

2022 U.S. Fund Fee Study

Morningstar Manager Research

Bryan Armour

Director of Passive Strategies Research

Zachary Evens

Associate Analyst, Passive Strategies Research



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Executive Summary

Fees Continued Their Decline in 2022

In 2022, the average expense ratio paid by fund investors was less than half of what it was two decades ago. Between 2002 and 2022, the asset-weighted average fee fell to 0.37% from 0.91%. 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 to vie for market share.
- 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.

Key Takeaways

- In 2022, the asset-weighted average expense ratio of all U.S. open-end mutual funds and exchange-traded funds was 0.37%, compared with 0.91% in 2002.
- The asset-weighted average expense ratio fell to 0.37% in 2022 from 0.40% in 2021. As a result, we estimate investors saved nearly \$9.8 billion in fund expenses last year.
- The asset-weighted average expense ratio for active funds fell to 0.59% in 2022 from 0.61% in 2021, driven mainly by large net outflows from expensive funds and share classes.
- The asset-weighted average expense ratio for passive funds dropped to 0.12% in 2022 from 0.13% a year earlier.
- The equal-weighted average expense ratio—which indicates what funds charge irrespective of where assets are held—fell to 0.95% in 2022 from 0.96% in 2021. Active funds’ equal-weighted fees declined to 1.02% from 1.03%, while the equal-weighted average fee among passive funds dropped to 0.54% from 0.55%.
- In 2022, the gap in flows for cheap and expensive funds grew into a chasm. For the first time since 2017, the cheapest quintile of funds pulled in over \$1.1 trillion more than the remaining 80% of funds. The cheapest 20% of funds saw net inflows of \$394 billion, while the remaining 80% shed \$734 billion in outflows.
- The line that separates the cheapest 10% of funds from the rest has fallen 45% over the past 15 years, while the line between the most expensive 10% and the rest has come down 17%.
- 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 13 straight years, while semibundled share classes saw outflows for the first time in 2022. Fee-based advisors prefer unbundled funds as they make room for the price of advice.
- 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 0.50% at the end of 2022 versus 0.37% for their traditional peers. Strategic-beta funds are an alternative to higher-cost actively managed funds. In 2022, the asset-weighted average fee for strategic-beta funds was 0.18%, higher than the figure for traditional index funds (0.12%) but significantly lower than for active funds (0.59%).
- Although some of its competition continues to gain ground, Vanguard still claims the lowest asset-weighted average expense ratio among asset managers, which was 0.08% in 2022.

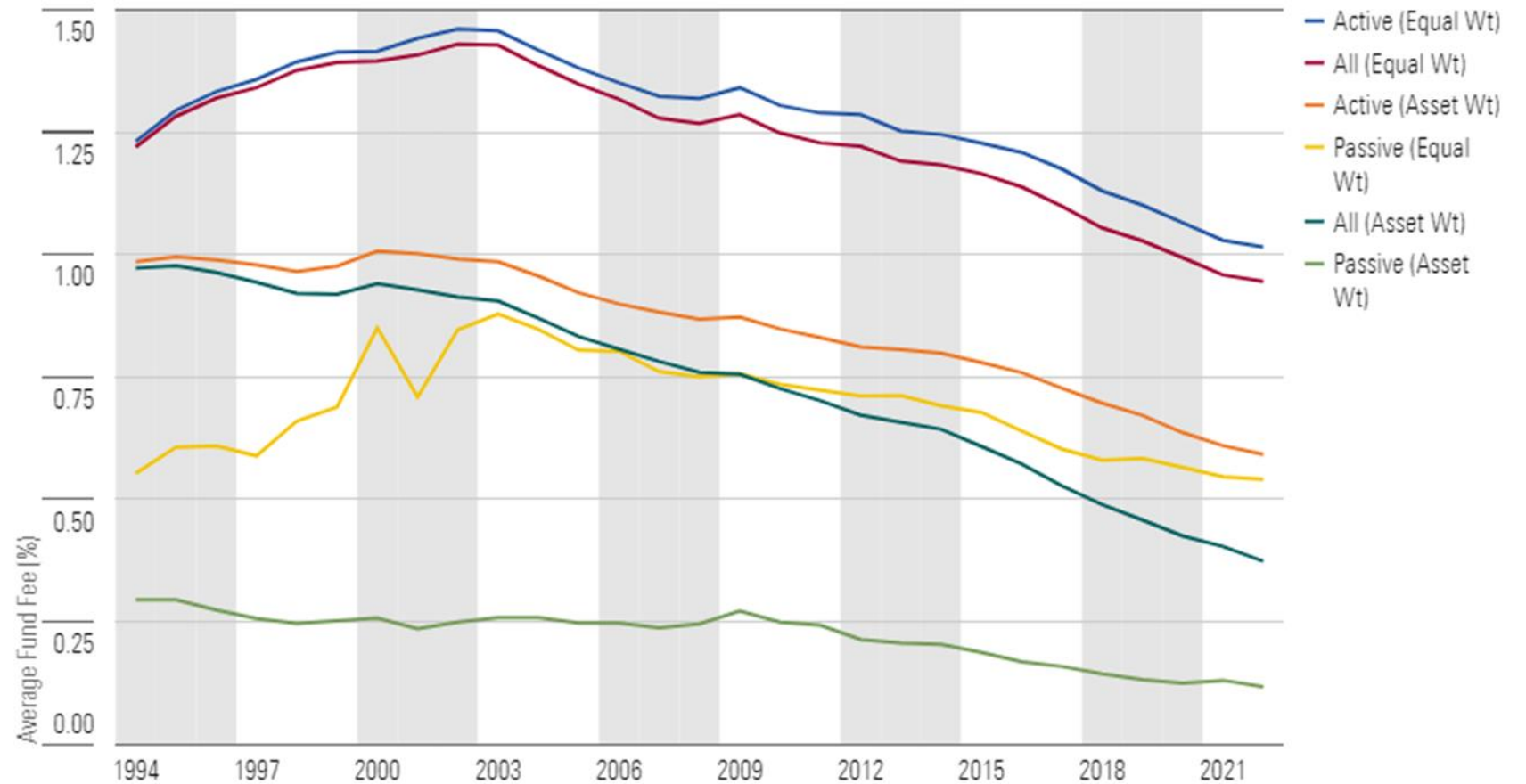
Trends in Fund Fees Paid by Investors

A look at asset-weighted average fund fees.

TRENDS IN FUND FEES PAID BY INVESTORS

Investors paid lower fund expenses in 2022 than ever before. Our study of U.S. open-end mutual funds and exchange-traded funds found the asset-weighted average expense ratio across funds was 0.37% in 2022, a 7.4% decline from 2021. This is the second-largest year-over-year decline we have recorded dating back to 1994. Consequently, we estimate that investors saved nearly \$9.8 billion in fund expenses last year. This fee decline is a big positive for investors because fees compound over time and diminish returns.

Exhibit 1 Fund Fees Continued Their March Lower



Source: Morningstar Direct. Data as of Dec. 31, 2022.

Investors Exited Expensive Funds in 2022

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 better measures the average costs borne by fund investors 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 U.S. equity funds, the asset-weighted average expense ratio was 0.59% in 2022. The equal-weighted average expense ratio for this group was 1.02%. Funds with expense ratios above 1.02% accounted for a small portion of assets invested in active U.S. equity funds at the end of 2022. The equal-weighted average does not reflect most investors' experience.

Declines in asset-weighted average fees were significant among both passive and actively managed funds in 2022. Lower average fees were possible thanks to a combination of inflows into low-cost funds, outflows from more costly ones, fee cuts, and relatively larger price declines in more-expensive funds. In aggregate, the asset-weighted expense ratio for actively managed funds declined 3.0% and passively managed funds declined 10% from 2021. Alternative funds exhibited the largest declines among passive funds, as their asset-weighted average fees fell 60.1% to reach 0.76% after cryptocurrency-related ETFs lost considerable assets due to falling prices in 2022.

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

	Asset-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
U.S. Equity	0.70	0.68	0.66	0.64	0.61	0.10	0.09	0.09	0.09	0.08
Sector Equity	0.87	0.84	0.81	0.80	0.79	0.28	0.27	0.27	0.27	0.25
International Equity	0.82	0.79	0.76	0.73	0.71	0.21	0.20	0.18	0.18	0.18
Taxable Bond	0.58	0.57	0.53	0.47	0.46	0.12	0.11	0.10	0.09	0.08
Muni Bond	0.52	0.51	0.47	0.45	0.44	0.24	0.17	0.15	0.14	0.12
Allocation	0.66	0.64	0.61	0.59	0.58	0.51	0.47	0.41	0.39	0.38
Alternative	1.51	1.53	1.30	1.14	1.14	0.94	1.49	1.74	1.91	0.76
Commodities	0.81	0.75	0.64	0.61	0.69	0.46	0.43	0.40	0.40	0.40
All Funds	0.70	0.67	0.64	0.61	0.59	0.14	0.13	0.12	0.13	0.12

Source: Morningstar. Data as of Dec. 31, 2022.

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

	Year-Over-Year % Change in Asset-Weighted Average Fees									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
U.S. Equity	-5.2	-2.7	-2.6	-3.2	-4.0	-8.3	-5.4	-6.0	-0.3	-5.5
Sector Equity	-2.9	-3.4	-3.0	-1.8	-1.4	-2.7	-3.2	0.0	0.3	-6.3
International Equity	-6.2	-3.2	-4.6	-3.5	-3.2	-12.2	-7.7	-6.1	-0.1	-2.5
Taxable Bond	-0.9	-2.7	-7.0	-10.7	-2.1	-12.4	-10.1	-5.2	-7.5	-8.2
Muni Bond	-3.2	-2.0	-7.8	-3.2	-3.1	-3.0	-27.1	-15.5	-7.1	-9.8
Allocation	-3.9	-3.4	-4.8	-3.3	-1.4	-4.8	-8.8	-13.2	-4.7	-2.9
Alternative	-4.1	1.8	-15.0	-12.4	-0.3	-15.0	58.3	16.7	9.9	-60.1
Commodities	-0.5	-8.4	-14.5	-4.8	13.5	2.4	-6.8	-7.1	0.7	1.1
All Funds	-4.2	-3.6	-5.3	-4.2	-3.0	-9.2	-8.3	-5.5	4.5	-10.0

Source: Morningstar. Data as of Dec. 31, 2022.

