

# 2020 U.S. Fund Fee Study

## Fees keep falling.

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### Morningstar Manager Research

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### Executive Summary

The average expense ratio paid by fund investors is half of what it was two decades ago. Between 2000 and 2020, the asset-weighted average fee fell to 0.41% from 0.93%. Investors have saved billions as a result.

There are several factors that have driven fees lower. Investors are increasingly aware of the importance of minimizing investment costs, which has led them to favor lower-cost funds. Intensifying competition among asset managers has resulted in many cutting fees to vie for market share. Changes in the economics of advice have also played a 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.

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### Key Takeaways

- ▶ The average expense ratio paid by fund investors has been falling for over two decades. In 2020, the asset-weighted average expense ratio of all U.S. open-end mutual funds and exchange-traded funds was 0.41%, compared with 0.93% in 2000.
- ▶ The asset-weighted average expense ratio fell to 0.41% in 2020 from 0.44% in 2019. As a result, we estimate investors saved nearly \$6.2 billion in fund expenses last year.
- ▶ The asset-weighted average expense ratio for active funds fell to 0.62% in 2020 from 0.65% in 2019, driven mainly by large net outflows from expensive funds and share classes and, to a lesser extent, inflows to cheaper ones.
- ▶ The asset-weighted average expense ratio for passive funds fell to 0.12% in 2020 from 0.13% in 2019, thanks to steady flows into the lowest-cost funds.
- ▶ The equal-weighted average expense ratio—which indicates what funds charge irrespective of where assets are held—fell to 0.98% in 2020 from 1.00% in 2019. Active funds' equal-weighted fees declined to 1.04% from 1.07%, while the equal-weighted average fee among passive funds dropped to 0.45% from 0.46%.
- ▶ In 2020, the cheapest 20% of funds saw net inflows of \$445 billion, with the remainder suffering outflows of \$293 billion. The cheapest 5% of funds alone received \$412 billion of inflows.
- ▶ The line that separates the cheapest 10% of funds from the rest has fallen 41% over the past 15 years, while the line between the most expensive 10% and the rest has come down 22%.
- ▶ 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, we can see that bundled share classes have

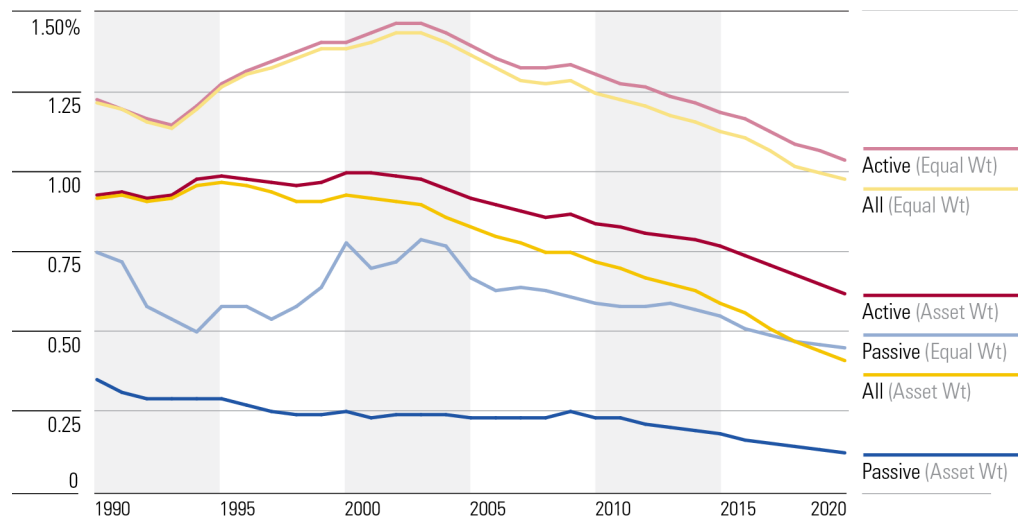
been in outflows for the past 11 years, while semibundled and unbundled share classes have seen steady inflows.

- ▶ 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 0.61% at the end of 2020 versus 0.41% for their traditional peers.
- ▶ Strategic-beta funds are an alternative to higher-cost actively managed funds. In 2020, the asset-weighted average fee for strategic-beta funds was 0.18%, which was slightly higher than the figure for traditional index funds (0.11%) but significantly lower than for active funds (0.62%).
- ▶ Although its competition continues to gain ground, Vanguard still claims the lowest asset-weighted average expense ratio among asset managers, which was 0.09% in 2020.

### Trends in Fund Fees Paid by Investors

Investors paid lower fund expenses in 2020 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 0.41% in 2020, a 7% decline from 2019. This is the third-largest year-over-year decline we have recorded dating back to 1991. Consequently, we estimate that investors saved nearly \$6.2 billion in fund expenses last year. This fee decline is a big positive for investors because fees compound over time and diminish returns. Compounding investors’ 2020 fund fee savings at a rate of 0.71% over the next 10 years would equate to \$6.6 billion more in investors’ pockets come 2031.<sup>1</sup>

**Exhibit 1** Fund Fees Are Falling



Source: Morningstar. Data as of Dec. 31, 2020.

<sup>1</sup> The 10-year expected return for a 60/40 stock/bond portfolio based on Morningstar Investment Management LLC’s forecasts of corporate and economic fundamentals as of June 30, 2021.

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 is a better measure of 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 0.66% in 2020. The equal-weighted average expense ratio for this group was 1.08%. Funds with expense ratios above 1.08% accounted for approximately 8.3% of assets invested in active U.S. equity funds in 2020. Clearly, the equal-weighted average does not reflect most investors' experience.

Declines in asset-weighted average fees were more pronounced among passively managed funds thanks to strong flows into the lowest-cost funds. In aggregate, passively managed funds exhibited asset-weighted expense ratio declines of nearly 8% from 2019. Municipal-bond funds exhibited the largest declines among passive funds, as their asset-weighted average fees fell nearly 12% to reach 0.15%. This dramatic decline was the result of a fee cut for the largest fund in the category, iShares National Muni Bond ETF MUB, which slashed its expense ratio to 0.07% from 0.11%.

Declines in asset-weighted average fees on the active side were driven by large net outflows from expensive funds and, to a lesser extent, net flows into cheaper ones. As a result, in aggregate, asset-weighted fees for actively managed funds declined 4.6% in 2020 from the year prior.

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

	<b>Asset-Weighted Average Fees (%)</b>									
	<b>Active</b>					<b>Passive</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	0.77	0.73	0.69	0.68	0.66	0.11	0.11	0.10	0.09	0.09
Sector Equity	0.91	0.89	0.85	0.83	0.80	0.29	0.28	0.28	0.27	0.27
International Equity	0.92	0.87	0.82	0.79	0.76	0.26	0.23	0.21	0.20	0.18
Taxable Bond	0.59	0.57	0.54	0.51	0.48	0.14	0.13	0.12	0.11	0.10
Muni Bond	0.54	0.52	0.49	0.47	0.45	0.26	0.24	0.24	0.17	0.15
Allocation	0.72	0.69	0.66	0.64	0.61	0.46	0.45	0.44	0.44	0.44
Alternative	1.41	1.36	1.31	1.28	1.20	1.05	0.94	0.84	0.74	0.68
Commodities	0.82	0.78	0.71	0.63	0.76	0.44	0.45	0.46	0.43	0.43
<b>All Funds</b>	<b>0.74</b>	<b>0.71</b>	<b>0.68</b>	<b>0.65</b>	<b>0.62</b>	<b>0.16</b>	<b>0.15</b>	<b>0.14</b>	<b>0.13</b>	<b>0.12</b>

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 3** Fees Paid for Active Funds Continued to Decline While Some Passive Fund Category Fees Plateaued

	Change in Asset-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	-2.5	-5.2	-5.5	-1.4	-2.9	-15.4	0.0	-9.1	-10.0	0.0
Sector Equity	-1.1	-2.2	-4.5	-2.4	-3.6	-5.5	-3.4	0.0	-3.6	0.0
International Equity	-1.1	-5.4	-5.7	-3.7	-3.8	-10.3	-11.5	-8.7	-4.8	-10.0
Taxable Bond	-4.8	-3.4	-5.3	-5.6	-5.9	-6.6	-7.1	-7.7	-8.3	-9.1
Muni Bond	-3.6	-3.7	-5.8	-4.1	-4.3	0.0	-7.7	0.0	-29.2	-11.8
Allocation	-2.7	-4.2	-4.3	-3.0	-4.7	-4.2	-2.2	-2.2	0.0	0.0
Alternative	1.4	-3.5	-3.7	-2.3	-6.3	-1.9	-10.5	-10.6	-11.9	-8.1
Commodities	-4.7	-4.9	-9.0	-11.3	10.6	-12.0	2.3	2.2	-6.5	0.0
<b>All Funds</b>	<b>-3.9</b>	<b>-4.1</b>	<b>-4.2</b>	<b>-4.4</b>	<b>-4.6</b>	<b>-11.1</b>	<b>-6.3</b>	<b>-6.7</b>	<b>-7.1</b>	<b>-7.7</b>

Source: Morningstar. Data as of Dec. 31, 2020.

