

2023 US Fund Fee Study

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Executive Summary

Fees Declined at a Slower Pace in 2023

In 2023, the average expense ratio paid by fund investors was less than half of what it was two decades ago. Between 2004 and 2023, the asset-weighted average fee fell to 0.36% from 0.87%. Investors have saved billions in fund fees as a result.

Several factors played a role in lowering fees:

- Investors are increasingly aware of the importance of minimizing investment costs, which has led them to favor lower-cost funds.
- Competition among asset managers has led many to cut fees.
- Evolution in the economics of advice has also played a central role. The move toward fee-based models of charging for financial advice has been a key driver of the shift toward lower-cost funds, share classes, and fund types—most notably exchange-traded funds. Investors employing a fee-based advisor may not be pocketing the difference from lower fund fees but redirecting those dollars to cover the price of advice.

Several factors caused the pace of declining fees to slow:

- Fees of prominent index mutual funds and ETFs are approaching a floor, with many already charging less than 0.05%.
- The emergence of active and alternative ETFs contributed to higher-priced fund launches than previously observed.
- Cost pressures are preventing asset managers from continuing to cut fees. Some are even quietly raising fees.

Key Takeaways

- In 2023, the asset-weighted average expense ratio of all US open-end mutual funds and exchange-traded funds was 0.36%, compared with 0.87% in 2004.
- The asset-weighted average expense ratio ticked down to 0.36% in 2023 from 0.37% in 2022. As a result, we estimate investors saved nearly USD 3.4 billion in fund expenses last year.
- The asset-weighted average expense ratio for active funds fell by 0.2% in 2023 to remain rounded to 0.59%.
- The asset-weighted average expense ratio for passive funds fell by 1.3% in 2023 to remain rounded to 0.11%.
- The equal-weighted average expense ratio—which indicates what funds charge irrespective of where assets are held—rose slightly to 0.95% in 2023 from 0.94% in 2022. Equal-weighted fees for both active and passive funds increased ever so slightly.
- There were more fee increases than fee decreases among both active and passive funds in 2023. This is the first time since 2019 this has occurred.
- New mutual funds are getting cheaper, and new ETFs are getting more expensive. The gap between the average fee of newly launched ETFs and newly launched mutual funds decreased by 71% since 2014.
- In 2023, the gap in flows for cheap and expensive funds narrowed but remained substantial. The cheapest quintile of funds saw net inflows of USD 403 billion, while the remaining 80% shed USD 336 billion in outflows.
- The evolution of the economics of the advice business is shaping flows and fees. Looking through the lens of Morningstar's service-fee arrangement attribute, bundled share classes have been in outflows for 14 straight years. Fee-based advisors prefer unbundled funds as they make room for the price of advice. Unbundled funds have seen net inflows for the last 20 years.
- Strategic-beta funds are an alternative to higher-cost actively managed funds. In 2023, the asset-weighted average fee for strategic-beta funds was 0.18%, higher than the figure for traditional index funds (0.10%) but significantly lower than for active funds (0.59%).
- Although some of its competition gains ground, Vanguard still claims the lowest asset-weighted average expense ratio among asset managers, which was 0.08% in 2023.

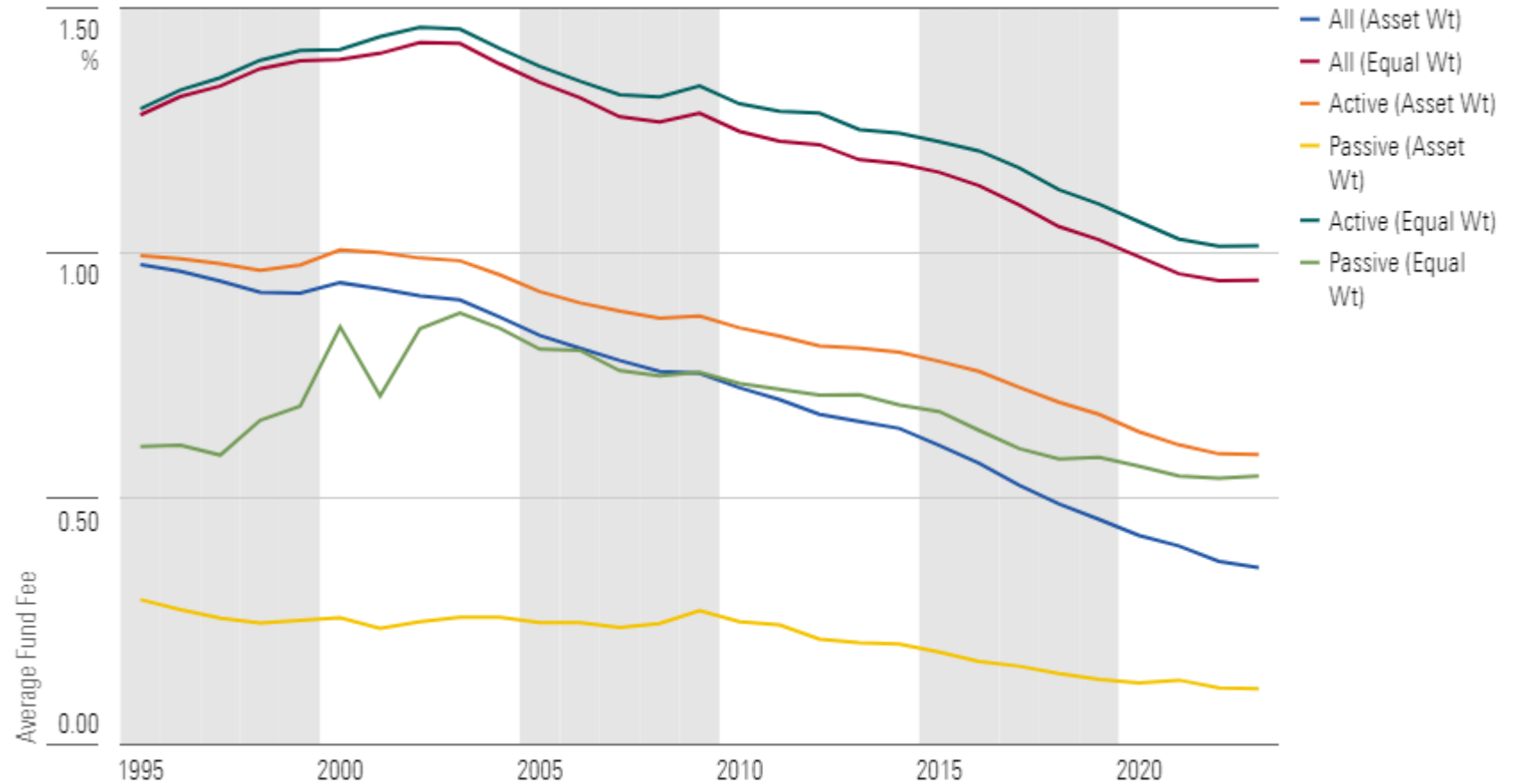
Trends in Fund Fees Paid by Investors

A look at asset-weighted average fund fees.

Fund Fees Decline, but at a Slower Pace

Investors paid lower fund expenses in 2023 than ever before. Our study of US open-end mutual funds and exchange-traded funds found the asset-weighted average expense ratio across funds was 0.36% in 2023, a 3.4% decline from 2022—a solid fall but less pronounced than the 7.8% decline a year earlier. Still, we estimate that investors saved nearly USD 3.4 billion in fund expenses last year. Any fee decline is a big win for investors because fees compound over time and diminish returns.

Exhibit 1 Fund Fees Edge Lower



Source: Morningstar Direct. Data as of Dec. 31, 2023.

Investors Favored Cheap Passive Funds in 2023

In this study, we examine the trend in fund expenses paid by investors using the asset-weighted average expense ratio as our measure. The asset-weighted average represents the average costs borne by fund investors better than an equal-weighted average because it approximates what investors paid, on average, for the funds they invested in rather than what funds charged, on average. For example, for active US equity funds, the asset-weighted average expense ratio was 0.60% in 2023. The equal-weighted average expense ratio for this group was 1.04%. Funds with expense ratios above 1.04% accounted for a small portion of assets invested in active US equity funds at the end of 2023. The equal-weighted average does not reflect most investors' experience.

Declines in asset-weighted average fees were more muted than in previous years, but the average investor still paid fewer fund fees in 2023 than in 2022. Lower asset-weighted fees are possible thanks to a combination of inflows into low-cost funds, outflows from more costly ones, fee cuts, and relative underperformance by more-expensive funds. In aggregate, last year's asset-weighted expense ratios for actively managed and passive funds declined just 0.2% and 1.3%, respectively, from 2022.

Exhibit 2 Investors' Average Fund Costs by Asset-Weighted Average Fees

	Asset-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	0.68	0.66	0.64	0.61	0.60	0.09	0.09	0.09	0.08	0.08
Sector Equity	0.83	0.81	0.79	0.78	0.80	0.27	0.27	0.27	0.25	0.24
International Equity	0.79	0.76	0.73	0.71	0.69	0.20	0.18	0.18	0.18	0.17
Taxable Bond	0.57	0.53	0.47	0.46	0.47	0.11	0.10	0.09	0.08	0.08
Muni Bond	0.51	0.47	0.45	0.44	0.45	0.17	0.15	0.14	0.12	0.11
Allocation	0.64	0.61	0.59	0.58	0.59	0.47	0.41	0.39	0.38	0.39
Alternative	1.53	1.30	1.14	1.14	1.17	1.08	1.14	1.94	1.57	1.51
Commodities	0.75	0.64	0.61	0.69	0.74	0.43	0.40	0.40	0.42	0.38
All Funds	0.67	0.64	0.61	0.59	0.59	0.13	0.12	0.13	0.11	0.11

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 3 Passive Funds' Average Fees Fell Further Than Active Ones

	Year-Over-Year % Change in Asset-Weighted Average Fees									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	-2.9	-2.9	-3.0	-4.7	-1.6	-10.0	0.0	0.0	-11.1	0.0
Sector Equity	-4.6	-2.4	-2.5	-1.3	2.6	-3.6	0.0	0.0	-7.4	-4.0
International Equity	-3.7	-3.8	-3.9	-2.7	-2.8	-4.8	-10.0	0.0	0.0	-5.6
Taxable Bond	-1.7	-7.0	-11.3	-2.1	2.2	-8.3	-9.1	-10.0	-11.1	0.0
Muni Bond	-1.9	-7.8	-4.3	-2.2	2.3	-29.2	-11.8	-6.7	-14.3	-8.3
Allocation	-3.0	-4.7	-3.3	-1.7	1.7	-7.8	-12.8	-4.9	-2.6	2.6
Alternative	1.3	-15.0	-12.3	0.0	2.6	15.1	5.5	69.6	-18.8	-3.7
Commodities	-7.4	-14.7	-4.7	13.1	7.2	-6.5	-7.0	0.0	5.0	-9.5
All Funds	-3.5	-5.3	-4.2	-3.0	-0.2	-8.3	-5.5	4.5	-12.4	-1.3

Source: Morningstar. Data as of Dec. 31, 2023.

Trends in Fund Fees Charged by the Industry

A look at equal-weighted average fund fees.

The Fee Squeeze Shows Signs of Slowing

Changes in fees charged by asset managers are represented by trends in the equal-weighted average expense ratio, which reflect what the asset-management industry is charging for its products, regardless of fund size. We calculated the equal-weighted average expense ratio for active and passive funds by Morningstar Category group. The calculations include all share classes of all funds, excluding funds of funds and money market funds.

The mass migration to lower-cost funds and share classes has been a key driver of falling costs, but asset managers are growing reluctant to continue competing fiercely on price. In 2023, there were more fee increases than fee decreases by both active and passive funds, contributing to a slight increase in each's equal-weighted average expense ratio, though the equal-weight average for active funds stays rounded to 1.01%.

In recent years, index mutual funds and ETFs have experienced significant fee pressure. Most notably, providers of broad market index funds have been engaged in what has been dubbed a "fee war." In September 2018, this fee fighting reached what seemed at the time to be its inevitable conclusion when Fidelity launched its lineup of zero-fee index mutual funds. More recently, other asset managers have followed suit. As fees for these funds sit either at or near zero, it is inevitable that the pace of fee declines will slow, prompting asset managers to look for profit elsewhere.