Trends in Fund Fees Charged by the Industry

A look at equal-weighted average fund fees.

Increased Competition Forced Fees Lower

The mass migration to lower-cost funds and share classes has been a key driver of falling costs. Fee cuts and the introduction of lower-cost funds and share classes have also played a role. In 2022, fee reductions by the asset-management industry for active and passive funds continued.

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. Below, we calculated the equal-weighted average expense ratio for active and passive funds by Morningstar Category group. The calculations below include all share classes of all funds, excluding funds of funds and money market funds.

In recent years, index mutual funds and ETFs have experienced significant fee pressure. Most notably, providers of broad-based market-capitalization-weighted 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.

Exhibit 4 Fund Fees Charged by Asset Managers Represented by Equal-Weighted Fees

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
U.S. Equity	1.12	1.11	1.08	1.05	1.04	0.45	0.45	0.44	0.43	0.43
Sector Equity	1.36	1.32	1.29	1.26	1.23	0.48	0.48	0.47	0.46	0.46
International Equity	1.24	1.22	1.19	1.15	1.14	0.50	0.50	0.50	0.47	0.49
Taxable Bond	0.91	0.89	0.87	0.83	0.82	0.24	0.23	0.23	0.22	0.21
Muni Bond	0.85	0.83	0.80	0.78	0.76	0.24	0.24	0.21	0.22	0.21
Allocation	1.13	1.11	1.07	1.05	1.05	0.98	0.93	0.96	1.01	1.20
Alternative	1.80	1.74	1.60	1.46	1.43	1.31	1.19	0.88	0.86	0.69
Commodities	1.21	1.20	1.23	1.13	1.09	0.84	0.85	0.74	0.80	0.72
All Funds	1.13	1.10	1.06	1.03	1.02	0.58	0.58	0.57	0.55	0.54

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 5 Fund Fees Are Decreasing Across Most Category Groups

	Year-Over-Year % Change in Equal-Weighted Average Fees									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
U.S. Equity	-4.3	-0.9	-2.7	-2.8	-1.0	-4.3	0.0	-2.2	-2.3	0.0
Sector Equity	-2.9	-2.9	-2.3	-2.3	-2.4	0.0	0.0	-2.1	-2.1	0.0
International Equity	-5.3	-1.6	-2.5	-3.4	-0.9	-5.7	0.0	0.0	-6.0	4.3
Taxable Bond	-3.2	-2.2	-2.2	-4.6	-1.2	-11.1	-4.2	0.0	-4.3	-4.5
Muni Bond	-4.5	-2.4	-3.6	-2.5	-2.6	0.0	0.0	-12.5	4.8	-4.5
Allocation	-3.4	-1.8	-3.6	-1.9	0.0	-7.5	-5.1	3.2	5.2	18.8
Alternative	-4.3	-3.3	-8.0	-8.8	-2.1	4.8	-9.2	-26.1	-2.3	-19.8
Commodities	-0.8	-0.8	2.5	-8.1	-3.5	-5.6	1.2	-12.9	8.1	-10.0
All Funds	-3.8	-2.6	-3.3	-3.4	-1.3	-3.8	0.7	-3.1	-3.5	-1.0

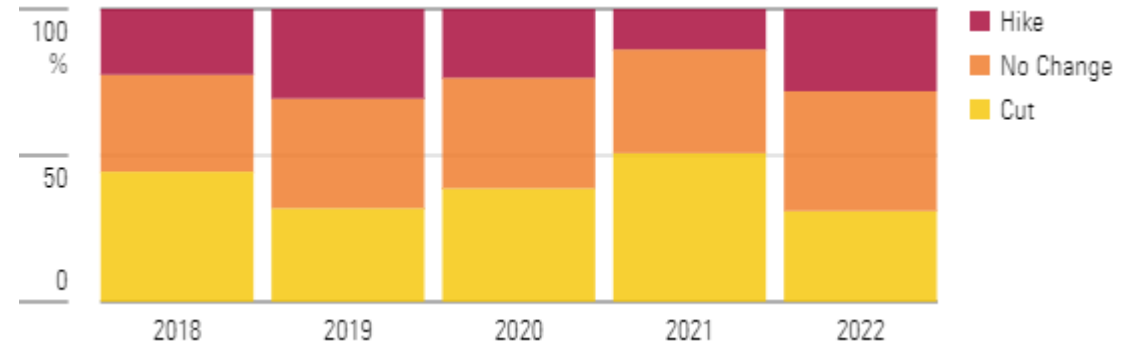
Source: Morningstar. Data as of Dec. 31, 2022.

TRENDS IN FUND FEES CHARGED BY THE INDUSTRY

The fact that fees have been reduced to either nothing or next to nothing among broad-based index funds is only natural. Given these funds' commoditylike 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. Though 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. There is a chance that the decline in passive funds' equal-weighted fees could even reverse in light of the proliferation of new, higher-priced index funds like thematic ETFs and mutual funds.

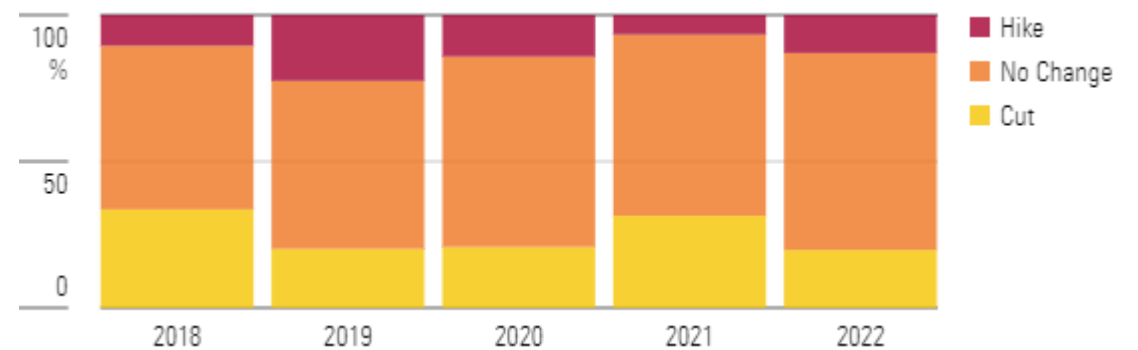
The percentage of active funds that reported lower annual expenses decreased to 31% in 2022 from 51% in 2021. Meanwhile, the percentage of passive funds that cut their fees also dropped to 20% in 2022 from 31% in 2021.

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



Source: Morningstar. Data as of Dec. 31, 2022.

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



Source: Morningstar. Data as of Dec. 31, 2022.

Asset Flows by Fees

Flows favor lower-cost funds and share classes.

Investors Have Long Favored Low-Cost Funds and Recently Rejected More Costly Ones

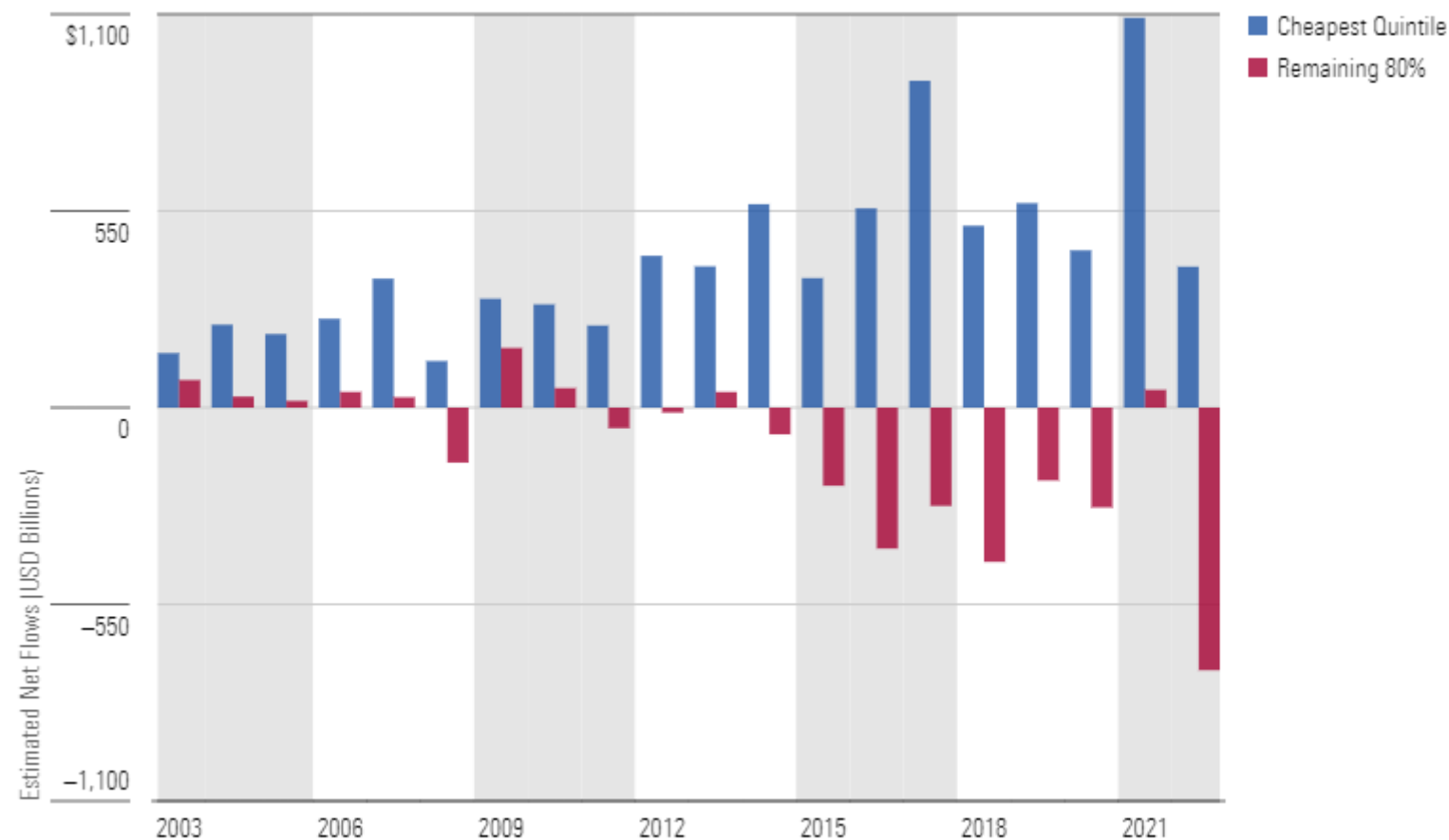
Morningstar research has demonstrated that fees are a reliable predictor of future returns. Low-cost funds generally have greater odds of surviving and outperforming their more-expensive peers.

