Vanguard

ETF Industry Perspectives Q1 2024

2024 starts strong as rising markets, inflows lift ETF assets to a record high

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Highlights of the quarter

ETF industry assets and cash flow

Financial markets climbed in 2024's first quarter to multiple daily record highs, and inflows into ETFs continued apace, lifting ETF assets to a record $8.87 trillion. Growing uncertainty about the inflation and interest-rate outlook, however, put a damper on bond ETF returns, even as active fixed income strategies continued to generate interest. Expectations about when the Federal Reserve might begin to lower rates from 23-year highs have been pushed back from spring to later this year amid signs of possibly persistent inflationary pressure. These shifting expectations were evident in the flows as investors consider the implications of this inflection point for their portfolios.

ETF industry trends and developments

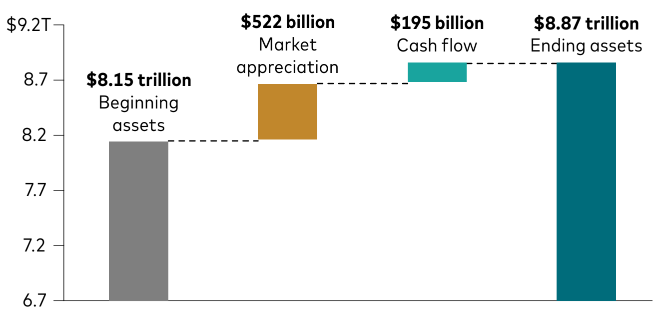
The uncertainty in the bond market about the direction of rates and credit outlooks has rekindled anxiety around bond allocations. The return of yields, however, creates potential optimism on the horizon, including the role that higher yields can play as possible cushions to total returns, given how bond prices lagged in the first quarter. Another trend that investors have been contemplating is what to do with sizable cash allocations that have grown amid rising interest rates. While some may not yet be ready to recommit to fixed income or equities, indications are that investors may not want to remain below their long-term strategic allocations for much longer.

ETF industry assets and cash flow

Q1 inflows hold strong as rates look to stay higher for longer

ETF industry assets rose 8.79% in the first quarter to $8.87 trillion as inflows of $195 billion were boosted by $522 billion worth of market appreciation. The inflows and market gains came amid shifting perceptions of when the Fed might start easing credit costs. Whereas market expectations at the end of 2023 centered on initial rate cuts coming by the end of the first quarter, Fed comments on concerns about possibly sticky inflation and labor market data have shifted expectations for a potential first cut to come later this year. The economy continues to generate robust job gains, which in turn have fueled continuing stock market gains.

Q1 2024 change in ETF industry assets



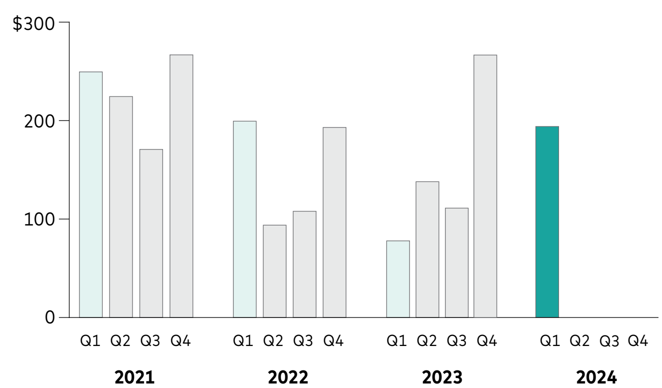
Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Q1 equity flows, focused increasingly on large-cap growth, totaled $137 billion—about on par with recent historical patterns. Equity markets rose 10% in the quarter. And despite that, many of the rising stocks in the large-cap growth category may retain valuations—such as price/earnings ratios—that are consistent with historical patterns. We'll look more closely at this subject in this report.

The persistence of risk-on sentiment in equity markets was fueled by economic data showing continued growth and a steady labor market. Upward blips in consumer-inflation readings for February and March gave pause, but those two data points remain for now just that—two data points. The market seems to be indicating that its focus will remain on each inflation report until a new trend is clearly discernible.

The renewed sense that rates may remain higher for longer has overshadowed fixed income allocation decisions, and active strategies are garnering an increasing share of the inflows. Q1 flows into fixed income ETFs totaled $49.9 billion, with new flows concentrating on the intermediate part of the yield curve. Those flows were almost 28% lower than the $69.1 billion in flows during 2023's fourth quarter.

Quarterly industry cash flow ($B)



Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Equity ETFs

Equities accounted for about two-thirds of total Q1 ETF inflows, and almost 70% of the $137 billion in total equity flows were into U.S. equities. That percentage is slightly below the average quarterly equity flows over the last five years. International stocks, meanwhile, made up about 20% of total Q1 flows—a notable increase from about 11% in Q4 2023. Large-capitalization stocks were again heavy favorites, as they were in much of 2023; they made up 86% of all Q1 U.S. equity inflows, about the same as in the prior quarter.

The Standard & Poor's 500 Index reached several record highs throughout Q1, ending the period about 10% higher. Q1 equity market gains were concentrated in large-cap ETFs, and in technology in particular, so we've looked at what's going on with valuations in the large-cap realm.