Exhibit 4 Investors' Average Fund Costs by Equal-Weighted Average Fees

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	1.11	1.08	1.05	1.04	1.04	0.45	0.44	0.43	0.42	0.42
Sector Equity	1.32	1.29	1.26	1.23	1.26	0.47	0.47	0.45	0.46	0.46
International Equity	1.21	1.19	1.15	1.14	1.11	0.51	0.50	0.47	0.50	0.48
Taxable Bond	0.90	0.87	0.84	0.82	0.83	0.23	0.23	0.22	0.20	0.20
Muni Bond	0.83	0.80	0.78	0.77	0.78	0.24	0.21	0.22	0.21	0.21
Allocation	1.10	1.07	1.05	1.05	1.06	0.91	0.93	0.97	1.14	1.18
Alternative	1.73	1.59	1.46	1.42	1.39	1.14	0.77	0.74	0.54	0.49
Commodities	1.20	1.23	1.13	1.09	1.08	0.85	0.74	0.80	0.72	0.78
All Funds	1.10	1.06	1.03	1.01	1.01	0.58	0.57	0.55	0.54	0.55

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 5 Pace of Fee Decreases Slows Across Most Category Groups

	Year-Over-Year % Change in Equal-Weighted Average Fees									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	-0.9	-2.7	-2.8	-1.0	0.0	0.0	-2.2	-2.3	-2.3	0.0
Sector Equity	-2.9	-2.3	-2.3	-2.4	2.4	-2.1	0.0	-4.3	2.2	0.0
International Equity	-2.4	-1.7	-3.4	-0.9	-2.6	2.0	-2.0	-6.0	6.4	-4.0
Taxable Bond	-1.1	-3.3	-3.4	-2.4	1.2	-4.2	0.0	-4.3	-9.1	0.0
Muni Bond	-2.4	-3.6	-2.5	-1.3	1.3	0.0	-12.5	4.8	-4.5	0.0
Allocation	-2.7	-2.7	-1.9	0.0	1.0	-7.1	2.2	4.3	17.5	3.5
Alternative	-3.9	-8.1	-8.2	-2.7	-2.1	-13.0	-32.5	-3.9	-27.0	-9.3
Commodities	-0.8	2.5	-8.1	-3.5	-0.9	1.2	-12.9	8.1	-10.0	8.3
All Funds	-2.6	-3.3	-3.3	-1.4	0.1	0.8	-3.1	-3.6	-0.9	0.9

Source: Morningstar. Data as of Dec. 31, 2023.

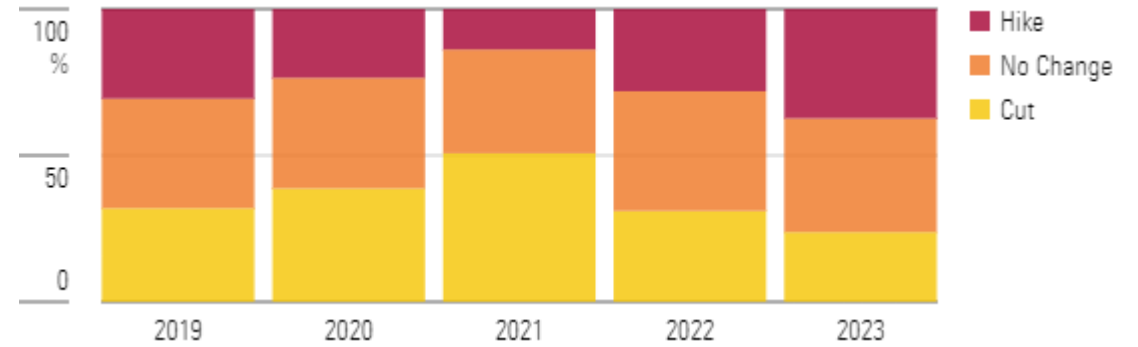
Fee Increases Accelerate

The fact that fees have been reduced to either nothing or next to nothing among broad market index funds is only natural. Given these funds' commodity-like nature, it seems inevitable that their prices would be pushed down to the marginal cost of managing them and that assets would consolidate in the hands of a few large-scale manufacturers.

More recently, this same degree of fee pressure has spread into other corners of the market, most notably within the realm of strategic-beta ETFs. Although the marginal cost of managing these funds is only incrementally greater than that for their more-vanilla counterparts, this space has seen mounting fee pressure and will continue to see this in coming years. That said, there are countervailing forces to consider. The proliferation of new, higher-priced index ETFs helped nudge passive funds' equal-weighted average fee almost a basis point higher in 2023.

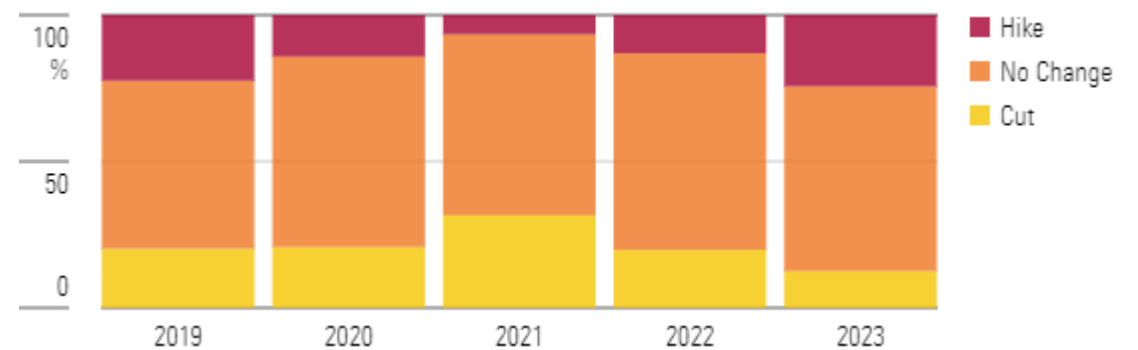
The percentage of active funds that reported lower annual expenses decreased to 24% in 2023 from 31% in 2022. Only 13% of passive funds cut their fee in 2023, down from 20% in 2022. Meanwhile, 37% of active funds and 24% of passive funds reported a fee increase, the first time increases outpaced decreases since 2019. Meanwhile, 37% of active funds and 24% of passive funds reported a fee increase, the first time increases outpaced decreases since 2019. Fees were higher for several possible reasons, such as fee hikes, expired waivers, outflows below fee breakpoints, and fund accounting anomalies.

Exhibit 6A Active Funds Have Been More Likely to Cut Fees in Recent Years



Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 6B Passive Funds Have Been Less Likely to Cut Fees in Recent Years



Source: Morningstar. Data as of Dec. 31, 2023.

Trends in New Fund Fees

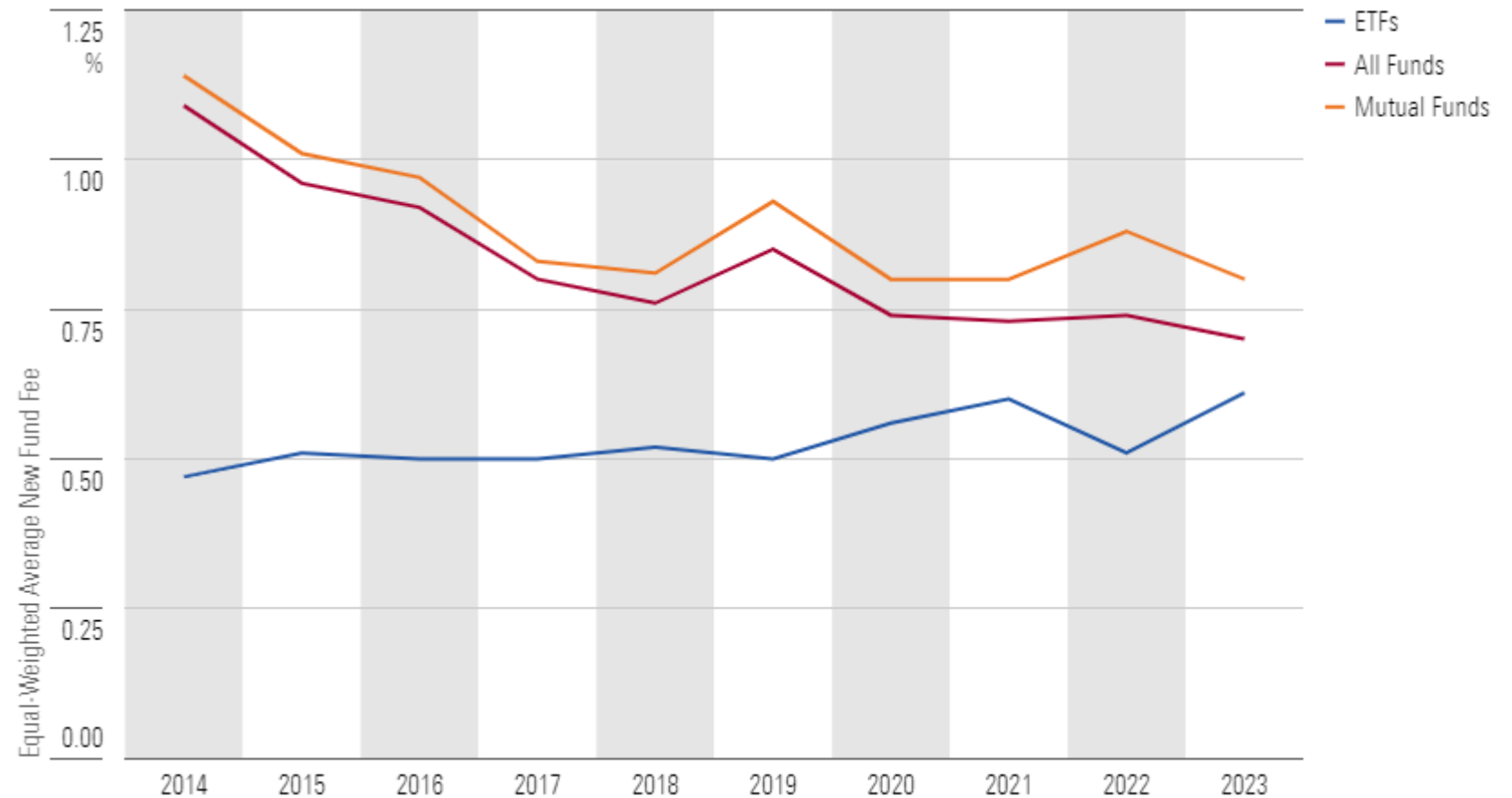
Under-the-radar fee trends of new mutual funds and ETFs.

A Tale of Two Vehicles

Each year, the number of new share classes launched has been decreasing, but so have their average fees. The average fee of newly launched mutual funds and ETFs was 1.09% in 2014, less than the 1.18% equal-weighted average fee for all funds that year. In 2023, the average new fund charged 0.70%, a 36% decrease from 10 years prior and an even steeper discount to last year's equal-weighted average fund fee of 0.95%. Fees are not shrinking everywhere, though.

The fee gap between newly launched mutual funds and ETFs shrank from 0.67% to 0.19% in the last 10 years, a 71% decrease. In 2014, new ETFs charged just 0.47% on average, while new mutual funds charged 1.14%. Fast-forward 10 years, and this gap narrowed as new ETF fees rose by 28% and new mutual fund fees fell by 30%. The emergence of active and alternative ETF strategies, which tend to be pricier than broad index strategies, likely drove the increase in new ETF fees.

Exhibit 7 Equal-Weighted Average Fee of New Funds



Source: Morningstar. Data as of Dec. 31, 2023.

Fee Wars Alive and Well for Bitcoin ETFs

Spot bitcoin ETFs began trading on Jan. 11, 2024, to much fanfare. Prior to launch, each of the 10 providers jockeyed to be the lowest-cost offering. For a product that's essentially a commodity, fees matter, with the cheapest product likely to earn the bulk of investor dollars. To not tip off competitors on where each might land, many providers opted to unveil their ETF fee only days ahead of its scheduled debut. Even still, each lowered their fee at least once prior to launch. ARK adjusted its fee four times since ARK 21Shares Bitcoin ETF's May 2023 filing.

While less frequent lately, fee wars still happen. Bitcoin ETFs proved the perfect storm: investor interest, commercial opportunity, and blanket SEC approval pitting nine (now 11) asset managers against one another to earn investor dollars. When the conditions are right, asset managers will still compete fiercely to be the cheapest.

Spot bitcoin ETFs debuted after data was collected for the rest of the exhibits in this report (Dec. 31, 2023). As it is a notable and relevant fee story, we decided to include commentary and produce a timeline (see next page).