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 2022, these funds saw net inflows of \$394 billion.

Flows for the remaining 80% of funds have been negative in eight of the past nine years. In 2022, these funds lost \$734 billion to collective net outflows—their highest ever year of outflows.

In 2022, the gap in flows for cheap and expensive funds grew into a chasm. For the first time since 2017, the cheapest quintile of funds pulled in over \$1.1 trillion more than the remaining 80% of funds.

Exhibit 7 A Tough Year For Returns Led Investors to Cut Costlier Funds Out of Their Portfolios

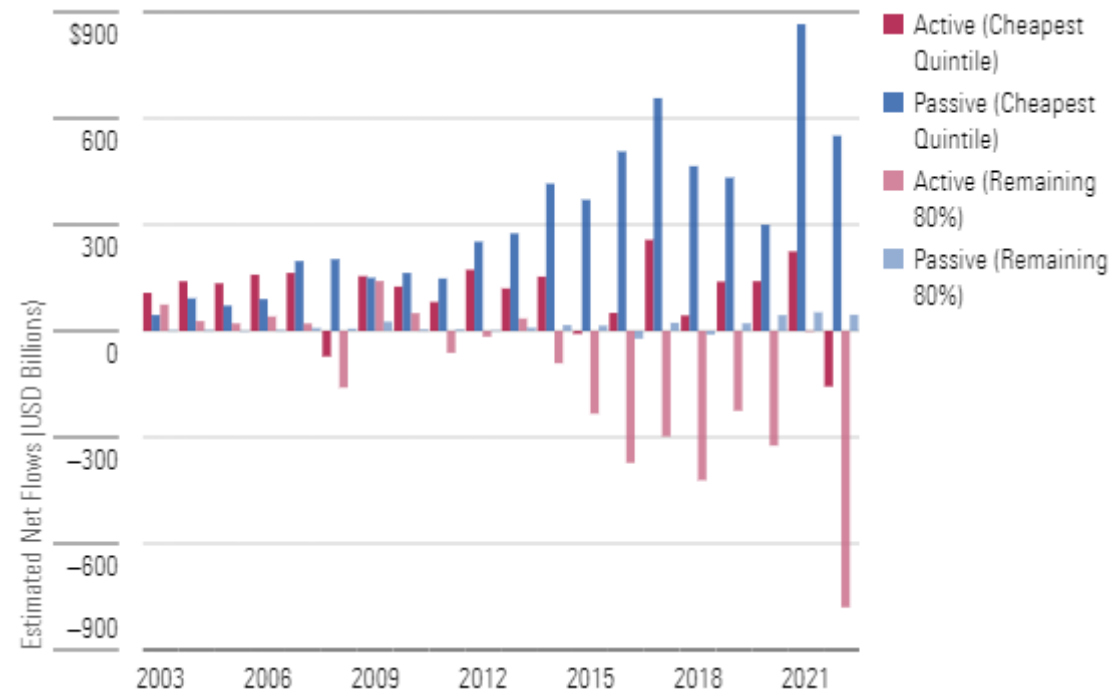


Source: Morningstar. Data as of Dec. 31, 2022.

ASSET FLOWS BY FEES

Expensive active funds have been the epicenter of outflows. Aside from 2022, the most expensive 80% of active funds has accounted for all of the net outflows across all funds in each of the past nine years. In 2022, cheap active funds also contributed to outflows.

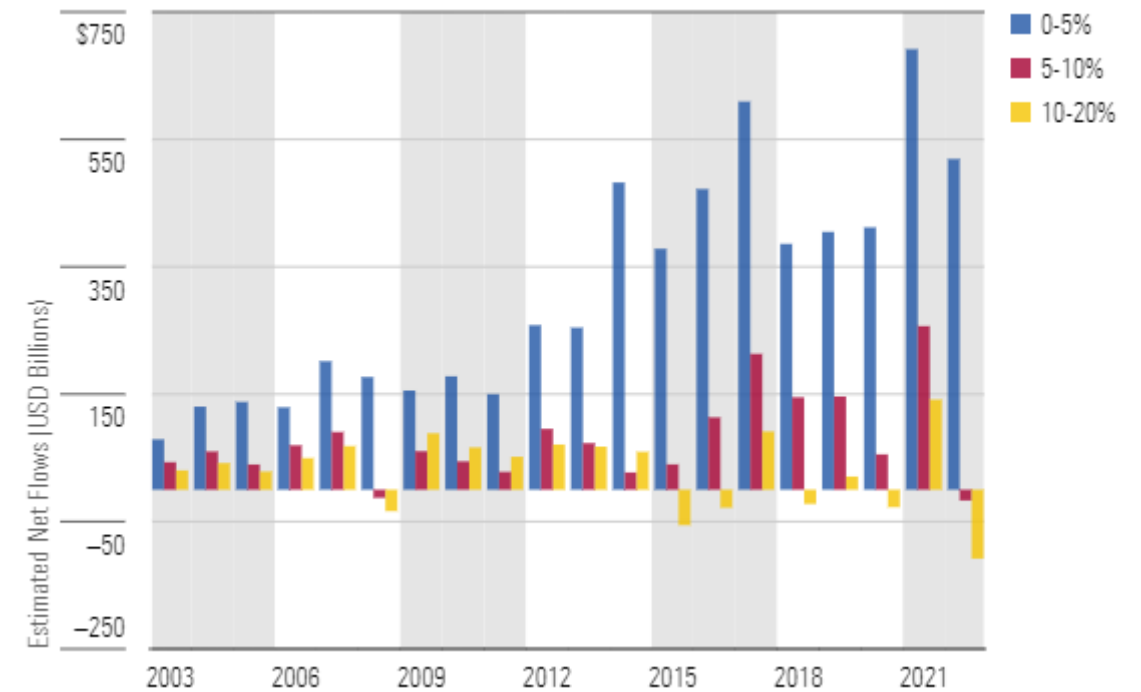
Exhibit 8 Pricey Active Funds Are the Epicenter of Outflows



Source: Morningstar. Data as of Dec. 31, 2022.

Of the \$394 billion that flowed into the cheapest 20% of all funds and share classes in 2022, all of it went into the cheapest of the cheap. In 2022, \$519 billion flowed into the least costly 5% of all funds.

Exhibit 9 Investors Poured Money Into the Cheapest of the Cheap

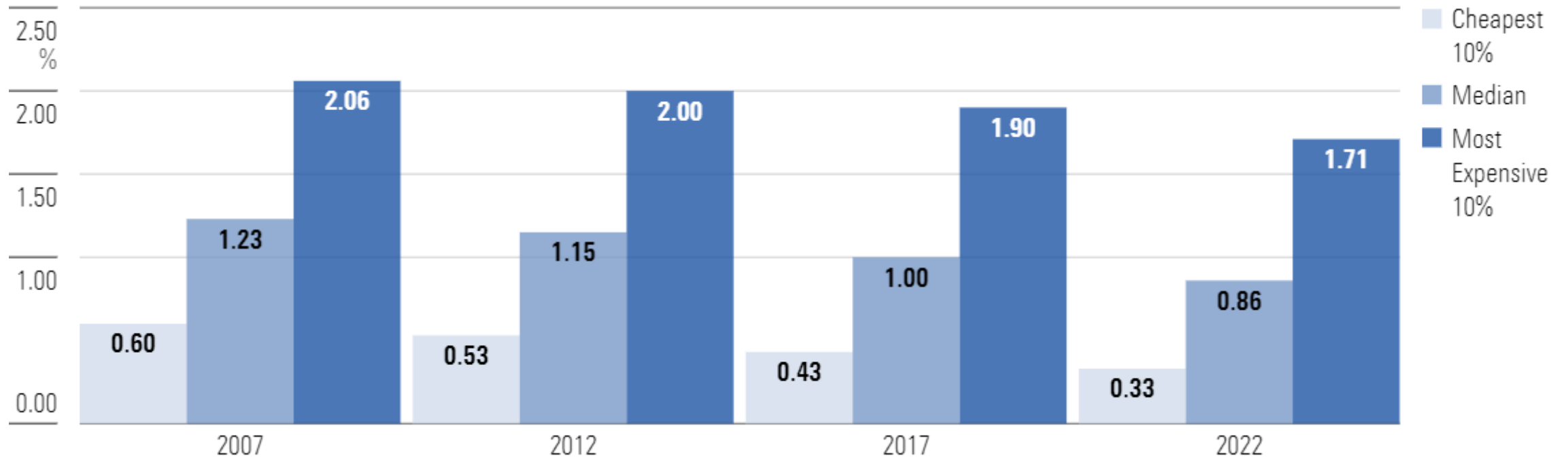


Source: Morningstar. Data as of Dec. 31, 2022.

