Morningstar's US Active/Passive Barometer
Year-End 2023

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Executive Summary

The Morningstar Active/Passive Barometer is a semiannual report that measures the performance of active funds against passive peers in their respective Morningstar Categories. The US Active/Passive Barometer spans nearly 8,338 unique funds that accounted for approximately $18 trillion in assets, or about 55% of the US fund market, at the end of 2023.

The Active/Passive Barometer measures active managers' success in several unique ways:

► It evaluates active funds against a composite of passive funds. In this way, the "benchmark" reflects the actual, net-of-fees performance of investable passive funds.

► It considers how the average dollar invested in active funds has fared versus the average dollar invested in passive funds.

► It examines trends in active-fund success by fee level.

► It shows the distribution of surviving active funds' excess returns versus their average passive peer to help investors understand not just the odds of picking a successful manager but also the prospective payout or penalty.

The Active/Passive Barometer is a useful measuring stick that helps investors calibrate the odds of succeeding with active funds in different categories.

Key Takeaways

► Actively managed mutual funds and exchange-traded funds fell short of their passive peers in 2023. Forty-seven percent of active strategies survived and beat their average passive counterpart last year, improving on their 43% success rate in calendar-year 2022.

► US stock-pickers notched a 46% success rate in 2023, down from 49% in 2022. Active large-cap managers paced the group with a 49% success rate against their average passive peer. Active mid-cap (42%) and small-cap managers (41%) saw their one-year success rates drop to their lowest levels in several years.

► Active strategies that invest in stocks outside the United States saw greater success in 2023. Active funds in five foreign-only Morningstar Categories improved their success rates by at least 9 percentage points from calendar-year 2022. More than 49% of them beat their average passive peer, an increase of 19 percentage points over calendar-year 2022. Active global large-blend funds, which include foreign and domestic stocks, trended the opposite direction after their success rate (24%) dropped 32 percentage points.

► Nearly 53% of active bond managers survived and beat the passive average, a feat only 30% of them managed in 2022. All three fixed-income Morningstar Categories we examined boosted their active success rates by at least 19 percentage points. Active intermediate-core bond managers led the cohort with a 57% success rate, up from 38% in 2022.

► Active real estate strategies' 55% success rate marked a 22-percentage-point gain on their calendar-year 2022 figure, returning to a level more congruent with their relatively solid long-term results.

► Actively managed funds' recent surge did little to change their long-term track record against their passive peers. Less than one out of every four active strategies survived and beat their average passive counterpart over the 10 years through December 2023. Long-term success rates were generally higher among real estate, bond, and small-cap equity funds and lowest among US large-cap strategies.

► The distribution of 10-year excess returns for surviving active funds versus the average of their passive peers varies across categories. In the case of US large-cap funds, it skews negative, indicating that the likelihood and performance penalty for picking an underperforming manager tends to outweigh the reward for finding a winner. The inverse tends to be true of the real estate and foreign-stock categories we examined, where excess returns among surviving active managers skewed positive over the past decade.

► Investors have chosen active funds wisely. Over the past 10 years, the average dollar invested in active funds outperformed the average active fund in 19 of the 20 categories examined. That implies investors favor cheaper, higher-quality strategies.

► The cheapest active funds succeeded more often than the priciest ones. Over the 10 years through December 2023, over 29% of active funds in the cheapest quintile beat their average passive peer, compared with 18% for those in the priciest quintile.

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Exhibit 1 Active Funds' Success Rate by Category (%)

Category	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	10-Year (Lowest Cost) *	10-Year (Highest Cost)
US Large Blend	46.8	39.5	30.7	12.7	8.5	10.4	18.6	9.3
US Large Value	49.1	34.3	34.5	12.2	7.2	12.8	16.7	13.1
US Large Growth	53.2	35.7	25.6	11.2	2.1	4.9	14.6	3.4
US Mid Blend	48.7	57.8	37.0	15.2	17.8	10.3	22.7	4.3
US Mid Value	45.4	30.2	45.9	7.5	7.8	20.4	5.3	0.0
US Mid Growth	33.6	43.4	55.6	38.9	23.1	—	38.1	29.5
US Small Blend	57.1	55.7	44.2	25.5	24.9	21.3	35.1	30.0
US Small Value	34.3	38.8	41.0	25.0	18.8	22.0	33.3	28.6
US Small Growth	30.1	33.3	51.5	41.3	28.2	16.7	50.0	40.5
Foreign Large Blend	45.9	32.6	40.8	24.9	23.3	21.6	33.3	21.6
Foreign Large Value	61.7	21.3	38.2	24.5	11.1	—	38.9	5.3
Foreign Small-Mid Blend	62.1	29.6	30.3	28.0	33.3	—	50.0	20.0
Global Large Blend	24.1	34.0	28.6	6.3	15.4	—	0.0	15.4
Diversified Emerging Markets	44.8	27.8	36.6	25.7	27.3	—	35.3	22.9
Europe Stock	35.3	26.7	40.0	13.6	27.3	21.4	20.0	0.0
US Real Estate	42.9	57.9	73.8	51.5	27.0	24.2	46.2	35.7
Global Real Estate	71.1	77.1	62.5	50.9	29.2	—	50.0	36.4
Intermediate Core Bond	56.9	50.9	41.4	34.0	26.9	14.2	53.8	24.1
Corporate Bond	49.0	17.0	16.1	57.5	59.3	—	50.0	75.0
High-Yield Bond	51.1	45.3	44.1	32.5	—	—	43.3	11.8

Source: Morningstar. Data and calculations as of Dec. 31, 2023. *Green/red shading indicates that active funds in this fee quintile had above/below-average success rates.

Exhibit 2 Year-Over-Year Change in Active Funds' One-Year Success Rate by Category (%)

	2023	2022	Year-Over-Year Change
US Large Blend	46.8	54.1	−7.4
US Large Value	49.1	47.2	1.9
US Large Growth	53.2	37.5	15.6
US Mid Blend	48.7	50.5	−1.8
US Mid Value	45.4	39.6	5.7
US Mid Growth	33.6	46.5	−12.9
US Small Blend	57.1	52.9	4.2
US Small Value	34.3	61.0	−26.7
US Small Growth	30.1	56.9	−26.8
Foreign Large Blend	45.9	36.8	9.1
Foreign Large Value	61.7	29.4	32.3
Foreign Small-Mid Blend	62.1	44.0	18.1
Global Large Blend	24.1	56.0	−31.9
Diversified Emerging Markets	44.8	23.4	21.4
Europe Stock	35.3	25.0	10.3
US Real Estate	42.9	42.9	0.0
Global Real Estate	71.1	20.0	51.1
Intermediate Core Bond	56.9	37.9	19.0
Corporate Bond	49.0	22.6	26.4
High-Yield Bond	51.1	27.2	23.9

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

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Exhibit 3 Trends in Active Funds' One-Year Success Rates by Category (%)

	2017		2018		2019		2020		2021		2022		2023		
	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Jun	Dec	Trend
US Large Blend	39.4	36.0	33.4	28.3	33.0	37.4	39.2	34.0	43.8	41.7	46.4	54.1	50.4	46.8	
US Large Value	54.1	33.7	31.5	29.0	33.9	36.8	44.3	51.3	47.5	36.5	33.9	47.2	54.2	49.1	
US Large Growth	32.6	44.6	42.4	48.0	51.2	42.1	46.3	41.2	36.3	31.9	39.1	37.5	54.5	53.2	
US Mid-Blend	33.3	30.8	22.2	31.4	47.6	57.9	32.7	25.0	42.2	66.0	67.3	50.5	48.7	48.7	
US Mid-Value	58.1	49.1	36.6	21.2	27.7	59.5	68.5	74.8	37.6	31.8	29.4	39.6	64.1	45.4	
US Mid-Growth	48.1	52.8	42.2	72.1	78.6	74.9	61.8	41.8	19.2	44.3	49.7	46.5	56.1	33.6	
US Small Blend	23.6	40.2	16.9	19.1	41.7	47.0	28.8	36.9	42.5	58.9	59.4	52.9	74.7	57.1	
US Small Value	58.9	55.1	26.3	19.3	44.2	45.8	41.2	47.0	23.8	37.1	64.7	61.0	57.3	34.3	
US Small Growth	52.1	58.7	42.6	50.7	76.0	75.4	69.1	71.9	40.8	47.4	43.3	56.9	62.3	30.1	
Foreign Large Blend	39.2	55.8	30.3	17.7	29.3	58.3	55.7	60.7	58.7	44.2	27.8	36.8	57.6	45.9	
Foreign Large Value	50.9	68.5	37.8	15.4	10.3	34.5	66.3	82.2	52.3	24.7	27.3	29.4	75.0	61.7	
Foreign Small-Mid Blend	48.5	54.5	26.7	20.6	35.5	50.0	35.3	53.1	51.7	48.1	25.9	44.0	66.7	62.1	
Global Large Blend	46.2	46.6	37.0	30.4	37.0	43.9	25.6	33.7	55.3	38.5	37.1	56.0	44.1	24.1	
Diversified Emg Mrkts	49.6	63.0	47.8	21.4	32.8	66.8	64.0	69.5	64.6	30.2	18.4	23.4	57.1	44.8	
Europe Stock	20.0	52.2	29.2	25.0	20.8	50.0	77.8	76.5	62.5	46.7	31.3	25.0	31.3	35.3	
US Real Estate	12.2	30.0	36.4	23.9	72.3	82.0	85.7	80.6	11.7	82.5	73.2	42.9	54.8	42.9	
Global Real Estate	15.1	15.4	23.3	61.0	75.0	66.1	72.7	68.5	64.0	83.3	85.1	20.0	84.1	71.1	
Intermediate Core Bond	68.6	51.5	59.8	44.7	37.5	36.2	31.5	54.1	84.7	70.1	34.1	37.9	60.0	56.9	
Corporate Bond	62.3	70.0	25.5	37.0	29.6	31.7	56.1	64.3	66.1	66.7	22.2	22.6	40.0	49.0	
High-Yield Bond	63.4	74.6	38.7	25.1	51.9	61.5	57.4	62.7	70.3	73.1	31.9	27.2	56.4	51.1	

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

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Exhibit 4 Comparison of Asset- and Equal-Weighted 10-Year Returns %

Category	Active Funds			Passive Funds			Difference Between Passive and Active Returns	
	Asset-Weighted	Equal-Weighted	Difference	Asset-Weighted	Equal-Weighted	Difference	Asset-Weighted	Equal-Weighted
US Large Blend	10.4	9.6	0.8	11.7	11.2	0.6	1.3	1.5
US Large Value	8.9	8.1	0.9	9.3	9.1	0.2	0.3	1.0
US Large Growth	12.3	11.4	0.9	15.1	13.2	1.9	2.8	1.8
US Mid Blend	8.5	7.4	1.1	8.9	8.7	0.3	0.4	1.3
US Mid Value	8.0	7.3	0.8	8.6	8.8	−0.2	0.6	1.6
US Mid Growth	9.4	9.1	0.2	9.6	9.0	0.6	0.3	−0.1
US Small Blend	7.1	6.7	0.4	7.9	7.4	0.5	0.8	0.7
US Small Value	7.4	6.7	0.7	7.8	7.3	0.5	0.4	0.7
US Small Growth	8.2	7.8	0.4	7.8	7.5	0.3	−0.5	−0.3
Foreign Large Blend	4.2	3.7	0.4	4.2	4.1	0.1	0.1	0.4
Foreign Large Value	4.2	3.3	0.9	3.0	3.5	−0.4	−1.2	0.2
Foreign Small-Mid Blend	4.2	3.9	0.3	4.3	4.3	0.0	0.1	0.4
Global Large Blend	7.2	7.1	0.2	8.0	8.6	−0.5	0.8	1.5
Diversified Emerging Markets	2.8	2.3	0.5	2.7	2.5	0.2	−0.1	0.2
Europe Stock	3.2	3.9	−0.7	4.5	4.1	0.4	1.3	0.2
US Real Estate	7.5	6.9	0.6	7.1	6.2	0.9	−0.4	−0.7
Global Real Estate	3.9	3.6	0.3	1.8	2.4	−0.6	−2.1	−1.2
Intermediate Core Bond	2.0	1.7	0.3	1.8	1.5	0.2	−0.2	−0.1
Corporate Bond	3.2	2.8	0.4	2.9	2.4	0.5	−0.3	−0.4
High-Yield Bond	4.0	3.5	0.6	3.5	3.8	−0.3	−0.5	0.4

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

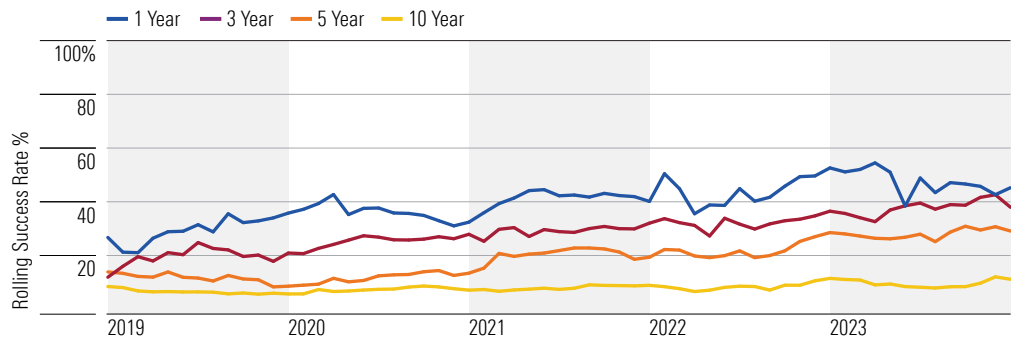**MORNINGSTAR**®

Results by Category

US Large-Cap Funds

▸ The US large-cap equity market has been a difficult place for active funds to succeed in the long run. Just 12% of them survived and beat their average passive rival over the decade through December 2023. That fell well short of success rates of 25% and 32% for active mid- and small-cap managers, respectively.