Equity ETF cash flow by category ($B)

Broad equity categories

U.S.	**$93.5**
International	$27.8
Sector	$8.1
Nontraditional	$7.2

Breakdown of U.S. equity

	Value	Blend	Growth
Large-cap	$3.5	$52.1	$24.7
Mid-cap	–$0.2	$4.9	–$0.5
Small-cap	$5.5	$2.1	$1.3

Note: Data based on U.S.-listed issues only, not including exchange-traded notes (ETNs).
Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Spotlight on large-cap growth ETFs

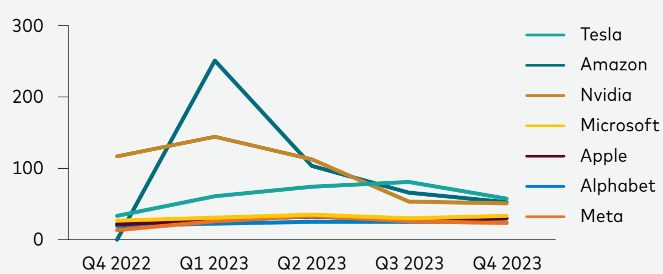
Our analysis of advisor portfolios suggests that large-cap growth is the most underowned segment of the equities market, by 12 percentage points.[1] This may come as a surprise, because most of the S&P 500's roughly 10% gains for Q1 were in large-cap growth stocks, including the "Magnificent Seven."[2]

Although there's some evidence of Mag 7 "froth," there's also a silver lining in their price/earnings (P/E) ratios, which stayed grounded as of year-end 2023 despite sizable gains in stock prices.

To be sure, the prices of some growth stocks, notably Tesla's, have in recent years outrun their earnings. But a look at P/E ratios of the Mag 7 over the past two years suggests that earnings are keeping pace with share prices. For example, Nvidia—the stock at the center of the AI-focused investment trend—saw the largest year-over-year earnings growth, increasing nearly sevenfold to $11.93 per share in 2023, from $1.74 per share in 2022.

As it relates back to the underweight in large-cap stocks, this is likely a result of using more active, small-cap, factor-weighted, or equal-weighted products, which can lead to tilts away from benchmark exposures. But while some investors may be apprehensive about the large-cap growth category, there's solace in the recent growth being sustained by earnings growth as well.

P/E ratios of the Magnificent Seven



Notes: Nvidia's fiscal year ends January 31. The six other companies' fiscal years end December 31.
Source: FactSet, as of February 29, 2024.

Advisor equity allocations relative to benchmarks

	Value	Blend	Growth
Large-capitalization stocks	–3.2%	–1.8%	–12.1%
Mid-caps	2.1%	3.2%	1.2%
Small-caps	3.7%	4.3%	2.6%

Source: Vanguard, as of February 29, 2024.

1 Vanguard analysis, based on 1,220 equity allocations observed in the period, with an average of six tickers per allocation sleeve, as of December 31, 2023.

2 The "Magnificent Seven"—those companies at the center of the growth rally of recent years—are Alphabet Inc. (GOOG/GOOGL); Amazon.com, Inc. (AMZN); Apple Inc. (AAPL); Meta Platforms, Inc. (META); Microsoft Corp. (MSFT); Nvidia Corp. (NVDA); and Tesla, Inc. (TSLA).

Fixed income ETFs

Taxable fixed income

Fixed income ETF inflows totaled $49.9 billion in the first quarter, with intermediate-term strategies—both government and credit—attracting about 60% of those. Flows into government long-dated debt tapered off significantly from previous quarters, as long-dated yields remain elevated and their outlook uncertain. Interest in long-dated credit faded compared with the prior quarter. Because it appears that rates may remain higher for longer, further allocations to longer-dated bond ETFs may be on hold until clearer signs emerge that the Fed is really about to begin credit loosening. On the other end of the yield curve, outflows from short-term bonds are starting to slow. More notably, investors are returning to familiar active ETFs to regain exposure to short-dated credit ETFs in particular. The spotlight section that follows examines this topic in greater detail.

Municipal fixed income

Inflows into municipal bond ETFs slowed considerably from 2023's fourth quarter. Outflows were concentrated in longer-dated strategies, while California-specific strategies garnered most of the inflows—a sign that investors may be seeking more tailored muni exposure.

Fixed income ETF cash flow by category ($B)

Broad fixed income categories

U.S. taxable	**$50.6**
International	–$1.5
Municipal	$0.8

Breakdown of U.S. taxable fixed income

	Short-term	Intermediate-term	Long-term
Government	–$8.5	$11.3	$4.4
Investment-grade	$4.8	$18.6	$1.1
High-yield	$1.7		
Other	$12.3		

Notes: Data based on U.S.-listed issues only, not including ETNs. "Other" includes ETFs in Morningstar's Preferred Stock, Bank Loan, Multisector Bond, Nontraditional Bond, and Target Maturity categories.

Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Spotlight on fixed income

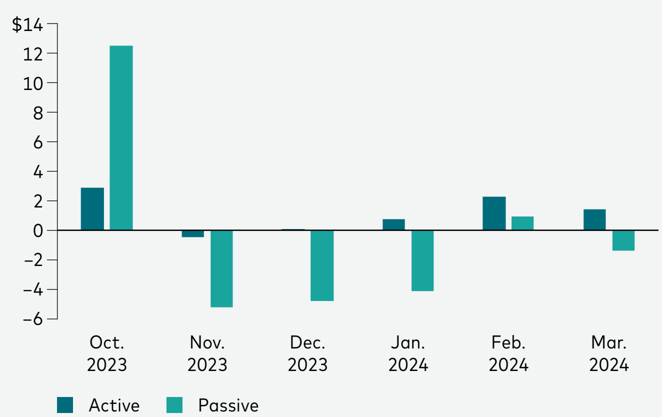
If one changing aspect of the expanding ETF industry is worth teasing out, it's the ongoing emergence of actively managed ETFs, notably the intermediate (e.g., core and core-plus) and ultra-short categories. Ultra-short was the largest active fixed income category (+$80.0 billion), while intermediate categories attracted more inflows (+$18.6 billion) over the 12 months ended March 31, 2024. Still, a large portion of active fixed income inflows in Q1 2024 were into ultra-short strategies, while passive ultra-short strategies saw outflows. Such active ETFs pulled in $4.4 billion in fresh assets, or about 24% of all active fixed income ETF flows.

This could mark an emerging reversal in the trend of 2023, when passive ultra-short bond ETFs dominated category flows overall. So far this year, these passive short-dated strategies have seen outflows.

But as we further peel back the ultra-short flows, what's notable is that the passive ETFs primarily invest in government bonds, while the active ETFs give the manager more flexibility to pick among all available short-dated bonds, especially credit. And although overall flows into ultra-short ETFs appear muted on the surface (+$301 million), the shifts within it are large, with $4.4 billion moving to active strategies and $4.1 billion left passive. So we're seeing more investors conservatively reaching for yields beyond government bonds again and looking to fund managers for the right opportunities to find that yield.

Active vs. passive ultra-short-term bond ETF inflows since Q4 2023 ($B)

Ultra-short ETF cash flows



Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

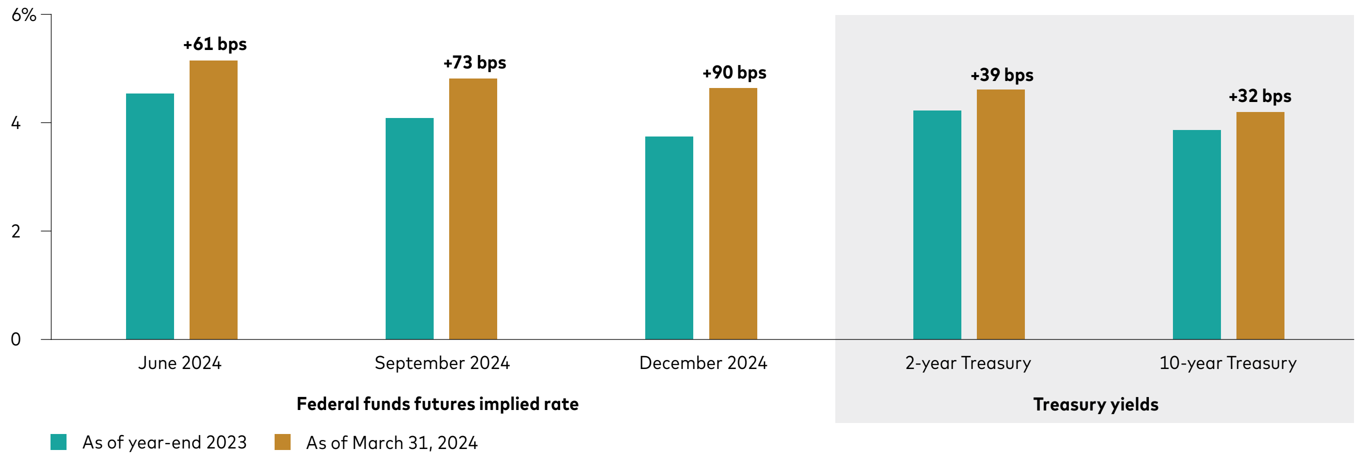
ETF industry trends and developments

Yields are back

The benefits of higher yields

With financial markets now focused on when the Fed might start lowering interest rates, concerns about duration risk are front and center in bond markets. Nominal yields are higher now than in the last two decades, and real yields are there for the reaping for the first time in years.[3] Still, investors are feeling the burn from a tough market in 2022 and may be reluctant to reenter the bond market, especially since long-term yields remain elevated and continued to climb to start 2024. This may be frustrating for investors, but the good news is the return of income distribution in the wake of higher rates. As the chart that follows shows, this income has acted as a cushion to these early losses by two to six times as much as it did in 2022.

Market pricing for the year-end federal funds rate has risen by 90 bps



Note: Basis points (bps) are one-hundredth of a percentage point.
Source: Market pricing for the federal funds rate is based on Vanguard data as of March 31, 2024.

Bond income can provide cushion against capital losses[4]

		Q1 2022	Q1 2023	Q1 2024
Vanguard Short-Term Treasury ETF	Price return	–2.6%	1.2%	–0.4%
	Total return	–2.5%	1.6%	0.2%
	Income “cushion”	0.1%	0.4%	0.6%
Vanguard Intermediate-Term Treasury ETF	Price return	–5.5%	2.6%	–1.4%
	Total return	–5.3%	3.0%	–0.9%
	Income “cushion”	0.2%	0.4%	0.5%
Vanguard Long-Term Treasury ETF	Price return	–10.5%	6.3%	–4.0%
	Total return	–10.2%	6.8%	–3.4%
	Income “cushion”	0.3%	0.5%	0.6%