Exhibit 8A Current Spot Bitcoin ETF Fees Including Waivers

Fund Name	Ticker	Annual Fee % (Excluding Waiver)	Annual Fee % (Including Waiver)	Waiver Period/Asset Limit
ARK 21Shares Bitcoin ETF	ARKB	0.21	0.21	N/A (expired)
Bitwise Bitcoin ETF	BITB	0.20	0.00	Six months/USD 1 billion*
Fidelity Wise Origin Bitcoin ETF	FBTC	0.25	0.00	Through July 2024
Franklin Bitcoin ETF	EZBC	0.19	0.00	Through Aug. 2, 2024/USD 10 billion
Grayscale Bitcoin Trust ETF (BTC)	GBTC	1.50	1.50	N/A
Hasdex Bitcoin ETF	DEFI	0.94	0.94	N/A
Invesco Galaxy Bitcoin ETF	BTCO	0.25	0.00	Six months/USD 5 billion
iShares Bitcoin Trust ETF	IBIT	0.25	0.12	12 months/USD 5 billion**
Valkyrie Bitcoin ETF	BRRR	0.25	0.25	N/A (expired)
VanEck Bitcoin Trust ETF	HODL	0.25	0.00	Through Aug. 31, 2025/ USD 1.5 billion
WisdomTree Bitcoin ETF	BTCW	0.25	0.00	Six months/USD 1 billion

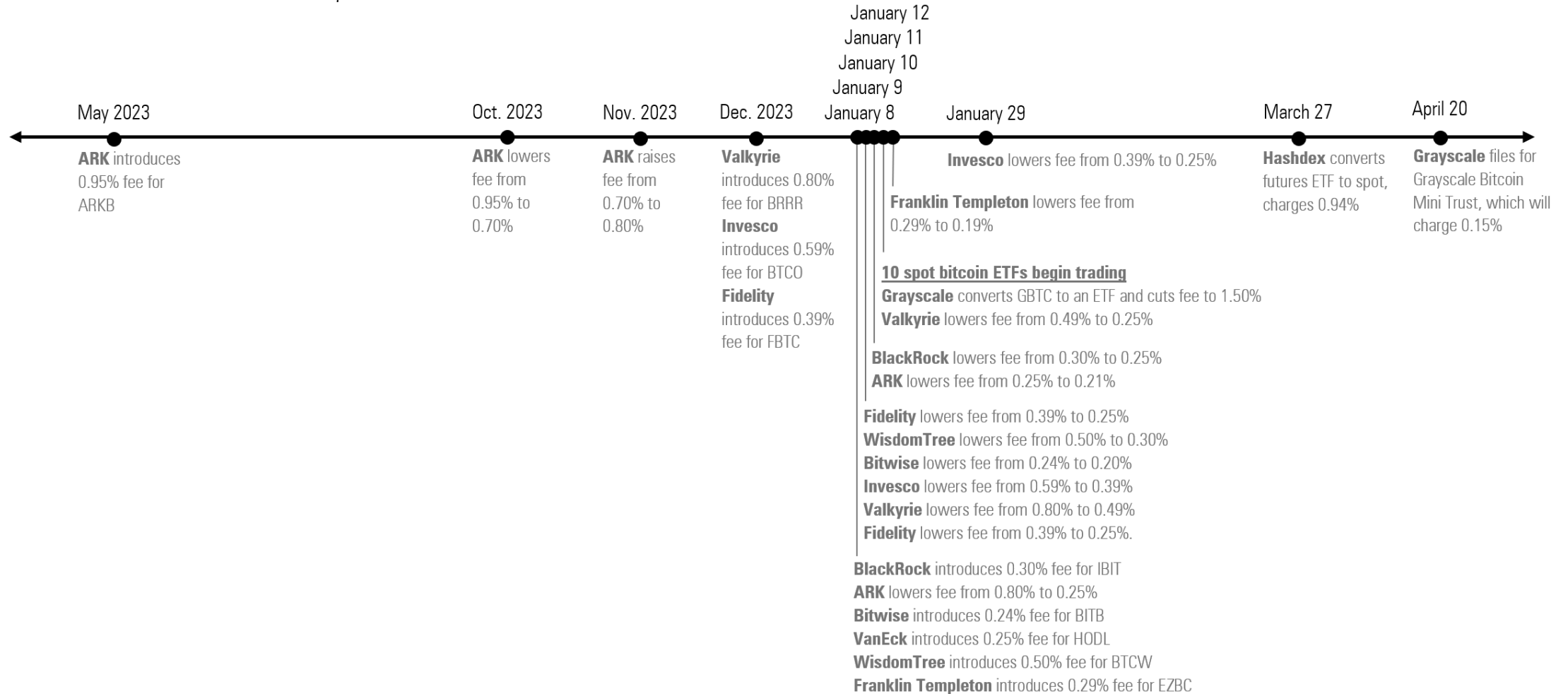
*The annual fee for Bitwise Bitcoin ETF is 0.20% on assets greater than USD 1 billion during the waiver period.

**The annual fee for iShares Bitcoin Trust ETF is 0.25% on assets greater than USD 5 billion during the waiver period.

Source: Morningstar, SEC. Data as of June 3, 2024.

Fee Wars Alive and Well for Bitcoin ETFs

Exhibit 8B Timeline of Bitcoin ETF Fee Adjustments



Source: Issuer Form S-1s. Securities and Exchange Commission EDGAR Online. Data as of June 13, 2024.

Asset Flows by Fees

Flows favor lower-cost funds and share classes.

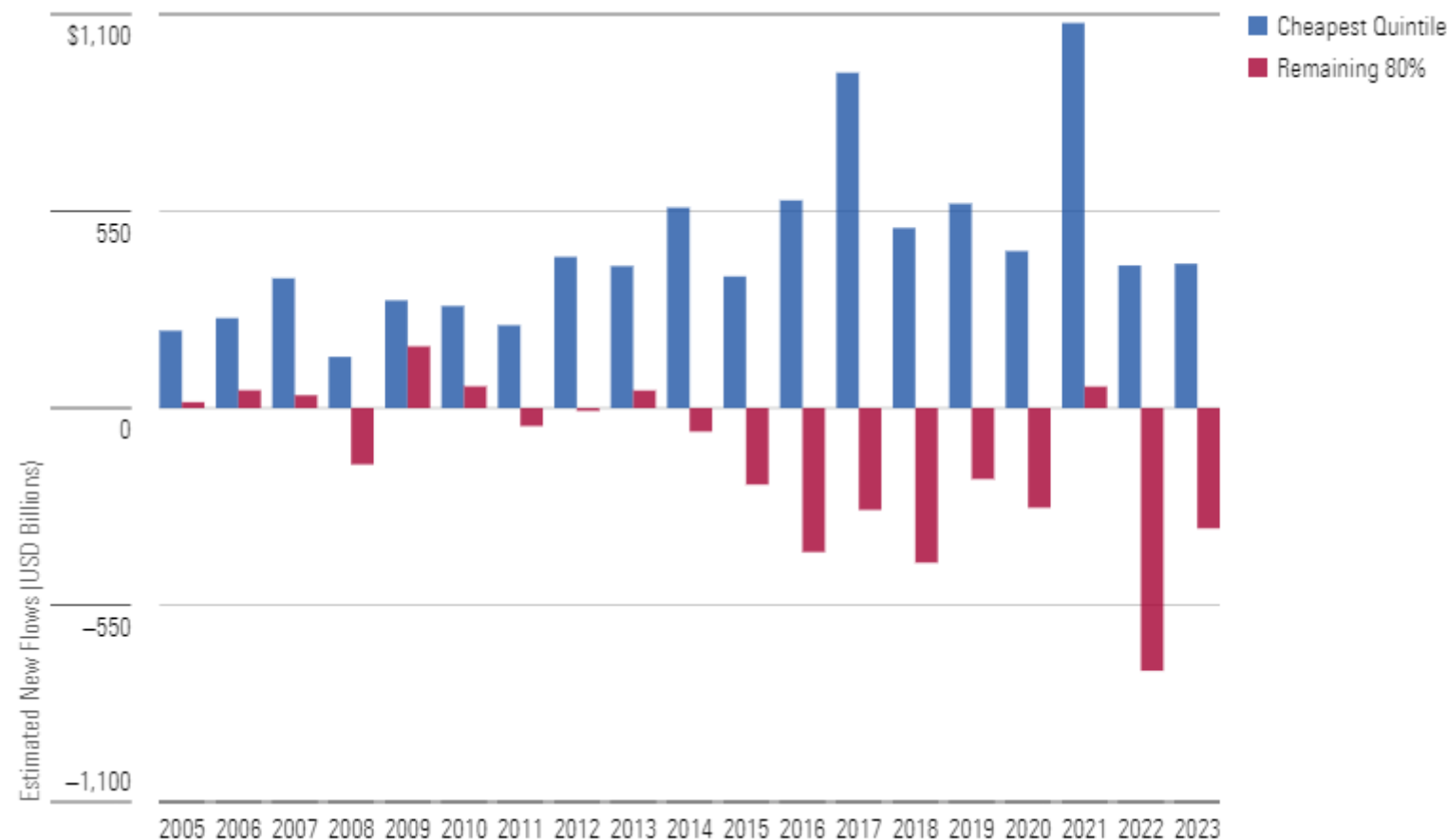
Investors Favor Low-Cost Funds and Reject More Costly Ones

Morningstar research has demonstrated that fees are a reliable predictor of future returns. Low-cost funds generally have greater odds of surviving and outperforming their more-expensive peers.

Since 2000, net flows into funds and share classes charging fees that rank within the cheapest 20% of their Morningstar Category group have trended higher. In 2023, these funds saw net inflows of USD 403 billion.

Flows for the remaining 80% of funds have been negative in eight of the past nine years. In 2023, these funds lost USD 336 billion to collective net outflows— not great, but an improvement from 2022’s negative USD 734 billion tally.

Exhibit 9 Investors Overwhelmingly Prefer Cheap Funds

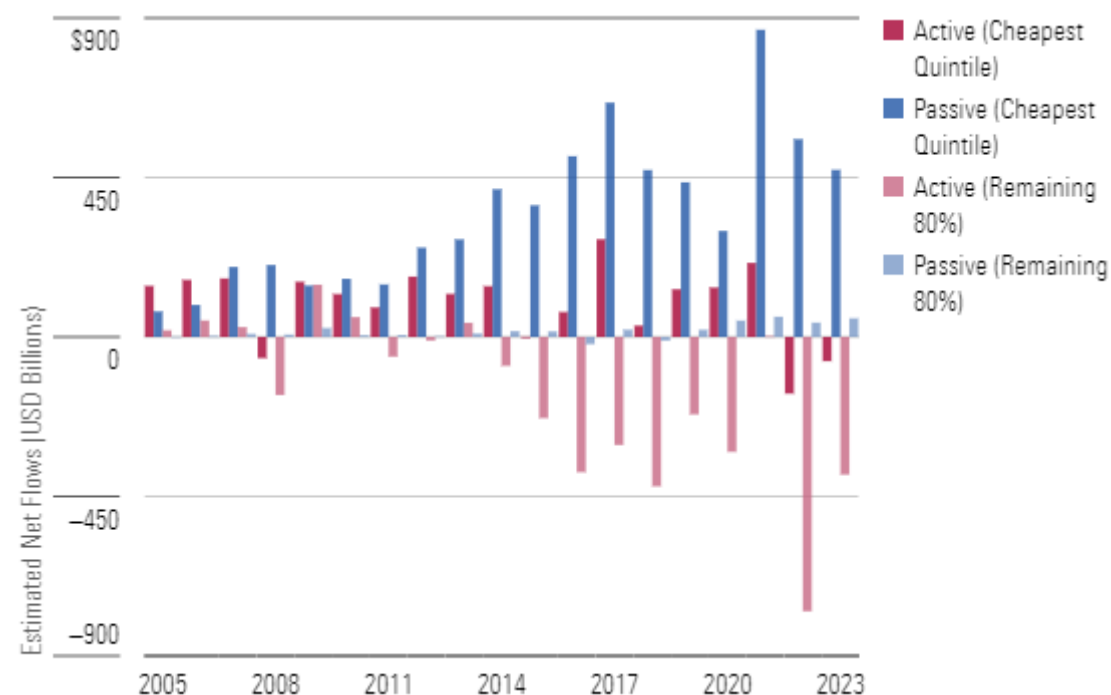


Source: Morningstar. Data as of Dec. 31, 2023.

Money Gravitates Toward Cheap and Passive Funds

Active funds have been the epicenter of outflows. While cheap active funds generally attracted inflows over the last 20 years, the tides turned in 2022 and 2023. In the last two years, passive funds attracted over USD 1.1 trillion in new money; active funds shed almost USD 1.4 trillion. Cheap passive funds remain a crowd favorite, though. The cheapest 20% of passive funds collected 90% of all inflows over the last two years.