▸ Active large-growth strategies have had a particularly hard time delivering value for investors. Of the active funds that existed in this category two decades ago, nearly 70% have died and just 5% managed to outperform their average indexed peer.

▸ Active US large-cap managers fared better in 2023, though. Their 50% success rate in 2023 marked a 4-percentage-point increase from 2022.

▸ Active large-growth managers posted a 53% one-year success rate, up from 38% in 2022. Index strategies that use alternative weighting schemes, which constitute a large chunk of the passive large-growth composite, likely lowered the hurdle that active funds had to clear. For instance, momentum strategies held what worked in 2022 rather than piling into the market-leading "Magnificent Seven" stocks. Likewise, those stocks made up a much smaller portion of equal-weighted portfolios.

▸ Expensive active large-cap funds must overcome long odds to succeed: Just 8% of them beat a composite of their active peers over the decade through 2023, compared with 17% of cheaper active large-cap strategies. Investors mostly favor cheaper, better-performing active large-cap funds: The average asset-weighted active return exceeded the average equal-weighted active return across all large-cap categories and time periods.

▸ Over the decade through 2023, passive large-growth funds beat their active peers by 2.8 percentage points annualized on an asset-weighted basis — the widest performance margin across all Morningstar Categories. Passive large-blend funds posted a 1.3-percentage-point annual advantage over the same span.

▸ The median 10-year excess return for surviving active funds was negative across all three US large-cap categories, and the distributions of excess returns for the blend, growth, and value categories had a negative skew. This indicates that the penalty for poor manager selection tended to be greater than the reward for choosing a winner.

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Exhibit 5 US Large Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	389	93.8	210	97.6	23.0	25.7	21.9	22.9	46.8
3-Year	372	85.8	201	89.1	9.7	9.3	8.7	8.8	39.5
5-Year	352	78.7	179	84.9	14.2	15.3	13.5	14.5	30.7
10-Year	361	64.0	109	79.8	10.4	11.7	9.6	11.2	12.7
15-Year	459	44.7	121	59.5	12.5	13.7	11.9	13.5	8.5
20-Year	432	34.0	108	45.4	9.1	9.6	8.5	9.2	10.4
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	70	60.0	22	90.9	10.8	11.8	10.1	11.7	18.6
40th Percentile	73	74.0	22	81.8	10.5	11.4	10.0	11.8	16.4
60th Percentile	72	75.0	21	90.5	10.0	11.2	9.6	11.3	11.1
80th Percentile	70	57.1	19	78.9	9.5	11.7	9.8	11.1	10.0
100th Percentile	75	54.7	25	60.0	9.0	10.6	8.6	9.8	9.3

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

Exhibit 6 Rolling Success Rates for Surviving Active US Large-Blend Funds

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

Exhibit 7 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Large-Blend Funds
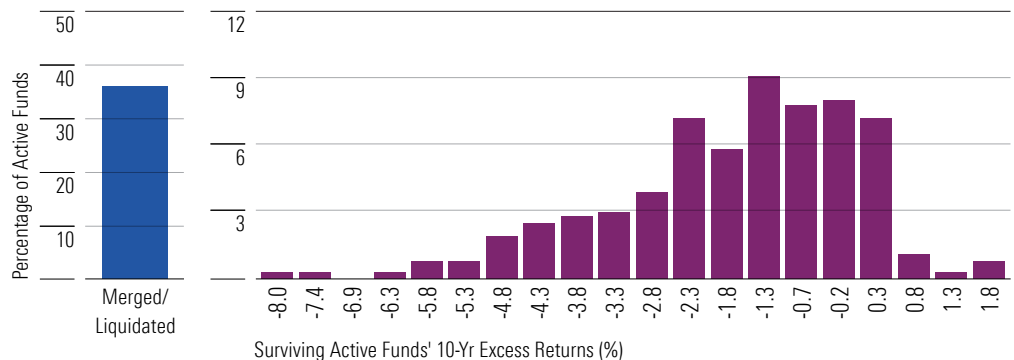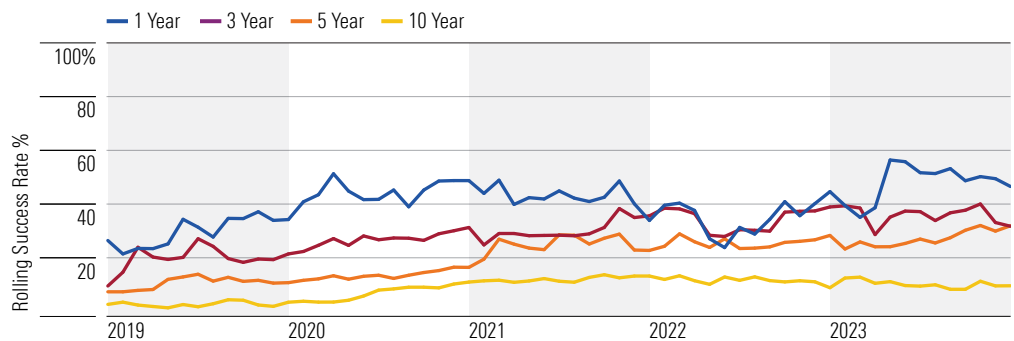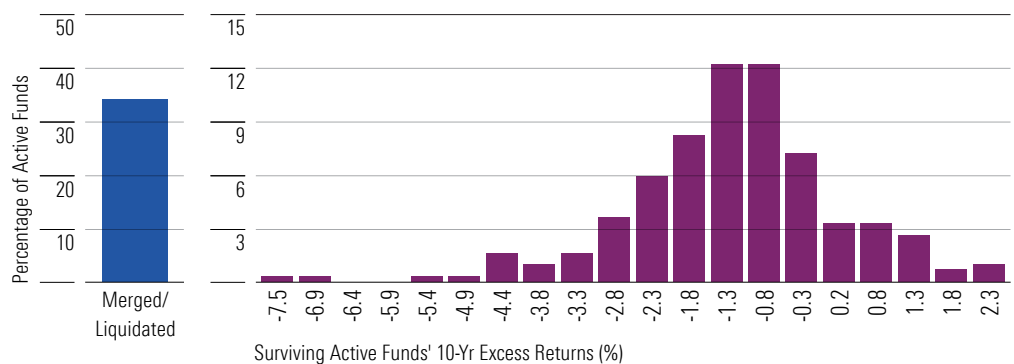

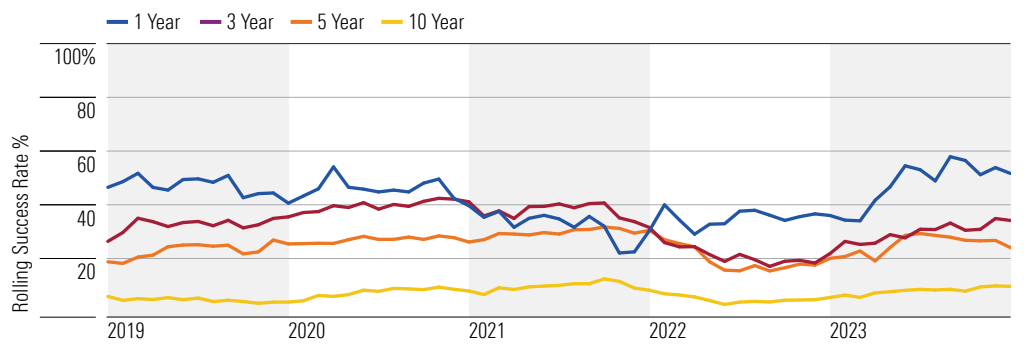Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 8 US Large Value

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	328	96.3	102	99.0	12.2	10.0	11.9	11.4	49.1
3-Year	309	88.7	102	88.2	9.9	10.0	9.5	10.3	34.3
5-Year	316	76.6	98	83.7	11.7	11.4	11.2	11.5	34.5
10-Year	304	65.8	45	95.6	8.9	9.3	8.1	9.1	12.2
15-Year	363	47.7	33	81.8	11.6	11.7	10.8	12.2	7.2
20-Year	327	36.1	15	66.7	8.3	8.2	7.4	8.0	12.8
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	60	50.0	9	100.0	9.4	9.7	8.8	9.5	16.7
40th Percentile	61	72.1	7	85.7	9.2	8.8	8.3	9.2	14.8
60th Percentile	61	73.8	10	100.0	8.7	9.5	8.2	9.5	9.8
80th Percentile	61	68.9	9	100.0	7.7	8.2	7.6	8.3	6.6
100th Percentile	61	63.9	10	90.0	8.0	8.5	7.5	8.9	13.1

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

Exhibit 9 Rolling Success Rates for Surviving Active US Large-Value Funds

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

Exhibit 10 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Large-Value Funds

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

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Exhibit 11 US Large Growth

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	363	93.4	81	97.5	39.3	44.9	36.0	35.4	53.2
3-Year	353	90.1	66	93.9	4.7	8.3	4.6	6.4	35.7
5-Year	371	82.5	64	89.1	15.7	19.3	15.3	16.5	25.6
10-Year	438	63.5	40	97.5	12.3	15.1	11.4	13.2	11.2
15-Year	471	44.8	28	82.1	14.6	17.5	13.8	16.4	2.1
20-Year	447	30.4	22	86.4	10.0	11.7	9.3	10.8	4.9
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	82	57.3	7	100.0	13.3	14.0	12.5	14.2	14.6
40th Percentile	89	71.9	9	100.0	11.7	16.1	11.8	14.5	12.4
60th Percentile	89	68.5	8	100.0	12.2	12.9	11.7	13.0	18.0
80th Percentile	88	61.4	8	100.0	11.5	14.3	11.2	13.7	8.0
100th Percentile	88	56.8	8	87.5	11.2	12.3	9.8	10.3	3.4