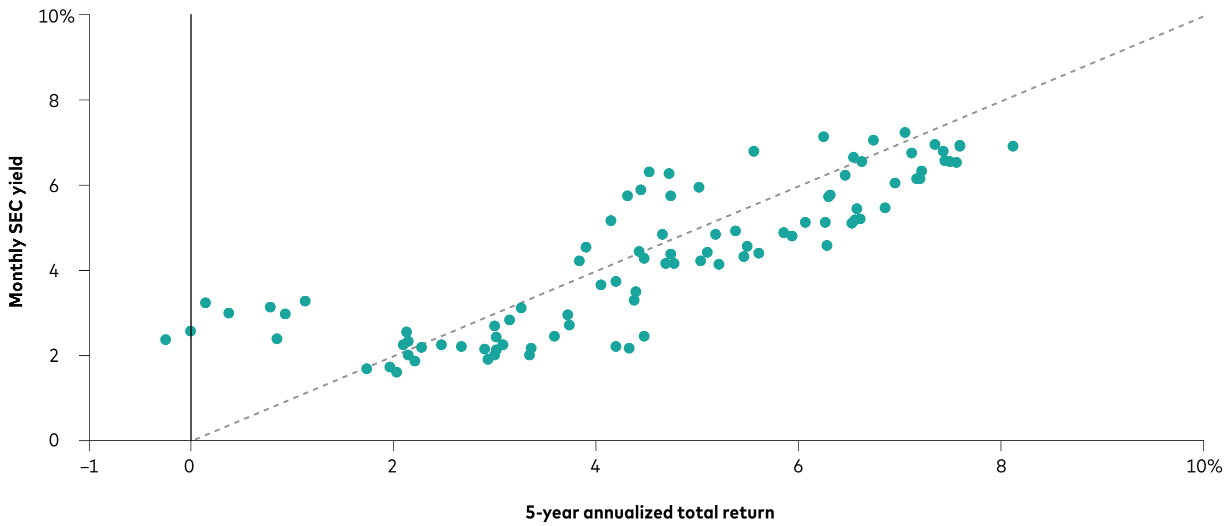
Source: Vanguard Treasury ETF returns are based on Bloomberg data as of March 31 in 2022, 2023, and 2024
Past performance is no guarantee of future results.

3 Source: Federal Reserve, from March 31, 2004, through March 31, 2024.

4 See the bottom of the next page for full standardized performance for Vanguard Short-Term Treasury ETF, Vanguard Intermediate-Term Treasury ETF, and Vanguard Long-Term Treasury ETF.

Our analysis also suggests that current yields, historically, may be an indicator of improved total returns. The chart that follows shows Vanguard Total Bond Market ETF (BND) and how its SEC yield compares with the ensuing five-year return going back to 1995. The two have a notably strong correlation, suggesting that BND's SEC yield of 4.49% as of March 31, 2024, raises the question of whether this relationship could endure.

Historical relationship between current bond yields and future total returns



Note: Figure displays the relationship between expected future returns and the current SEC yield.
Source: Bloomberg, from September 30, 1995, through March 31, 2024.
Past performance is no guarantee of future results.

Standardized performance for four Vanguard bond ETFs

	Inception date	Expense ratio	Net asset value, market price	1-year returns	3-year returns	5-year returns	10-year returns	Returns since inception
Vanguard Short-Term Treasury ETF (VGSH)	11/19/2009	0.04%	NAV	2.85%	–0.04%	1.08%	1.00%	0.97%
			Market price	2.82%	–0.01%	1.10%	1.00%	0.97%
Vanguard Intermediate-Term Treasury ETF (VGIT)	11/19/2009	0.04%	NAV	0.52%	–2.46%	0.21%	1.17%	1.89%
			Market price	0.52%	–2.43%	0.22%	1.18%	1.89%
Vanguard Long-Term Treasury ETF (VGLT)	11/19/2009	0.04%	NAV	–3.42%	–8.13%	–2.91%	1.17%	2.76%
			Market price	–3.15%	–8.13%	–2.90%	1.17%	2.76%
Vanguard Total Bond Market ETF (BND)	4/3/2007	0.03%	NAV	1.65%	–2.43%	0.37%	1.52%	2.91%
			Market price	1.62%	–2.44%	0.37%	1.51%	2.88%

Sources: Returns are from Morningstar, Inc., as of March 31, 2024; expense ratios are from the most recent prospectus for each ETF as of March 31, 2024.
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 vanguard.com/performance.

Duration is no longer a bad word

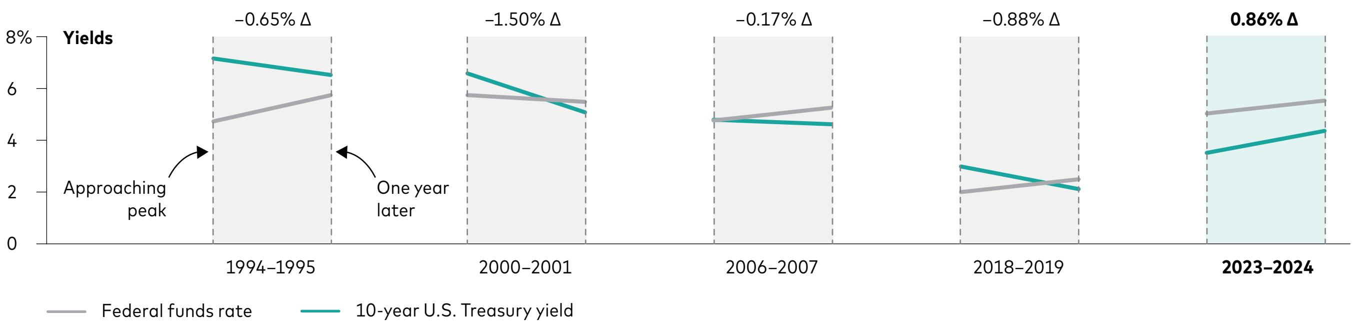
Timing the moment to add duration can be tricky as fixed income investors wait for crystal-clear indications from the Fed before taking such action, even if the Fed appears to be done raising rates for the moment. History suggests that such a wait-and-see posture before adding duration may represent a risk of losing out on peak yields in an interest rate cycle.