ASSET FLOWS BY FEES

Cheap funds have gotten significantly cheaper. Over the past 15 years, the line that separates the cheapest 10% of all funds from the rest has fallen 45%. Meanwhile, fees for the most expensive funds remain stubbornly high. The dividing line between the priciest 10% of funds and the rest has come down just 17% since 2007.

Exhibit 10 Cheap Funds Are Getting Cheaper, Expensive Ones Are Trying to Gain Ground



Source: Morningstar. Data as of Dec. 31, 2022.

ASSET FLOWS BY FEES

Among U.S. 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.

Exhibit 11 The Lines Between Cheap and Expensive Across the U.S. Equity Morningstar Style Box

2007				2012				2017				2022			
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	1.96	1.95	1.95	1.90	1.90	1.90	1.75	1.77	1.77	1.64	1.49	1.49	1.64	1.49	1.49
	1.19	1.13	1.13	1.11	1.08	1.08	0.94	0.89	0.89	0.81	0.71	0.71	0.81	0.71	0.71
Mid	0.67	0.40	0.40	0.62	0.38	0.38	0.46	0.23	0.23	0.38	0.15	0.15	0.38	0.15	0.15
	2.00	2.11	2.11	2.00	2.01	2.01	1.85	1.90	1.90	1.66	1.72	1.72	1.66	1.72	1.72
Small	1.25	1.31	1.31	1.25	1.20	1.20	1.04	0.99	0.99	0.90	0.91	0.91	0.90	0.91	0.91
	0.78	0.60	0.60	0.74	0.31	0.31	0.59	0.22	0.22	0.49	0.20	0.20	0.49	0.20	0.20
Small	2.19	2.10	2.10	2.09	2.09	2.09	1.99	1.91	1.91	1.92	1.71	1.71	1.92	1.71	1.71
	1.41	1.30	1.30	1.34	1.26	1.26	1.19	1.11	1.11	1.08	0.98	0.98	1.08	0.98	0.98
	0.94	0.72	0.72	0.86	0.60	0.60	0.74	0.45	0.45	0.60	0.25	0.25	0.60	0.25	0.25

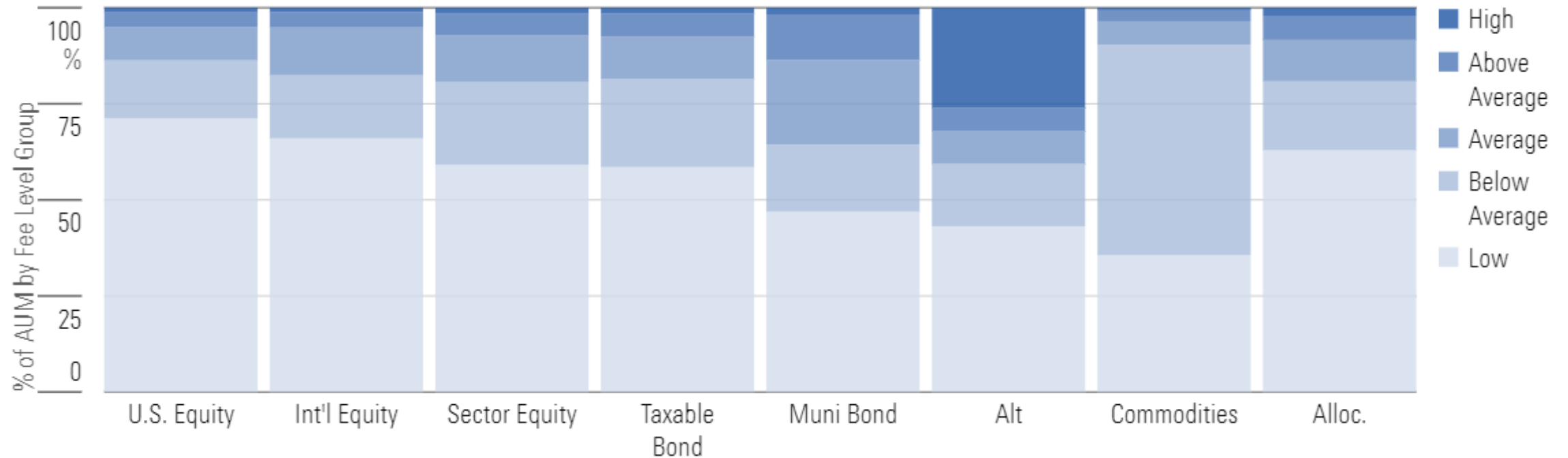
Legend	
Cheapest 10%	
Median	
Most Expensive 10%	

Source: Morningstar. Data as of Dec. 31, 2022.

ASSET FLOWS BY FEES

Because of these trends, most of investors' money sits in lower-priced funds. At the end of 2022, 83% 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 6% of investors' money was in the most-expensive 40% of funds.

Exhibit 12 Most of Investors' Money Is in the Least-Expensive Funds



Source: Morningstar. Data as of Dec. 31, 2022.

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

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 U.S. 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.

HOW FUND FEES ARE BEING SHAPED BY THE EVOLVING ECONOMICS OF ADVICE

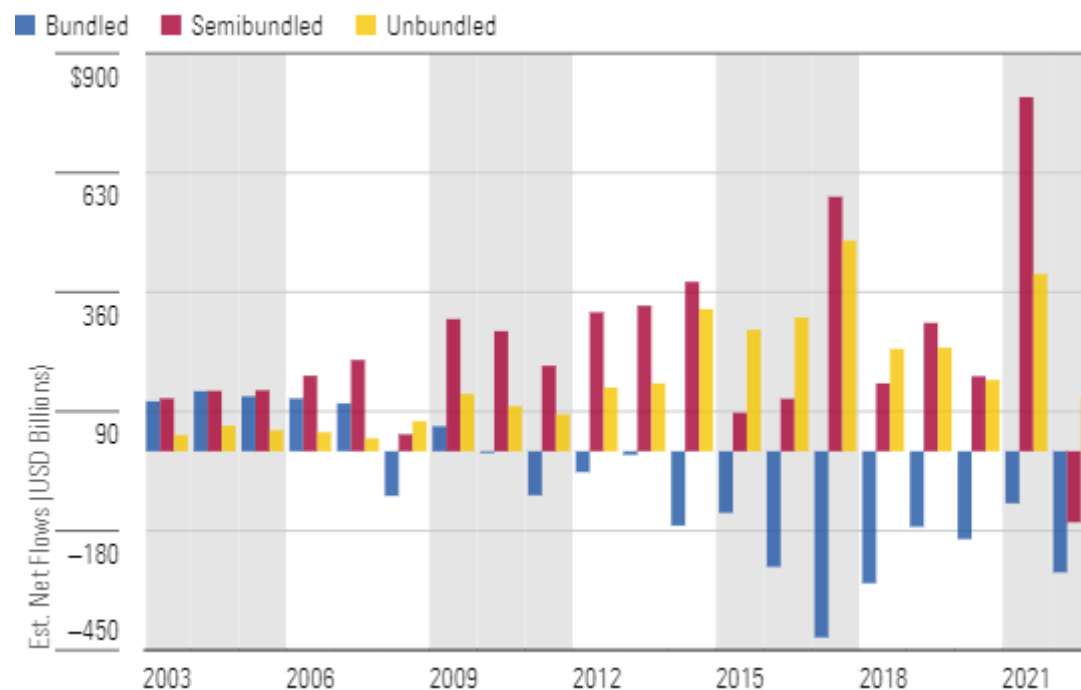
Looking through the lens of Morningstar's service-fee arrangement attribute, we can see that bundled share classes have been in outflows more often than not for over a decade, while semibundled and unbundled share classes have seen steady inflows. This corresponds to the shift away from transaction-driven 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 13 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, 2022.

Exhibit 14 Bundled Funds Have Seen Steady Outflows



Source: Morningstar. Data as of Dec. 31, 2022.

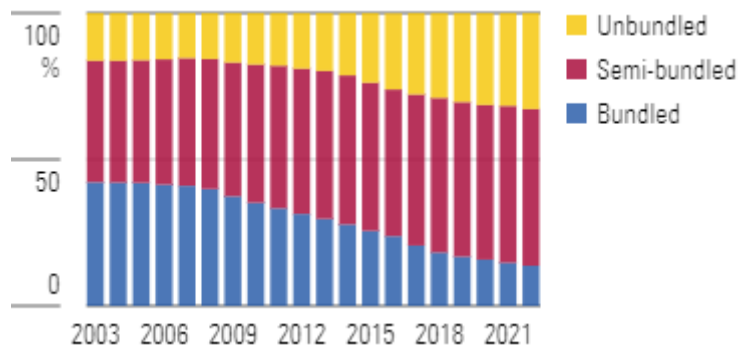
HOW FUND FEES ARE BEING SHAPED BY THE EVOLVING ECONOMICS OF ADVICE

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 2003. At the end of 2022, their share had declined to 14%.

Asset-weighted fees for bundled funds and share classes ticked higher through the 1990s and peaked in 2003. As of the end of 2022, they were modestly lower than they were three decades ago. Meanwhile, asset-weighted fees in the semibundled and unbundled cohorts have trended lower over the past 30 years.