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

Exhibit 12 Rolling Success Rates for Surviving Active US Large-Growth Funds

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

Exhibit 13 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Large-Growth Funds
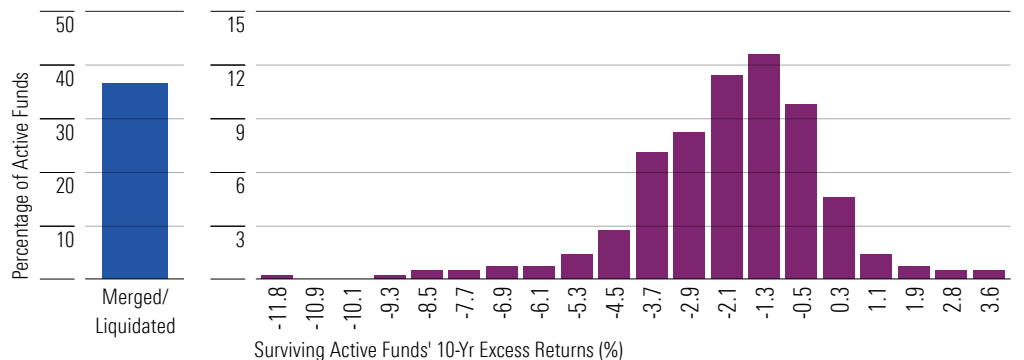
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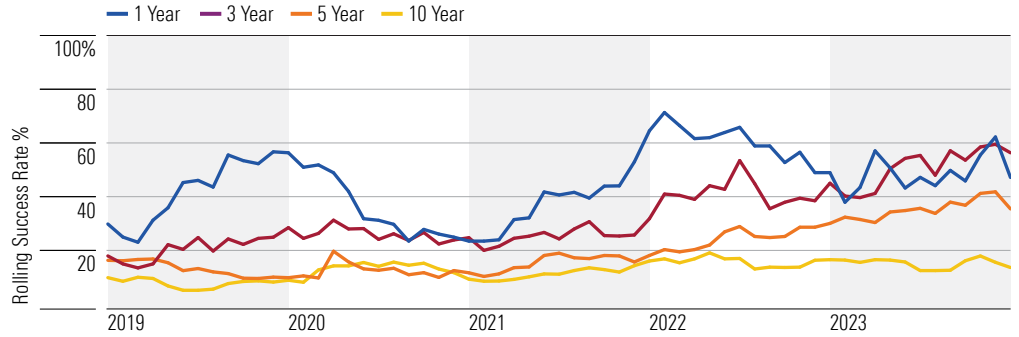
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US Mid-Cap Funds

▸ Forty-two percent of active mid-cap funds survived and outpaced the average passive peer over the 12 months through 2023, a decline of 4 percentage points from one year earlier.

▸ While the headline active mid-cap success rate decreased, active strategies in the mid-cap categories saw mixed results. Active mid-cap value funds improved their success rates by 6 percentage points, while active mid-cap blend and growth managers saw declines of 2 and 13 percentage points, respectively.

▸ Mid-cap category success rates have been whipsawed by oscillating performance between value and growth and large- and small-cap companies. Success rates for active mid-cap strategies tend to be more volatile than large- or small-cap categories, and that rang true over the past five years.

▸ These extremes are partly evidence of the "crossroads" status of the mid-cap category, which is populated with many funds that may have relatively messy portfolios (those that bleed into other market-cap segments and styles) or could otherwise be passersby as they migrate "south" from large-cap territory or "north" from the small-cap space.

Exhibit 14 US Mid-Blend

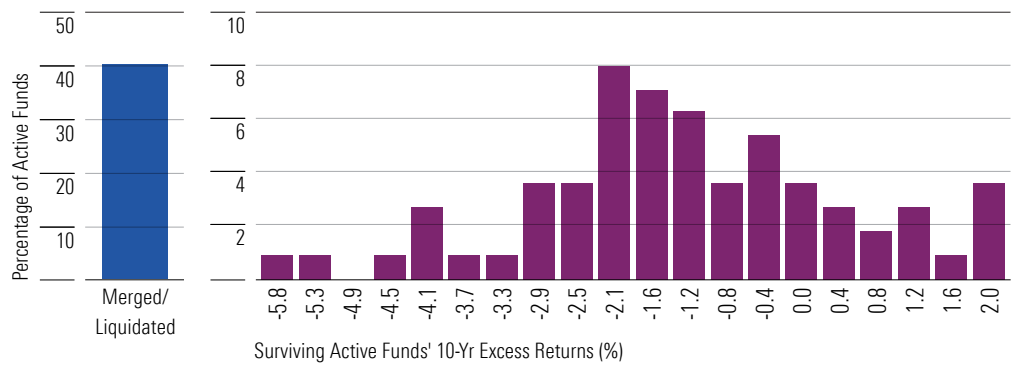|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	113	97.3	67	94.0	16.4	16.2	15.7	14.9	48.7
3-Year	102	91.2	64	92.2	6.2	4.8	7.4	6.7	57.8
5-Year	119	73.9	64	78.1	12.7	12.2	11.5	11.8	37.0
10-Year	112	59.8	43	79.1	8.5	8.9	7.4	8.7	15.2
15-Year	152	51.3	38	76.3	12.8	13.2	11.6	12.9	17.8
20-Year	117	47.9	28	57.1	8.7	9.5	8.1	9.2	10.3
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	22	59.1	9	88.9	9.1	9.0	8.3	8.9	22.7
40th Percentile	23	78.3	8	87.5	7.9	9.1	8.6	8.9	30.4
60th Percentile	22	50.0	9	88.9	6.8	9.1	6.8	9.3	9.1
80th Percentile	22	50.0	5	80.0	7.6	8.7	7.4	8.5	9.1
100th Percentile	23	60.9	12	58.3	5.5	8.5	5.8	7.7	4.3

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

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Exhibit 15 Rolling Success Rates for Surviving Active US Mid-Blend Funds

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

Exhibit 16 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Mid-Blend Funds
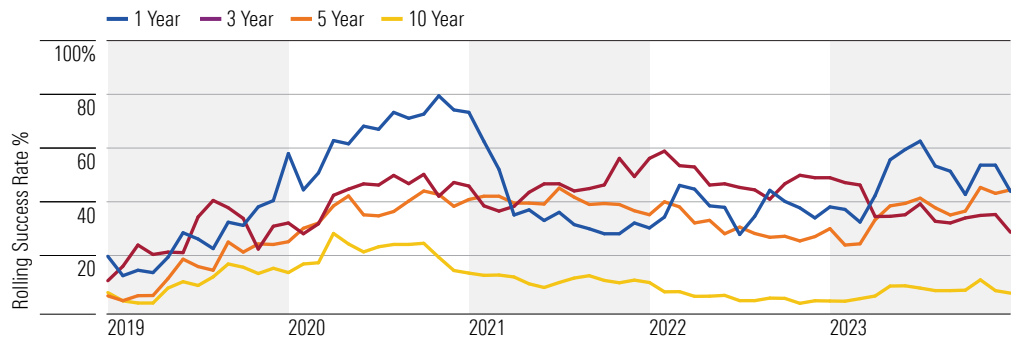

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 17 US Mid-Value

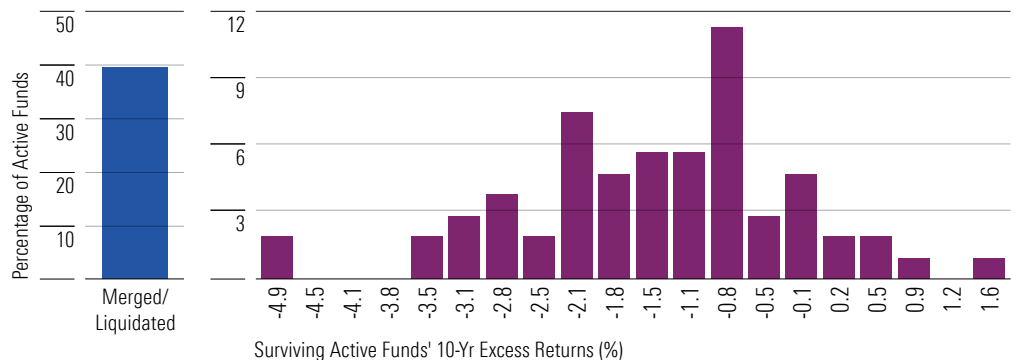|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	108	97.2	35	97.1	14.1	9.9	13.8	13.5	45.4
3-Year	106	87.7	27	100.0	10.7	9.7	10.4	10.9	30.2
5-Year	111	75.7	26	88.5	12.5	11.0	11.9	11.2	45.9
10-Year	106	60.4	19	94.7	8.0	8.6	7.3	8.8	7.5
15-Year	129	44.2	15	80.0	11.9	12.3	11.4	12.8	7.8
20-Year	113	59.3	4	75.0	7.9	9.1	7.9	8.5	20.4
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	19	47.4	2	100.0	8.4	8.5	7.6	8.8	5.3
40th Percentile	22	59.1	6	100.0	8.3	8.4	7.2	9.1	13.6
60th Percentile	21	76.2	3	100.0	8.2	8.8	7.2	9.2	4.8
80th Percentile	21	61.9	4	75.0	7.1	9.9	7.3	9.9	14.3
100th Percentile	22	59.1	4	100.0	7.1	7.4	7.2	7.3	0.0

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

Exhibit 18 Rolling Success Rates for Surviving Active US Mid-Value Funds

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

Exhibit 19 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Mid-Value Funds
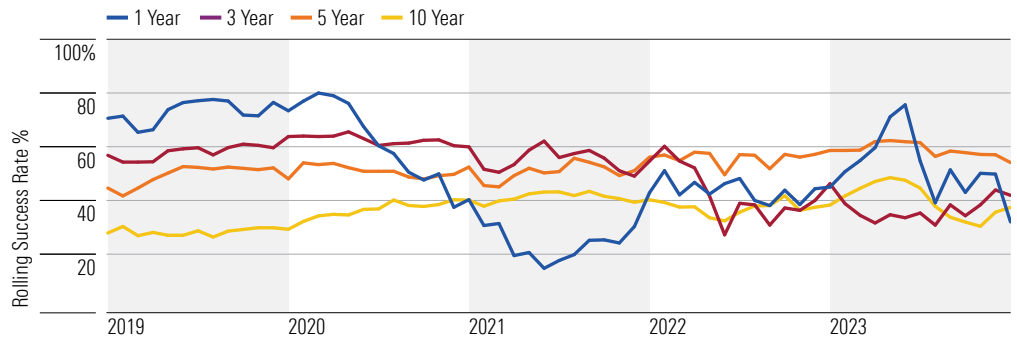

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 20 US Mid-Growth

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	152	96.1	37	91.9	21.5	24.4	20.8	22.8	33.6
3-Year	175	89.1	30	96.7	-1.3	1.5	0.0	0.7	43.4
5-Year	178	82.6	31	77.4	12.4	12.9	12.9	11.8	55.6
10-Year	208	67.3	19	73.7	9.4	9.6	9.1	9.0	38.9
15-Year	268	42.5	18	55.6	12.9	13.9	12.6	12.7	23.1
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	42	59.5	2	100.0	9.3	10.0	9.4	9.5	38.1
40th Percentile	41	78.0	6	100.0	9.7	9.5	9.3	9.7	43.9
60th Percentile	41	68.3	2	0.0	9.7	6.3	9.4	6.4	46.3
80th Percentile	40	62.5	5	80.0	9.8	9.2	9.0	9.5	37.5
100th Percentile	44	68.2	4	50.0	8.8	4.5	8.6	5.1	29.5

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

Exhibit 21 Rolling Success Rates for Surviving Active US Mid-Growth Funds

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

Exhibit 22 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Mid-Growth Funds
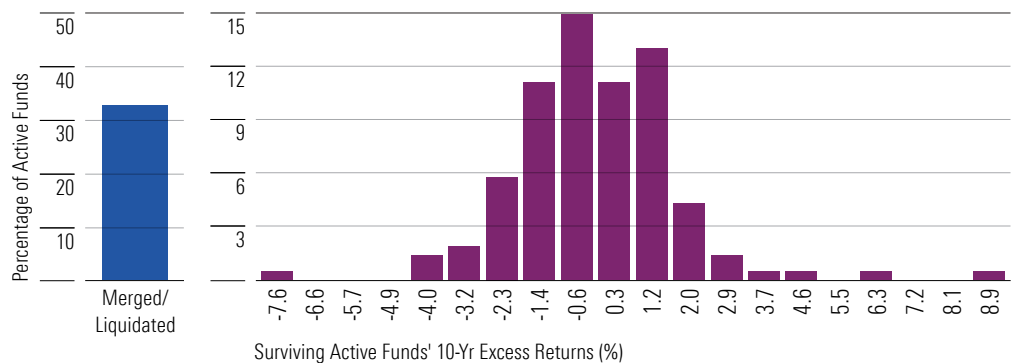
Source: Morningstar. Data and calculations as of Dec. 31, 2023.
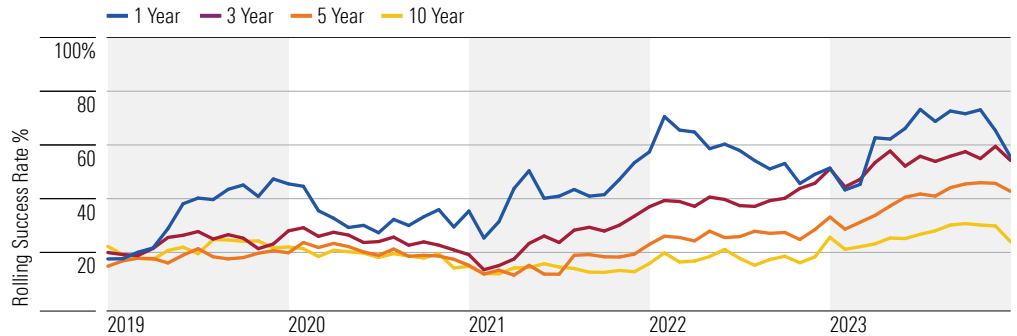
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US Small-Cap Funds

▸ Nearly 41% of active small-cap strategies survived and outpaced their average passive rival in 2023, a steep decline from their 57% success rate in 2022.

