock Index Fund	2022	\$177,017,842	0.54%	\$6,670,146	0.02%
	2023 YTD	\$247,296,933	0.68%	\$7,495,549	0.02%
Vanguard Fiduciary Trust Company Developed Markets Index Trust	2022	\$49,557	0.00%	\$367,168	0.03%
	2023 YTD	\$330,002	0.01%	\$14,908	0.03%

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Source: Vanguard. All data as of September 30, 2023, unless otherwise noted.



Benchmark methodologies

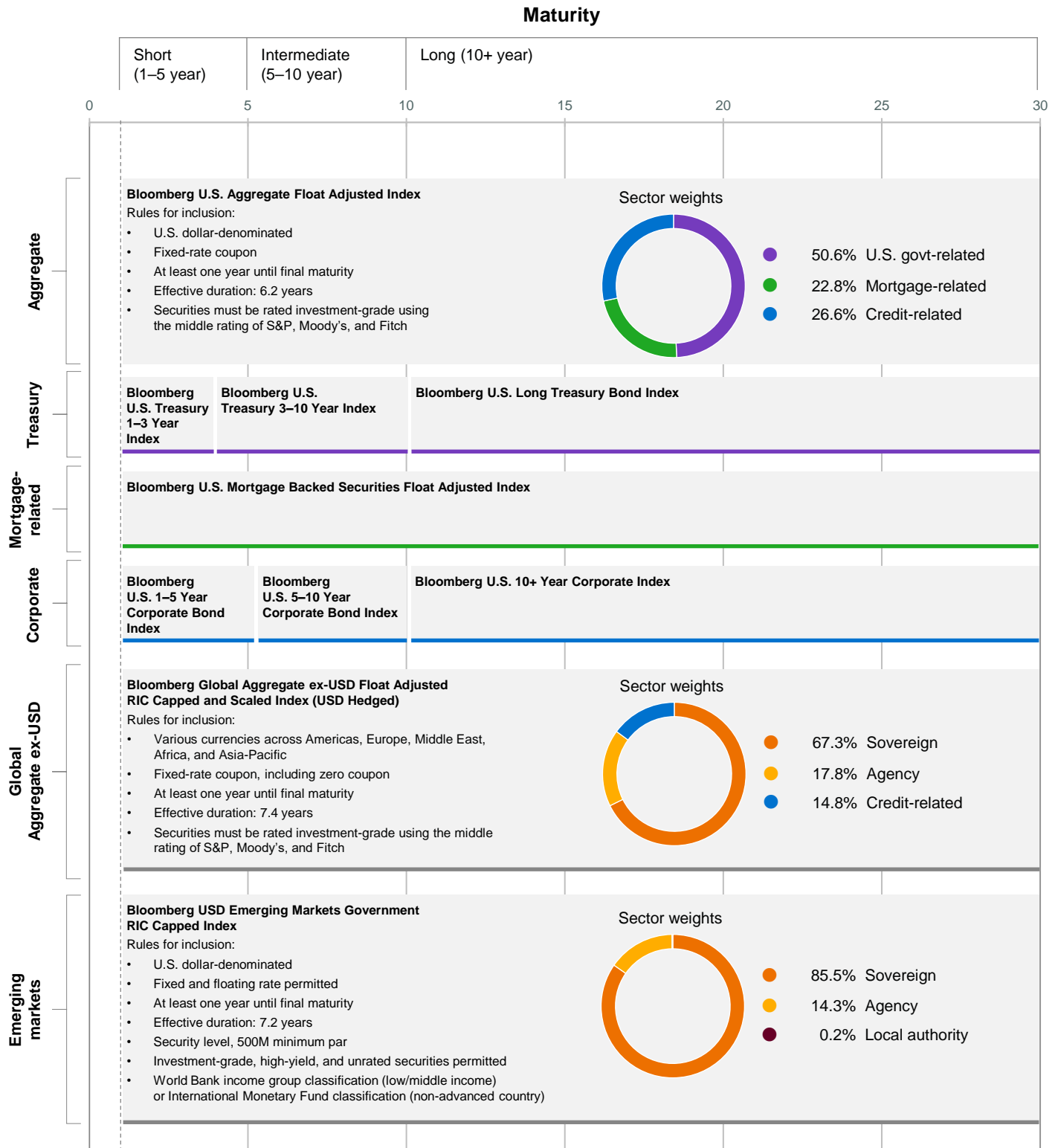
IN THIS SECTION:
Fixed income
Equity



Benchmark methodologies overview

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

Figure 34.1 Fixed income benchmark composition



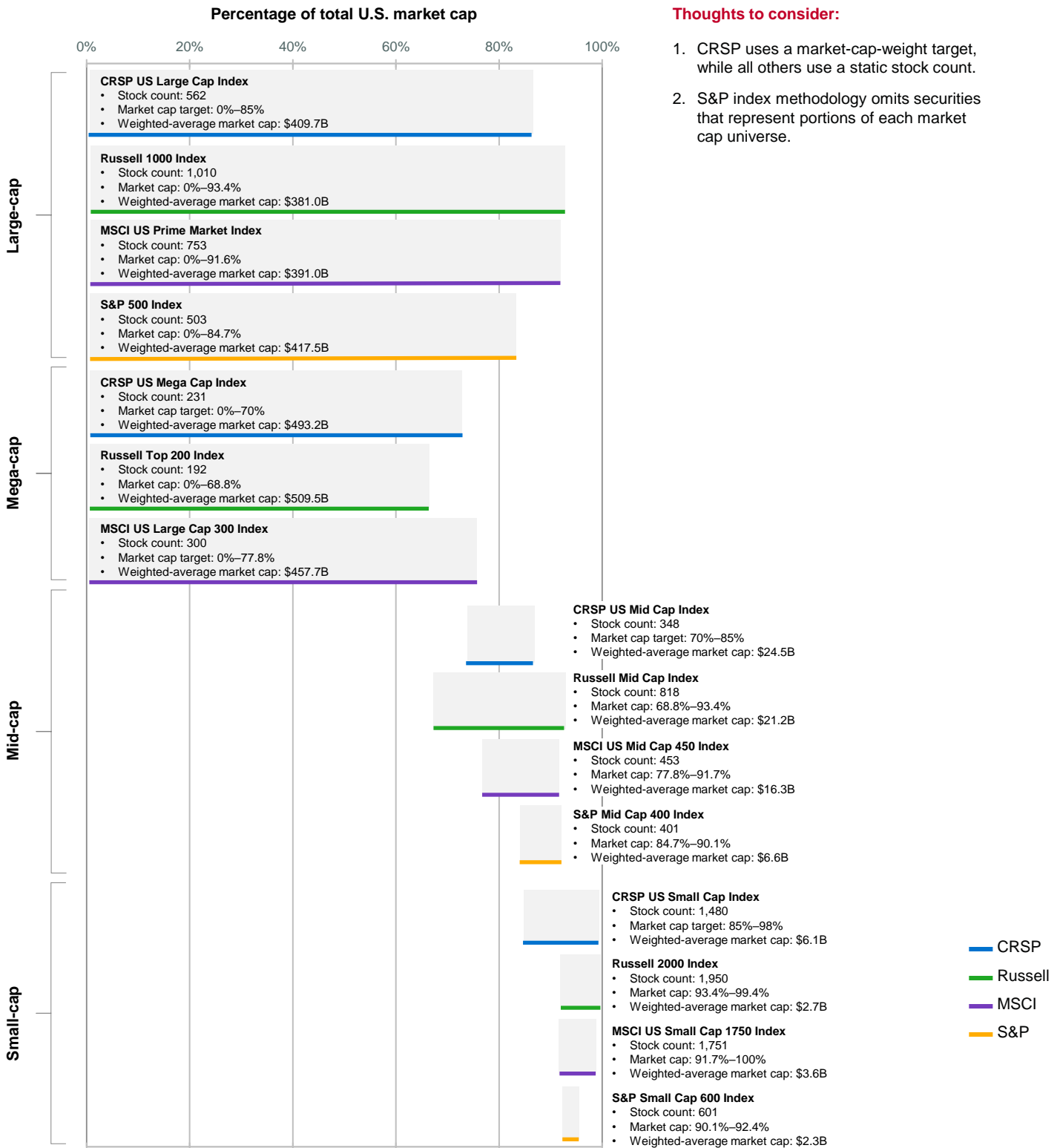
Numbers may not add due to rounding. All index characteristics data as of December 31, 2022.