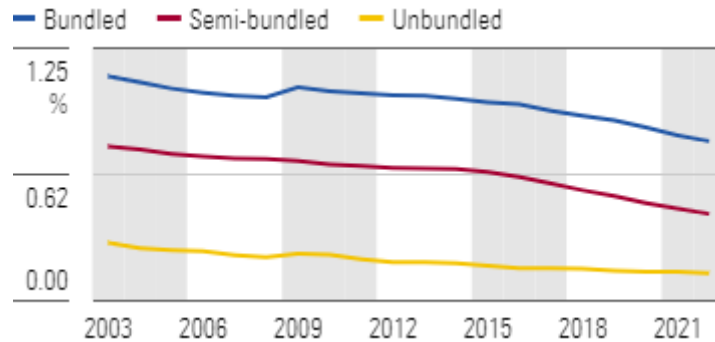
The trend in equal-weighted fees across these three service-fee arrangement segments paints a very different picture. Equal-weighted average fees for unbundled funds and share classes were higher at the end of 2022 than they were in 2003, while the average fee charged by bundled and semibundled funds 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 15 Semibundled and Unbundled Hold Most Assets



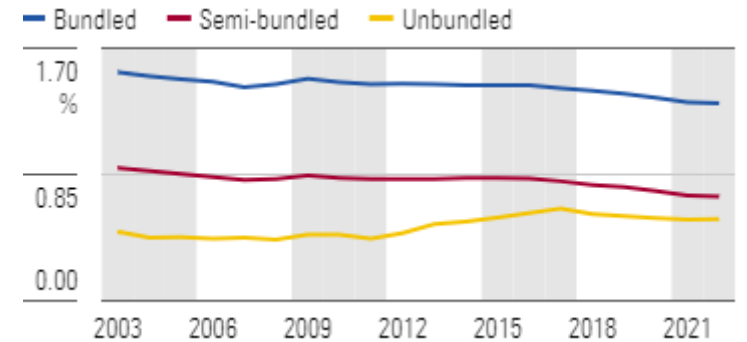
Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 16 Asset-Weighted Fees by Service Arrangement



Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 17 Equal-Weighted Fees by Service Arrangement



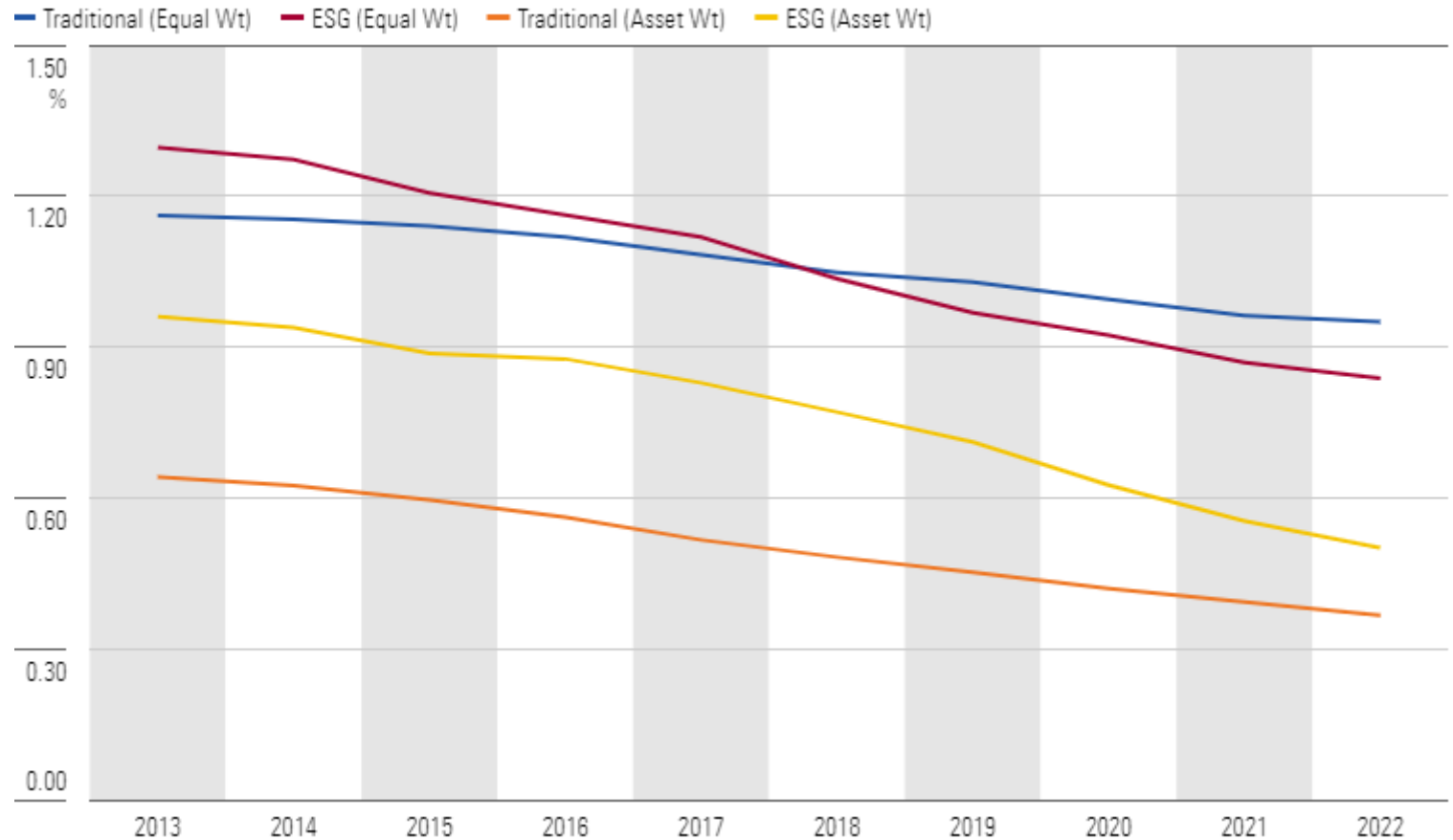
Source: Morningstar. Data as of Dec. 31, 2022.

The Sustainable Fund “Greenium”

THE SUSTAINABLE FUND “GREENIUM”

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 0.50% at the end of 2022 versus 0.37% 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 48%. 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 18 ESG Funds’ Fees Have Put More Green Back in Investors’ Wallets



Source: Morningstar. Data as of Dec. 31, 2022.

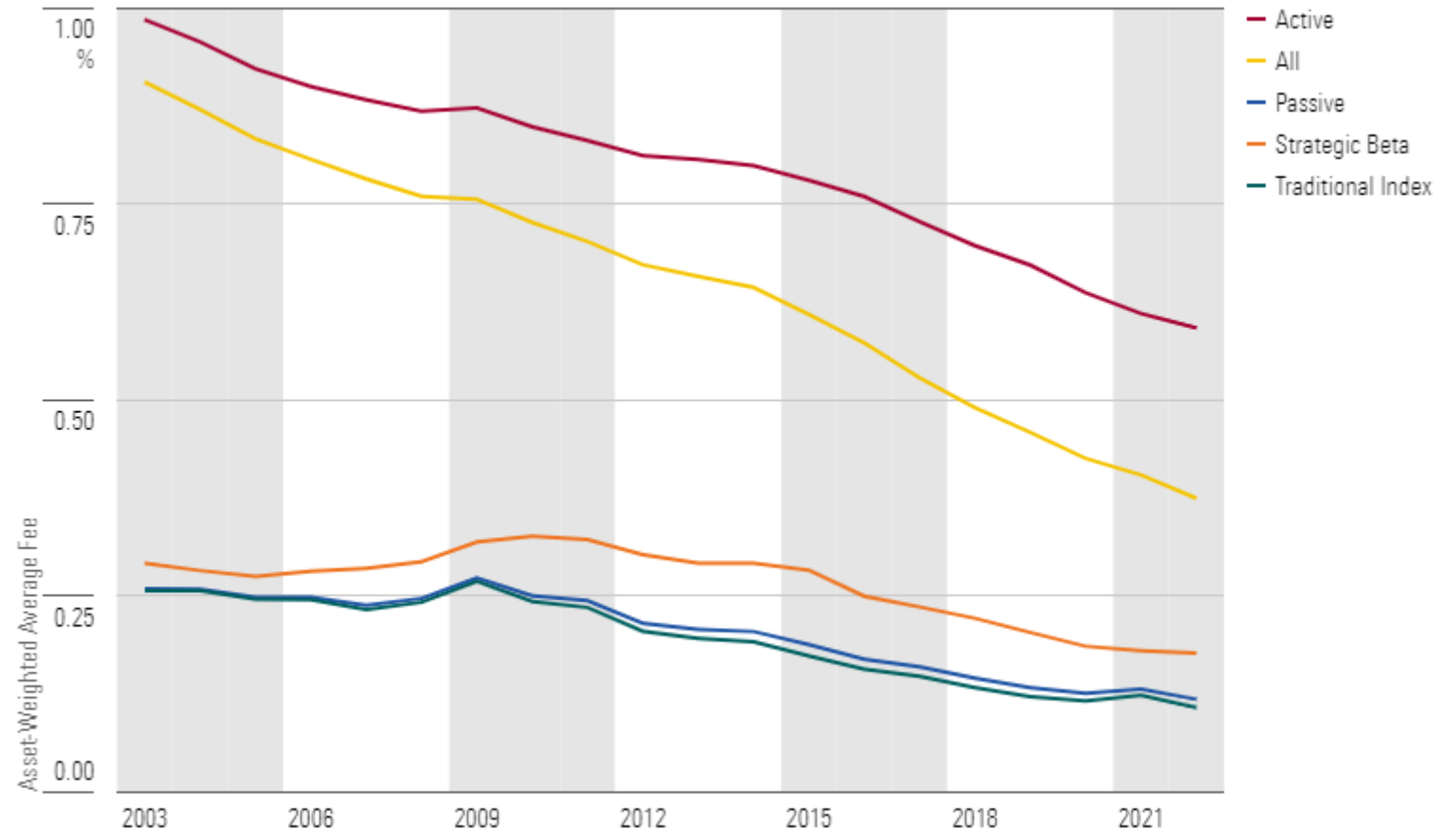
Strategic-Beta Fees

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 and investors have continued to allocate the bulk of their assets to the least costly options.