▸ Long-term active success rates have generally been higher in the small-cap arena than those among large-cap funds. That may be because the small-cap market is relatively less efficiently priced.

▸ Small-growth territory has been relatively kind to active managers. Their 41% success rate there over the past 10 years is highest among all US and foreign stock categories, and the long right tail in their excess returns distribution indicates that success can sometimes mean winning big.

Exhibit 23   US Small Blend

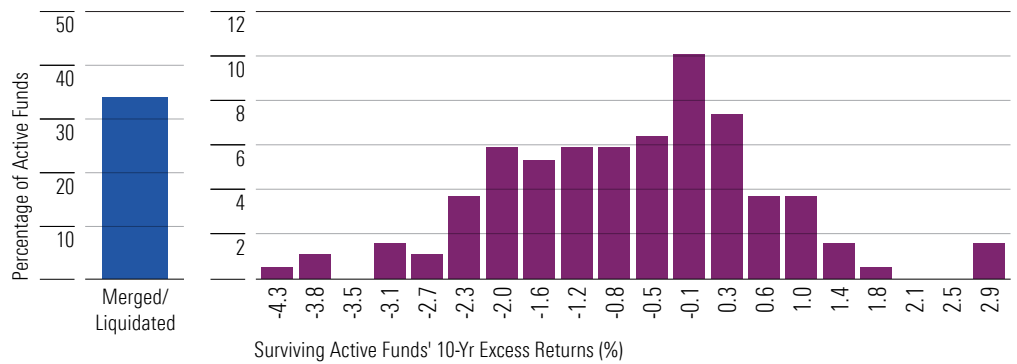|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	170	96.5	74	93.2	16.8	17.2	16.2	15.8	57.1
3-Year	183	89.1	67	89.6	7.2	4.6	6.8	5.7	55.7
5-Year	217	71.4	64	85.9	11.4	10.9	10.8	10.6	44.2
10-Year	188	66.0	40	75.0	7.1	7.9	6.7	7.4	25.5
15-Year	189	51.9	40	62.5	11.7	12.2	11.1	11.4	24.9
20-Year	136	46.3	26	50.0	8.6	8.9	7.6	8.3	21.3
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	37	64.9	8	87.5	7.9	8.2	7.4	7.6	35.1
40th Percentile	37	75.7	8	87.5	6.8	7.8	7.0	7.7	35.1
60th Percentile	39	61.5	8	75.0	6.4	8.1	6.3	7.9	15.4
80th Percentile	35	57.1	8	62.5	6.9	7.2	6.5	7.3	11.4
100th Percentile	40	70.0	8	62.5	5.8	6.7	6.4	6.2	30.0

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

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Exhibit 24 Rolling Success Rates for Surviving Active US Small-Blend Funds

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

Exhibit 25 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Small-Blend Funds
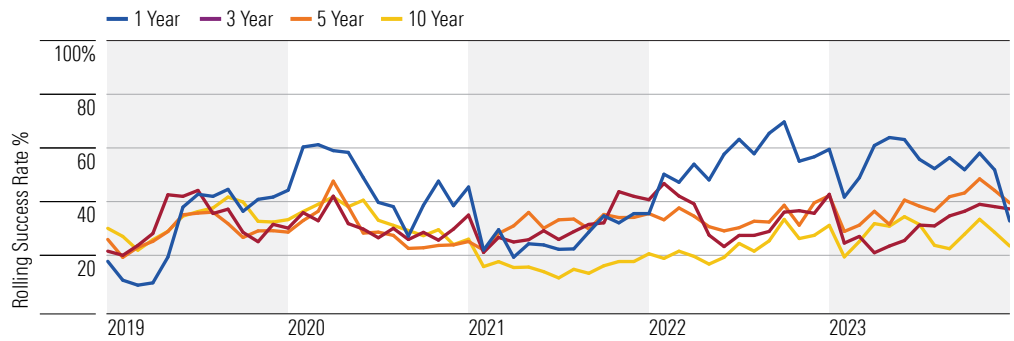

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 26 US Small Value

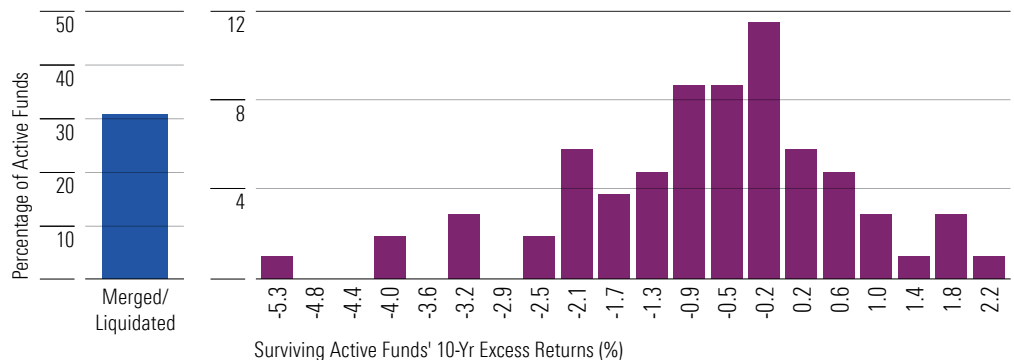|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	137	95.6	29	100.0	16.7	16.4	16.3	18.1	34.3
3-Year	116	87.9	23	100.0	12.4	10.0	11.3	11.6	38.8
5-Year	117	70.9	27	88.9	12.3	11.1	11.6	11.3	41.0
10-Year	104	69.2	17	94.1	7.4	7.8	6.7	7.3	25.0
15-Year	128	57.0	12	83.3	11.4	11.4	11.0	11.7	18.8
20-Year	118	48.3	7	71.4	8.2	8.3	7.8	8.2	22.0
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	21	66.7	3	100.0	7.6	8.4	7.1	7.8	33.3
40th Percentile	21	66.7	4	100.0	6.8	7.1	6.6	7.3	19.0
60th Percentile	19	63.2	3	100.0	7.4	6.9	6.9	8.1	21.1
80th Percentile	22	72.7	2	100.0	7.6	5.8	6.6	7.7	31.8
100th Percentile	21	76.2	5	80.0	7.4	6.4	6.2	6.4	28.6

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

Exhibit 27 Rolling Success Rates for Surviving Active US Small-Value Funds

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

Exhibit 28 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Small-Value Funds

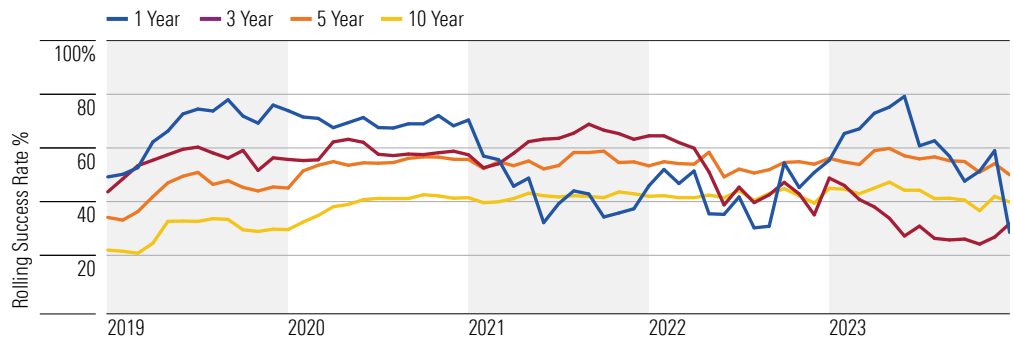Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 29 US Small Growth

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	173	96.5	16	93.8	17.5	20.0	16.3	19.1	30.1
3-Year	171	90.6	17	94.1	-2.5	-1.9	-2.0	0.0	33.3
5-Year	202	81.2	15	100.0	10.5	10.1	10.9	10.1	51.5
10-Year	208	67.3	13	100.0	8.2	7.8	7.8	7.5	41.3
15-Year	245	48.2	12	83.3	13.0	12.7	12.3	12.1	28.2
20-Year	202	41.6	3	100.0	9.5	10.2	8.4	9.9	5.9
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	40	70.0	3	100.0	9.5	7.8	8.3	8.0	50.0
40th Percentile	42	69.0	0	0.0	7.8	0.0	8.0	0.0	47.6
60th Percentile	42	66.7	5	100.0	7.5	7.8	7.9	7.8	42.9
80th Percentile	41	63.4	2	100.0	6.5	8.6	6.9	8.9	26.8
100th Percentile	42	66.7	3	100.0	8.6	6.0	8.0	5.4	40.5

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

Exhibit 30 Rolling Success Rates for Surviving Active US Small-Growth Funds

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

Exhibit 31 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Small-Growth Funds
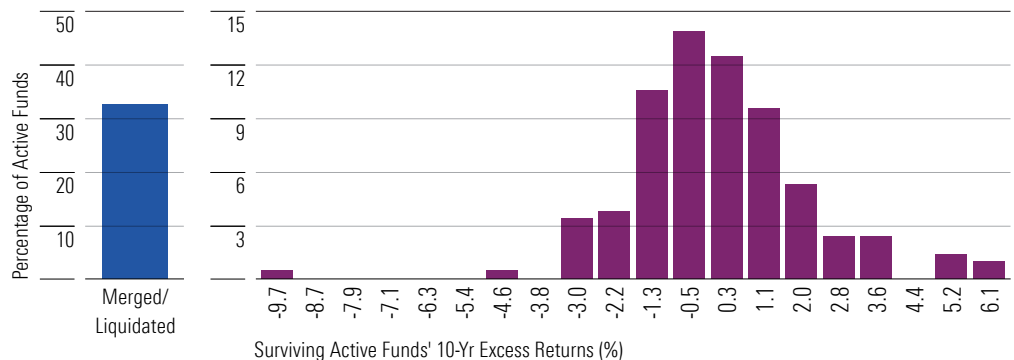
Source: Morningstar. Data and calculations as of Dec. 31, 2023.
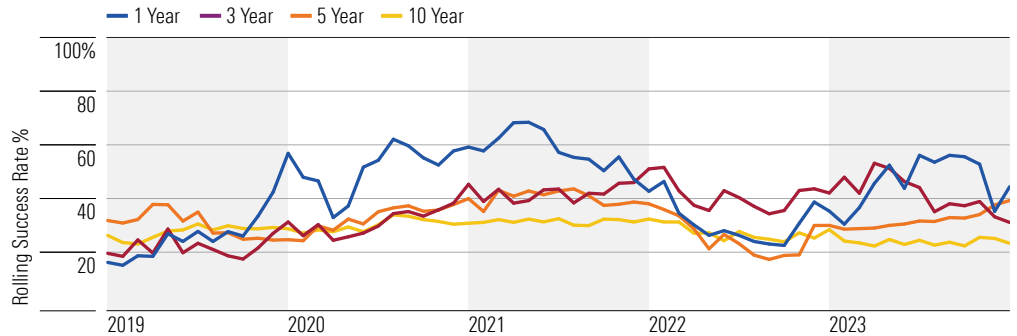
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Foreign Stock

▸ Active managers who weave global- or foreign-stock portfolios succeeded at a 45% clip in 2023, one year after posting a meager 34% success rate. Active success rates climbed or held steady across the five categories that exclusively invest overseas. Global large-blend, which includes foreign and US equities, saw its success rate decline.