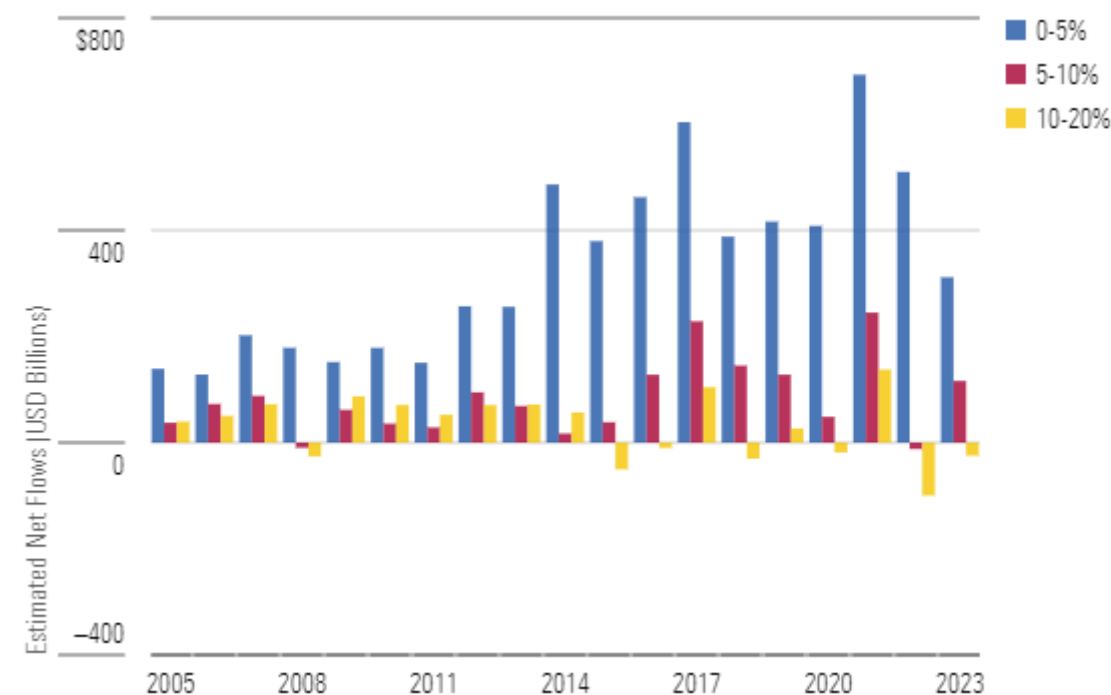
Exhibit 10 Pricey Active Funds Are the Epicenter of Outflows



Source: Morningstar. Data as of Dec. 31, 2023.

In 2023, USD 428 billion flowed into the least costly 10% of funds while the next cheapest decile of funds (10%-20%) lost USD 25 billion, underlining investors' overwhelming demand for the cheapest of the cheap.

Exhibit 11 Investors Poured Money Into the Cheapest of the Cheap

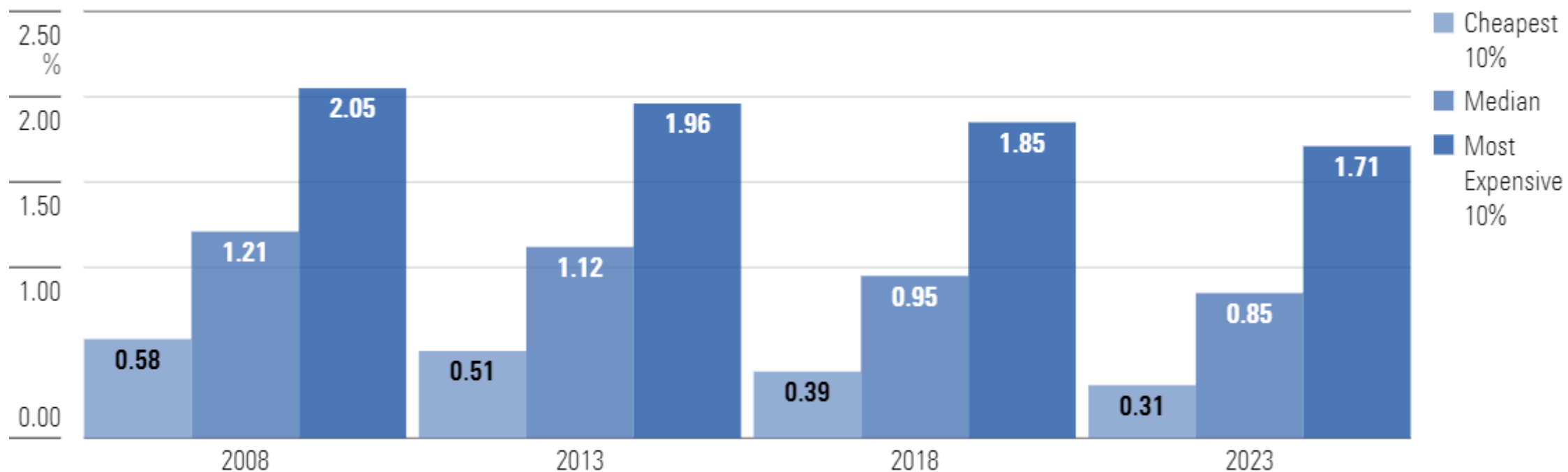


Source: Morningstar. Data as of Dec. 31, 2023.

Cheap Funds Are Getting Cheaper, Expensive Ones Are Trying to Gain Ground

Cheap funds have gotten significantly cheaper. Over the past 15 years, the cheapest 10% of all funds cut their fees almost in half, while the rest struggled to keep pace. The median fund's fee came down 30% during that time, and the priciest decile declined by just 17%. As the rate of decline slows for the cheapest of the cheap, the gap between the most expensive and least expensive funds could begin to converge.

Exhibit 12 Fees Continue to Fall Across the Fund Landscape



Source: Morningstar. Data as of Dec. 31, 2023.

Blend Is Cheap, Value and Growth Are Not

Among US stock funds, the border separating the cheapest from the rest has fallen the furthest among large-, mid-, and small-blend funds. These are categories that have seen the greatest impact from low-cost index funds and ETFs. Growth and value funds remain relatively expensive on average, as pricier active funds hold a larger proportion of assets in these areas.

Exhibit 13 The Lines Between Cheap and Expensive Across the US Equity Morningstar Style Box

2008				2013				2018				2023			
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	0.68	0.39	0.76	0.57	0.29	0.67	0.37	0.17	0.49	0.33	0.15	0.44	0.33	0.15	0.44
	1.19	1.15	1.25	1.06	1.03	1.16	0.89	0.79	0.96	0.80	0.70	0.86	0.80	0.70	0.86
Mid	1.98	1.99	2.08	1.87	1.88	1.96	1.72	1.71	1.81	1.64	1.55	1.66	1.64	1.55	1.66
	0.75	0.59	0.88	0.62	0.28	0.76	0.49	0.18	0.66	0.38	0.16	0.63	0.38	0.16	0.63
Small	1.25	1.28	1.35	1.21	1.18	1.25	0.99	0.94	1.07	0.89	0.85	1.01	0.89	0.85	1.01
	2.00	2.12	2.15	1.96	1.96	2.00	1.73	1.77	1.89	1.66	1.60	1.82	1.66	1.60	1.82
Small	0.86	0.70	0.95	0.81	0.50	0.86	0.69	0.30	0.75	0.48	0.21	0.70	0.48	0.21	0.70
	1.40	1.33	1.49	1.30	1.22	1.33	1.14	1.05	1.15	1.05	0.96	1.06	1.05	0.96	1.06
	2.13	2.11	2.28	2.04	1.97	2.12	1.94	1.81	1.99	1.86	1.71	1.89	1.86	1.71	1.89

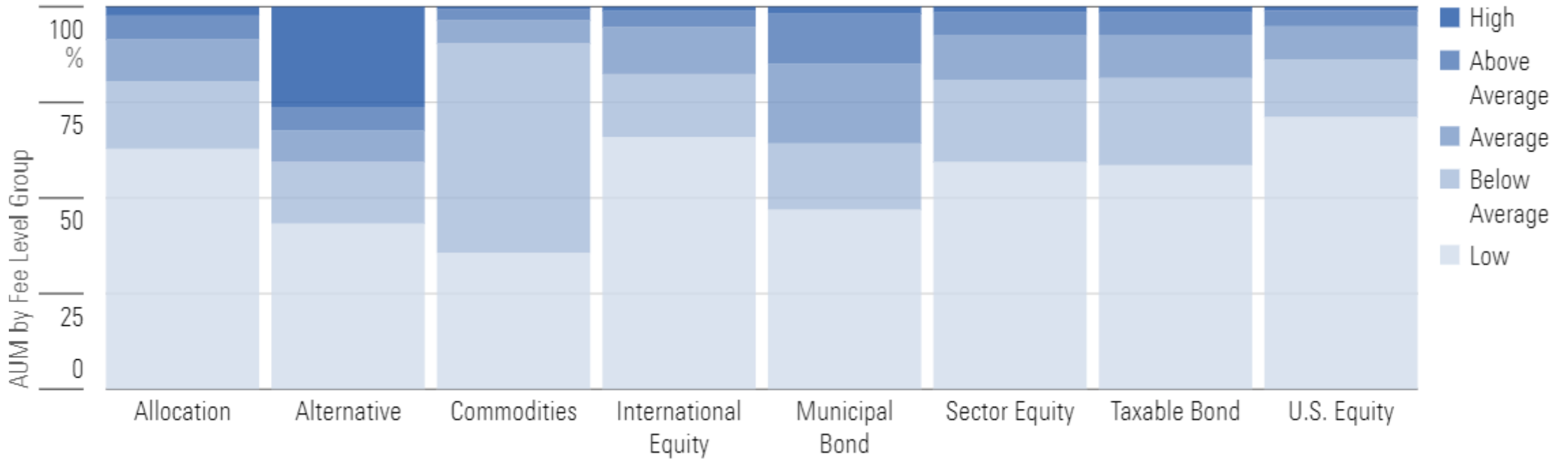
Legend	
<hr/>	Cheapest 10%
<hr/>	Median
<hr/>	Most Expensive 10%

Source: Morningstar. Data as of Dec. 31, 2023.

Investor Dollars Concentrate in the Least-Expensive Funds

Most of investors' money sits in lower-priced funds. At the end of 2023, 78% of all assets were invested in open-end mutual funds and ETFs that had fees that ranked among the least-expensive 40% of their respective Morningstar Category groups. Meanwhile, just 11% of investors' money was in the most expensive 40% of funds. Investors are most willing to pay higher fees, on average, for alternative and municipal-bond strategies.

Exhibit 14 Most of Investors' Money Is in the Least Expensive Funds



Source: Morningstar. Data as of Dec. 31, 2023.

How Fund Fees Are Being Shaped by the Evolving Economics of Advice

Classifying Service-Fee Arrangements

The evolution of the economics of the advice business is shaping flows and, by extension, fees. As advisors move away from transaction-driven compensation models and toward fee-based ones, less costly funds and share classes, those that have fewer—if any—embedded advice and/or distribution costs, are seeing more flows.

In 2018, Morningstar introduced our service-fee arrangement attribute in our US funds database. This attribute classifies funds based on their service-fee arrangements between asset managers, distributors, advisors, and investors. It aims to help investors discern how they might be paying for advice—either directly to an advisor in the form of a fee or indirectly via the fees they pay for the funds they invest in. In practice, investors might be paying for advice via some combination of the two, but this classification of funds into unbundled, semibundled, and bundled buckets is a useful means of beginning to understand what investors are getting in return for the fund fees.

The definitions of these groups are as follows:

- **Unbundled:** An investor simply pays for investment management and fund operating expenses, and the fund and its advisor do not pay third parties who sell their funds to the public. Unbundled share classes reduce conflicts, but investors still need to ask if they are paying a reasonable amount for advice and for the services that their intermediary charges them directly.
- **Semibundled:** The product charges no traditional distribution fees (or 12b-1 fees) or load-sharing but can have revenue-sharing or subtransfer agency fees. Semibundled share classes could create some potential conflicts of interests that investors need to ask about.
- **Bundled:** These are traditional share classes, where the investor pays a load and a 12b-1 fee to the mutual fund, which in turn pays the intermediary. Bundled share classes are purely transactional, which can work well for sophisticated investors who have done their homework and wish to pay upfront commissions. Advice associated with these share classes may ultimately cost less.

Flows Follow the Transition to Fee-Based Advice Models

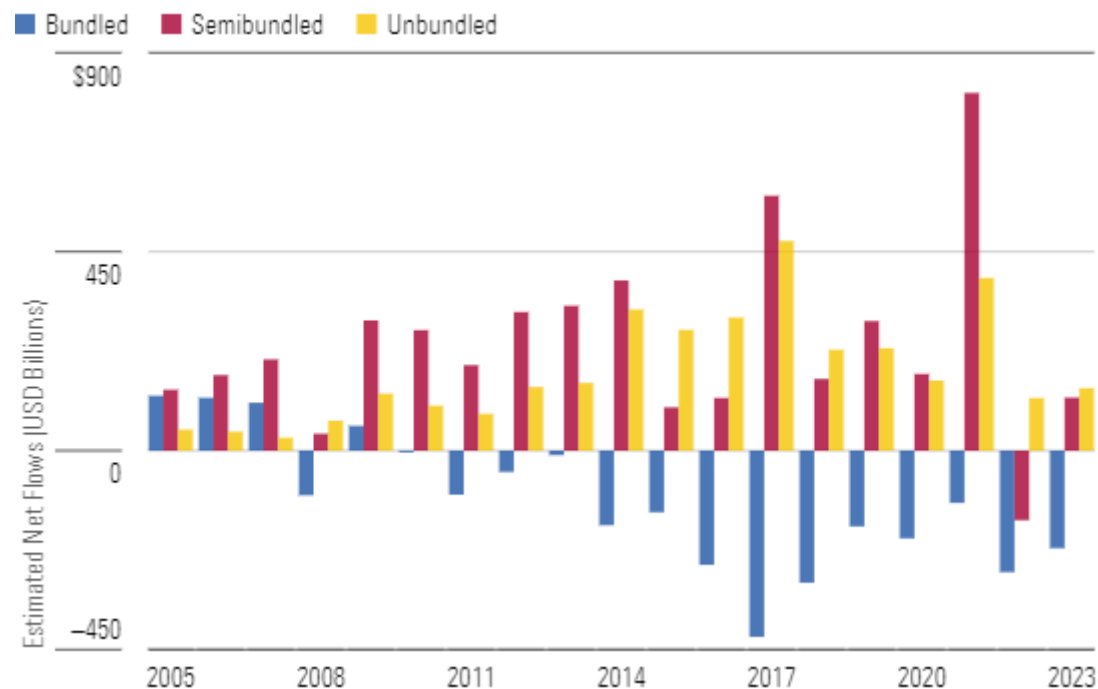
Looking through the lens of Morningstar's service-fee arrangement attribute, we can see that bundled share classes have been in outflows every year since 2010, while semibundled and unbundled share classes have seen mostly steady inflows. This corresponds to the shift away from transaction-driven advice models, which favor load shares, and toward fee-based ones. The result is that investment product costs are being displaced by advisor fees.