Exhibit 19 Strategic-Beta Funds Offer a Cheaper Alternative to Active Management



Source: Morningstar. Data as of Dec. 31, 2022.

Asset Manager Fee Wars

Vanguard Remains the Low-Cost Leader

Among the ranks of the largest asset managers, Vanguard continues to own the low-cost crown. In 2022, the firm's asset-weighted expense ratio was 0.08%, down from 0.10% in 2017. Vanguard was followed by State Street Global Advisors (0.15%), iShares (0.17%), and Dimensional Fund Advisors (0.24%). Vanguard's competition continued to gain ground in 2022. As these firms have jockeyed for position, investors have come out in front, benefiting from an ever-wider menu of ever-cheaper options offering wide market exposure.

Exhibit 20 Fee Competition Among the Largest Asset Managers Is Intense

	Asset Weighted Average Fees (%)			2022			
	2017	2022	Percent Change	Year End AUM	Market Share (%)	Asset Growth (%)	Organic Growth Rate (%)
Vanguard	0.10	0.08	-24	6,236.66	27.26	44.30	2.61
iShares	0.25	0.17	-30	2,188.92	9.57	63.65	12.77
Fidelity Investments	0.52	0.30	-42	2,135.63	9.34	45.35	-0.66
American Funds	0.64	0.54	-16	1,872.84	8.19	22.68	-3.75
SPDR State Street Global Advisors	0.18	0.15	-19	980.79	4.29	57.65	3.96
T. Rowe Price	0.69	0.49	-29	603.67	2.64	1.92	-9.98
Invesco	0.80	0.54	-33	572.30	2.50	4.35	-2.14
JPMorgan	0.71	0.53	-26	457.66	2.00	50.28	0.25
Franklin Templeton Investments	0.76	0.64	-16	452.76	1.98	-17.78	-9.21
Dimensional Fund Advisors	0.35	0.24	-30	432.54	1.89	7.22	0.19

Source: Morningstar. Data as of Dec. 31, 2022.

Appendix

Exhibit 21 Asset-Weighted Average Fees by Morningstar Category

	Asset-Weighted Average Fees (%)				
	2018	2019	2020	2021	2022
Large Blend	0.21	0.19	0.17	0.16	0.15
Large Value	0.51	0.48	0.44	0.42	0.41
Large Growth	0.61	0.60	0.57	0.56	0.51
Mid-Cap Blend	0.30	0.23	0.21	0.24	0.32
Mid-Cap Value	0.60	0.60	0.61	0.58	0.66
Mid-Cap Growth	0.82	0.81	0.78	0.59	0.86
Small Blend	0.39	0.36	0.33	0.30	0.29
Small Value	0.63	0.59	0.58	0.55	0.53
Small Growth	0.78	0.77	0.76	0.74	0.73
Foreign Large Blend	0.34	0.29	0.26	0.25	0.24
Foreign Large Growth	0.71	0.69	0.67	0.66	0.65
Diversified Emerging Mkts	0.68	0.65	0.61	0.57	0.53
Global Large-Stock Blend	0.66	0.63	0.59	0.54	0.54
Intermediate Core Bond	0.16	0.15	0.14	0.14	0.14
Intermediate Core-Plus Bond	0.50	0.51	0.49	0.46	0.44
Short-Term Bond	0.34	0.34	0.33	0.28	0.27
Ultrashort Bond	0.31	0.29	0.28	0.27	0.24
Corporate Bond	0.25	0.27	0.26	0.22	0.20
High-Yield Bond	0.65	0.64	0.59	0.56	0.57

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 22 Annual Percent Change in Asset-Weighted Fees by Morningstar Category

	Change in Asset-Weighted Average Fees (%)				
	2018	2019	2020	2021	2022
Large Blend	-9.5	-10.5	-9.8	-4.4	-9.9
Large Value	-7.8	-5.8	-7.2	-4.5	-4.1
Large Growth	-4.9	-2.0	-3.9	-3.0	-8.1
Mid-Cap Blend	-4.6	-22.6	-9.0	12.3	32.6
Mid-Cap Value	-8.9	1.1	0.3	-4.0	12.8
Mid-Cap Growth	-4.7	-1.3	-4.0	-24.0	45.9
Small Blend	-15.8	-8.4	-8.8	-10.0	-2.6
Small Value	-3.5	-5.7	-1.5	-5.6	-4.4
Small Growth	-2.6	-0.9	-2.1	-2.2	-1.5
Foreign Large Blend	-17.1	-13.9	-9.5	-7.1	-1.9
Foreign Large Growth	-6.3	-3.1	-3.2	-1.6	-1.6
Diversified Emerging Mkts	-8.4	-5.6	-5.9	-5.7	-8.2
Global Large-Stock Blend	-7.8	-4.3	-7.0	-8.4	-0.5
Intermediate Core Bond	-17.1	-4.4	-6.8	-4.2	-1.2
Intermediate Core-Plus Bond	-5.4	1.3	-3.4	-7.5	-3.9
Short-Term Bond	-5.0	-0.7	-3.3	-14.9	-2.9
Ultrashort Bond	1.8	-5.6	-5.3	-2.5	-10.1
Corporate Bond	-0.7	5.2	-3.0	-16.1	-5.6
High-Yield Bond	-4.4	-1.9	-7.8	-4.9	2.3

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 23 Active and Passive Funds' Asset-Weighted Average Fees

	Asset-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Large Blend	0.61	0.56	0.52	0.48	0.46	0.07	0.06	0.06	0.06	0.05
Large Value	0.62	0.61	0.57	0.56	0.56	0.18	0.17	0.16	0.16	0.15
Large Growth	0.70	0.70	0.69	0.68	0.65	0.17	0.16	0.15	0.16	0.15
Mid-Cap Blend	0.74	0.87	0.89	0.85	0.85	0.11	0.10	0.09	0.10	0.09
Mid-Cap Value	0.69	0.70	0.71	0.68	0.73	0.20	0.20	0.18	0.18	0.24
Mid-Cap Growth	0.89	0.89	0.85	0.83	0.83	0.22	0.21	0.20	0.09	0.08
Small Blend	0.78	0.74	0.73	0.70	0.70	0.13	0.12	0.11	0.11	0.10
Small Value	0.85	0.83	0.83	0.80	0.76	0.16	0.16	0.15	0.15	0.15
Small Growth	0.92	0.92	0.89	0.88	0.88	0.16	0.15	0.14	0.14	0.13
Foreign Large Blend	0.76	0.73	0.67	0.62	0.62	0.13	0.12	0.12	0.12	0.11
Foreign Large Growth	0.72	0.70	0.68	0.67	0.66	0.41	0.38	0.37	0.35	0.33
Diversified Emerging Mkts	0.94	0.91	0.84	0.81	0.77	0.27	0.24	0.24	0.21	0.20
Global Large-Stock Blend	0.77	0.75	0.70	0.65	0.67	0.20	0.20	0.21	0.19	0.19
Intermediate Core Bond	0.37	0.35	0.32	0.33	0.33	0.06	0.05	0.05	0.05	0.04
Intermediate Core-Plus Bond	0.51	0.51	0.50	0.46	0.45	0.18	0.17	0.14	0.08	0.06
Short-Term Bond	0.44	0.44	0.43	0.37	0.36	0.08	0.06	0.06	0.05	0.05
Ultrashort Bond	0.34	0.33	0.31	0.29	0.27	0.16	0.15	0.14	0.14	0.14
Corporate Bond	0.36	0.44	0.45	0.37	0.36	0.13	0.11	0.10	0.09	0.08
High-Yield Bond	0.69	0.68	0.64	0.61	0.62	0.42	0.41	0.39	0.36	0.35

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 24 Percent Change in Active and Passive Funds' Asset-Weighted Average Fees

	Change in Asset-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Large Blend	-10.3	-8.2	-7.1	-7.7	-4.2	-12.5	-14.3	0.0	0.0	-16.7
Large Value	-4.6	-1.6	-6.6	-1.8	0.0	-5.3	-5.6	-5.9	0.0	-6.3
Large Growth	-4.1	0.0	-1.4	-1.4	-4.4	0.0	-5.9	-6.3	6.7	-6.3
Mid-Cap Blend	-1.3	17.6	2.3	-4.5	0.0	-8.3	-9.1	-10.0	11.1	-10.0
Mid-Cap Value	-10.4	1.4	1.4	-4.2	7.4	-23.1	0.0	-10.0	0.0	33.3
Mid-Cap Growth	-4.3	0.0	-4.5	-2.4	0.0	-4.3	-4.5	-4.8	-55.0	-11.1
Small Blend	-9.3	-5.1	-1.4	-4.1	0.0	-7.1	-7.7	-8.3	0.0	-9.1
Small Value	-2.3	-2.4	0.0	-3.6	-5.0	-5.9	0.0	-6.3	0.0	0.0
Small Growth	0.0	0.0	-3.3	-1.1	0.0	6.7	-6.3	-6.7	0.0	-7.1
Foreign Large Blend	-3.8	-3.9	-8.2	-7.5	0.0	-18.8	-7.7	0.0	0.0	-8.3
Foreign Large Growth	-6.5	-2.8	-2.9	-1.5	-1.5	-2.4	-7.3	-2.6	-5.4	-5.7
Diversified Emerging Mkts	-6.9	-3.2	-7.7	-3.6	-4.9	-6.9	-11.1	0.0	-12.5	-4.8
Global Large-Stock Blend	-4.9	-2.6	-6.7	-7.1	3.1	-4.8	0.0	5.0	-9.5	0.0
Intermediate Core Bond	-15.9	-5.4	-8.6	3.1	0.0	0.0	-16.7	0.0	0.0	-20.0
Intermediate Core-Plus Bond	-3.8	0.0	-2.0	-8.0	-2.2	0.0	-5.6	-17.6	-42.9	-25.0
Short-Term Bond	-2.2	0.0	-2.3	-14.0	-2.7	-11.1	-25.0	0.0	-16.7	0.0
Ultrashort Bond	6.3	-2.9	-6.1	-6.5	-6.9	-5.9	-6.3	-6.7	0.0	0.0
Corporate Bond	2.9	22.2	2.3	-17.8	-2.7	0.0	-15.4	-9.1	-10.0	-11.1
High-Yield Bond	-4.2	-1.4	-5.9	-4.7	1.6	-4.5	-2.4	-4.9	-7.7	-2.8