In four out of the five historical peaks in rates, investors have been rewarded for adding extra duration to their portfolios 12 months following the Fed's nearing peak rates. The current environment marks the only historical peak for which long-term U.S. Treasuries did not fall 12 months after peak rates, so there's still time to see how this plays out. But history shows that the decision to add duration doesn't stop with what the Fed is doing and that bond yields tend to rally *after* the federal funds rate peaks but *before* yields start dipping.[5]

The Fed controls shorter-term rates, while longer-term rates are generally more affected by long-term inflation and growth expectations. This means the Fed can quickly adjust short-term rates if circumstances call for it, and if the rates are lowered, it doesn't take long for short-term yields to adjust to a new rate.

In other words, waiting for the Fed to give clear signals that loosening is imminent may mean sacrificing a potentially golden opportunity to lock in higher-yielding reentry points on longer-dated bonds or bond funds. And if a recession should ensue, those long-dated bonds can once again provide that ballast in portfolios to diversify equity holdings.

Tracing bond returns 12 months after the Fed has completed rate-hike cycles



Notes: The approaching peak is defined as the third-to-last rate hike before the peak in the federal funds rate. Delta (Δ) denotes the change in 10-year yields over each 12-month period. For 1994–1995, the approaching peak date is August 16, 1994, and one year later is August 16, 1995. For 2000–2001, the approaching peak date is February 2, 2000, and one year later is February 1, 2001. For 2006–2007, the approaching peak date is March 28, 2006, and one year later is March 28, 2007. For 2018–2019, the approaching peak date is June 13, 2018, and one year later is June 13, 2019. For 2023–2024, the approaching peak date is March 22, 2023, and one year later is March 18, 2024.

Sources: Vanguard analysis, based on data from Bloomberg as of March 31, 2024.

Past performance is no guarantee of future results.

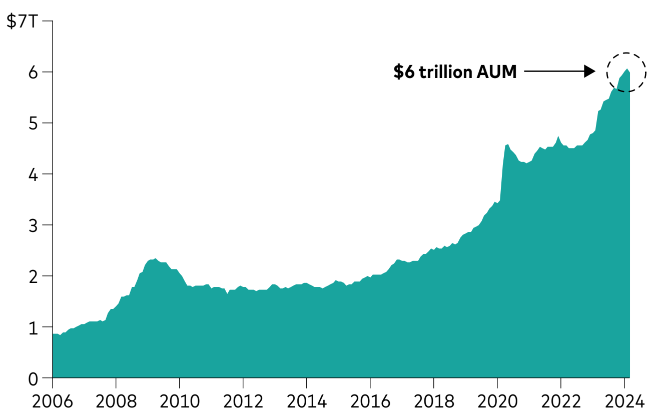
5 In the end, calibrating the impact of rising rates comes down to advisors appropriately matching the duration of a bond portfolio with a client's investment horizon.

What to do with all that cash?

U.S. investors now hold about $6.0 trillion in money market funds, $1.1 trillion of which materialized in the last 18 months. That figure is relatively high historically and may be reflecting persistent anxiety in financial markets.

Cash allocations first spiked conspicuously by more than 50% during the 2007–2009 global financial crisis. They jumped an additional 25% at the time of the 2020 COVID-19 lockdowns, and a further 15% in the aftermath of the Fed's aggressive credit-tightening campaign in 2022.[6] The question now is: *To what extent do historically large allocations to cash represent something of an opportunity cost to investors, and how far have investors distanced themselves from their strategic allocation?*

Growing cash allocations since 2006



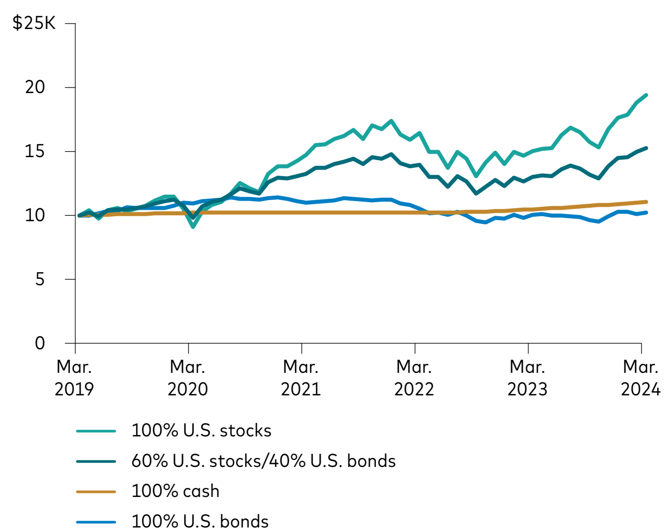
Note: Table shows assets under management (AUM) held in U.S. money-market funds.