Exhibit 15 Service-Fee Arrangements

Fee Type	Unbundled	Semibundled	Bundled
Management Fee	✓	✓	✓
Fund Operating Expenses	✓	✓	✓
Subtransfer Agency Fees	✗	✓	✓
Revenue Sharing, Platform, or Other Access Fees	✗	✓	✓
Distribution Fees (12b-1)	✗	✗	✓
Loads and Commissions	✗	✗	✓
Transactions and other Operational Fees	✗	✗	✓
Fees for Advice and Planning	✗	✗	✗

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 16 Bundled Funds Have Seen Steady Outflows



Source: Morningstar. Data as of Dec. 31, 2023.

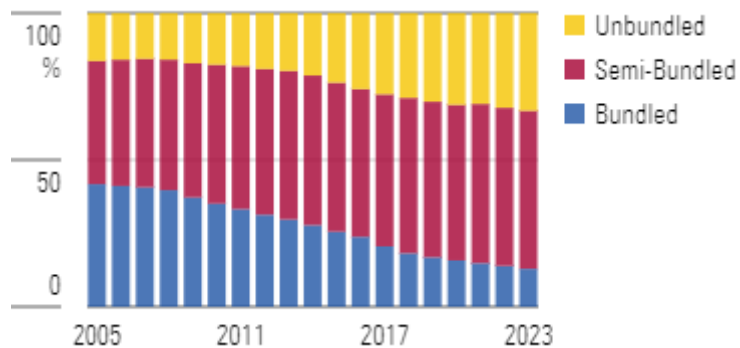
Fees Fell Across Service-Fee Arrangements, but Not Everywhere

Bundled funds and share classes have been a casualty of the move toward fee-based advice. These funds and share classes accounted for 42% of fund assets in 2005. At the end of 2023, their share had declined to 13%.

Asset-weighted fees for bundled funds and share classes ticked higher through the 1990s and peaked in 2003. By the end of 2023, they were modestly lower than they were three decades prior. Meanwhile, asset-weighted fees in the semibundled and unbundled cohorts have trended lower over the past 30 years.

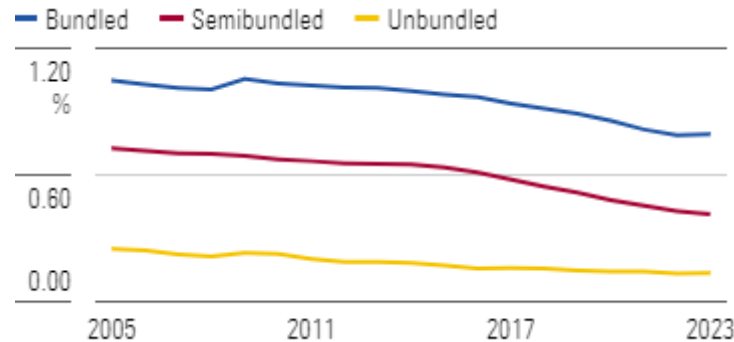
The trend in equal-weighted fees across these three service-fee arrangement segments paints a very different picture. Equal-weighted average fees for unbundled funds and share classes were higher at the end of 2023 than they were in 2005, while the average fee charged by bundled and semibundled funds ticked gradually lower. This highlights the variety of line items present in the bundled and semibundled cohorts' expense ratios and how, in the case of many funds and share classes belonging to the semibundled group, they have been gradually stripped out or reduced.

Exhibit 17 Semibundled and Unbundled Hold Most Assets



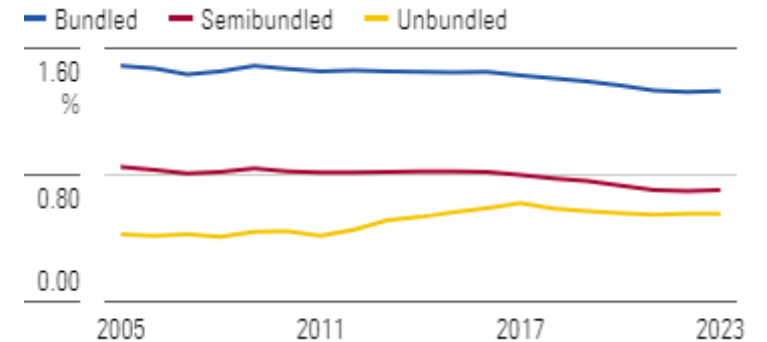
Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 18 Asset-Weighted Fees by Service Arrangement



Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 19 Equal-Weighted Fees by Service Arrangement



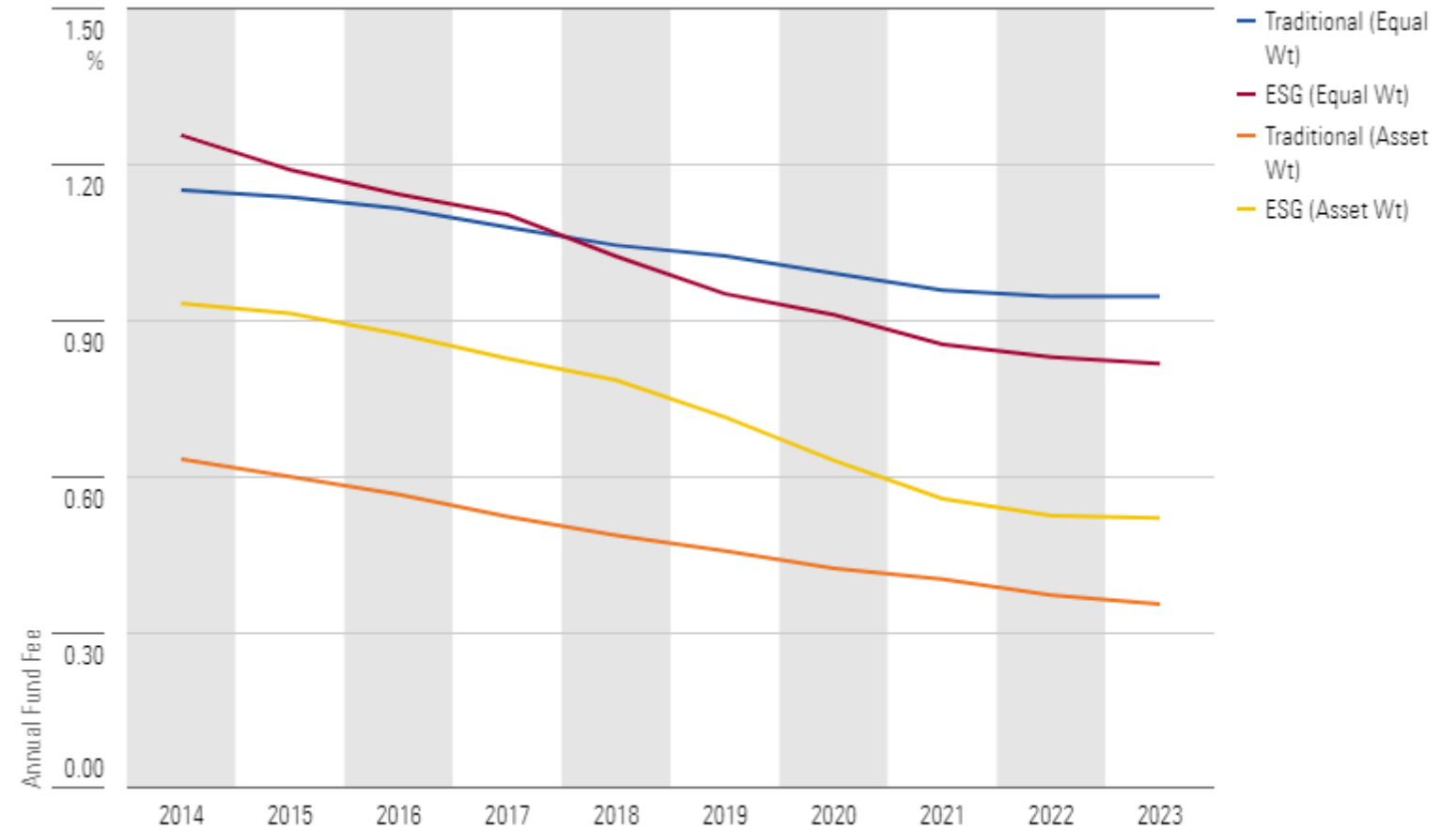
Source: Morningstar. Data as of Dec. 31, 2023.

The Sustainable Fund 'Greenium'

Fund Fees Are Falling, but ESG Investors Still Pay More

Investors in sustainable funds are paying a “greenium” relative to investors in conventional funds. This is evidenced by these funds’ higher asset-weighted average expense ratio, which stood at 0.52% at the end of 2023 versus 0.36% for their traditional peers. That said, sustainable funds’ fees have been falling on both an equal- and asset-weighted basis. Over the past decade, the average fee charged by sustainable funds has fallen 35%, while the average fee paid by investors in these funds has dropped 44%. This has been driven in large part by the introduction of a large number of low-fee sustainable index mutual funds and ETFs to the menu, many of which have gained favor with investors.

Exhibit 20 ESG Investors Continue to Pay a ‘Greenium’



Source: Morningstar. Data as of Dec. 31, 2023.

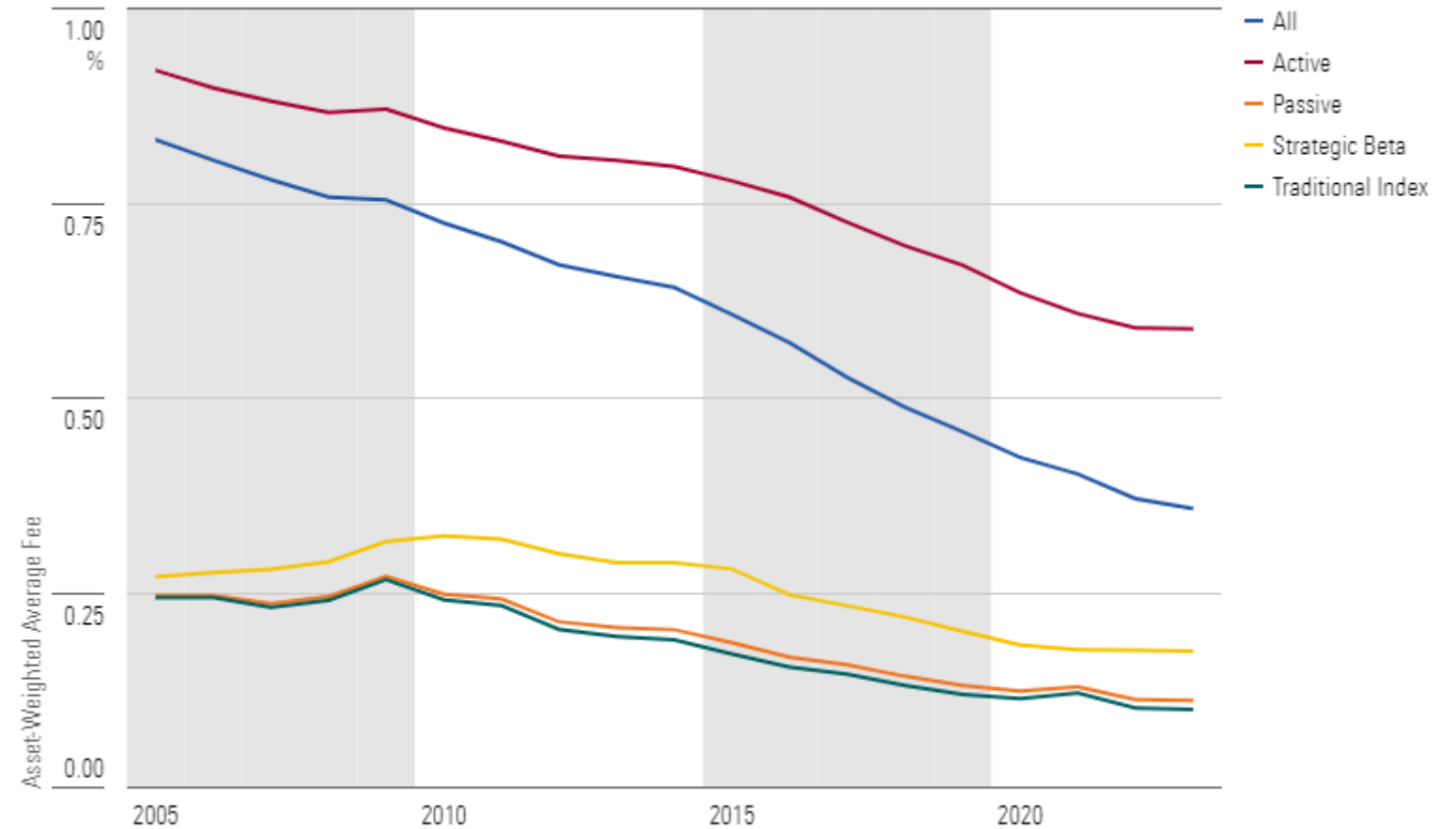
Strategic-Beta Fees

An Attempt to Marry the Best of Both Worlds

Strategic-beta funds attempt to marry the best attributes of active and passive approaches to portfolio construction. The indexes that underpin these funds attempt to codify strategies similar to those plied by active managers and deliver them in a format that is more transparent and less costly relative to most traditional actively managed funds.