▸ Global- and foreign-stock categories have been kinder to active managers than US market segments. At 23%, foreign-stock funds' 10-year active success rate measured up better than the 20% rate for active US stock funds.

▸ Active managers in the foreign small-mid blend category have struggled to keep their funds on the market. At 48%, this category's 10-year survivorship rate ranked the lowest among all categories tested.

▸ Foreign-stock funds often come with higher fees than domestic strategies. The cheapest quintile of active funds saw higher than average 10-year success rates. Likewise, the most expensive quintile of active funds saw lower than average success rates across all five foreign-stock categories.

Exhibit 32 Foreign Large Blend

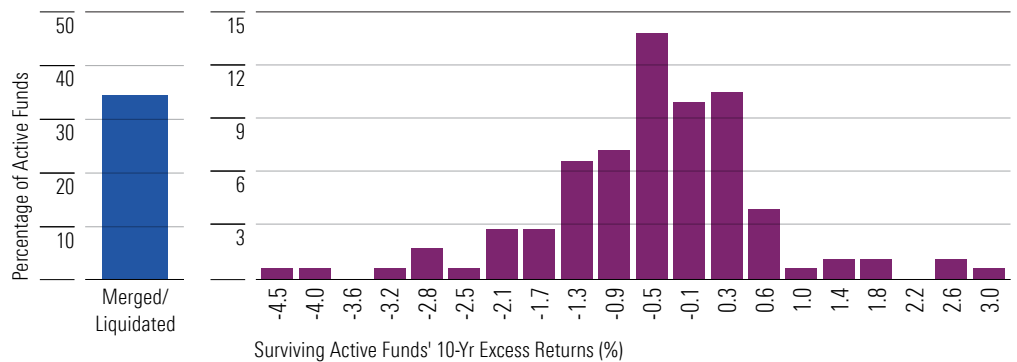|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	196	93.9	90	94.4	16.9	16.6	16.2	16.7	45.9
3-Year	190	85.3	103	87.4	3.1	2.8	2.2	3.2	32.6
5-Year	179	76.5	88	85.2	8.2	7.8	7.3	7.5	40.8
10-Year	181	65.7	41	78.0	4.2	4.2	3.7	4.1	24.9
15-Year	180	47.8	36	63.9	7.3	6.7	6.3	6.8	23.3
20-Year	153	37.9	26	34.6	6.2	5.4	5.0	5.3	21.6
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	33	60.6	8	87.5	4.0	4.3	4.2	4.3	33.3
40th Percentile	36	63.9	6	83.3	4.6	4.1	4.2	4.2	27.8
60th Percentile	36	77.8	10	80.0	4.2	4.3	3.7	4.5	30.6
80th Percentile	36	66.7	8	87.5	3.8	4.0	3.5	4.2	16.7
100th Percentile	37	59.5	9	55.6	3.2	3.5	3.2	3.3	21.6

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

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Exhibit 33 Rolling Success Rates for Surviving Active Foreign Large-Blend Funds

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

Exhibit 34 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active
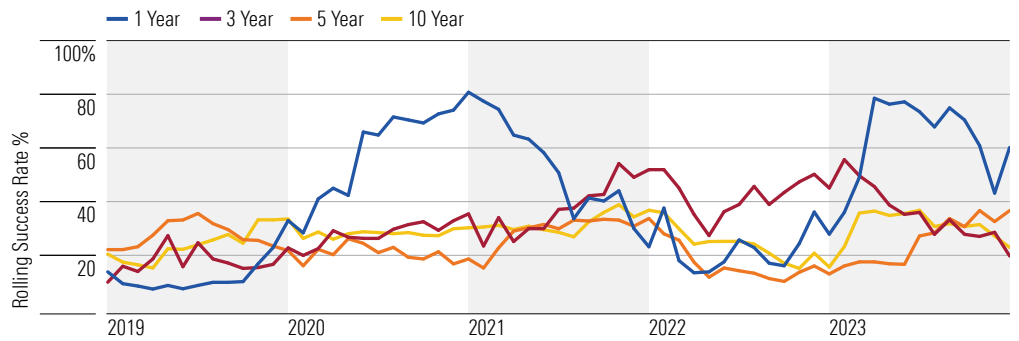Foreign Large-Blend Funds

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

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Exhibit 35 Foreign Large Value

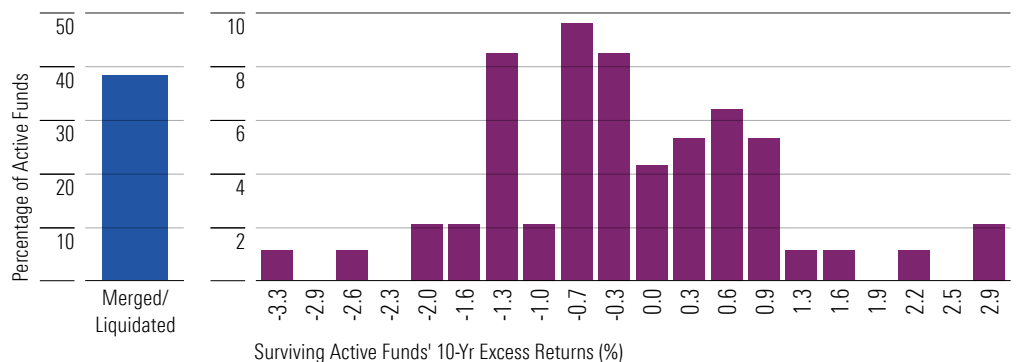|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	94	98.9	42	95.2	17.9	17.6	17.7	16.9	61.7
3-Year	94	81.9	35	94.3	6.7	7.3	5.6	6.8	21.3
5-Year	89	75.3	36	83.3	8.3	7.7	7.5	7.3	38.2
10-Year	94	61.7	19	78.9	4.2	3.0	3.3	3.5	24.5
15-Year	99	49.5	3	66.7	7.0	6.0	6.0	6.7	11.1
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	18	50.0	4	75.0	4.0	4.0	3.8	3.6	38.9
40th Percentile	19	68.4	4	100.0	3.8	3.3	3.3	3.5	26.3
60th Percentile	18	72.2	3	100.0	2.3	3.2	3.0	3.4	11.1
80th Percentile	19	63.2	3	66.7	5.6	3.4	3.9	3.4	42.1
100th Percentile	19	57.9	5	60.0	3.3	2.8	2.5	3.2	5.3

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

Exhibit 36 Rolling Success Rates for Surviving Active Foreign Large-Value Funds

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

Exhibit 37 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Foreign Large-Value Funds
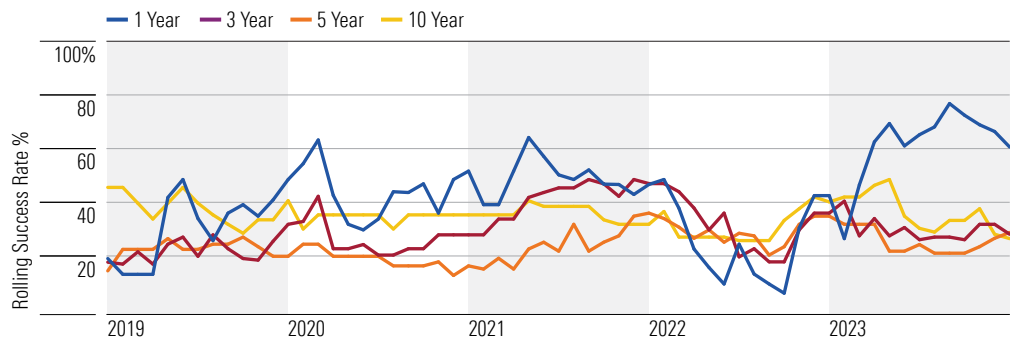

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 38 Foreign Small/Mid-Blend

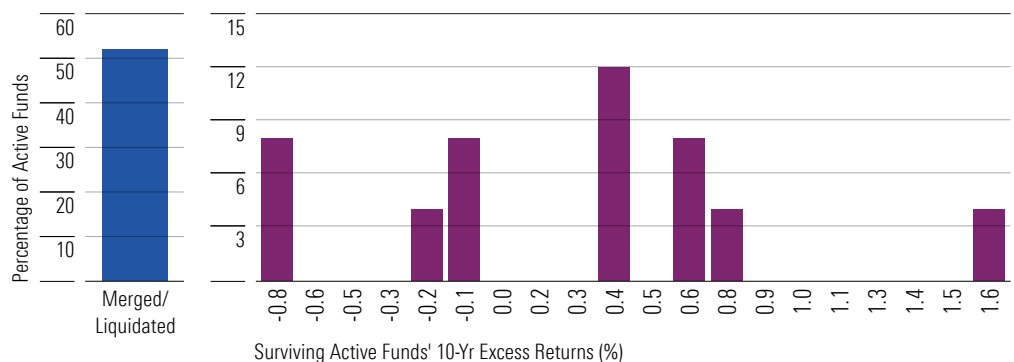|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	29	93.1	7	100.0	15.4	14.0	14.9	13.7	62.1
3-Year	27	66.7	8	100.0	2.2	0.2	0.4	1.7	29.6
5-Year	33	51.5	8	100.0	7.2	6.6	6.6	7.2	30.3
10-Year	25	48.0	6	83.3	4.2	4.3	3.9	4.3	28.0
15-Year	15	60.0	4	75.0	7.6	8.9	8.5	8.4	33.3
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	4	75.0	1	100.0	4.6	3.6	3.9	3.6	50.0
40th Percentile	6	33.3	1	100.0	3.7	3.9	3.8	3.9	0.0
60th Percentile	5	40.0	1	100.0	2.6	4.7	3.4	4.7	40.0
80th Percentile	5	80.0	1	0.0	4.5	0.6	5.1	0.6	40.0
100th Percentile	5	20.0	2	100.0	6.2	3.9	3.8	4.5	20.0

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

Exhibit 39 Rolling Success Rates for Surviving Active Foreign Small/Mid-Blend Funds

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

Exhibit 40 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Foreign Small/Mid-Blend Funds
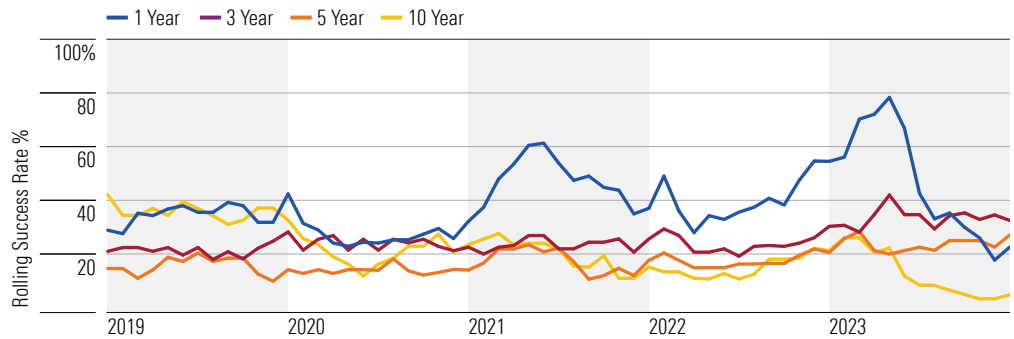