Sources: Vanguard, based on data from Morningstar, Inc., from January 2006 through March 2024.

With those questions in mind, we'll look at three investor types and various asset allocation choices to assess what investors might be missing out on by possibly being overallocated to cash. We'll put these investments in context with a cash equivalent that was yielding 5.33%.[7] We've also mapped out how other allocations have fared compared with that cash allotment, and that comparison shows that investors who stayed put in equities or in a diversified portfolio—or even returned to diversified exposure in the last year—would have been better off than had they stayed in cash. Even as investors return to bonds, as we'll show, they may benefit investors again and recover from previous losses.

Comparing five-year returns of various allocation choices

Investment growth



Notes: U.S. stocks are represented by the CRSP U.S. Total Market Total Return USD Index, and U.S. bonds are represented by the Bloomberg U.S. Aggregate Float Adjusted Total Return USD Index. The line showing a 60% allocation to U.S. stocks and a 40% allocation to U.S. bonds is represented by both those indexes, while cash is represented by the Treasury Bill Auction Average 1-Month Index.

Sources: Vanguard, based on data from Morningstar Direct from March 31, 2019, through March 31, 2024.

Past performance is no 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.

6 The latest spike in cash allocations is a direct result of the Fed's 500 bps worth of rate hikes that mostly occurred in 2022 and that made short-term rates of cash-equivalent fixed income instruments relatively attractive.

7 The 5.33% cash-equivalent yield is that of the Treasury Bill Auction Average 1-Month Index as of March 31, 2024.

Investor type #1: Stay close to home

While we've made the case for adding duration, some investors may have short-term goals or lower risk tolerances that make this less appealing. Staying overallocated to cash and below a strategic asset allocation to bonds presents risks too. Keeping duration low with short-term bonds will provide some benefit with yields in the range of cash, but unlike cash, they'll provide upside potential if the Fed eventually cuts rates. If this is an investor's goal, ETFs such as Vanguard Ultra-Short Bond ETF (VUSB), with a 30-day SEC yield of 5.07%, or Vanguard Short-Term Treasury ETF (VGSH), with a 30-day SEC yield of 4.68%, are two examples to consider.[8]

Investor type #2: Be ready to recommit

For investors whose horizons are longer and who need to get back to their strategic allocations in bonds, this is where adding duration can add value. If the Fed cuts rates, money market distribution yields will be the first to drop, followed by short-term bonds. With intermediate- or longer-term bonds, higher yields can endure longer beyond rate cuts and, if yields fall, the added duration means their prices will appreciate more. By that logic, if the 4.25% 30-day SEC yield of Vanguard Intermediate-Term Treasury ETF (VGIT) were to fall, the price of the ETF might increase.

Investor type #3: Consider revisiting equities

We've generally observed that when investors get spooked, they fund their increase in cash by pulling from equities and distancing themselves from their long-term strategic allocation.[9] There's no one way to get back into stocks, as each investor is different. Investors who want the income to continue tend to turn to dividend stocks like those in Vanguard High Dividend Yield ETF (VYM), with a 30-day SEC yield of 2.82%. For those taking a broader, total-return approach, advisors tend to prefer using building blocks to achieve that. For this approach, we encourage them to use the building blocks within the same index family, whichever they choose. This will help ensure that investors have no unintended overlaps between their holdings, creating tilts they didn't intend to make.

Standardized performance for ultra-short bond and dividend-focused ETFs

	Inception date	Expense ratio	Net asset value, market price	1-year returns	3-year returns	5-year returns	10-year returns	Returns since inception
Vanguard Ultra-Short Bond ETF (VUSB)	4/6/2021	0.10%	NAV	5.40%	—	—	—	2.09%
			Market price	5.47%	—	—	—	2.10%
Vanguard High Dividend Yield ETF (VYM)	11/10/2006	0.06%	NAV	18.37%	9.56%	10.62%	10.12%	8.53%
			Market price	18.31%	9.48%	10.59%	10.12%	8.53%

Sources: Returns are from Morningstar, Inc., as of March 31, 2024; expense ratios are from the most recent prospectus for each ETF as of March 31, 2024.

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 vanguard.com/performance.

8 All SEC yields shown on this page are as of March 31, 2024. Each represents the potential yield of the corresponding fund if it pays its most recent distribution for the next 12 months.

9 Sources: Vanguard Investment Advisory Research Center calculations, based on data from Morningstar, Inc., as of December 31, 2023. See the April 2024 Vanguard behavioral research article titled *Fund industry's asset mix offers encouraging sign*.

What's new at Vanguard

Active ETFs: An update on our Core Bond and Core-Plus Bond ETFs

One pocket of active fixed income that's worth watching closely is active core bond strategies. The segment attracted $17.7 billion in fresh assets over the fiscal year ended March 31, 2024, and interest in active fixed income ETFs appears to be growing. Of that group, 37% of flows went into ETFs less than three years old.[10]

Although market consensus shows that the Fed is likely to start cutting rates later this year, the market's shifting outlook shows how challenging it is to time these cuts, and rate declines may be less than had been expected at the start of 2024. No recession has yet fully materialized, and inflationary pressures may prove more persistent than what was foreseen when the year began.

Given the complexity of the outlook, making use of active fixed income managers might be a good call for investors gauging all the opportunities in this environment. For example, very little of our active managers' efforts are focused on delivering alpha by managing duration. Most of their alpha-focused efforts are on sector allocation and security selection.