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

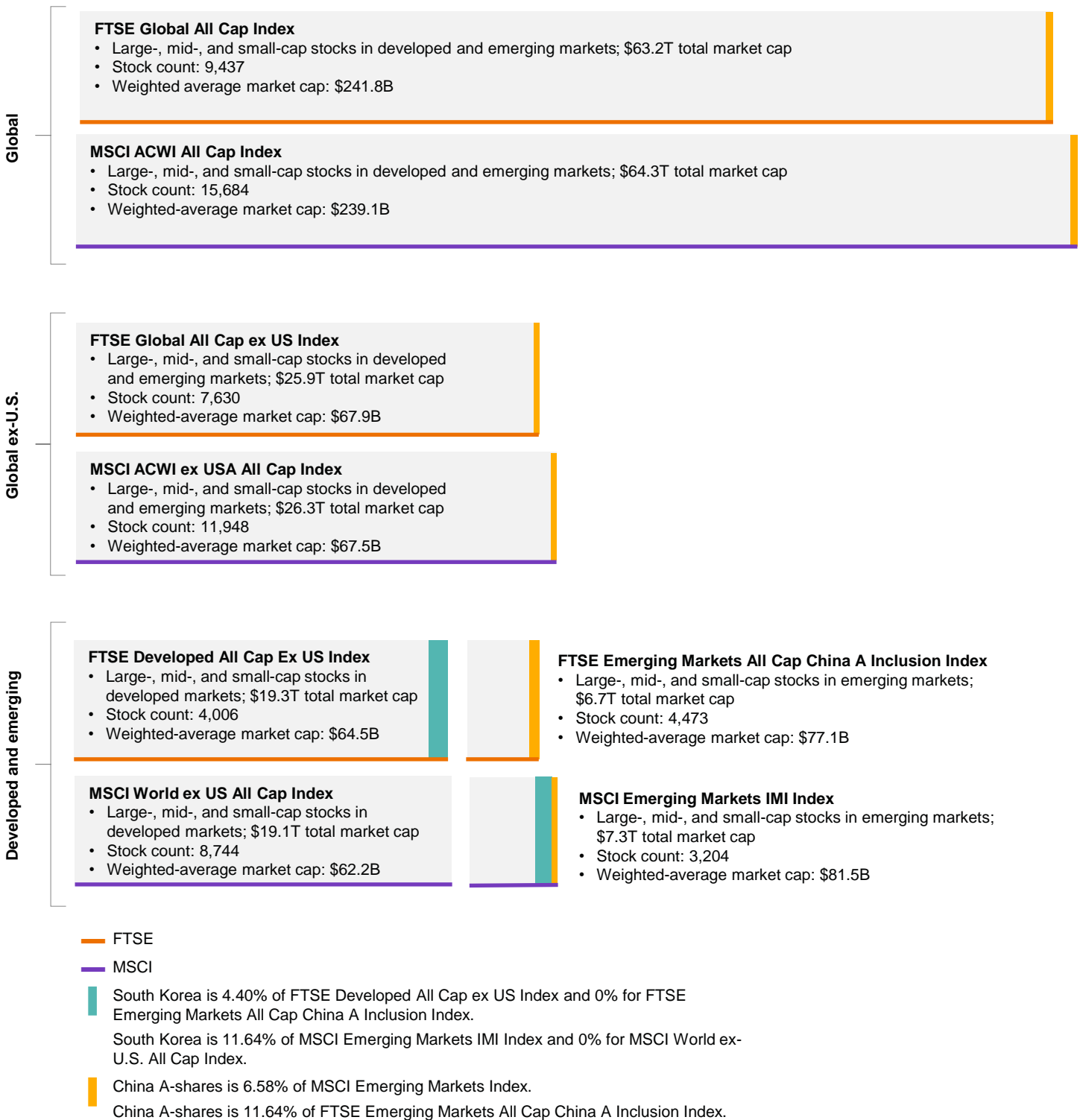


CRSP is shown as a targeted market cap, while the others are shown as a percentage of the S&P Total Stock Market. All index characteristics data as of December 31, 2022.



Benchmark methodologies overview

Figure 36.1 Global equity benchmark methodology comparison



All index characteristics data as of December 31, 2022.

Notes

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