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 41 Global Large Blend

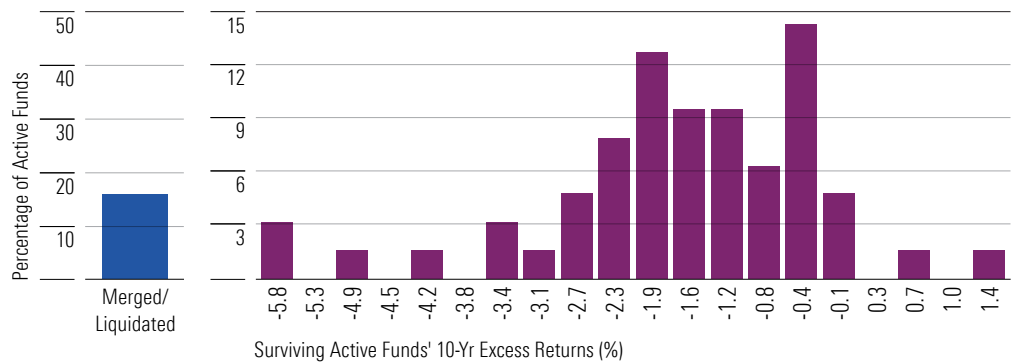|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	108	93.5	27	92.6	19.9	21.4	17.5	21.0	24.1
3-Year	97	83.5	21	95.2	5.0	5.9	5.1	6.2	34.0
5-Year	84	83.3	19	94.7	10.8	11.4	10.5	11.7	28.6
10-Year	63	84.1	9	100.0	7.2	8.0	7.1	8.6	6.3
15-Year	39	84.6	6	100.0	9.5	10.2	9.5	10.6	15.4
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	11	90.9	2	100.0	7.3	7.8	7.4	7.7	0.0
40th Percentile	14	78.6	1	100.0	7.2	8.8	6.8	8.8	0.0
60th Percentile	13	76.9	2	100.0	7.4	8.6	7.2	8.8	7.7
80th Percentile	12	91.7	2	100.0	7.3	8.1	7.4	8.5	8.3
100th Percentile	13	84.6	2	100.0	6.8	9.8	6.6	9.1	15.4

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

Exhibit 42 Rolling Success Rates for Surviving Active Global Large Blend Funds

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

Exhibit 43 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active World Large-Blend Fund
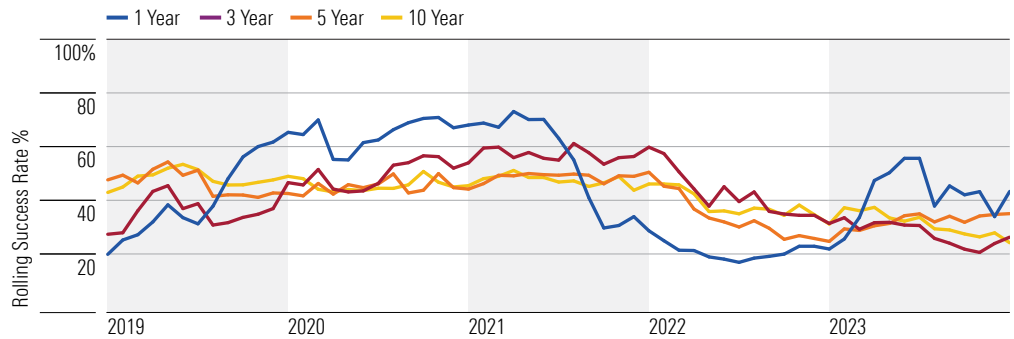

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 44 Diversified Emerging Markets

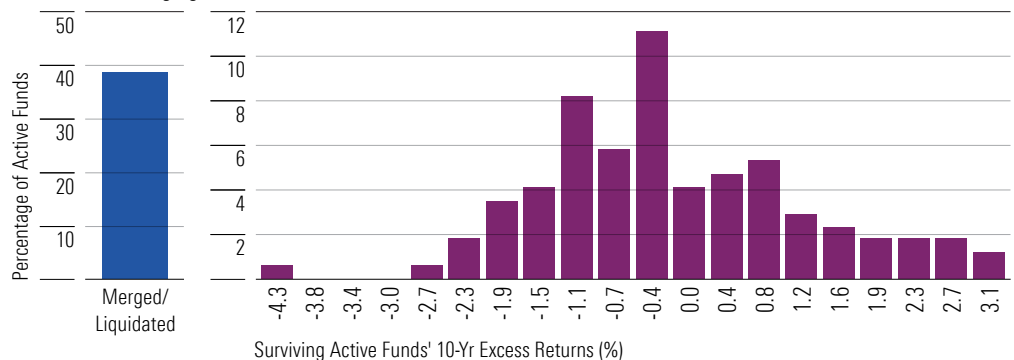|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	241	92.5	79	91.1	13.5	10.5	12.2	11.9	44.8
3-Year	223	82.1	76	88.2	-4.9	-3.5	-4.5	-2.1	27.8
5-Year	238	68.1	74	74.3	4.6	4.2	4.4	4.1	36.6
10-Year	171	61.4	47	59.6	2.8	2.7	2.3	2.5	25.7
15-Year	99	63.6	14	78.6	6.9	6.1	6.3	6.5	27.3
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	34	64.7	10	90.0	3.2	2.9	2.7	2.5	35.3
40th Percentile	34	67.6	9	44.4	4.0	2.7	2.8	2.8	35.3
60th Percentile	34	58.8	9	55.6	1.7	3.5	2.0	3.7	14.7
80th Percentile	34	58.8	9	55.6	2.2	2.0	2.0	2.5	20.6
100th Percentile	35	57.1	10	50.0	1.5	1.0	1.9	1.4	22.9

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

Exhibit 45 Rolling Success Rates for Surviving Active Diversified Emerging-Markets Funds

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

Exhibit 46 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Diversified Emerging-Markets Funds
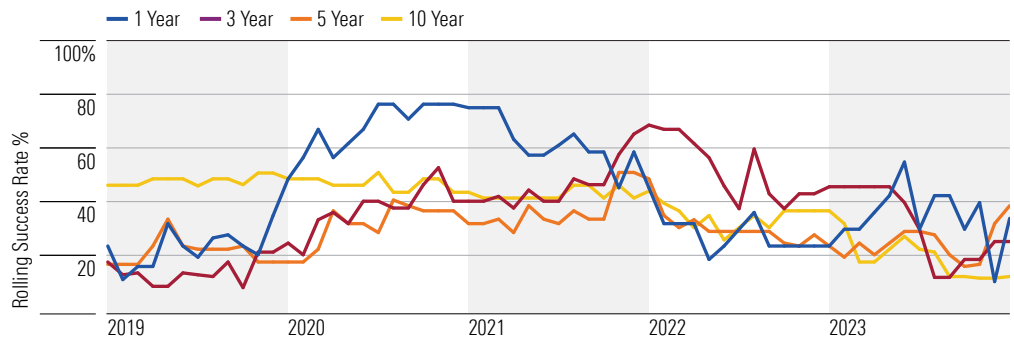

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 47 Europe Stock

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	17	94.1	26	100.0	18.8	20.8	18.5	19.3	35.3
3-Year	15	93.3	29	89.7	3.3	5.9	2.8	5.7	26.7
5-Year	20	75.0	37	67.6	8.4	9.3	9.2	9.1	40.0
10-Year	22	50.0	13	76.9	3.2	4.5	3.9	4.1	13.6
15-Year	22	45.5	21	38.1	7.0	7.0	7.5	6.7	27.3
20-Year	42	23.8	8	62.5	5.9	5.7	5.9	4.9	21.4
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	5	60.0	3	100.0	3.8	4.3	4.1	4.2	20.0
40th Percentile	4	25.0	2	50.0	4.0	4.1	3.5	3.7	0.0
60th Percentile	4	100.0	2	100.0	2.6	7.1	3.0	6.4	0.0
80th Percentile	4	50.0	3	66.7	5.4	3.8	5.6	3.5	50.0
100th Percentile	5	20.0	3	66.7	4.5	2.8	5.1	3.0	0.0

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

Exhibit 48 Rolling Success Rates for Surviving Active Europe-Stock Funds

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

Exhibit 49 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Europe-Stock Funds
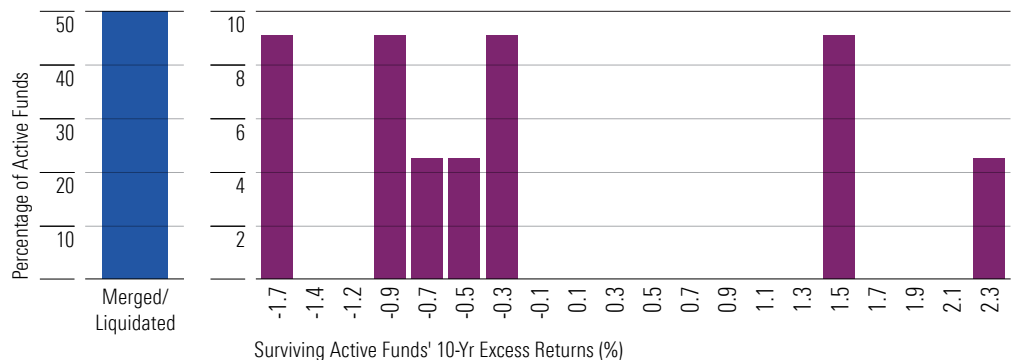
Source: Morningstar. Data and calculations as of Dec. 31, 2023.
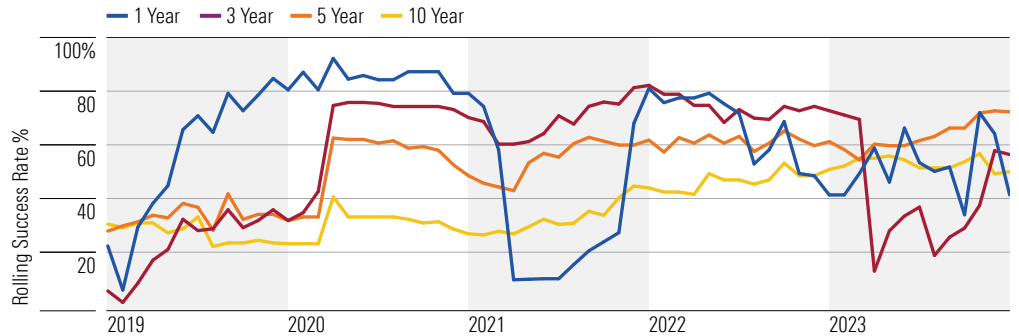
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Real Estate

▶ Over the decade through 2023, 51% of actively managed real estate funds survived and beat their average passive peer, making it the only category group whose 10-year success ratio exceeded 50%.

▶ Success rates in the global real estate category fluctuate dramatically over shorter time horizons. This owes to the diversity of funds within the category. Some invest exclusively outside the United States, while others are more truly global. Differences in performance between US and ex-US real estate securities cause active managers' success rates to ebb and flow. In 2023, active global real estate funds' success rates jumped to 71%, 51 percentage points higher than the year prior.

Exhibit 50 US Real Estate

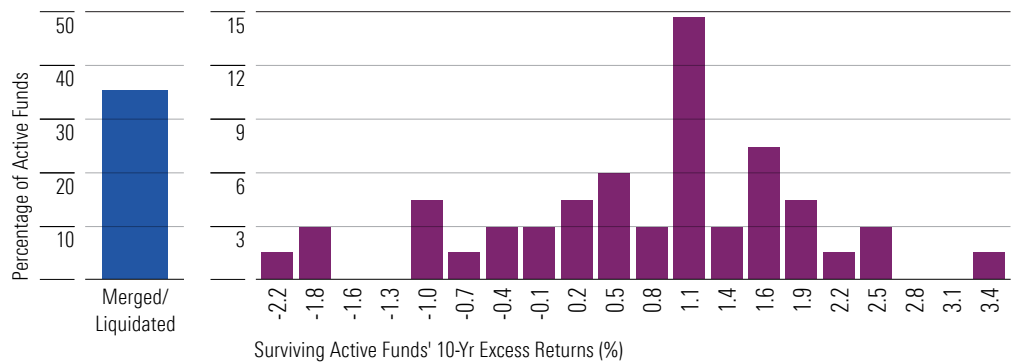|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	63	95.2	33	93.9	12.2	11.8	11.8	11.8	42.9
3-Year	57	89.5	32	93.8	5.5	5.0	4.9	4.9	57.9
5-Year	61	85.2	27	85.2	7.6	6.8	7.4	5.4	73.8
10-Year	68	64.7	19	73.7	7.5	7.1	6.9	6.2	51.5
15-Year	74	55.4	12	66.7	10.3	10.2	9.6	10.0	27.0
20-Year	66	50.0	5	80.0	7.7	7.7	7.2	7.5	24.2
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	13	53.8	4	100.0	7.8	7.2	7.4	6.6	46.2
40th Percentile	14	42.9	4	75.0	7.0	6.9	6.8	5.4	35.7
60th Percentile	14	71.4	1	100.0	7.9	7.3	7.2	7.3	64.3
80th Percentile	13	84.6	6	50.0	7.7	6.1	7.0	6.9	76.9
100th Percentile	14	71.4	4	75.0	6.7	6.1	6.2	5.3	35.7