**Trends in Fund Fees Charged by the Industry**

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 2020, fee reductions by the asset-management industry for active funds regained momentum, while fee cuts among passive funds slowed.

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.

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

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	1.20	1.16	1.12	1.10	1.08	0.54	0.51	0.49	0.50	0.48
Sector Equity	1.43	1.39	1.34	1.30	1.28	0.51	0.48	0.48	0.48	0.47
International Equity	1.36	1.31	1.25	1.22	1.20	0.55	0.52	0.49	0.49	0.48
Taxable Bond	0.94	0.92	0.89	0.87	0.85	0.27	0.27	0.24	0.24	0.23
Muni Bond	0.90	0.87	0.83	0.81	0.80	0.24	0.24	0.24	0.23	0.21
Allocation	1.18	1.16	1.11	1.10	1.07	0.72	1.11	0.95	0.97	1.11
Alternative	1.71	1.65	1.60	1.57	1.52	1.15	0.95	1.05	0.92	0.90
Commodities	1.31	1.20	1.17	1.14	1.16	1.17	1.10	1.03	1.03	0.92
<b>All Funds</b>	<b>1.17</b>	<b>1.13</b>	<b>1.09</b>	<b>1.07</b>	<b>1.04</b>	<b>0.51</b>	<b>0.49</b>	<b>0.47</b>	<b>0.46</b>	<b>0.45</b>

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 5** Five Years of Decreasing Fees for Active and Passive Funds Alike

	<b>Change in Equal-Weighted Average Fees (%)</b>									
	<b>Active</b>					<b>Passive</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	-1.6	-3.3	-3.4	-1.8	-1.8	-10.0	-5.6	-3.9	2.0	-4.0
Sector Equity	-1.4	-2.8	-3.6	-3.0	-1.5	-5.6	-5.9	0.0	0.0	-2.1
International Equity	-2.9	-3.7	-4.6	-2.4	-1.6	-5.2	-5.5	-5.8	0.0	-2.0
Taxable Bond	-3.1	-2.1	-3.3	-2.2	-2.3	-3.6	0.0	-11.1	0.0	-4.2
Muni Bond	-2.2	-3.3	-4.6	-2.4	-1.2	-4.0	0.0	0.0	-4.2	-8.7
Allocation	0.0	-1.7	-4.3	-0.9	-2.7	0.0	54.2	-14.4	2.1	14.4
Alternative	-2.8	-3.5	-3.0	-1.9	-3.2	1.8	-17.4	10.5	-12.3	-2.2
Commodities	1.6	-8.4	-2.5	-2.6	1.8	-7.9	-6.0	-6.4	0.0	-10.7
<b>All Funds</b>	<b>-1.7</b>	<b>-3.4</b>	<b>-3.5</b>	<b>-1.8</b>	<b>-2.8</b>	<b>-7.3</b>	<b>-3.9</b>	<b>-4.1</b>	<b>-2.1</b>	<b>-2.2</b>

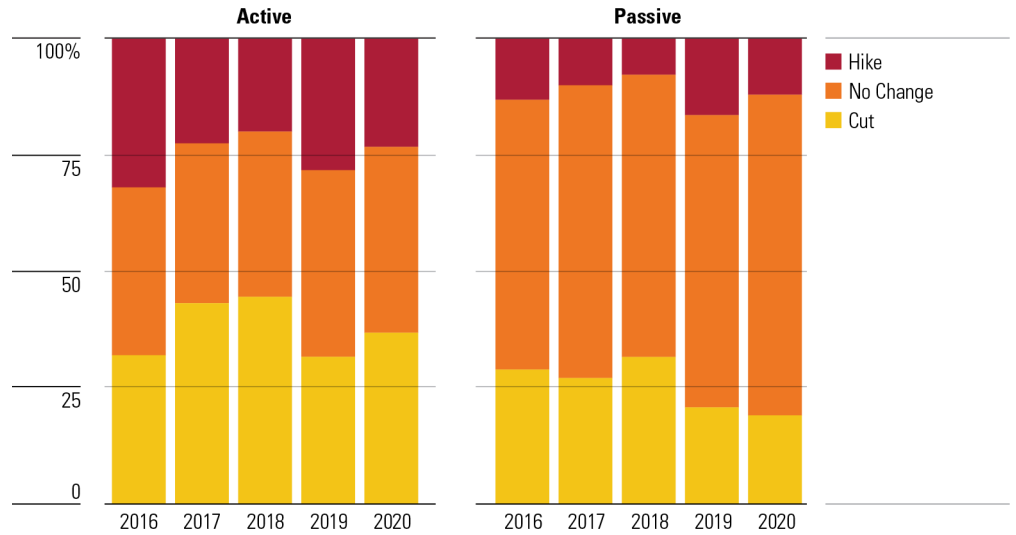
Source: Morningstar. Data as of Dec. 31, 2020.

Although it wasn't the case in 2020, in recent years, index mutual funds and ETFs have exhibited steeper declines in equal-weighted fees, relative to actively managed funds. 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. Going forward, as fees for these funds sit either at or near zero, it is inevitable that the pace of fee declines will slow.

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. Given that 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 increased to 37% in 2020 from 32% in 2019. Meanwhile, the percentage of passive funds that cut their fees was the lowest in five years.

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



Source: Morningstar. Data as of Dec. 31, 2020.

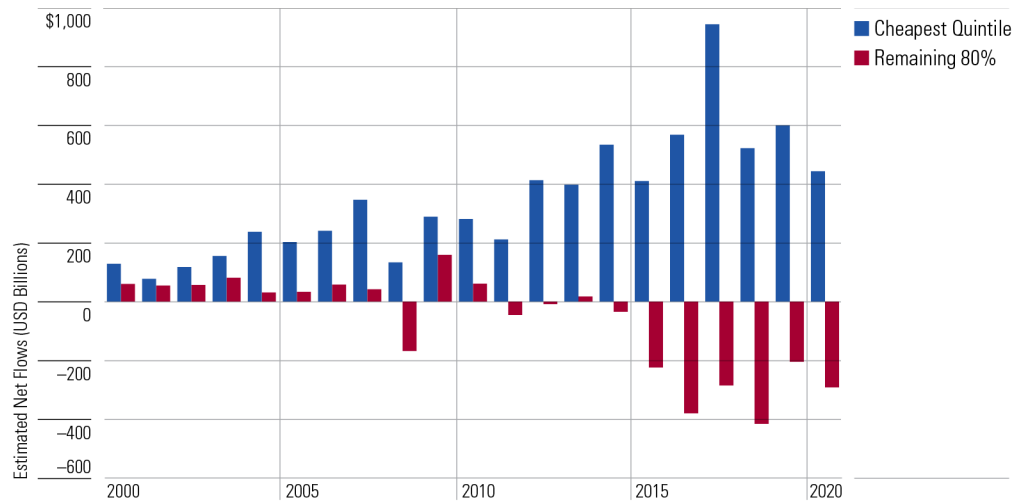
**Asset Flows Favor Lower-Cost Funds and Share Classes**

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 charging fees that rank within the cheapest 20% of their Morningstar Category group have trended higher. In 2020, these funds saw net inflows of \$445 billion. Passively managed funds accounted for about 70% of the net flows into this group, while actively managed funds accounted for the remaining 30%.

Flows for the remaining 80% of funds have been negative in nine of the past 10 years. In 2020, these funds witnessed \$293 billion in collective outflows.