The two active bond ETFs that Vanguard brought to market in December 2023—Vanguard Core Bond ETF (VCRB), which targets "core" exposure, and Vanguard Core-Plus Bond ETF (VPLS), which targets "core-plus" exposure—are at the center of this phenomenon. Both strategies offer advisors the opportunity to outsource core bond fund management and represent the possibility of outperforming their benchmarks.

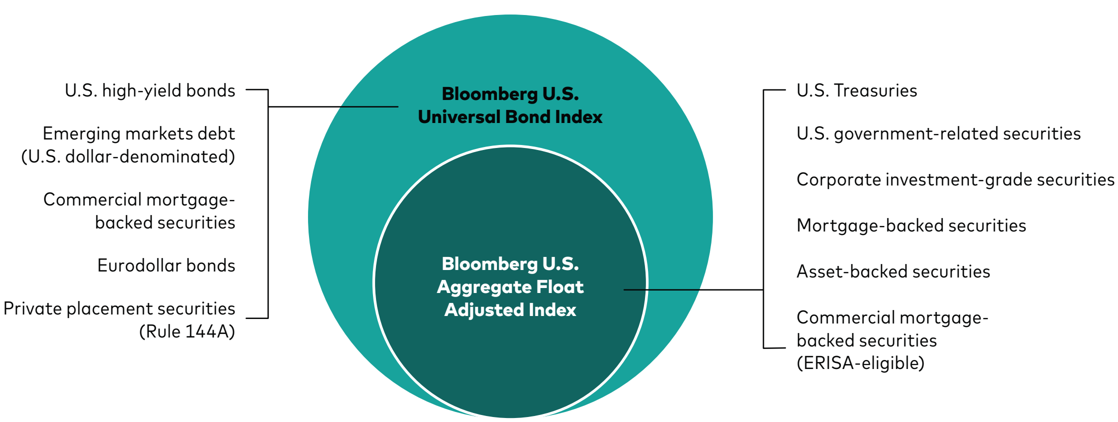
VCRB's benchmark is the Bloomberg U.S. Aggregate Float Adjusted Index, and VPLS's is the Bloomberg U.S. Universal Bond Index.

The mandate of VCRB, the core strategy, generally allows the manager to allocate less to Treasuries and a bit more on the portfolio's perimeter to credit sectors—including a measure of high-yield and emerging markets debt—to potentially outperform.

The mandate of VPLS, the core-plus strategy, allows the manager to more significantly allocate to high-yield and emerging markets in search of potential alpha.

Both strategies have begun to attract significant assets as of March 31, 2024, with VCRB attracting $128.9 million and VPLS $112.3 million. With growing assets and professional management, the two ETFs are becoming liquid and easier to trade, with bid-ask spreads at 0.05%, compared with basket spreads of 0.10% for VCRB and 0.13% for VPLS.[11]

Comparing the indexes for VCRB and VPLS



Source: Bloomberg fixed income index methodology, as of September 29, 2023.

10 Total flows and the percentage of flows are from Morningstar, Inc., for the quarter ended March 31, 2024.

11 **Vanguard Core Bond ETF and Vanguard Core-Plus Bond ETF are not to be confused with the similarly named Vanguard Core Bond Fund and Vanguard Core-Plus Bond Fund. These products are independent of one another. Differences in scale, investment process, and underlying holdings between the ETFs and their mutual fund counterparts are expected to produce different investment returns by the products. To obtain a prospectus for Vanguard Core Bond Fund or Vanguard Core-Plus Bond Fund, please call 800-662-7447.**

Appendix

ETF market snapshot

Total ETF assets under management (AUM) industry-wide at quarter-end: $8.9 trillion

Product strategy

	AUM
Index	$8.1 trillion
Active	$0.8 billion

Investment category

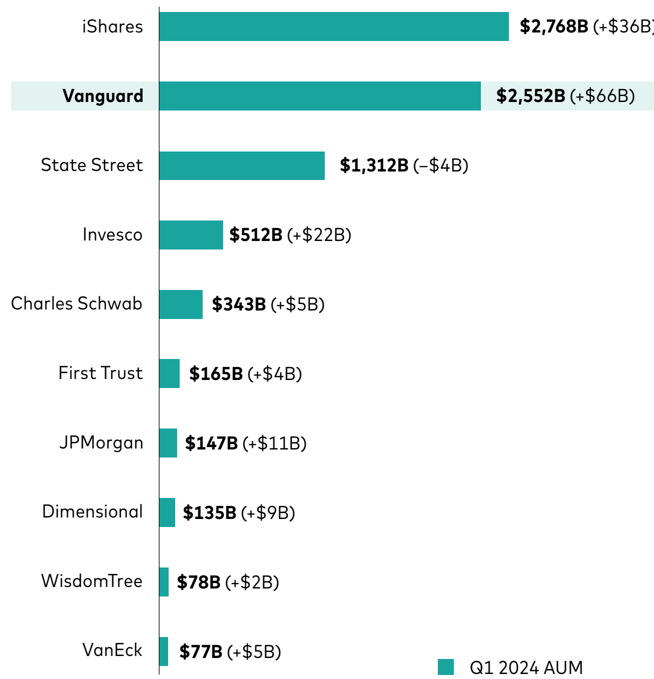
	AUM
Equity	$6.9 trillion
Fixed income	$1.5 trillion
Other	$381 billion

Number of ETFs available

	Number
ETF launches in Q1 2024	142
ETF closures in Q1 2024	49
Total U.S. ETFs	3,397

Notes: Data based on U.S.-listed issues only, not including ETNs. "Other" includes ETFs in Morningstar's Allocation, Alternative, Commodities, and Miscellaneous categories.
Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Issuer assets and quarterly cash flow



Sources: Vanguard, based on data from Morningstar, Inc., as of March 31, 2024.