At 0.18%, strategic-beta funds' asset-weighted average fee is significantly lower relative to active funds but reflects a premium versus their peers tracking more traditional indexes. That said, this premium has narrowed in recent years as fee competition has spilled over from the realm of traditional index funds into strategic-beta ones.

Exhibit 21 Strategic-Beta Funds Offer a Cheaper Alternative to Active Management



Source: Morningstar. Data as of Dec. 31, 2023.

Asset Manager Fee Wars

Vanguard Remains the Low-Cost Leader

Among the ranks of the largest asset managers, Vanguard continues to wear the low-cost crown. In 2023, the firm's asset-weighted expense ratio was 0.08%, down from 0.09% in 2018. Vanguard was followed by State Street Global Advisors (0.14%), iShares (0.16%), and Dimensional Fund Advisors (0.24%). Vanguard's competition continued to gain ground in 2023. As these firms jockeyed for position, investors have come out in front, benefiting from an ever-wider menu of cheap options offering wide market exposure.

Exhibit 22 Fee Competition Among the Largest Asset Managers Is Intense

	Asset-Weighted Average Fees (%)			2023			
	2018	2023	Percent Change	Year End AUM (USD Bil)	Market Share (%)	Asset Growth (%)	Organic Growth Rate (%)
Vanguard	0.09	0.08	-13	7,383.10	27.75	68.33	19.88
Fidelity Investments	0.38	0.27	-28	2,653.84	9.97	61.25	16.05
iShares	0.20	0.16	-20	2,573.99	9.67	79.29	53.70
American Funds	0.60	0.54	-9	2,135.54	8.03	61.66	-8.64
SPDR State Street Global Advisors	0.16	0.14	-16	1,221.02	4.59	67.84	44.76
Invesco	0.71	0.51	-13	710.93	2.67	62.66	-7.24
T. Rowe Price	0.66	0.48	-28	676.99	2.54	59.26	-27.08
JPMorgan	0.61	0.51	-20	563.00	2.12	78.97	52.56
Dimensional Fund Advisors	0.34	0.24	-9	504.89	1.90	66.87	-9.22
Franklin Templeton Investments	0.79	0.73	-16	502.42	1.89	70.55	-29.79

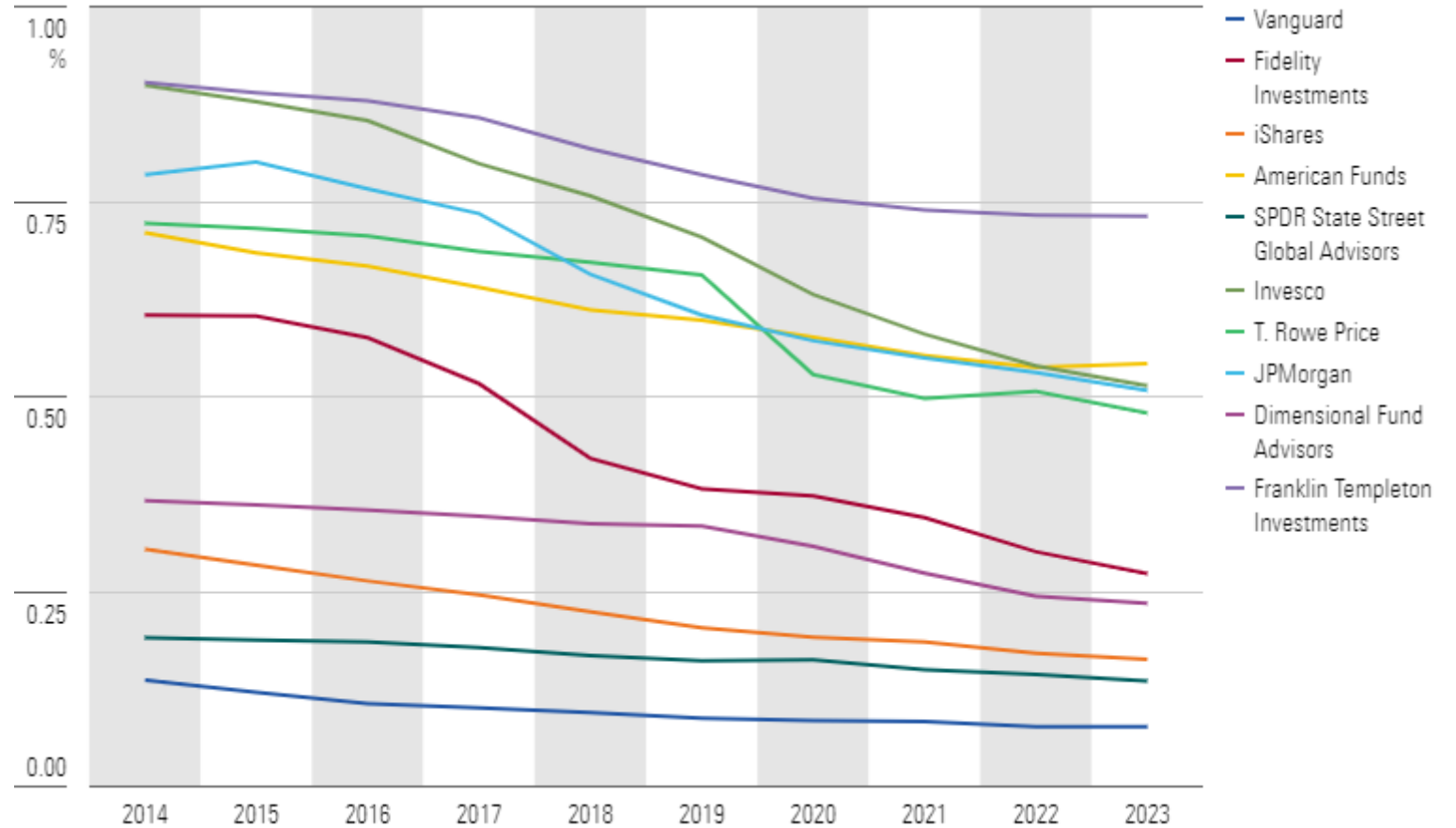
Source: Morningstar. Data as of Dec. 31, 2023. Asset growth (%) and organic growth rate (%) based on 2018 and 2023 data.

Investors Are Increasingly Drawn to Providers' Cheapest Funds

An asset manager's asset-weighted average fee provides an accurate representation of the typical investor experience in its funds. Unsurprisingly, Vanguard investors paid the lowest fee in 2023, just 0.08% across its lineup of low-cost funds. This is a small but significant decrease from its 0.14% average in 2014. Investors in other index-fund-heavy shops tend to pay the lowest fees, like State Street investors who have consistently paid low fees thanks to its popular fleet of low-cost index funds and ETFs.

Asset managers with higher-priced fund lineups have seen investors gravitate toward their cheapest offerings. For example, Fidelity has seen its asset-weighted average fee drop to 0.27% in 2023 from 0.61% in 2014, following fee cuts and strong inflows into its cheapest funds. Fidelity now ranks just behind low-cost active leader Dimensional Fund Advisors.

Exhibit 23 Asset-Weighted Average Fee by Asset Manager



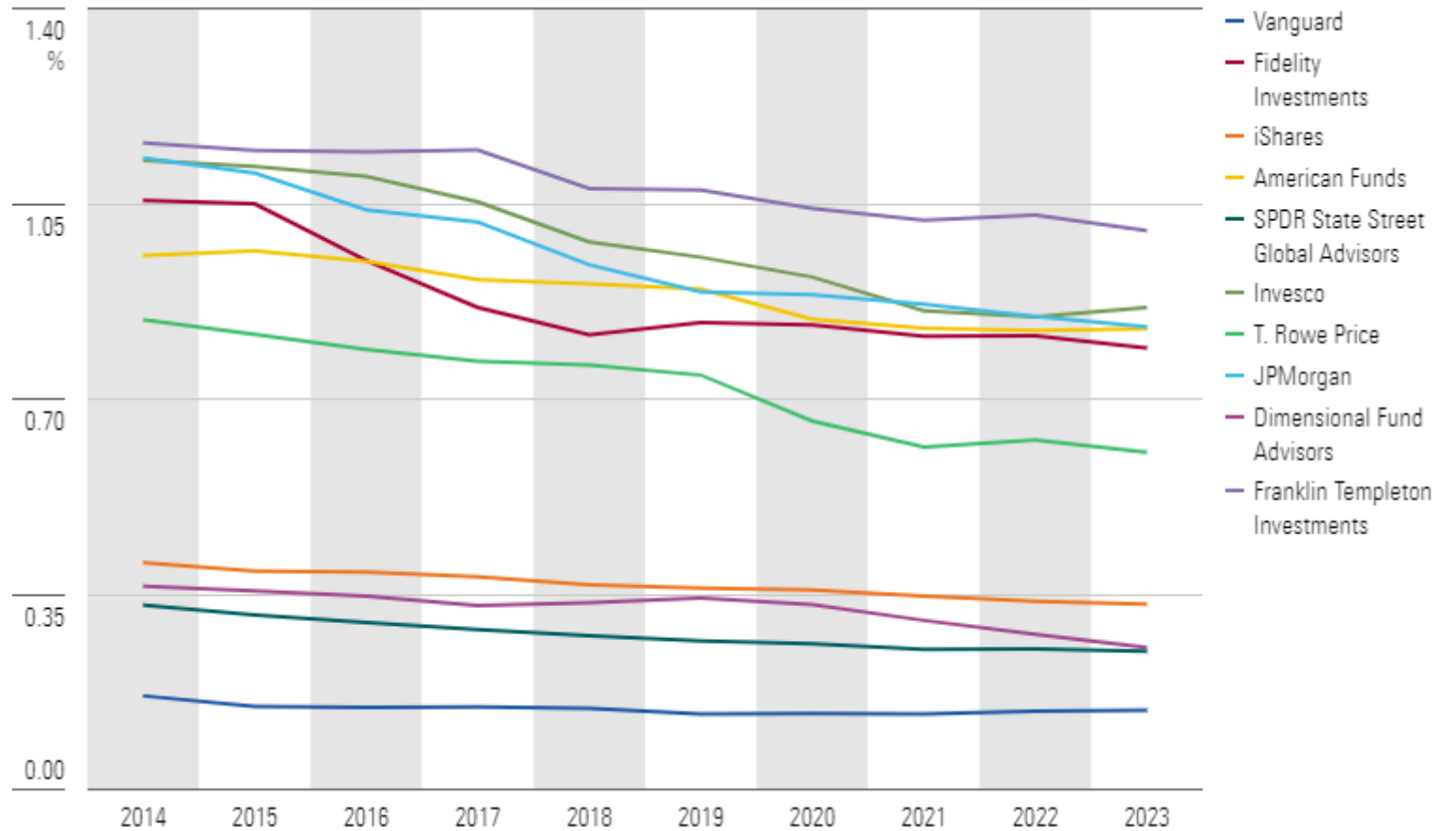
Source: Morningstar. Data as of Dec. 31, 2023.

Fees Stagnate Among the Cheapest Providers, Fall Among the Priciest

Equal-weighted average fees show the general price level of the funds on offer from each firm. Index fund champions Vanguard, State Street, and iShares rank among the cheapest, while predominantly active shops, like Franklin Templeton, charge the most for their funds, on average. Dimensional is an anomaly. It offers active funds, but their systematic offerings rank comfortably among the cheapest passive providers.

The 10 largest asset managers decreased their average fund's fee substantially in the last 20 years. However, that rate of decline has begun to slow. With many core strategies already commoditized, passive shops have barely decreased fees recently, if at all. For example, Vanguard's equal-weighted average fee even ticked up in 2022 and 2023. Still, asset managers with a more expensive menu are launching relatively lower-cost funds or cutting fees on existing ones.