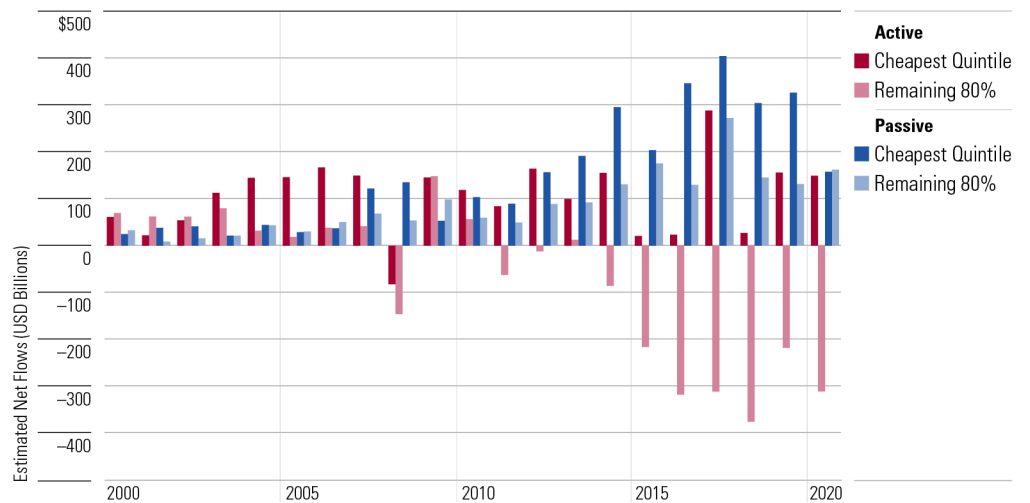
**Exhibit 7** Investors Have Long Favored Low-Cost Funds and Recently Rejected More Costly Ones



Source: Morningstar. Data as of Dec. 31, 2020.

Expensive active funds have been the epicenter of outflows. During each of the past seven years, the most expensive 80% of active funds has accounted for all of the net outflows across all funds.

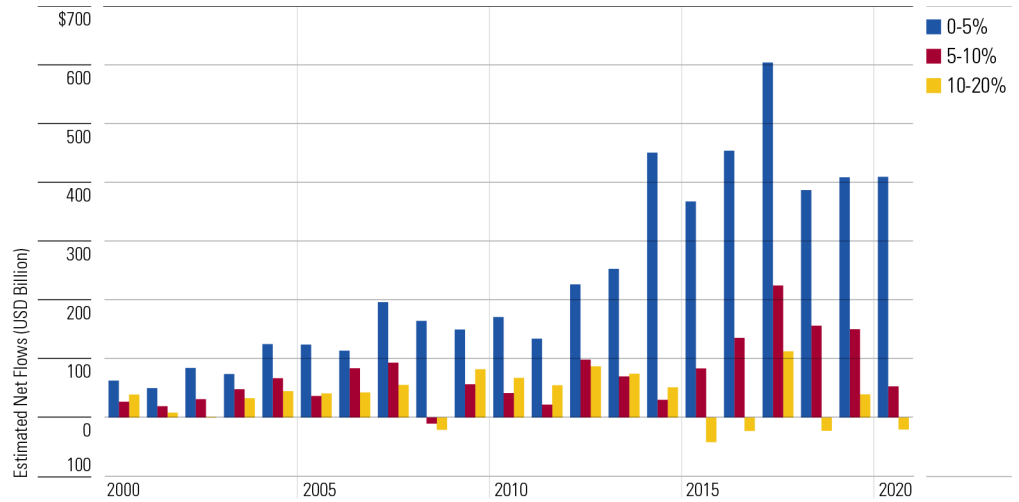
**Exhibit 8** Pricey Active Funds Continued to Lose Money While All Passive Funds Collected Strong Flows



Source: Morningstar. Data as of Dec. 31, 2020.

Of the \$445 billion that flowed into the cheapest 20% of funds and share classes in 2020, nearly all of it went into the cheapest of the cheap, as 93% of net new money flowed into the least costly 5% of all funds.

**Exhibit 9** Investors Are Pouring Into the Cheapest of the Cheap

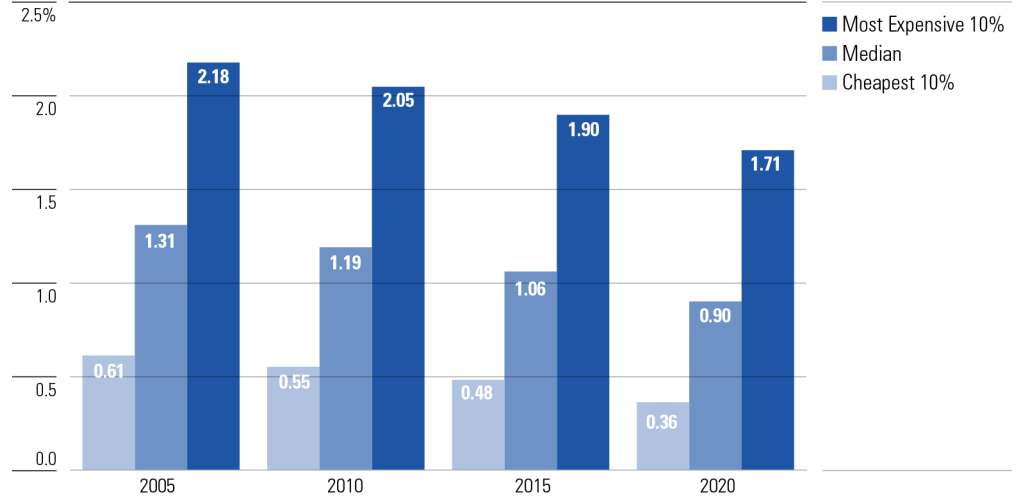


Source: Morningstar. Data as of Dec. 31, 2020.

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 nearly 41%. 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 shy of 22% since 2005. 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 10** Cheap Funds Are Getting Cheaper; Expensive Ones Are Trying to Gain Ground



Source: Morningstar. Data as of Dec. 31, 2020.

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

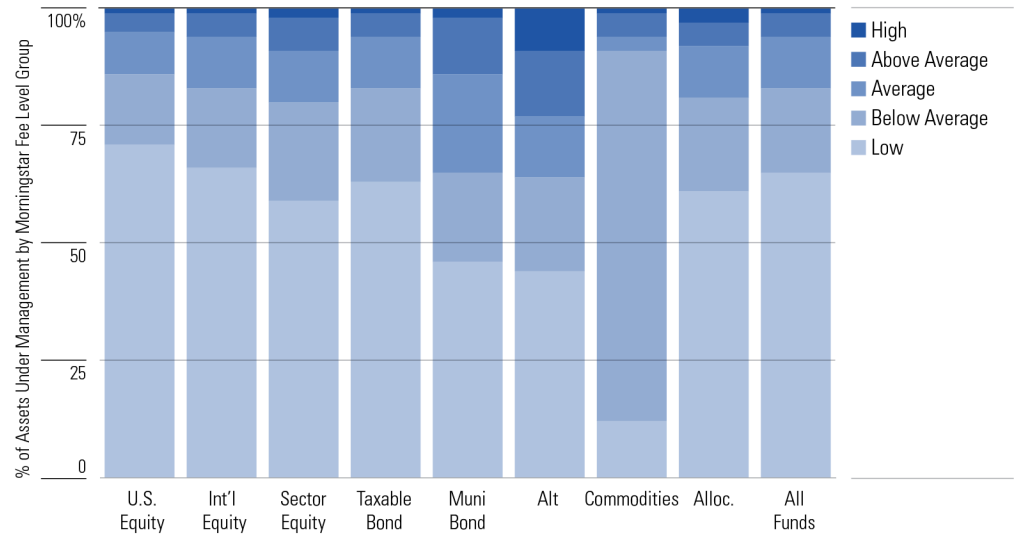
	2005			2010			2015			2020		
	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth	Value	Blend	Growth
Large	0.70	0.42	0.80	0.66	0.40	0.73	0.52	0.30	0.65	0.38	0.18	0.50
	<b>1.26</b>	<b>1.19</b>	<b>1.41</b>	<b>1.18</b>	<b>1.11</b>	<b>1.24</b>	<b>1.00</b>	<b>0.98</b>	<b>1.07</b>	<b>0.86</b>	<b>0.76</b>	<b>0.92</b>
	2.07	2.05	2.25	1.97	2.00	2.07	1.84	1.81	1.94	1.66	1.55	1.76
Mid	0.79	0.61	0.92	0.77	0.45	0.82	0.66	0.26	0.75	0.52	0.19	0.65
	<b>1.33</b>	<b>1.35</b>	<b>1.51</b>	<b>1.26</b>	<b>1.24</b>	<b>1.33</b>	<b>1.11</b>	<b>1.07</b>	<b>1.19</b>	<b>0.99</b>	<b>0.94</b>	<b>1.05</b>
	2.10	2.18	2.29	2.05	2.13	2.15	1.94	1.96	2.01	1.79	1.75	1.82
Small	0.94	0.72	1.00	0.87	0.70	0.95	0.71	0.52	0.84	0.64	0.32	0.76
	<b>1.47</b>	<b>1.35</b>	<b>1.57</b>	<b>1.38</b>	<b>1.30</b>	<b>1.42</b>	<b>1.23</b>	<b>1.19</b>	<b>1.25</b>	<b>1.10</b>	<b>1.01</b>	<b>1.14</b>
	2.23	2.22	2.40	2.15	2.20	2.23	2.05	1.98	2.08	1.94	1.75	1.95

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

Source: Morningstar. Data as of Dec. 31, 2020.