Vanguard ETFs®

Equity

Large-cap	Ticker	Expense ratio
Total Stock Market	VTI	0.03%
Russell 3000	VTHR	0.10%
Mega Cap	MGC	0.07%
Mega Cap Growth	MGK	0.07%
Mega Cap Value	MGV	0.07%
S&P 500	VOO	0.03%
S&P 500 Growth	VOOG	0.10%
S&P 500 Value	VOOV	0.10%
Russell 1000	VONE	0.08%
Russell 1000 Growth	VONG	0.08%
Russell 1000 Value	VONV	0.08%
Large-Cap	VV	0.04%
Growth	VUG	0.04%
Value	VTV	0.04%

Mid-cap	Ticker	Expense ratio
Extended Market	VXF	0.06%
Mid-Cap	VO	0.04%
Mid-Cap Growth	VOT	0.07%
Mid-Cap Value	VOE	0.07%
S&P Mid-Cap 400	IVOO	0.10%
S&P Mid-Cap 400 Growth	IVOG	0.15%
S&P Mid-Cap 400 Value	IVOV	0.15%

Small-cap	Ticker	Expense ratio
Small-Cap	VB	0.05%
Small-Cap Growth	VBK	0.07%
Small-Cap Value	VBR	0.07%
S&P Small-Cap 600	VIOO	0.10%
S&P Small-Cap 600 Growth	VIOG	0.15%
S&P Small-Cap 600 Value	VIOV	0.15%
Russell 2000	VTWO	0.10%
Russell 2000 Growth	VTWG	0.15%
Russell 2000 Value	VTWV	0.15%

International/global	Ticker	Expense ratio
Total World Stock	VT	0.07%
Total International Stock	VXUS	0.08%
FTSE All-World ex-US	VEU	0.07%
FTSE All-World ex-US Small-Cap	VSS	0.08%
Global ex-U.S. Real Estate	VNQI	0.12%
FTSE Developed Markets	VEA	0.06%
FTSE Europe	VGK	0.09%
FTSE Pacific	VPL	0.08%
FTSE Emerging Markets	VWO	0.08%

ESG	Ticker	Expense ratio
ESG U.S. Stock	ESGV	0.09%
ESG International Stock	VSGX	0.12%

Sector	Ticker	Expense ratio
Consumer Discretionary	VCR	0.10%
Consumer Staples	VDC	0.10%
Energy	VDE	0.10%
Financials	VFH	0.10%
Health Care	VHT	0.10%
Industrials	VIS	0.10%
Information Technology	VGT	0.10%
Materials	VAW	0.10%
Real Estate	VNQ	0.12%
Communication Services	VOX	0.10%
Utilities	VPU	0.10%

Dividend	Ticker	Expense ratio
Dividend Appreciation	VIG	0.06%
International Dividend Appreciation	VIGI	0.15%
High Dividend Yield	VYM	0.06%
International High Dividend Yield	VYMI	0.22%

Factor (actively managed)	Ticker	Expense ratio
U.S. Minimum Volatility	VFMV	0.13%
U.S. Momentum Factor	VFMO	0.13%
U.S. Multifactor	VFMF	0.18%
U.S. Quality Factor	VFQY	0.13%
U.S. Value Factor	VFVA	0.13%

Note: Expense ratios are as of each ETF's most recent prospectus.
Source: Vanguard, as of March 31, 2024.

Vanguard ETFs

Fixed income

Broad market	Ticker	Expense ratio
Total Bond Market	BND	0.03%
Core Bond ETF	VCRB	0.10%
Core-Plus Bond ETF	VPLS	0.20%
Short-Term Bond	BSV	0.04%
Intermediate-Term Bond	BIV	0.04%
Long-Term Bond	BLV	0.04%

Treasury/agency	Ticker	Expense ratio
Short-Term Treasury	VGSH	0.04%
Intermediate-Term Treasury	VGIT	0.04%
Long-Term Treasury	VGLT	0.04%
Extended Duration Treasury	EDV	0.06%
Short-Term Inflation-Protected Securities	VTIP	0.04%
Mortgage-Backed Securities	VMBS	0.04%

Investment-grade	Ticker	Expense ratio
Short-Term Corporate Bond	VCSH	0.04%
Intermediate-Term Corporate Bond	VCIT	0.04%
Long-Term Corporate Bond	VCLT	0.04%
Total Corporate Bond	VTC	0.04%
Ultra-Short Bond ETF	VUSB	0.10%

International/global	Ticker	Expense ratio
Total International Bond	BNDX	0.07%
Total World Bond	BNDW	0.05%
Emerging Markets Government Bond	VWOB	0.20%

Municipal	Ticker	Expense ratio
Tax-Exempt Bond	VTEB	0.05%

ESG	Ticker	Expense ratio
ESG U.S. Corporate Bond	VCEB	0.12%

Note: Expense ratios are as of each ETF's most recent prospectus.
Source: Vanguard, as of March 31, 2024.

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The Value of Ownership

ETFTB 052024

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