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

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Exhibit 51 Rolling Success Rates for Surviving Active US Real Estate Funds

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

Exhibit 52 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active US Real Estate Funds
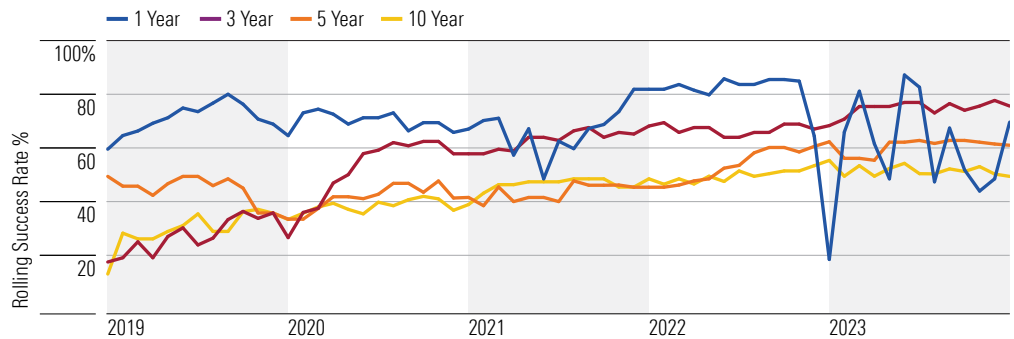

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Exhibit 53 Global Real Estate

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	45	93.3	15	100.0	9.5	8.3	10.4	9.3	71.1
3-Year	48	83.3	11	100.0	0.9	-1.6	1.0	-1.4	77.1
5-Year	56	67.9	13	92.3	3.9	1.3	3.9	1.6	62.5
10-Year	55	58.2	11	81.8	3.9	1.8	3.6	2.4	50.9
15-Year	48	41.7	12	58.3	7.3	6.5	6.9	6.6	29.2
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	10	60.0	1	100.0	4.2	1.5	4.1	1.5	50.0
40th Percentile	12	66.7	0	0.0	4.0	0.0	3.9	0.0	66.7
60th Percentile	10	80.0	4	50.0	3.9	0.9	4.1	1.4	70.0
80th Percentile	12	41.7	3	100.0	3.6	3.9	3.0	4.1	33.3
100th Percentile	11	45.5	3	100.0	4.2	0.7	2.9	1.9	36.4

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

Exhibit 54 Rolling Success Rates for Surviving Active Global Real Estate Funds

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

Exhibit 55 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Global Real Estate Funds
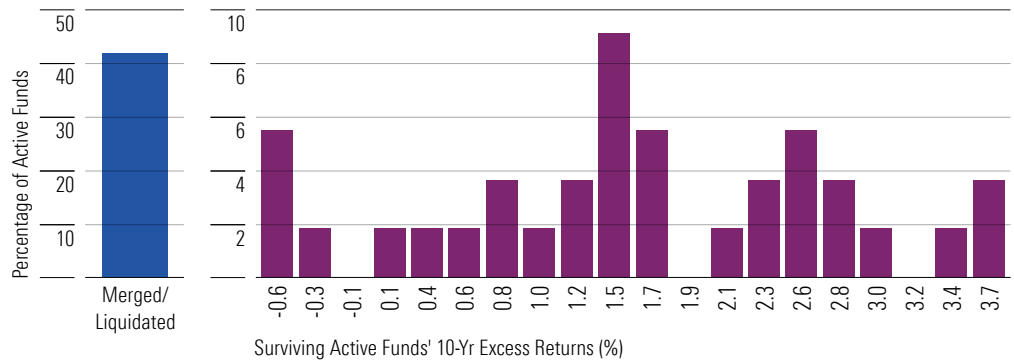
Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Fixed Income

► Active bond managers turned in a 53% success rate in 2023, a swift rebound from last year's 30% figure.

► Actively managed funds in the intermediate core bond category tend to take more credit risk than indexed peers (even after significantly riskier strategies seceded to form the intermediate core-plus category in 2019). That extra dose of risk likely aided active intermediate-core funds in 2023 after hurting them in 2022, as markets rewarded credit risk after punishing it the year prior.

► Long-term, survival has meant success for most active bond strategies. Among those in existence 15 years ago, 39% went on to beat their average passive peer through 2023, though just half of them survived the full period. In other words, 79% of active bond funds that survived the 15-year stretch outperformed the passive composite.

Exhibit 56   Intermediate Core Bond

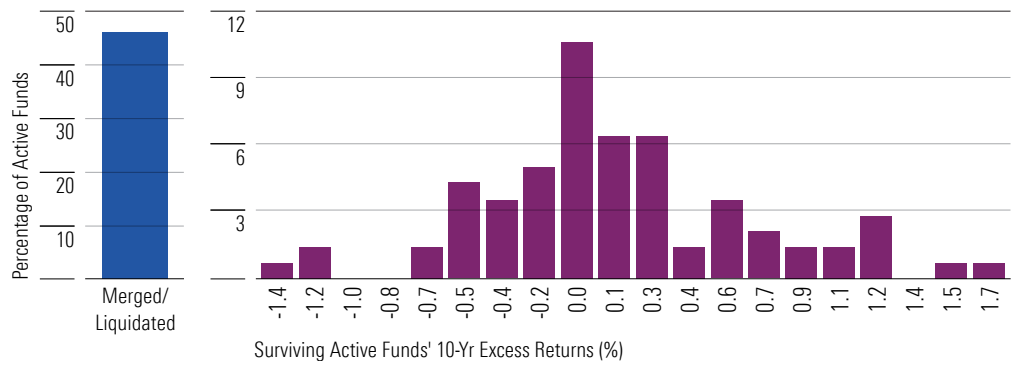|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	130	97.7	34	97.1	5.8	5.7	5.6	5.6	56.9
3-Year	114	86.8	31	96.8	-2.9	-3.4	-3.2	-3.5	50.9
5-Year	111	76.6	30	90.0	1.5	1.1	1.0	1.0	41.4
10-Year	141	53.9	26	84.6	2.0	1.8	1.7	1.5	34.0
15-Year	193	35.2	20	65.0	3.3	2.7	2.8	2.4	26.9
20-Year	240	22.5	20	35.0	2.8	3.1	2.6	2.9	14.2
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	26	53.8	5	80.0	2.2	1.8	2.0	1.7	53.8
40th Percentile	28	57.1	5	100.0	1.8	1.9	1.7	1.8	32.1
60th Percentile	28	67.9	5	100.0	1.9	1.3	1.8	1.5	39.3
80th Percentile	28	46.4	5	60.0	1.9	1.6	1.5	1.5	17.9
100th Percentile	29	41.4	6	83.3	1.8	1.4	1.4	1.2	24.1

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

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Exhibit 57 Rolling Success Rates for Surviving Active Intermediate Core Bond Funds
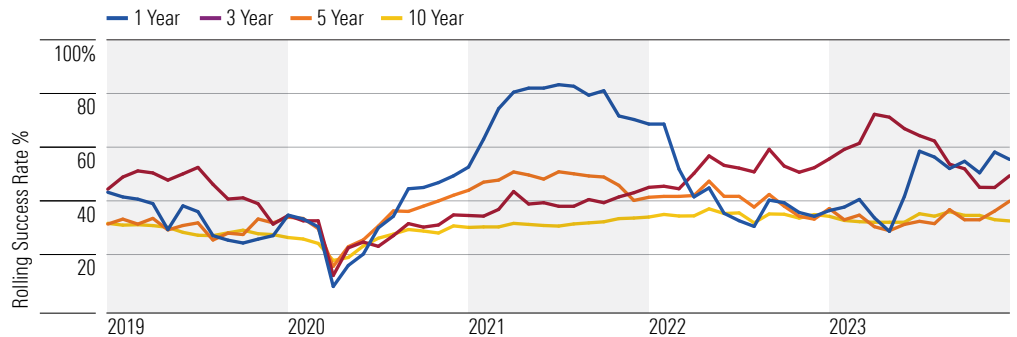
Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 58 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Intermediate Core Bond Funds
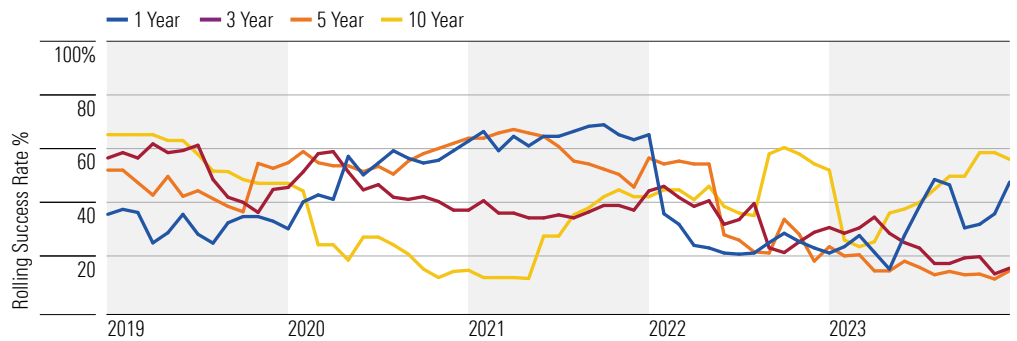

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 59 Corporate Bond

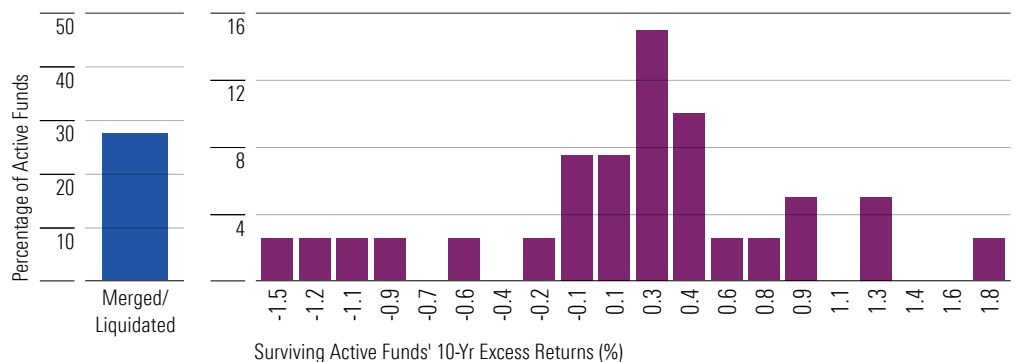|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	50	100.0	33	90.9	2.0	1.8	1.6	1.7	40.0
3-Year	49	91.8	24	91.7	-3.2	-3.4	-2.8	-2.6	24.5
5-Year	52	86.5	28	82.1	1.7	2.0	1.7	2.0	17.3
10-Year	41	70.7	19	63.2	2.8	2.6	2.5	2.3	41.5
15-Year	28	75.0	3	100.0	4.4	4.1	4.0	3.8	53.6
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	6	66.7	2	100.0	2.9	2.9	2.5	3.2	33.3
40th Percentile	8	62.5	5	100.0	3.4	2.8	3.0	2.6	37.5
60th Percentile	8	62.5	4	100.0	2.3	2.2	2.2	2.7	12.5
80th Percentile	8	75.0	1	100.0	2.6	2.0	2.3	2.0	62.5
100th Percentile	9	77.8	7	0.0	2.6	1.6	2.2	1.8	44.4

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

Exhibit 60 Rolling Success Rates for Surviving Active Corporate Bond Funds

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

Exhibit 61 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active Corporate Bond Funds
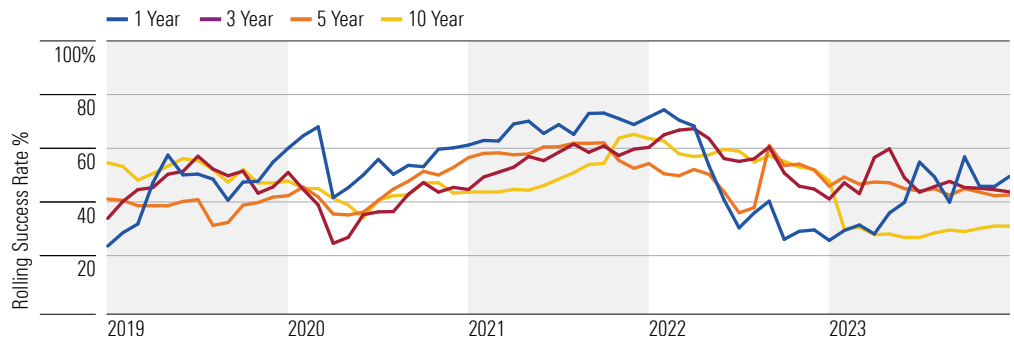

Source: Morningstar. Data and calculations as of Dec. 31, 2023.