Because of these trends, most of investors' money sits in lower-priced funds. At the end of 2020, 84% 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, 2020.

### How 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 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 up-front commissions. Advice associated with these share classes may ultimately cost less.

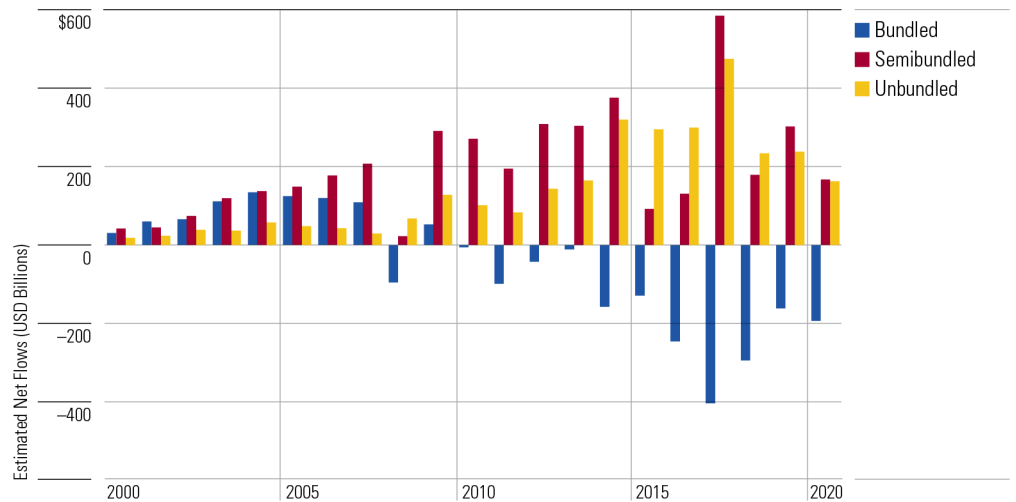
**Exhibit 13** Service-Fee Arrangements

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 or Planning	✗	✗	✗

Source: Morningstar. Data as of Dec. 31, 2020.

Looking through the lens of Morningstar's service-fee arrangement attribute, we can see that bundled share classes have been in outflows 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, where investment product costs are being displaced by advisor fees.

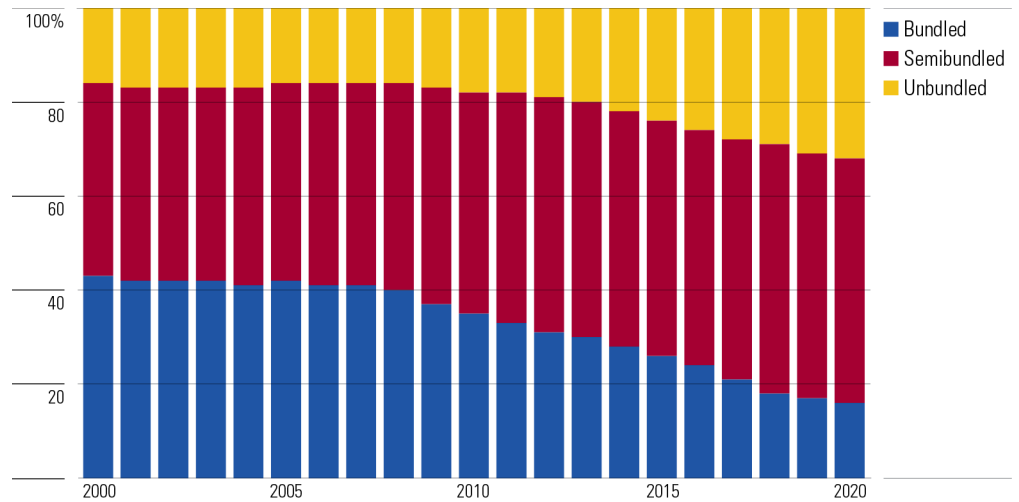
**Exhibit 14** Bundled Funds Have Seen Steady Outflows



Source: Morningstar. Data as of Dec. 31, 2020.

Bundled funds and share classes have been a casualty of the move toward fee-based advice. These funds and share classes accounted for 43% of fund assets in 2000. At the end of 2020, their share had declined to 16%.

**Exhibit 15** Semibundled and Unbundled Funds and Share Classes Hold Most of Investors' Money

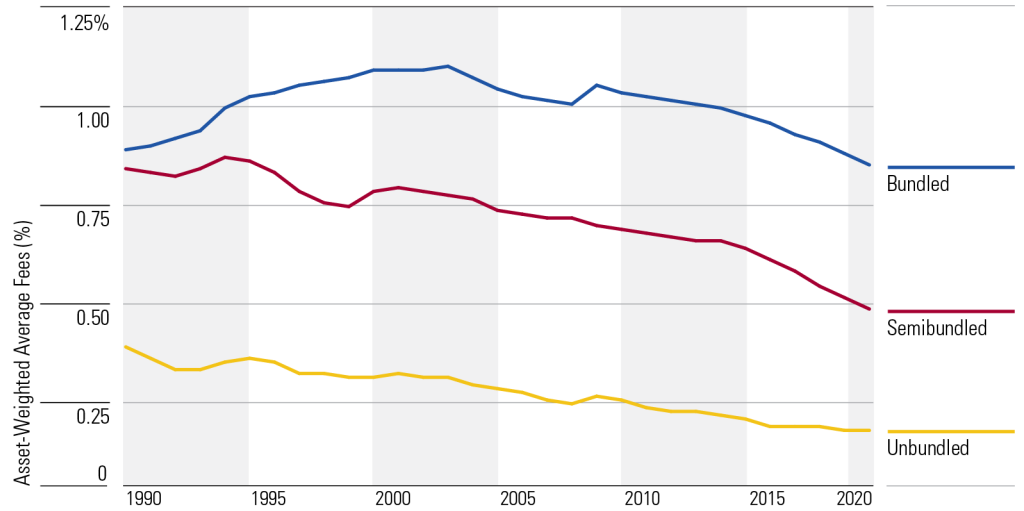


Source: Morningstar. Data as of Dec. 31, 2020.

Asset-weighted fees for bundled funds and share classes ticked higher through the 1990s and peaked in 2003. As of the end of 2020, 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.

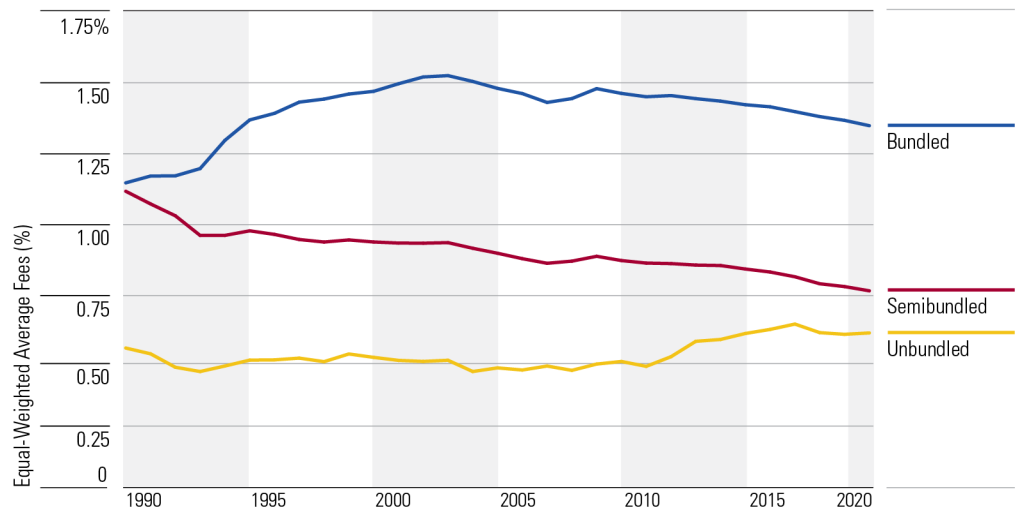
The trend in equal-weighted fees across these three service-fee arrangement segments paints a very different picture. Equal-weighted average fees for both bundled and unbundled funds and share classes were higher at the end of 2020 than they were in 1990, while the average fee charged by semibundled 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 16** Asset-Weighted Average Fees by Service-Fee Arrangement



Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 17** Equal-Weighted Average Fees by Service-Fee Arrangement