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 25 Equal-Weighted Average Fees by Morningstar Category

	Equal-Weighted Average Fees (%)				
	2018	2019	2020	2021	2022
Large Blend	0.89	0.87	0.83	0.80	0.78
Large Value	0.96	0.95	0.94	0.92	0.90
Large Growth	1.06	1.05	1.01	0.97	0.96
Mid-Cap Blend	1.01	1.01	0.96	0.93	1.04
Mid-Cap Value	1.06	1.05	1.04	0.98	1.09
Mid-Cap Growth	1.16	1.14	1.11	1.06	1.20
Small Blend	1.11	1.08	1.05	1.00	1.00
Small Value	1.20	1.20	1.17	1.15	1.15
Small Growth	1.23	1.22	1.20	1.19	1.18
Foreign Large Blend	0.97	0.95	0.92	0.92	0.92
Foreign Large Growth	1.13	1.11	1.08	1.05	1.05
Diversified Emerging Mkts	1.30	1.26	1.23	1.19	1.16
World Large-Stock Blend	1.06	1.03	1.00	0.95	0.96
Intermediate Core Bond	0.66	0.65	0.62	0.59	0.59
Intermediate Core-Plus Bond	0.82	0.80	0.77	0.74	0.74
Short-Term Bond	0.73	0.71	0.69	0.67	0.65
Ultrashort Bond	0.47	0.45	0.43	0.42	0.41
Corporate Bond	0.75	0.76	0.74	0.70	0.67
High-Yield Bond	0.98	0.96	0.94	0.92	0.89

Source: Morningstar. Data as of Dec. 31, 2022.

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

	Change in Equal-Weighted Average Fees (%)				
	2018	2019	2020	2021	2022
Large Blend	-6.2	-1.8	-5.3	-3.3	-2.9
Large Value	-5.1	-1.2	-1.2	-1.6	-2.0
Large Growth	-3.8	-1.8	-3.0	-4.5	-1.1
Mid-Cap Blend	-2.9	-0.4	-5.3	-2.4	11.9
Mid-Cap Value	-3.4	-0.8	-0.8	-5.3	11.2
Mid-Cap Growth	-2.8	-2.0	-2.4	-4.6	12.8
Small Blend	-3.1	-2.9	-2.5	-4.9	-0.4
Small Value	-2.9	-0.4	-2.4	-1.9	-0.1
Small Growth	-3.1	-0.7	-1.6	-1.0	-0.9
Foreign Large Blend	-5.0	-2.0	-3.4	-0.4	0.8
Foreign Large Growth	-4.3	-1.9	-2.7	-2.6	0.1
Diversified Emerging Mkts	-4.0	-2.7	-2.9	-2.8	-2.4
World Large-Stock Blend	-11.9	-2.8	-3.1	-5.1	0.9
Intermediate Core Bond	-2.3	-0.7	-5.0	-4.9	-0.1
Intermediate Core-Plus Bond	-2.9	-2.5	-3.6	-3.3	-0.6
Short-Term Bond	-1.8	-2.1	-3.5	-2.9	-2.1
Ultrashort Bond	2.0	-4.4	-4.4	-1.9	-2.4
Corporate Bond	-3.8	1.3	-3.4	-4.8	-4.9
High-Yield Bond	-3.9	-2.3	-2.1	-2.6	-2.9

Source: Morningstar. Data as of Dec. 31, 2022.

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

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Large Blend	1.04	1.02	0.96	0.93	0.91	0.40	0.40	0.40	0.38	0.37
Large Value	1.01	1.01	0.99	0.98	0.96	0.47	0.49	0.46	0.47	0.46
Large Growth	1.10	1.07	1.04	1.00	0.99	0.67	0.69	0.70	0.64	0.63
Mid-Cap Blend	1.20	1.22	1.16	1.14	1.24	0.43	0.43	0.38	0.38	0.45
Mid-Cap Value	1.09	1.08	1.07	1.04	1.13	0.76	0.67	0.64	0.45	0.61
Mid-Cap Growth	1.19	1.18	1.15	1.11	1.22	0.69	0.62	0.61	0.49	0.74
Small Blend	1.23	1.19	1.17	1.13	1.13	0.43	0.47	0.46	0.44	0.40
Small Value	1.26	1.24	1.21	1.19	1.19	0.71	0.71	0.72	0.66	0.60
Small Growth	1.24	1.24	1.22	1.21	1.19	0.65	0.65	0.63	0.61	0.66
Foreign Large Blend	1.12	1.10	1.06	1.05	1.04	0.36	0.39	0.37	0.36	0.35
Foreign Large Growth	1.15	1.12	1.10	1.07	1.07	0.44	0.46	0.43	0.44	0.46
Diversified Emerging Mkts	1.39	1.36	1.31	1.28	1.25	0.45	0.47	0.44	0.41	0.41
Global Large-Stock Blend	1.13	1.10	1.06	1.01	1.03	0.51	0.50	0.42	0.38	0.34
Intermediate Core Bond	0.74	0.72	0.69	0.65	0.65	0.26	0.27	0.27	0.24	0.23
Intermediate Core-Plus Bond	0.82	0.80	0.77	0.75	0.74	0.23	0.21	0.23	0.20	0.28
Short-Term Bond	0.77	0.75	0.72	0.70	0.69	0.12	0.12	0.12	0.12	0.12
Ultrashort Bond	0.49	0.47	0.45	0.44	0.43	0.14	0.13	0.13	0.12	0.12
Corporate Bond	0.85	0.84	0.81	0.79	0.76	0.22	0.24	0.22	0.22	0.14
High-Yield Bond	1.02	1.00	0.99	0.96	0.94	0.42	0.40	0.40	0.39	0.35

Source: Morningstar. Data as of Dec. 31, 2022.

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

	Change in Equal-Weighted Average Fees (%)									
	Active					Passive				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Large Blend	-5.5	-1.9	-5.9	-3.1	-2.2	-2.4	0.0	0.0	-5.0	-2.6
Large Value	-4.7	0.0	-2.0	-1.0	-2.0	-9.6	4.3	-6.1	2.2	-2.1
Large Growth	-3.5	-2.7	-2.8	-3.8	-1.0	-2.9	3.0	1.4	-8.6	-1.6
Mid-Cap Blend	-3.2	1.7	-4.9	-1.7	8.8	-4.4	0.0	-11.6	0.0	18.4
Mid-Cap Value	-3.5	-0.9	-0.9	-2.8	8.7	24.6	-11.8	-4.5	-29.7	35.6
Mid-Cap Growth	-2.5	-0.8	-2.5	-3.5	9.9	-6.8	-10.1	-1.6	-19.7	51.0
Small Blend	-2.4	-3.3	-1.7	-3.4	0.0	-6.5	9.3	-2.1	-4.3	-9.1
Small Value	-2.3	-1.6	-2.4	-1.7	0.0	-1.4	0.0	1.4	-8.3	-9.1
Small Growth	-3.1	0.0	-1.6	-0.8	-1.7	-4.4	0.0	-3.1	-3.2	8.2
Foreign Large Blend	-5.1	-1.8	-3.6	-0.9	-1.0	-7.7	8.3	-5.1	-2.7	-2.8
Foreign Large Growth	-3.4	-2.6	-1.8	-2.7	0.0	-38.9	4.5	-6.5	2.3	4.5
Diversified Emerging Mkts	-3.5	-2.2	-3.7	-2.3	-2.3	-6.2	4.4	-6.4	-6.8	0.0
Global Large-Stock Blend	-12.4	-2.7	-3.6	-4.7	2.0	0.0	-2.0	-16.0	-9.5	-10.5
Intermediate Core Bond	-1.3	-2.7	-4.2	-5.8	0.0	-7.1	3.8	0.0	-11.1	-4.2
Intermediate Core-Plus Bond	-2.4	-2.4	-3.8	-2.6	-1.3	-4.2	-8.7	9.5	-13.0	40.0
Short-Term Bond	-1.3	-2.6	-4.0	-2.8	-1.4	-14.3	0.0	0.0	0.0	0.0
Ultrashort Bond	2.1	-4.1	-4.3	-2.2	-2.3	0.0	-7.1	0.0	-7.7	0.0
Corporate Bond	-2.3	-1.2	-3.6	-2.5	-3.8	-4.3	9.1	-8.3	0.0	-36.4
High-Yield Bond	-2.9	-2.0	-1.0	-3.0	-2.1	-12.5	-4.8	0.0	-2.5	-10.3

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 29 Asset-Weighted Average Fees by Service-Fee Arrangement