Exhibit 24 Equal-Weighted Average Fee by Asset Manager



Source: Morningstar. Data as of Dec. 31, 2023.

Appendix

Exhibit 25 Asset-Weighted Average Fees by Morningstar Category

	Asset-Weighted Average Fees (%)				
	2019	2020	2021	2022	2023
Large Blend	0.19	0.17	0.16	0.15	0.15
Large Value	0.48	0.45	0.42	0.41	0.40
Large Growth	0.60	0.58	0.56	0.51	0.48
Mid-Cap Blend	0.23	0.21	0.24	0.24	0.20
Mid-Cap Value	0.60	0.61	0.58	0.59	0.60
Mid-Cap Growth	0.81	0.78	0.59	0.58	0.72
Small Blend	0.36	0.33	0.30	0.29	0.28
Small Value	0.59	0.58	0.55	0.53	0.51
Small Growth	0.77	0.76	0.74	0.73	0.70
Foreign Large Blend	0.29	0.26	0.25	0.24	0.24
Foreign Large Growth	0.69	0.67	0.66	0.65	0.63
Diversified Emerging Mkts	0.65	0.61	0.57	0.53	0.49
Global Large-Stock Blend	0.63	0.59	0.54	0.54	0.53
Intermediate Core Bond	0.15	0.14	0.14	0.14	0.13
Intermediate Core-Plus Bond	0.51	0.49	0.46	0.44	0.44
Short-Term Bond	0.34	0.33	0.28	0.27	0.26
Ultrashort Bond	0.30	0.28	0.27	0.24	0.21
Corporate Bond	0.27	0.26	0.22	0.20	0.22
High-Yield Bond	0.64	0.59	0.56	0.56	0.55

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 26 Annual Percent Change in Asset-Weighted Fees by Morningstar Category

	Change in Asset-Weighted Average Fees (%)				
	2019	2020	2021	2022	2023
Large Blend	-10.3	-10.1	-4.4	-9.9	1.5
Large Value	-5.6	-6.9	-5.0	-4.0	-2.5
Large Growth	-2.0	-3.4	-3.5	-8.1	-6.1
Mid-Cap Blend	-22.7	-9.0	12.3	-1.0	-17.2
Mid-Cap Value	1.0	0.4	-4.0	0.8	3.2
Mid-Cap Growth	-1.3	-4.0	-24.1	-2.3	25.3
Small Blend	-8.7	-8.5	-10.0	-2.3	-3.4
Small Value	-5.7	-1.8	-5.2	-4.7	-3.6
Small Growth	-1.0	-2.0	-2.2	-1.5	-3.7
Foreign Large Blend	-13.9	-10.2	-6.3	-1.9	-2.0
Foreign Large Growth	-3.1	-3.2	-1.6	-1.7	-3.0
Diversified Emerging Mkts	-5.7	-5.8	-5.8	-8.3	-6.0
Global Large-Stock Blend	-4.0	-7.3	-8.4	0.1	-1.6
Intermediate Core Bond	-4.4	-6.8	-4.2	-0.8	-1.1
Intermediate Core-Plus Bond	1.3	-3.4	-7.5	-3.9	0.3
Short-Term Bond	-0.6	-3.1	-15.3	-2.8	-4.0
Ultrashort Bond	-4.6	-5.4	-2.6	-10.2	-15.2
Corporate Bond	5.2	-3.0	-16.1	-5.6	9.0
High-Yield Bond	-1.9	-7.8	-5.0	0.2	-1.8

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 27 Active and Passive Funds' Asset-Weighted Average Fees

	Asset-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Large Blend	0.56	0.52	0.48	0.46	0.46	0.06	0.06	0.06	0.05	0.05
Large Value	0.61	0.57	0.56	0.56	0.55	0.17	0.16	0.16	0.15	0.15
Large Growth	0.70	0.69	0.68	0.65	0.63	0.16	0.15	0.16	0.15	0.15
Mid-Cap Blend	0.87	0.89	0.85	0.84	0.84	0.10	0.09	0.10	0.09	0.08
Mid-Cap Value	0.70	0.71	0.68	0.73	0.76	0.20	0.18	0.18	0.24	0.26
Mid-Cap Growth	0.89	0.85	0.83	0.83	0.82	0.21	0.20	0.09	0.08	0.17
Small Blend	0.74	0.73	0.70	0.70	0.68	0.12	0.11	0.11	0.10	0.10
Small Value	0.83	0.82	0.80	0.76	0.72	0.16	0.15	0.15	0.15	0.16
Small Growth	0.92	0.89	0.88	0.88	0.86	0.15	0.14	0.14	0.13	0.14
Foreign Large Blend	0.73	0.67	0.62	0.62	0.62	0.12	0.12	0.12	0.11	0.11
Foreign Large Growth	0.69	0.68	0.67	0.66	0.64	0.38	0.37	0.35	0.33	0.32
Diversified Emerging Mkts	0.91	0.84	0.81	0.77	0.73	0.24	0.24	0.21	0.20	0.19
Global Large-Stock Blend	0.75	0.70	0.65	0.68	0.67	0.20	0.21	0.19	0.19	0.18
Intermediate Core Bond	0.35	0.32	0.33	0.33	0.33	0.05	0.05	0.05	0.04	0.04
Intermediate Core-Plus Bond	0.51	0.50	0.46	0.45	0.45	0.17	0.14	0.08	0.06	0.07
Short-Term Bond	0.44	0.43	0.37	0.36	0.35	0.06	0.06	0.05	0.05	0.05
Ultrashort Bond	0.33	0.31	0.29	0.27	0.25	0.15	0.14	0.14	0.14	0.13
Corporate Bond	0.44	0.45	0.37	0.36	0.43	0.11	0.10	0.09	0.08	0.08
High-Yield Bond	0.68	0.64	0.61	0.61	0.60	0.41	0.38	0.36	0.35	0.34

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 28 Percent Change in Active and Passive Funds' Asset-Weighted Average Fees

	Change in Asset-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Large Blend	-8.2	-7.1	-7.7	-4.2	0.0	-14.3	0.0	0.0	-16.7	0.0
Large Value	-1.6	-6.6	-1.8	0.0	-1.8	-5.6	-5.9	0.0	-6.3	0.0
Large Growth	0.0	-1.4	-1.4	-4.4	-3.1	-5.9	-6.3	6.7	-6.3	0.0
Mid-Cap Blend	17.6	2.3	-4.5	-1.2	0.0	-9.1	-10.0	11.1	-10.0	-11.1
Mid-Cap Value	1.4	1.4	-4.2	7.4	4.1	0.0	-10.0	0.0	33.3	8.3
Mid-Cap Growth	0.0	-4.5	-2.4	0.0	-1.2	-4.5	-4.8	-55.0	-11.1	112.5
Small Blend	-5.1	-1.4	-4.1	0.0	-2.9	-7.7	-8.3	0.0	-9.1	0.0
Small Value	-2.4	-1.2	-2.4	-5.0	-5.3	0.0	-6.3	0.0	0.0	6.7
Small Growth	0.0	-3.3	-1.1	0.0	-2.3	-6.3	-6.7	0.0	-7.1	7.7
Foreign Large Blend	-3.9	-8.2	-7.5	0.0	0.0	-7.7	0.0	0.0	-8.3	0.0
Foreign Large Growth	-4.2	-1.4	-1.5	-1.5	-3.0	-7.3	-2.6	-5.4	-5.7	-3.0
Diversified Emerging Mkts	-3.2	-7.7	-3.6	-4.9	-5.2	-11.1	0.0	-12.5	-4.8	-5.0
Global Large-Stock Blend	-2.6	-6.7	-7.1	4.6	-1.5	0.0	5.0	-9.5	0.0	-5.3
Intermediate Core Bond	-5.4	-8.6	3.1	0.0	0.0	-16.7	0.0	0.0	-20.0	0.0
Intermediate Core-Plus Bond	0.0	-2.0	-8.0	-2.2	0.0	-5.6	-17.6	-42.9	-25.0	16.7
Short-Term Bond	0.0	-2.3	-14.0	-2.7	-2.8	-25.0	0.0	-16.7	0.0	0.0
Ultrashort Bond	-2.9	-6.1	-6.5	-6.9	-7.4	-6.3	-6.7	0.0	0.0	-7.1
Corporate Bond	22.2	2.3	-17.8	-2.7	19.4	-15.4	-9.1	-10.0	-11.1	0.0
High-Yield Bond	-1.4	-5.9	-4.7	0.0	-1.6	-2.4	-7.3	-5.3	-2.8	-2.9

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 29 Equal-Weighted Average Fees by Morningstar Category

	Equal-Weighted Average Fees (%)				
	2019	2020	2021	2022	2023
Large Blend	0.87	0.83	0.80	0.78	0.80
Large Value	0.95	0.94	0.92	0.91	0.90
Large Growth	1.04	1.02	0.97	0.96	0.96
Mid-Cap Blend	1.01	0.96	0.93	0.95	0.90
Mid-Cap Value	1.05	1.04	0.98	0.98	0.99
Mid-Cap Growth	1.14	1.11	1.06	1.06	1.11
Small Blend	1.07	1.05	1.00	0.99	1.00
Small Value	1.20	1.17	1.15	1.14	1.12
Small Growth	1.21	1.20	1.19	1.17	1.17
Foreign Large Blend	0.94	0.92	0.91	0.92	0.91
Foreign Large Growth	1.10	1.07	1.05	1.05	1.03
Diversified Emerging Mkts	1.26	1.23	1.19	1.16	1.14
World Large-Stock Blend	1.03	1.00	0.94	0.96	0.94
Intermediate Core Bond	0.65	0.62	0.59	0.59	0.58
Intermediate Core-Plus Bond	0.79	0.77	0.74	0.74	0.76
Short-Term Bond	0.72	0.69	0.67	0.66	0.65
Ultrashort Bond	0.46	0.43	0.43	0.42	0.40
Corporate Bond	0.76	0.74	0.69	0.67	0.67
High-Yield Bond	0.96	0.94	0.91	0.89	0.90

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 30 Annual Percent Change in Equal-Weighted Fees by Morningstar Category

	Change in Equal-Weighted Average Fees (%)				
	2019	2020	2021	2022	2023
Large Blend	-2.4	-5.1	-3.3	-2.3	2.9
Large Value	-1.5	-1.0	-1.5	-1.8	-0.2
Large Growth	-2.1	-2.5	-5.0	-0.8	0.7
Mid-Cap Blend	-0.6	-4.6	-3.3	2.6	-5.3
Mid-Cap Value	-1.0	-0.5	-5.6	-0.2	0.4
Mid-Cap Growth	-2.2	-2.3	-5.0	0.6	4.9
Small Blend	-3.6	-1.7	-5.2	-0.6	0.3
Small Value	-0.6	-2.2	-1.8	-0.5	-1.9
Small Growth	-1.1	-1.2	-1.0	-1.0	0.0
Foreign Large Blend	-2.9	-2.3	-0.9	0.8	-1.7
Foreign Large Growth	-2.1	-2.9	-2.2	0.1	-1.9
Diversified Emerging Mkts	-2.9	-2.4	-3.1	-2.3	-1.7
World Large-Stock Blend	-2.7	-3.2	-5.6	1.5	-1.2
Intermediate Core Bond	-0.5	-5.3	-4.6	-0.1	-0.9
Intermediate Core-Plus Bond	-2.9	-3.4	-3.1	-0.7	2.7
Short-Term Bond	-2.0	-3.2	-3.6	-1.7	-0.6
Ultrashort Bond	-3.8	-4.5	-2.0	-2.4	-4.0
Corporate Bond	1.3	-3.4	-7.0	-2.7	0.3
High-Yield Bond	-2.8	-2.2	-2.5	-2.8	1.6

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 31 Active and Passive Funds' Equal-Weighted Average Fees

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Large Blend	1.01	0.96	0.92	0.91	0.92	0.39	0.39	0.38	0.37	0.36
Large Value	1.00	0.99	0.98	0.96	0.96	0.49	0.46	0.46	0.45	0.44
Large Growth	1.07	1.04	1.00	0.99	1.00	0.69	0.70	0.64	0.63	0.62
Mid-Cap Blend	1.22	1.17	1.14	1.13	1.10	0.44	0.39	0.39	0.42	0.38
Mid-Cap Value	1.08	1.07	1.04	1.04	1.04	0.67	0.65	0.45	0.45	0.45
Mid-Cap Growth	1.17	1.15	1.11	1.12	1.16	0.62	0.61	0.49	0.46	0.55
Small Blend	1.19	1.18	1.13	1.13	1.12	0.48	0.46	0.44	0.40	0.42
Small Value	1.24	1.21	1.19	1.19	1.16	0.71	0.71	0.66	0.60	0.64
Small Growth	1.23	1.22	1.21	1.19	1.20	0.65	0.63	0.61	0.66	0.63
Foreign Large Blend	1.09	1.07	1.04	1.04	1.03	0.39	0.37	0.36	0.35	0.35
Foreign Large Growth	1.12	1.09	1.07	1.07	1.05	0.46	0.43	0.44	0.46	0.42
Diversified Emerging Mkts	1.35	1.32	1.28	1.25	1.22	0.46	0.44	0.41	0.40	0.42
Global Large-Stock Blend	1.09	1.06	1.01	1.03	1.01	0.51	0.42	0.38	0.34	0.32
Intermediate Core Bond	0.72	0.69	0.65	0.65	0.64	0.27	0.27	0.24	0.23	0.24
Intermediate Core-Plus Bond	0.80	0.77	0.75	0.74	0.76	0.21	0.23	0.20	0.28	0.29
Short-Term Bond	0.75	0.72	0.70	0.69	0.68	0.12	0.12	0.12	0.12	0.12
Ultrashort Bond	0.47	0.45	0.44	0.44	0.42	0.13	0.13	0.12	0.12	0.12
Corporate Bond	0.84	0.81	0.77	0.76	0.76	0.24	0.22	0.19	0.14	0.16
High-Yield Bond	1.00	0.98	0.95	0.94	0.95	0.40	0.40	0.40	0.34	0.33