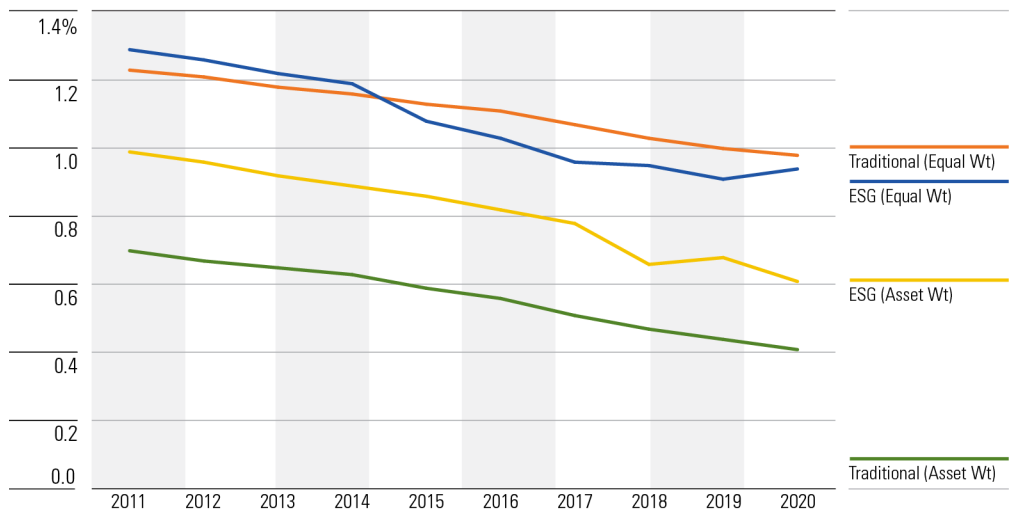


Source: Morningstar. Data as of Dec. 31, 2020.

**Investors in Sustainable Funds Are Paying a “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 0.61% at the end of 2020 versus 0.41% 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 27%, while the average fee paid by investors in these funds has dropped 38%. 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 Intentional Funds' Fees Have Been Putting More Green Back in Investors' Wallets



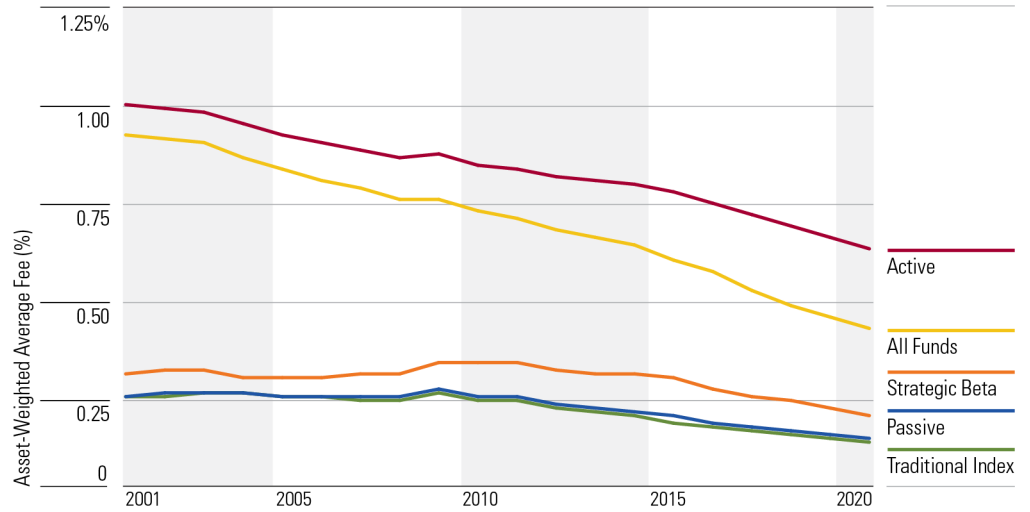
Source: Morningstar. Data as of Dec. 31, 2020.

**Strategic Beta, 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.

Out of 973 strategic-beta funds and share classes in Morningstar’s database, 81% carried fees that rank within the bottom quintile relative to their Morningstar Category peers at the end of 2020. At 0.18%, these 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, 2020.

**Vanguard Is Still the Low-Cost Leader**

Among the ranks of the largest asset managers, Vanguard continues to own the low-cost crown. In 2020, the firm's asset-weighted expense ratio was 0.09%, flat versus its year-end 2019 level. Vanguard was followed by State Street Global Advisors (0.16%) and BlackRock/iShares (0.25%). Vanguard's competition continued to gain ground in 2020. While the firm remains the overall low-cost leader, its competitors have either matched or undercut the firm's fees for certain broad market-cap-weighted index funds. 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 Continues to Intensify Among the Largest Asset Managers

	Asset-Weighted Average Fees (%)			2020			
	2015	2020	Percent Change	Year End AUM (USD Bil)	Market Share (%)	Asset Growth (%)	Organic Growth Rate (%)
Vanguard	0.12	0.09	-25	6,151.16	25.95	15.45	2.64
iShares/BlackRock	0.41	0.25	-39	2,342.08	9.88	17.77	6.96
Fidelity Investments	0.60	0.38	-37	2,167.25	9.14	19.96	0.53
American Funds	0.69	0.58	-16	2,032.22	8.57	14.67	-1.81
SPDR State Street Global Advisors	0.19	0.16	-16	844.70	3.56	17.69	4.91
T. Rowe Price	0.72	0.53	-26	773.74	3.26	15.91	-4.97
Invesco	0.87	0.62	-29	620.35	2.62	11.39	-3.85
Franklin Templeton Investments	0.87	0.74	-15	504.37	2.13	3.08	-5.11
JPMorgan	0.76	0.56	-26	439.06	1.85	22.19	11.28
Dimensional Fund Advisors	0.36	0.31	-14	432.79	1.83	-3.10	-8.21

Source: Morningstar. Data as of Dec. 31, 2020.



## Appendix

**Exhibit 21** Asset-Weighted Average Fees by Morningstar Category

	Asset-Weighted Average Fees (%)				
	2016	2017	2018	2019	2020
Large Blend	0.26	0.23	0.21	0.19	0.17
Large Value	0.59	0.55	0.51	0.48	0.44
Large Growth	0.68	0.64	0.61	0.60	0.58
Mid-Cap Blend	0.37	0.32	0.30	0.23	0.21
Mid-Cap Value	0.73	0.66	0.60	0.60	0.61
Mid-Cap Growth	0.91	0.86	0.82	0.81	0.78
Small Blend	0.54	0.47	0.39	0.36	0.33
Small Value	0.71	0.65	0.63	0.59	0.58
Small Growth	0.84	0.80	0.78	0.77	0.76
Foreign Large Blend	0.45	0.40	0.34	0.29	0.26
Foreign Large Growth	0.82	0.76	0.71	0.69	0.67
Diversified Emerging Mkts	0.83	0.75	0.68	0.64	0.61
World Large-Stock Blend	0.78	0.72	0.66	0.64	0.59
Intermediate Core Bond	0.22	0.19	0.16	0.15	0.14
Intermediate Core-Plus Bond	0.55	0.52	0.49	0.48	0.47
Short-Term Bond	0.39	0.36	0.34	0.34	0.32
Ultrashort Bond	0.31	0.30	0.29	0.29	0.27
Corporate Bond	0.27	0.25	0.25	0.24	0.22
High-Yield Bond	0.71	0.68	0.64	0.63	0.58

Source: Morningstar. Data as of Dec. 31, 2020.

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

	Change in Asset-Weighted Average Fees (%)				
	2016	2017	2018	2019	2020
Large Blend	-13.3	-11.5	-8.7	-9.5	-10.5
Large Value	-3.3	-6.8	-7.3	-5.9	-8.3
Large Growth	-2.9	-5.9	-4.7	-1.6	-3.3
Mid-Cap Blend	-9.8	-13.5	-6.3	-23.3	-8.7
Mid-Cap Value	-5.2	-9.6	-9.1	0.0	1.7
Mid-Cap Growth	-2.2	-5.5	-4.7	-1.2	-3.7
Small Blend	-6.9	-13.0	-17.0	-7.7	-8.3
Small Value	-6.6	-8.5	-3.1	-6.3	-1.7
Small Growth	-2.3	-4.8	-2.5	-1.3	-1.3
Foreign Large Blend	-11.8	-11.1	-15.0	-14.7	-10.3
Foreign Large Growth	-2.4	-7.3	-6.6	-2.8	-2.9
Diversified Emerging Mkts	-4.6	-9.6	-9.3	-5.9	-4.7
World Large-Stock Blend	-2.5	-7.7	-8.3	-3.0	-7.8
Intermediate Core Bond	-8.3	-13.6	-15.8	-6.3	-6.7
Intermediate Core-Plus Bond	-3.5	-5.5	-5.8	-2.0	-2.1
Short-Term Bond	-4.9	-7.7	-5.6	0.0	-5.9
Ultrashort Bond	-13.9	-3.2	-3.3	0.0	-6.9
Corporate Bond	-10.0	-7.4	0.0	-4.0	-8.3
High-Yield Bond	-2.7	-4.2	-5.9	-1.6	-7.9