Exhibit 62 High-Yield Bond

|	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	Active Success Rate (%)
Trailing Total Return									
1-Year	186	95.2	61	91.8	12.4	12.4	11.8	12.1	51.1
3-Year	179	87.7	47	78.7	2.3	1.6	1.8	1.8	45.3
5-Year	186	80.6	39	69.2	5.2	4.4	4.5	4.5	44.1
10-Year	166	74.1	17	52.9	4.0	3.5	3.5	3.8	32.5
Performance by Fee Quintile									
(Trailing 10 Years)									
20th Percentile	30	73.3	3	66.7	4.4	3.6	4.0	3.9	43.3
40th Percentile	32	81.3	3	100.0	4.0	3.5	3.7	4.4	43.8
60th Percentile	34	79.4	0	0.0	3.8	0.0	3.3	0.0	38.2
80th Percentile	33	72.7	6	0.0	4.0	1.3	3.4	1.2	24.2
100th Percentile	34	64.7	5	80.0	3.8	3.6	3.0	3.6	11.8

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

Exhibit 63 Rolling Success Rates for Surviving Active High-Yield Bond Funds

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

Exhibit 64 Mortality and Distribution of 10-Year Annualized Excess Returns for Surviving Active High-Yield Bond Funds
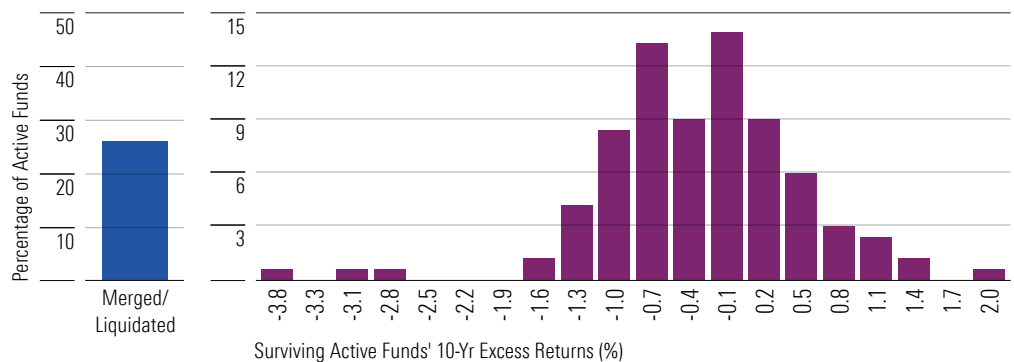
Source: Morningstar. Data and calculations as of Dec. 31, 2023.

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Appendix A

Summary of Results for the Periods Ended June 30, 2023 and Dec. 31, 2022.

Exhibit 65 Summary Results for the Period Ended June 30, 2023

Active Funds' Success Rates by Category (%)

Category	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	10-Year (Lowest Cost)	10-Year (Highest Cost)
US Large Blend	50.4	41.1	29.5	9.8	9.3	9.1	16.2	5.6
US Large Value	54.2	39.7	29.5	12.0	5.5	16.1	0.0	8.5
US Large Growth	54.5	32.4	30.8	10.1	2.1	4.9	16.3	6.8
US Mid Blend	48.7	56.9	37.2	14.0	16.7	8.7	27.3	3.8
US Mid Value	64.1	40.7	42.9	9.4	11.7	16.2	5.0	9.1
US Mid Growth	56.1	36.8	63.0	46.1	27.3	9.0	46.3	35.7
US Small Blend	74.7	57.3	43.3	28.3	19.5	23.4	45.9	27.5
US Small Value	57.3	32.8	39.8	33.0	21.9	23.6	28.6	23.8
US Small Growth	62.3	32.4	57.4	45.8	27.9	19.3	47.2	46.3
Foreign Large Blend	57.6	45.6	33.1	26.0	23.9	17.6	40.6	22.2
Foreign Large Value	75.0	37.5	28.7	38.3	23.7	0.0	47.1	25.0
Foreign Small-Mid Blend	66.7	27.6	25.8	31.8	53.8	0.0	40.0	40.0
Global Large Blend	44.1	36.2	24.1	10.0	11.4	23.8	0.0	0.0
Diversified Emerging Markets	57.1	32.1	36.5	35.2	25.6	20.0	45.5	27.3
Europe Stock	31.3	31.3	30.4	23.8	40.9	19.6	25.0	40.0
US Real Estate	54.8	38.3	63.1	52.9	30.3	24.1	50.0	42.9
Global Real Estate	84.1	78.4	64.3	51.9	33.3	0.0	36.4	45.5
Intermediate Core Bond	60.0	65.8	33.9	36.7	22.0	13.1	48.1	20.0
Corporate Bond	40.0	24.5	17.3	41.5	53.6	0.0	33.3	44.4
High-Yield Bond	56.4	45.2	45.6	28.3	44.4	48.9	46.4	6.5

Source: Morningstar. Data and calculations as of June 30, 2023.

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Exhibit 66 Summary Results for the Period Ended Dec. 31, 2022

Active Funds' Success Rates by Category (%)

Category	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	10-Year (Lowest Cost)	10-Year (Highest Cost)
US Large Blend	54.1	38.1	30.1	13.1	9.3	8.7	25.7	6.7
US Large Value	47.2	41.5	30.9	11.4	10.9	19.5	20.3	3.3
US Large Growth	37.5	23.4	21.6	7.0	3.0	4.7	15.3	1.1
US Mid Blend	50.5	46.5	31.6	18.1	10.6	12.7	31.8	0.0
US Mid Value	39.6	50.5	31.5	4.6	17.2	20.5	4.8	0.0
US Mid Growth	46.5	47.7	60.1	39.8	23.3	23.8	47.7	25.0
US Small Blend	52.9	52.6	34.7	27.2	23.5	19.8	47.2	21.1
US Small Value	61.0	44.2	43.8	32.7	15.8	22.1	40.0	19.0
US Small Growth	56.9	50.3	57.6	46.4	26.6	13.3	48.7	43.9
Foreign Large Blend	36.8	43.6	31.5	29.9	24.1	18.9	42.4	27.8
Foreign Large Value	29.4	46.6	14.6	17.2	17.9	—	26.3	0.0
Foreign Small-Mid Blend	44.0	37.5	36.4	41.7	—	—	60.0	33.3
Global Large Blend	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diversified Emerging Markets	23.4	32.9	26.2	32.7	38.4	20.3	55.2	35.5
Europe Stock	25.0	47.1	25.0	38.1	40.9	15.7	75.0	20.0
US Real Estate	42.9	74.2	62.7	52.3	25.7	23.6	58.3	35.7
Global Real Estate	20.0	69.8	63.8	56.9	31.3	—	62.5	45.5
Intermediate Core Bond	37.9	57.1	38.7	35.8	23.0	16.1	60.0	19.4
Corporate Bond	22.6	32.1	25.0	53.5	53.6	—	50.0	37.5
High-Yield Bond	27.2	42.6	47.4	49.4	—	—	70.4	16.7

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

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Appendix B—Methodology

Data Source
Morningstar's US open-end and exchange-traded funds database.

Universe
All ETFs and open-end mutual funds (excluding funds of funds and money market funds) in each Morningstar Category that existed at the beginning of the relevant period (including funds that did not survive to the end of the period) defined the eligible universe. To be included, the fund's inception date must precede the start of the period and the obsolete date cannot predate the start of the period. In addition, each must have asset data for at least one share class in the month prior to the start of the sample period (the beginning of the trailing one-, three-, five-, 10-, 15-, or 20-year period) to facilitate asset weighting.

Survivorship
To calculate survivorship, we divide the number of distinct funds (based on unique fund ID at the beginning of the period) that started and ended the period in question by the total number of funds that existed at the onset of the period in question (the beginning of the trailing one-, three-, five-, 10-, 15-, or 20-year period).

Asset-Weighted Returns
We calculate the asset-weighted returns for each cohort using each share class' monthly assets and returns. When a fund becomes obsolete, its historical data remains in the sample. Funds that incept or migrate into the category after the start of the period are not included.

Equal-Weighted Returns
In order to come up with a single return figure for funds with multiple share classes, we first calculate the asset-weighted average of all the fund's share classes. We then take the simple equal-weighted average of the monthly returns for each fund in the group and compound those returns over the sample period. As before, when a fund becomes obsolete, its historical data remains in the sample. Funds that incept or are moved into the category after the start of the period are not included.

Success Rate
The success rate indicates what percentage of funds that started the sample period went on to survive and generate a return in excess of the equal-weighted average passive fund return over the period. This approach differs from the convention of using a single, representative index to gauge success. We do not consider magnitude of outperformance in defining success: A fund that just barely beat the passive alternative counts as much as a fund that significantly outperformed.

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As in the equal-weighted return calculation, we calculate the asset-weighted average of all the fund's share classes to come up with a single return figure for funds with multiple share classes. We then rank the funds by their composite returns, count the number that rank higher than the equal-weighted average return for the passive funds in the category, and divide that number by the number of funds at the beginning of the period (using the same number from the denominator of the survivorship calculations).

Fees

We rank each fund by its annual report expense ratio from the year prior to the start of the sample period and group them into quintiles. We then apply the same steps described above to calculate the success rates for funds in each quintile. To be counted in the starting number of funds used for purposes of calculating the survivorship and success rates, each fund must have an annual report expense ratio at the beginning of the sample period.

Excess Returns

We measure surviving active funds' excess returns relative to the equal-weighted average passive fund return in each category.

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Appendix C — How Our Approach Compares With Others'

How is our approach different from others'?

Our "benchmark" for measuring success is different from others'. We measure active managers' success relative to investable passive alternatives in the same category. For example, an active manager in the US large-blend category is measured against a composite of the performance of its index mutual fund and ETF peers (for example, Vanguard Total Stock Market Index VTSMX, SPDR S&P 500 ETF SPY, and so on). Specifically, we calculate the equal- and asset-weighted performance of the cohort of index-tracking (that is, "passive") options in each category that we examine and use that figure as the hurdle that defines success or failure for the active funds in the same category. The magnitude of outperformance or underperformance does not influence the success rate. However, this data is reflected in the average return figures for the funds in each group, which we report separately.

We believe this is a better benchmark because it reflects the performance of actual investable options and not an index. One cannot directly invest in indexes. Their performance does not account for the real costs associated with replicating their performance and packaging and distributing them in an investable format. Also, the success rate for active managers can vary depending on one's choice of benchmark. For example, the rate of success among US large-blend fund managers may vary depending on whether one uses the S&P 500 or the Russell 1000 Index as the basis for comparison. By using a composite of investable alternatives within funds' relevant categories as our benchmark, we account for the frictions involved in index investing (fees, as well as others) and we mitigate the effects that might stem from cherry-picking a single index as a benchmark. The net result is a much fairer comparison of how investors in actively managed funds have fared relative to those who have opted for a passive approach.

We measure each fund's performance based on the asset-weighted average performance of all of its share classes in calculating success rates. This approach reflects the experience of the average dollar invested in each fund. We then rank these composite fund returns from highest to lowest and count the number of funds with returns exceeding the equal-weighted average of the passive funds in the category. The success rates are defined as the ratio of these figures to the number of funds that existed at the beginning of the period. Given this unique approach, our field of study is narrower than others, as the universe of categories that contained a sufficient set of investable index-tracking funds was fairly narrow at the end of 2004. We expect the number of categories we include in this study will expand over time.

We cut along the lines of cost. Cost matters. Fees are one of the best predictors of future fund performance. We have sliced our universe into fee quintiles to highlight this relationship. ▣

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