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 32 Percent Change in Active and Passive Funds' Equal-Weighted Average Fees

	Change in Equal-Weighted Average Fees (%)									
	Active					Passive				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
Large Blend	-2.9	-5.0	-4.2	-1.1	1.1	-2.5	0.0	-2.6	-2.6	-2.7
Large Value	-1.0	-1.0	-1.0	-2.0	0.0	4.3	-6.1	0.0	-2.2	-2.2
Large Growth	-2.7	-2.8	-3.8	-1.0	1.0	3.0	1.4	-8.6	-1.6	-1.6
Mid-Cap Blend	1.7	-4.1	-2.6	-0.9	-2.7	2.3	-11.4	0.0	7.7	-9.5
Mid-Cap Value	-0.9	-0.9	-2.8	0.0	0.0	-11.8	-3.0	-30.8	0.0	0.0
Mid-Cap Growth	-1.7	-1.7	-3.5	0.9	3.6	-10.1	-1.6	-19.7	-6.1	19.6
Small Blend	-3.3	-0.8	-4.2	0.0	-0.9	11.6	-4.2	-4.3	-9.1	5.0
Small Value	-1.6	-2.4	-1.7	0.0	-2.5	0.0	0.0	-7.0	-9.1	6.7
Small Growth	-0.8	-0.8	-0.8	-1.7	0.8	0.0	-3.1	-3.2	8.2	-4.5
Foreign Large Blend	-2.7	-1.8	-2.8	0.0	-1.0	8.3	-5.1	-2.7	-2.8	0.0
Foreign Large Growth	-2.6	-2.7	-1.8	0.0	-1.9	4.5	-6.5	2.3	4.5	-8.7
Diversified Emerging Mkts	-2.9	-2.2	-3.0	-2.3	-2.4	2.2	-4.3	-6.8	-2.4	5.0
Global Large-Stock Blend	-3.5	-2.8	-4.7	2.0	-1.9	0.0	-17.6	-9.5	-10.5	-5.9
Intermediate Core Bond	-2.7	-4.2	-5.8	0.0	-1.5	3.8	0.0	-11.1	-4.2	4.3
Intermediate Core-Plus Bond	-2.4	-3.8	-2.6	-1.3	2.7	-8.7	9.5	-13.0	40.0	3.6
Short-Term Bond	-2.6	-4.0	-2.8	-1.4	-1.4	0.0	0.0	0.0	0.0	0.0
Ultrashort Bond	-4.1	-4.3	-2.2	0.0	-4.5	-7.1	0.0	-7.7	0.0	0.0
Corporate Bond	-1.2	-3.6	-4.9	-1.3	0.0	9.1	-8.3	-13.6	-26.3	14.3
High-Yield Bond	-2.0	-2.0	-3.1	-1.1	1.1	-4.8	0.0	0.0	-15.0	-2.9

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 33 Asset-Weighted Average Fees by Service-Fee Arrangement

	Asset-Weighted Average Fees (%)														
	Bundled					Semibundled					Unbundled				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	0.91	0.89	0.86	0.84	0.83	0.44	0.42	0.40	0.37	0.35	0.12	0.12	0.12	0.11	0.11
Sector Equity	0.58	0.53	0.45	0.40	0.37	0.64	0.63	0.60	0.59	0.59	0.19	0.19	0.18	0.17	0.18
International Equity	1.01	0.98	0.95	0.93	0.92	0.60	0.57	0.55	0.51	0.49	0.21	0.21	0.22	0.22	0.21
Taxable Bond	0.91	0.86	0.79	0.78	0.79	0.46	0.42	0.38	0.36	0.35	0.13	0.13	0.12	0.12	0.12
Muni Bond	0.85	0.79	0.77	0.75	0.80	0.49	0.45	0.44	0.42	0.43	0.13	0.13	0.13	0.13	0.13
Allocation	0.85	0.83	0.80	0.78	0.81	0.63	0.60	0.58	0.57	0.59	0.20	0.19	0.19	0.19	0.20
Alternative	1.72	1.55	1.43	1.41	1.44	1.50	1.28	1.12	1.12	1.15	1.31	0.90	0.76	0.75	0.87
Commodities	1.29	1.27	0.98	0.95	1.09	0.69	0.57	0.57	0.66	0.70	0.48	0.39	0.31	0.32	0.32
All Funds	0.89	0.86	0.81	0.79	0.79	0.51	0.48	0.45	0.43	0.41	0.15	0.14	0.14	0.13	0.13

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 35 Equal-Weighted Average Fees by Service-Fee Arrangement

	Equal-Weighted Average Fees (%)														
	Bundled					Semibundled					Unbundled				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	1.37	1.35	1.32	1.32	1.32	0.75	0.73	0.70	0.70	0.71	0.53	0.53	0.53	0.54	0.54
Sector Equity	1.58	1.57	1.54	1.52	1.55	0.77	0.74	0.72	0.71	0.72	0.58	0.58	0.58	0.59	0.60
International Equity	1.50	1.48	1.44	1.43	1.40	0.84	0.82	0.79	0.80	0.79	0.71	0.72	0.71	0.73	0.70
Taxable Bond	1.18	1.17	1.14	1.13	1.15	0.58	0.56	0.53	0.52	0.53	0.44	0.42	0.40	0.41	0.43
Muni Bond	1.10	1.08	1.06	1.05	1.06	0.54	0.52	0.50	0.49	0.51	0.45	0.42	0.42	0.41	0.41
Allocation	1.40	1.36	1.35	1.36	1.37	0.82	0.79	0.78	0.78	0.79	0.58	0.57	0.56	0.57	0.58
Alternative	2.07	2.01	1.95	1.89	1.91	1.43	1.28	1.13	1.12	1.10	1.33	1.12	1.08	1.06	1.09
Commodities	1.56	1.55	1.45	1.44	1.45	0.81	0.85	0.79	0.78	0.78	0.78	0.78	0.69	0.68	0.75
All Funds	1.39	1.36	1.33	1.32	1.33	0.76	0.73	0.70	0.70	0.70	0.57	0.56	0.55	0.55	0.55

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 34 Annual Percent Change in Asset-Weighted Fees by Service-Fee Arrangement

	Change in Asset-Weighted Average Fees (%)														
	Bundled					Semibundled					Unbundled				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	-1.1	-2.2	-3.4	-2.3	-1.2	-6.4	-4.5	-4.8	-7.5	-5.4	-7.7	0.0	0.0	-8.3	0.0
Sector Equity	-4.9	-8.6	-15.1	-11.1	-7.5	-4.5	-1.6	-4.8	-1.7	0.0	-9.5	0.0	-5.3	-5.6	5.9
International Equity	-1.0	-3.0	-3.1	-2.1	-1.1	-4.8	-5.0	-3.5	-7.3	-3.9	-4.5	0.0	4.8	0.0	-4.5
Taxable Bond	-4.2	-5.5	-8.1	-1.3	1.3	-4.2	-8.7	-9.5	-5.3	-2.8	-7.1	0.0	-7.7	0.0	0.0
Muni Bond	0.0	-7.1	-2.5	-2.6	6.7	0.0	-8.2	-2.2	-4.5	2.4	0.0	0.0	0.0	0.0	0.0
Allocation	-2.3	-2.4	-3.6	-2.5	3.8	-3.1	-4.8	-3.3	-1.7	3.5	0.0	-5.0	0.0	0.0	5.3
Alternative	-3.9	-9.9	-7.7	-1.4	2.1	2.7	-14.7	-12.5	0.0	2.7	-2.2	-31.3	-15.6	-1.3	16.0
Commodities	0.0	-1.6	-22.8	-3.1	14.7	-8.0	-17.4	0.0	15.8	6.1	-30.4	-18.8	-20.5	3.2	0.0
All Funds	-2.5	-3.8	-4.8	-3.4	0.7	-5.3	-6.7	-5.7	-5.8	-3.2	-6.1	-3.0	-0.6	-6.1	0.9

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 36 Annual Percent Change in Equal-Weighted Fees by Service-Fee Arrangement

	Change in Equal-Weighted Average Fees (%)														
	Bundled					Semibundled					Unbundled				
	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023	2019	2020	2021	2022	2023
U.S. Equity	-0.7	-1.5	-2.2	0.0	0.0	-1.3	-2.7	-4.1	0.0	1.4	-3.6	0.0	0.0	1.9	0.0
Sector Equity	-1.9	-0.6	-1.9	-1.3	2.0	-2.5	-3.9	-2.7	-1.4	1.4	7.4	0.0	0.0	1.7	1.7
International Equity	-0.7	-1.3	-2.7	-0.7	-2.1	-1.2	-2.4	-3.7	1.3	-1.3	-4.1	1.4	-1.4	2.8	-4.1
Taxable Bond	-0.8	-0.8	-2.6	-0.9	1.8	0.0	-3.4	-5.4	-1.9	1.9	-2.2	-4.5	-4.8	2.5	4.9
Muni Bond	-1.8	-1.8	-1.9	-0.9	1.0	0.0	-3.7	-3.8	-2.0	4.1	4.7	-6.7	0.0	-2.4	0.0
Allocation	-1.4	-2.9	-0.7	0.7	0.7	0.0	-3.7	-1.3	0.0	1.3	1.8	-1.7	-1.8	1.8	1.8
Alternative	-1.4	-2.9	-3.0	-3.1	1.1	-4.7	-10.5	-11.7	-0.9	-1.8	11.8	-15.8	-3.6	-1.9	2.8
Commodities	0.6	-0.6	-6.5	-0.7	0.7	-1.2	4.9	-7.1	-1.3	0.0	4.0	0.0	-11.5	-1.4	10.3
All Funds	-1.2	-2.0	-2.2	-0.8	0.4	-2.1	-3.7	-4.1	-0.7	0.9	-1.5	-2.4	-1.8	1.2	0.0

Source: Morningstar. Data as of Dec. 31, 2023.

Exhibit 37 Annual Share Class Launches by Service-Fee Arrangement

	Bundled	Semibundled	Unbundled
1990	58	36	4
1991	52	72	4
1992	116	101	9
1993	274	125	11
1994	268	128	11
1995	252	94	9
1996	237	230	7
1997	339	234	19
1998	301	204	18
1999	283	159	9
2000	448	272	35
2001	410	226	53
2002	582	168	8
2003	414	152	9
2004	378	226	63
2005	383	366	30
2006	535	414	35
2007	480	528	36
2008	502	572	15
2009	416	391	28
2010	551	552	81
2011	534	579	76
2012	523	700	65
2013	518	671	245
2014	640	650	114
2015	619	842	197
2016	459	754	242
2017	486	1,042	307
2018	337	782	208
2019	254	619	146
2020	218	653	75
2021	204	713	104
2022	201	586	73
2023	267	968	54

Source: Morningstar. Data as of Dec. 31, 2023.

Methodology

See Important Disclosures at the end of this report.

METHODOLOGY

Methodology for 2023 US Fund Fee Study

- Most of the data for this report is compiled using the US Fund Fee Trends Notebook available via the Research + Analytics module in Morningstar Direct.
- Data for report exhibits not replicable via the notebook are sourced from the US Funds Database in Morningstar Direct.
- Fee data for the report and the notebook is collected using a share class' annual report net expense ratio. A share class' annual report net expense ratio is defined as: the percentage of fund assets used to pay for operating expenses and management fees, including 12b-1 fees, administrative fees, and all other asset-based costs incurred by the fund, except brokerage costs. Fund expenses are reflected in the fund's net asset value. Sales charges are not included in the expense ratio. It is collected on the publish date of each fund's annual report and is applied to the prior year.
- Asset-weighted average fees are a weighted average of the annual report net expense ratio for all share classes in the US Funds Database each year. The calculated weighted average is based on share class assets under management for a given year.
- Equal-weighted average fees are a simple average of the annual report net expense ratio for all share classes in the US funds database each year.
- Additional data definitions can be found in Morningstar Direct.

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