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 23** Asset-Weighted Average Fees by Morningstar Category Across Active and Passive Funds

	Asset-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Large Blend	0.70	0.67	0.60	0.55	0.52	0.08	0.08	0.07	0.06	0.06
Large Value	0.68	0.65	0.62	0.60	0.57	0.20	0.19	0.18	0.17	0.16
Large Growth	0.75	0.73	0.70	0.70	0.69	0.18	0.17	0.17	0.16	0.15
Mid-Cap Blend	0.82	0.75	0.73	0.85	0.88	0.14	0.12	0.11	0.10	0.09
Mid-Cap Value	0.85	0.77	0.69	0.70	0.71	0.28	0.26	0.20	0.20	0.18
Mid-Cap Growth	0.98	0.93	0.89	0.88	0.85	0.24	0.23	0.23	0.21	0.21
Small Blend	0.92	0.86	0.78	0.74	0.76	0.15	0.14	0.13	0.11	0.11
Small Value	0.91	0.87	0.85	0.83	0.82	0.17	0.17	0.16	0.16	0.15
Small Growth	0.96	0.93	0.92	0.92	0.89	0.16	0.15	0.16	0.15	0.14
Foreign Large Blend	0.85	0.79	0.76	0.72	0.67	0.16	0.14	0.13	0.12	0.12
Foreign Large Growth	0.82	0.76	0.72	0.70	0.68	0.46	0.42	0.41	0.39	0.37
Diversified Emerging Mkts	1.07	1.01	0.94	0.91	0.84	0.32	0.29	0.27	0.24	0.24
World Large-Stock Blend	0.87	0.82	0.77	0.75	0.71	0.23	0.21	0.20	0.20	0.21
Intermediate Core Bond	0.48	0.43	0.36	0.34	0.32	0.07	0.06	0.06	0.05	0.05
Intermediate Core-Plus Bond	0.55	0.52	0.50	0.48	0.47	0.26	0.18	0.18	0.17	0.14
Short-Term Bond	0.48	0.45	0.43	0.43	0.42	0.09	0.09	0.08	0.06	0.06
Ultrashort Bond	0.32	0.31	0.32	0.32	0.30	0.17	0.17	0.16	0.15	0.14
Corporate Bond	0.36	0.35	0.34	0.37	0.37	0.14	0.13	0.13	0.11	0.10
High-Yield Bond	0.74	0.72	0.68	0.67	0.63	0.45	0.44	0.42	0.41	0.39

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 24** Annual Percent Change in Asset-Weighted Average Fees by Morningstar Category Across Active and Passive Funds

	Change in Asset-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Large Blend	-4.1	-4.3	-10.4	-8.3	-5.5	-11.1	0.0	-12.5	-14.3	0.0
Large Value	-1.4	-4.4	-4.6	-3.2	-5.0	-4.8	-5.0	-5.3	-5.6	-5.9
Large Growth	-2.6	-2.7	-4.1	0.0	-1.4	-10.0	-5.6	0.0	-5.9	-6.3
Mid-Cap Blend	-4.7	-8.5	-2.7	16.4	3.5	-6.7	-14.2	-8.3	-9.1	-10.0
Mid-Cap Value	-1.2	-9.4	-10.4	1.4	1.4	-3.4	-7.1	-23.1	0.0	-10.0
Mid-Cap Growth	-1.0	-5.1	-4.3	-1.1	-3.4	-11.1	-4.2	0.0	-8.7	0.0
Small Blend	-3.2	-6.5	-9.3	-5.1	2.7	-11.8	-6.7	-7.1	-15.3	0.0
Small Value	-3.2	-4.4	-2.3	-2.4	-1.2	-5.6	0.0	-5.9	0.0	-6.3
Small Growth	-2.0	-3.1	-1.1	0.0	-3.3	-5.9	-6.3	6.7	-6.3	-6.7
Foreign Large Blend	0.0	-7.1	-3.8	-5.3	-6.9	-11.1	-12.5	-7.1	-7.7	0.0
Foreign Large Growth	-2.4	-7.3	-5.3	-2.8	-2.9	-4.2	-8.7	-2.4	-4.9	-5.1
Diversified Emerging Mkts	-2.7	-5.6	-6.9	-3.2	-7.7	-5.9	-9.4	-6.9	-11.1	0.0
World Large-Stock Blend	-1.1	-5.7	-6.1	-2.6	-5.3	-11.5	-8.7	-4.8	0.0	5.0
Intermediate Core Bond	-2.0	-10.4	-16.2	-5.6	-5.9	-12.5	-14.3	0.0	-16.7	0.0
Intermediate Core-Plus Bond	-3.5	-5.5	-3.8	-4.0	-2.1	4.0	-30.8	0.0	-5.6	-17.6
Short-Term Bond	-2.0	-6.3	-4.4	0.0	-2.3	-18.2	0.0	-11.1	-25.0	0.0
Ultrashort Bond	-13.5	-3.1	3.2	0.0	-6.3	-5.6	0.0	-5.9	-6.3	-6.7
Corporate Bond	-5.3	-2.8	-2.9	8.9	0.0	-6.7	-7.1	0.0	-15.4	-9.1
High-Yield Bond	-3.9	-2.7	-5.6	-1.5	-6.0	0.0	-2.2	-4.5	-2.4	-4.9

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 25** Equal-Weighted Average Fees by Morningstar Category

	Equal-Weighted Average Fees (%)				
	2016	2017	2018	2019	2020
Large Blend	0.97	0.94	0.87	0.85	0.82
Large Value	1.04	1.01	0.95	0.94	0.93
Large Growth	1.16	1.11	1.07	1.05	1.02
Mid-Cap Blend	1.07	1.04	1.00	1.00	0.95
Mid-Cap Value	1.13	1.09	1.05	1.05	1.04
Mid-Cap Growth	1.23	1.19	1.16	1.14	1.11
Small Blend	1.19	1.15	1.11	1.07	1.05
Small Value	1.27	1.24	1.20	1.19	1.16
Small Growth	1.32	1.27	1.23	1.22	1.20
Foreign Large Blend	1.09	1.02	0.97	0.95	0.94
Foreign Large Growth	1.24	1.18	1.13	1.11	1.07
Diversified Emerging Mkts	1.43	1.35	1.29	1.26	1.23
World Large-Stock Blend	1.19	1.21	1.06	1.03	1.00
Intermediate Core Bond	0.72	0.67	0.65	0.64	0.62
Intermediate Core-Plus Bond	0.86	0.83	0.80	0.78	0.75
Short-Term Bond	0.77	0.74	0.73	0.71	0.68
Ultrashort Bond	0.47	0.46	0.47	0.45	0.43
Corporate Bond	0.76	0.77	0.75	0.74	0.72
High-Yield Bond	1.05	1.02	0.98	0.97	0.94

Source: Morningstar. Data as of Dec. 31, 2020.

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

	Change in Equal-Weighted Average Fees (%)				
	2016	2017	2018	2019	2020
Large Blend	-4.0	-3.1	-7.4	-2.3	-3.5
Large Value	-2.8	-2.9	-5.9	-1.1	-1.1
Large Growth	-1.7	-4.3	-3.6	-1.9	-2.9
Mid-Cap Blend	-3.6	-2.8	-3.8	0.0	-5.0
Mid-Cap Value	-2.6	-3.5	-3.7	0.0	-1.0
Mid-Cap Growth	-2.4	-3.3	-2.5	-1.7	-2.6
Small Blend	-1.7	-3.4	-3.5	-3.6	-1.9
Small Value	-1.6	-2.4	-3.2	-0.8	-2.5
Small Growth	-0.8	-3.8	-3.1	-0.8	-1.6
Foreign Large Blend	-4.4	-6.4	-4.9	-2.1	-1.1
Foreign Large Growth	-6.8	-4.8	-4.2	-1.8	-3.6
Diversified Emerging Mkts	-2.7	-5.6	-4.4	-2.3	-2.4
World Large-Stock Blend	-1.7	1.7	-12.4	-2.8	-2.9
Intermediate Core Bond	-4.0	-6.9	-3.0	-1.5	-3.1
Intermediate Core-Plus Bond	-1.1	-3.5	-3.6	-2.5	-3.8
Short-Term Bond	-3.8	-3.9	-1.4	-2.7	-4.2
Ultrashort Bond	-6.0	-2.1	2.2	-4.3	-4.4
Corporate Bond	0.0	1.3	-2.6	-1.3	-2.7
High-Yield Bond	-1.9	-2.9	-3.9	-1.0	-3.1