	Asset-Weighted Average Fees (%)																	
	Bundled						Semibundled						Unbundled					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
U.S. Equity	0.95	0.92	0.91	0.89	0.86	0.84	0.51	0.47	0.45	0.42	0.40	0.37	0.13	0.13	0.12	0.12	0.12	0.11
Sector Equity	0.68	0.61	0.58	0.53	0.45	0.40	0.69	0.67	0.65	0.64	0.62	0.60	0.22	0.21	0.19	0.19	0.18	0.17
International Equity	1.05	1.02	1.01	0.98	0.95	0.93	0.69	0.63	0.60	0.57	0.55	0.51	0.23	0.22	0.21	0.21	0.22	0.22
Taxable Bond	0.95	0.95	0.91	0.86	0.79	0.78	0.48	0.48	0.46	0.42	0.38	0.36	0.13	0.14	0.13	0.13	0.12	0.12
Muni Bond	0.84	0.85	0.85	0.79	0.77	0.75	0.49	0.49	0.49	0.45	0.44	0.42	0.12	0.13	0.13	0.13	0.13	0.13
Allocation	0.90	0.87	0.85	0.83	0.80	0.78	0.67	0.65	0.63	0.60	0.58	0.57	0.19	0.20	0.20	0.19	0.19	0.19
Alternative	1.75	1.79	1.72	1.55	1.43	1.42	1.53	1.46	1.51	1.28	1.12	1.12	1.39	1.34	1.31	0.90	0.76	0.75
Commodities	1.23	1.29	1.29	1.27	0.98	0.95	0.80	0.75	0.69	0.57	0.57	0.66	0.79	0.69	0.48	0.39	0.31	0.32
All Funds	0.94	0.91	0.89	0.86	0.81	0.79	0.58	0.54	0.51	0.48	0.45	0.43	0.16	0.16	0.15	0.14	0.14	0.13

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 31 Equal-Weighted Average Fees by Service-Fee Arrangement

	Equal-Weighted Average Fees (%)																	
	Bundled						Semibundled						Unbundled					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
U.S. Equity	1.40	1.38	1.38	1.35	1.32	1.32	0.79	0.76	0.76	0.73	0.71	0.70	0.58	0.55	0.53	0.53	0.53	0.53
Sector Equity	1.63	1.61	1.58	1.57	1.54	1.52	0.80	0.79	0.77	0.75	0.73	0.71	0.52	0.54	0.54	0.55	0.55	0.55
International Equity	1.55	1.51	1.50	1.47	1.44	1.43	0.89	0.85	0.84	0.82	0.80	0.80	0.83	0.74	0.71	0.71	0.71	0.73
Taxable Bond	1.20	1.19	1.18	1.16	1.14	1.13	0.60	0.58	0.58	0.56	0.52	0.51	0.45	0.45	0.44	0.42	0.40	0.41
Muni Bond	1.12	1.12	1.10	1.08	1.06	1.05	0.55	0.54	0.54	0.51	0.50	0.49	0.37	0.43	0.44	0.41	0.41	0.40
Allocation	1.43	1.42	1.40	1.36	1.35	1.36	0.84	0.82	0.82	0.80	0.78	0.78	0.58	0.57	0.58	0.57	0.57	0.58
Alternative	2.14	2.10	2.08	2.02	1.97	1.91	1.58	1.50	1.44	1.29	1.14	1.13	1.33	1.19	1.34	1.13	1.09	1.07
Commodities	1.52	1.55	1.56	1.55	1.45	1.44	0.89	0.82	0.81	0.85	0.79	0.78	0.85	0.75	0.78	0.78	0.69	0.68
All Funds	1.43	1.41	1.39	1.36	1.33	1.32	0.80	0.78	0.76	0.73	0.70	0.70	0.62	0.58	0.56	0.55	0.54	0.55

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 30 Annual Percent Change in Asset-Weighted Fees by Service-Fee Arrangement

	Change in Asset-Weighted Average Fees (%)																	
	Bundled						Semibundled						Unbundled					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
U.S. Equity		-3.2	-1.1	-2.2	-3.4	-2.3		-7.8	-4.3	-6.7	-4.8	-7.5		0.0	-7.7	0.0	0.0	-8.3
Sector Equity		-10.3	-4.9	-8.6	-15.1	-11.1		-2.9	-3.0	-1.5	-3.1	-3.2		-4.5	-9.5	0.0	-5.3	-5.6
International Equity		-2.9	-1.0	-3.0	-3.1	-2.1		-8.7	-4.8	-5.0	-3.5	-7.3		-4.3	-4.5	0.0	4.8	0.0
Taxable Bond		0.0	-4.2	-5.5	-8.1	-1.3		0.0	-4.2	-8.7	-9.5	-5.3		7.7	-7.1	0.0	-7.7	0.0
Muni Bond		1.2	0.0	-7.1	-2.5	-2.6		0.0	0.0	-8.2	-2.2	-4.5		8.3	0.0	0.0	0.0	0.0
Allocation		-3.3	-2.3	-2.4	-3.6	-2.5		-3.0	-3.1	-4.8	-3.3	-1.7		5.3	0.0	-5.0	0.0	0.0
Alternative		2.3	-3.9	-9.9	-7.7	-0.7		-4.6	3.4	-15.2	-12.5	0.0		-3.6	-2.2	-31.3	-15.6	-1.3
Commodities		4.9	0.0	-1.6	-22.8	-3.1		-6.3	-8.0	-17.4	0.0	15.8		-12.7	-30.4	-18.8	-20.5	3.2
All Funds		-2.6	-2.5	-3.8	-4.8	-3.4		-5.9	-5.3	-6.7	-5.7	-5.8		-1.4	-6.1	-3.0	-0.5	-6.0

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 32 Annual Percent Change in Equal-Weighted Fees by Service-Fee Arrangement

	Change in Equal-Weighted Average Fees (%)																	
	Bundled						Semibundled						Unbundled					
	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022	2017	2018	2019	2020	2021	2022
U.S. Equity		-1.4	0.0	-2.2	-2.2	0.0		-3.8	0.0	-3.9	-2.7	-1.4		-5.2	-3.6	0.0	0.0	0.0
Sector Equity		-1.2	-1.9	-0.6	-1.9	-1.3		-1.3	-2.5	-2.6	-2.7	-2.7		3.8	0.0	1.9	0.0	0.0
International Equity		-2.6	-0.7	-2.0	-2.0	-0.7		-4.5	-1.2	-2.4	-2.4	0.0		-10.8	-4.1	0.0	0.0	2.8
Taxable Bond		-0.8	-0.8	-1.7	-1.7	-0.9		-3.3	0.0	-3.4	-7.1	-1.9		0.0	-2.2	-4.5	-4.8	2.5
Muni Bond		0.0	-1.8	-1.8	-1.9	-0.9		-1.8	0.0	-5.6	-2.0	-2.0		16.2	2.3	-6.8	0.0	-2.4
Allocation		-0.7	-1.4	-2.9	-0.7	0.7		-2.4	0.0	-2.4	-2.5	0.0		-1.7	1.8	-1.7	0.0	1.8
Alternative		-1.9	-1.0	-2.9	-2.5	-3.0		-5.1	-4.0	-10.4	-11.6	-0.9		-10.5	12.6	-15.7	-3.5	-1.8
Commodities		2.0	0.6	-0.6	-6.5	-0.7		-7.9	-1.2	4.9	-7.1	-1.3		-11.8	4.0	0.0	-11.5	-1.4
All Funds		-1.3	-1.2	-2.0	-2.2	-0.7		-3.0	-1.9	-3.7	-4.1	-0.6		-5.9	-2.4	-2.5	-1.9	1.1

Source: Morningstar. Data as of Dec. 31, 2022.

Exhibit 33 Asset- and Equal-Weighted Average Fees Among ESG-Intentional Funds by Morningstar Category

	Number of Share Classes					Asset-Weighted Average					Equal-Weighted Average				
	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022	2018	2019	2020	2021	2022
Large Blend	127	149	163	190	181	0.21	0.19	0.17	0.16	0.15	0.89	0.87	0.83	0.80	0.78
Large Value	23	25	24	31	38	0.51	0.48	0.44	0.42	0.40	0.96	0.95	0.94	0.92	0.90
Large Growth	72	77	70	68	70	0.61	0.59	0.57	0.56	0.51	1.07	1.05	1.01	0.97	0.96
Mid-Cap Blend	18	19	21	29	19	0.30	0.23	0.21	0.24	0.32	1.01	1.01	0.96	0.93	1.04
Mid-Cap Value	22	6	6	4	18	0.60	0.60	0.60	0.58	0.65	1.06	1.05	1.04	0.98	1.09
Mid-Cap Growth	18	18	19	33	18	0.82	0.81	0.77	0.58	0.84	1.16	1.14	1.11	1.06	1.20
Small Blend	21	24	25	29	31	0.39	0.36	0.33	0.29	0.29	1.11	1.08	1.05	1.00	1.00
Small Value	7	6	5	3	3	0.62	0.59	0.58	0.53	0.52	1.20	1.20	1.17	1.15	1.15
Small Growth	9	7	2	7	8	0.78	0.77	0.75	0.74	0.73	1.23	1.22	1.20	1.19	1.18
Foreign Large Blend	58	61	68	68	81	0.34	0.29	0.26	0.24	0.23	0.97	0.95	0.92	0.92	0.92
Foreign Large Growth	16	22	20	27	27	0.71	0.69	0.67	0.66	0.64	1.12	1.10	1.08	1.05	1.05
Diversified Emerging Mkts	31	32	28	35	53	0.68	0.64	0.61	0.57	0.52	1.30	1.26	1.23	1.19	1.16
Global Large-Stock Blend	36	42	46	74	89	0.66	0.63	0.58	0.54	0.53	1.06	1.03	1.00	0.95	0.96
Intermediate Core Bond	26	21	29	50	52	0.16	0.15	0.14	0.14	0.13	0.66	0.65	0.62	0.59	0.59
Intermediate Core-Plus Bond	41	47	51	58	77	0.49	0.51	0.49	0.46	0.44	0.82	0.80	0.77	0.74	0.74
Short-Term Bond	21	22	24	27	31	0.34	0.34	0.33	0.28	0.27	0.73	0.71	0.69	0.67	0.65
Ultrashort Bond	5	6	5	5	13	0.29	0.29	0.27	0.27	0.24	0.47	0.45	0.43	0.42	0.41
Corporate Bond	8	5	8	18	19	0.25	0.27	0.26	0.22	0.20	0.75	0.76	0.74	0.70	0.67
High Yield Bond	16	19	22	31	33	0.64	0.63	0.58	0.55	0.56	0.98	0.96	0.94	0.92	0.89

Source: Morningstar. Data as of Dec. 31, 2022.

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