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 27** Equal-Weighted Average Fees by Morningstar Category Across Active and Passive Funds

	Equal-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Large Blend	1.11	1.08	1.02	0.99	0.96	0.42	0.41	0.40	0.40	0.40
Large Value	1.08	1.05	1.01	1.00	0.99	0.54	0.52	0.48	0.49	0.47
Large Growth	1.18	1.14	1.10	1.08	1.04	0.77	0.69	0.66	0.69	0.70
Mid-Cap Blend	1.27	1.23	1.19	1.21	1.16	0.45	0.45	0.43	0.44	0.38
Mid-Cap Value	1.16	1.13	1.09	1.08	1.08	0.72	0.61	0.74	0.66	0.64
Mid-Cap Growth	1.26	1.22	1.19	1.17	1.15	0.78	0.74	0.69	0.62	0.62
Small Blend	1.30	1.26	1.22	1.18	1.17	0.55	0.46	0.43	0.47	0.46
Small Value	1.32	1.29	1.26	1.23	1.20	0.71	0.72	0.71	0.71	0.72
Small Growth	1.34	1.29	1.25	1.24	1.22	0.73	0.68	0.65	0.65	0.63
Foreign Large Blend	1.24	1.17	1.12	1.09	1.09	0.45	0.38	0.36	0.38	0.37
Foreign Large Growth	1.25	1.19	1.15	1.12	1.10	0.95	0.72	0.44	0.47	0.44
Diversified Emerging Mkts	1.52	1.44	1.39	1.36	1.32	0.52	0.48	0.46	0.47	0.45
World Large-Stock Blend	1.27	1.29	1.13	1.00	1.06	0.45	0.51	0.51	0.50	0.43
Intermediate Core Bond	0.80	0.74	0.73	0.71	0.68	0.29	0.28	0.26	0.27	0.27
Intermediate Core-Plus Bond	0.86	0.84	0.81	0.79	0.76	0.27	0.20	0.23	0.21	0.23
Short-Term Bond	0.80	0.77	0.76	0.74	0.72	0.16	0.14	0.12	0.12	0.12
Ultrashort Bond	0.48	0.48	0.48	0.46	0.44	0.14	0.14	0.14	0.13	0.13
Corporate Bond	0.87	0.85	0.84	0.80	0.78	0.16	0.23	0.22	0.25	0.23
High-Yield Bond	1.07	1.05	1.01	1.01	0.98	0.42	0.48	0.43	0.41	0.40

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 28** Annual Percent Change in Equal-Weighted Average Fees by Morningstar Category Across Active and Passive Funds

	Change in Equal-Weighted Average Fees (%)									
	Active					Passive				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Large Blend	-1.8	-2.7	-5.6	-2.9	-3.0	-10.7	-2.4	-2.4	0.0	0.0
Large Value	-2.7	-2.8	-3.8	-1.0	-1.0	8.0	-3.7	-7.7	2.1	-4.1
Large Growth	-1.7	-3.4	-3.5	-1.8	-3.7	-13.5	-10.4	-4.3	4.5	1.4
Mid-Cap Blend	-2.3	-3.1	-3.3	1.7	-4.1	-16.7	0.0	-4.4	2.3	-13.6
Mid-Cap Value	-3.3	-2.6	-3.5	-0.9	0.0	-6.5	-15.3	21.3	-10.8	-3.0
Mid-Cap Growth	-1.6	-3.2	-2.5	-1.7	-1.7	0.0	-5.1	-6.8	-10.1	0.0
Small Blend	-0.8	-3.1	-3.2	-3.3	-0.8	-12.7	-16.4	-6.5	9.3	-2.1
Small Value	-0.8	-2.3	-2.3	-2.4	-2.4	-1.4	1.4	-1.4	0.0	1.4
Small Growth	-0.7	-3.7	-3.1	-0.8	-1.6	-2.7	-6.8	-4.4	0.0	-3.1
Foreign Large Blend	-1.6	-5.6	-4.3	-2.7	0.0	-16.7	-15.6	-5.3	5.6	-2.6
Foreign Large Growth	-6.7	-4.8	-3.4	-2.6	-1.8	5.6	-24.2	-38.9	6.8	-6.4
Diversified Emerging Mkts	-2.6	-5.3	-3.5	-2.2	-2.9	-10.3	-7.7	-4.2	2.2	-4.3
World Large-Stock Blend	-0.8	1.6	-12.4	-11.5	6.0	55.2	13.3	0.0	-2.0	-14.0
Intermediate Core Bond	-4.8	-7.5	-1.4	-2.7	-4.2	0.0	-3.4	-7.1	3.8	0.0
Intermediate Core-Plus Bond	-1.1	-2.3	-3.6	-2.5	-3.8	8.0	-25.9	15.0	-8.7	9.5
Short-Term Bond	-2.4	-3.8	-1.3	-2.6	-2.7	23.1	-12.5	-14.3	0.0	0.0
Ultrashort Bond	-5.9	0.0	0.0	-4.2	-4.3	-26.3	0.0	0.0	-7.1	0.0
Corporate Bond	-1.1	-2.3	-1.2	-4.8	-2.5	-5.9	43.8	-4.3	13.6	-8.0
High-Yield Bond	-1.8	-1.9	-3.8	0.0	-3.0	0.0	14.3	-10.4	-4.7	-2.4

Source: Morningstar. Data as of Dec. 31, 2020.

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

	<b>Asset-Weighted Average Fees (%)</b>														
	<b>Bundled</b>					<b>Semibundled</b>					<b>Unbundled</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	0.97	0.94	0.92	0.90	0.88	0.55	0.51	0.47	0.44	0.42	0.13	0.13	0.13	0.12	0.12
Sector Equity	0.77	0.67	0.60	0.58	0.53	0.70	0.68	0.66	0.65	0.64	0.22	0.21	0.21	0.19	0.18
International Equity	1.07	1.05	1.02	1.01	0.98	0.74	0.69	0.63	0.60	0.57	0.25	0.23	0.21	0.21	0.21
Taxable Bond	0.94	0.93	0.90	0.85	0.81	0.48	0.47	0.44	0.41	0.38	0.13	0.13	0.13	0.13	0.13
Muni Bond	0.82	0.81	0.81	0.79	0.76	0.49	0.47	0.46	0.45	0.42	0.12	0.12	0.13	0.13	0.13
Allocation	0.93	0.90	0.88	0.85	0.83	0.68	0.66	0.64	0.62	0.59	0.17	0.19	0.20	0.19	0.18
Alternative	1.60	1.57	1.55	1.55	1.49	1.37	1.34	1.29	1.25	1.17	0.77	0.91	0.88	0.86	0.77
Commodities	1.31	1.28	1.24	1.20	1.23	0.80	0.76	0.67	0.60	0.73	0.79	0.79	0.69	0.46	0.35
<b>All Funds</b>	<b>0.95</b>	<b>0.92</b>	<b>0.90</b>	<b>0.87</b>	<b>0.84</b>	<b>0.59</b>	<b>0.56</b>	<b>0.52</b>	<b>0.49</b>	<b>0.46</b>	<b>0.15</b>	<b>0.15</b>	<b>0.15</b>	<b>0.14</b>	<b>0.14</b>

Source: Morningstar. Data as of Dec. 31, 2020.

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

	<b>Change in Asset-Weighted Average Fees (%)</b>														
	<b>Bundled</b>					<b>Semibundled</b>					<b>Unbundled</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	-2.0	-3.1	-2.1	-2.2	-2.2	-5.2	-7.3	-7.8	-6.4	-4.5	-13.3	0.0	0.0	-7.7	0.0
Sector Equity	-4.9	-13.0	-10.4	-3.3	-8.6	-2.8	-2.9	-2.9	-1.5	-1.5	0.0	-4.5	0.0	-9.5	-5.3
International Equity	0.9	-1.9	-2.9	-1.0	-3.0	-2.6	-6.8	-8.7	-14.8	-5.0	-7.4	-8.0	-8.7	0.0	0.0
Taxable Bond	9.3	-1.1	-3.2	-5.6	-4.7	-4.0	-2.1	-6.4	-6.8	-7.3	0.0	0.0	0.0	0.0	0.0
Muni Bond	0.0	-1.2	0.0	-2.5	-3.8	0.0	-4.1	-2.1	-2.2	-6.7	-20.0	0.0	8.3	0.0	0.0
Allocation	-1.1	-3.2	-2.2	-3.4	-2.4	-1.4	-2.9	-3.0	-3.1	-4.8	-10.5	11.8	5.3	-5.0	-5.3
Alternative	3.9	-1.9	-1.3	0.0	-3.9	2.2	-2.2	-3.7	-3.1	-6.4	-16.3	18.2	-3.3	-2.3	-10.5
Commodities	9.2	-2.3	-3.1	-3.2	2.5	-1.2	-5.0	-11.8	-10.4	21.7	-7.1	0.0	-12.7	-33.3	-23.9
<b>All Funds</b>	<b>-2.1</b>	<b>-3.2</b>	<b>-2.2</b>	<b>-3.3</b>	<b>-3.4</b>	<b>-4.8</b>	<b>-5.1</b>	<b>-7.1</b>	<b>-5.8</b>	<b>-6.1</b>	<b>-11.8</b>	<b>0.0</b>	<b>0.0</b>	<b>-6.7</b>	<b>0.0</b>

Source: Morningstar. Data as of Dec. 31, 2020.

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

	<b>Equal-Weighted Average Fees (%)</b>														
	<b>Bundled</b>					<b>Semibundled</b>					<b>Unbundled</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	1.43	1.40	1.38	1.37	1.35	0.82	0.79	0.77	0.76	0.74	0.59	0.60	0.57	0.55	0.55
Sector Equity	1.66	1.64	1.61	1.58	1.58	0.85	0.84	0.82	0.80	0.78	0.52	0.56	0.58	0.57	0.57
International Equity	1.59	1.57	1.52	1.51	1.48	0.94	0.91	0.87	0.86	0.84	0.79	0.84	0.76	0.73	0.79
Taxable Bond	1.19	1.18	1.17	1.16	1.15	0.60	0.60	0.58	0.56	0.55	0.42	0.44	0.43	0.42	0.41
Muni Bond	1.12	1.11	1.10	1.08	1.08	0.55	0.54	0.52	0.53	0.52	0.35	0.36	0.41	0.42	0.40
Allocation	1.43	1.42	1.41	1.40	1.36	0.83	0.84	0.81	0.81	0.79	0.57	0.57	0.56	0.58	0.59
Alternative	1.92	0.91	0.90	1.91	1.90	1.38	1.37	1.29	1.24	1.22	0.93	0.97	0.98	1.20	1.00
Commodities	1.57	1.53	1.53	1.51	1.51	0.99	0.88	0.82	0.81	0.84	0.77	0.85	0.75	0.62	0.60
<b>All Funds</b>	<b>1.40</b>	<b>1.39</b>	<b>1.37</b>	<b>1.35</b>	<b>1.30</b>	<b>0.79</b>	<b>0.77</b>	<b>0.75</b>	<b>0.74</b>	<b>0.72</b>	<b>0.58</b>	<b>0.60</b>	<b>0.57</b>	<b>0.56</b>	<b>0.56</b>

Source: Morningstar. Data as of Dec. 31, 2020.

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

	<b>Change in Equal-Weighted Average Fees (%)</b>														
	<b>Bundled</b>					<b>Semibundled</b>					<b>Unbundled</b>				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
U.S. Equity	0.0	-2.1	-1.4	-0.7	-1.5	-1.2	-3.7	-2.5	-1.3	-2.6	1.7	1.7	-5.0	-3.5	0.0
Sector Equity	-0.6	-1.2	-1.8	-1.9	0.0	-3.4	-1.2	-2.4	-2.4	-2.5	10.6	7.7	3.6	-1.7	0.0
International Equity	-1.9	-1.3	-3.2	-0.7	-2.0	-2.1	-3.2	-4.4	-1.1	-2.3	-1.3	6.3	-9.5	-3.9	8.2
Taxable Bond	-0.8	-0.8	-0.8	-0.9	-0.9	-1.6	0.0	-3.3	-3.4	-1.8	0.0	4.8	-2.3	-2.3	-2.4
Muni Bond	0.0	-0.9	-0.9	-1.8	0.0	0.0	-1.8	-3.7	1.9	-1.9	0.0	2.9	13.9	2.4	-4.8
Allocation	0.7	-0.7	-0.7	-0.7	-2.9	-1.2	1.2	-3.6	0.0	-2.5	5.6	0.0	-1.8	3.6	1.7
Alternative	-3.5	-52.6	-1.1	112.2	-0.5	-1.4	-0.7	-5.8	-3.9	-1.6	3.3	4.3	1.0	22.4	-16.7
Commodities	2.6	-2.5	0.0	-1.3	0.0	2.1	-11.1	-6.8	-1.2	3.7	5.5	10.4	-11.8	-17.3	-3.2
<b>All Funds</b>	<b>-0.7</b>	<b>-0.7</b>	<b>-1.4</b>	<b>-1.5</b>	<b>-3.7</b>	<b>-1.3</b>	<b>-2.5</b>	<b>-2.6</b>	<b>-1.3</b>	<b>-2.7</b>	<b>3.6</b>	<b>3.4</b>	<b>-5.0</b>	<b>-1.8</b>	<b>0.0</b>

Source: Morningstar. Data as of Dec. 31, 2020.



**Exhibit 33** Annual Fund Launches by Service-Fee Arrangement

	<b>Bundled</b>	<b>Semibundled</b>	<b>Unbundled</b>
1990	55	35	4
1991	51	73	4
1992	117	99	9
1993	274	124	11
1994	268	126	10
1995	252	90	9
1996	237	229	7
1997	329	234	18
1998	299	199	18
1999	281	157	10
2000	398	281	35
2001	393	227	54
2002	569	168	8
2003	418	150	9
2004	333	234	62
2005	368	367	30
2006	516	394	33
2007	473	480	36
2008	465	576	15
2009	404	384	28
2010	527	540	81
2011	525	579	76
2012	525	696	64
2013	518	662	245
2014	624	644	113
2015	596	832	199
2016	460	737	241
2017	476	1,043	306
2018	328	788	198
2019	243	608	157
2020	211	655	70

Source: Morningstar. Data as of Dec. 31, 2020.

**Exhibit 34** Asset- and Equal-Weighted Average Fees Among ESG-Intentional Funds by Morningstar Category

	Number of Share Classes					Asset-Weight Average					Equal-Weight Average				
	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	2016	2017	2018	2019	2020
Diversified Emerging Markets	5	9	16	18	28	1.17	0.87	0.80	0.79	0.56	1.29	0.98	1.15	1.09	1.07
Foreign Large Blend	24	33	41	50	56	0.66	0.62	0.61	0.48	0.41	0.94	0.85	0.94	0.93	0.89
Foreign Large Growth	0	0	10	11	15	N/A	N/A	1.33	1.19	1.16	N/A	N/A	1.42	1.42	1.31
Intermediate Core Bond	4	7	17	19	20	0.54	0.53	0.50	0.48	0.42	0.68	0.66	0.57	0.60	0.60
Intermediate Core-Plus Bond	16	23	23	33	42	0.67	0.58	0.53	0.50	0.48	0.72	0.70	0.67	0.63	0.67
Large Blend	63	78	88	103	130	0.71	0.73	0.69	0.60	0.43	0.88	0.83	0.80	0.77	0.78
Large Growth	42	40	42	46	54	0.92	0.92	0.95	0.96	0.88	0.99	1.01	1.11	1.14	1.06
Large Value	9	15	9	12	19	0.47	0.52	0.39	0.38	0.47	0.70	0.82	0.65	0.64	0.75
Mid-Cap Blend	10	11	9	10	20	1.02	0.95	0.92	0.89	0.85	0.95	0.92	0.95	0.94	1.05
Miscellaneous Sector	11	11	11	11	10	0.64	0.64	0.62	0.61	0.59	0.64	0.64	0.64	0.64	0.61
Muni National Intermediate	4	6	7	10	17	0.79	0.69	0.62	0.59	0.56	0.84	0.91	0.79	0.83	0.64
Short-Term Bond	4	7	9	16	19	0.86	0.71	0.63	0.56	0.52	0.95	0.79	0.80	0.74	0.75
Small Blend	8	10	10	11	11	1.11	1.05	0.97	0.89	0.80	1.28	1.09	0.97	0.96	0.95
World Allocation	6	2	2	11	11	1.06	1.05	1.04	0.58	0.47	1.22	1.05	1.05	0.67	0.59
World Large-Stock Blend	24	22	27	29	36	0.85	0.79	0.78	0.75	0.80	0.97	0.88	0.96	0.94	0.93
World Large-Stock Growth	18	21	25	27	38	1.47	1.37	1.20	1.19	1.07	1.39	1.29	1.17	1.23	1.11
World Small/Mid Stock	14	24	24	26	31	1.36	1.14	1.06	0.98	0.94	1.41	1.14	1.07	0.96	0.98

Source: Morningstar. Data as of Dec. 31, 2020.

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