
Morningstar's Active/Passive Barometer

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Morningstar Manager Research

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Executive Summary

The Morningstar Active/Passive Barometer is a semiannual report that measures the performance of U.S. active funds against passive peers in their respective Morningstar Categories.

The Active/Passive Barometer uses several unique ways to measure active managers' success.

- ▶ It evaluates active funds not versus a costless index, but against a composite of actual passive funds. In this way, the "benchmark" reflects the actual, net-of-fee performance of passive funds.
- ▶ It assesses active funds based on their beginning-of-period category classification, to better simulate the funds an investor would have had to choose from at the time.
- ▶ It considers how the average dollar invested in various types of active funds has fared versus the average dollar in the passive composite.
- ▶ It examines trends in active-fund success by fee level.

The Active/Passive Barometer is also comprehensive, spanning approximately 4,500 unique active and passive U.S. funds that account for approximately \$16.1 trillion in assets, or about 79% of the U.S. fund market.

All told, the Active/Passive Barometer is a useful measuring stick that can help investors better calibrate the odds of succeeding with active funds in different areas based on recent trends and longer-term history.

Key Takeaways

- ▶ In this installment of our semiannual report, we have added seven Morningstar Categories to our analysis for the first time: foreign large value, foreign small/mid-blend, world large stock, Europe stock, U.S. real estate, global real estate, and corporate bond.
- ▶ The one-year success rate among active U.S. stock-pickers declined relative to year-end 2017. Just 36% of active managers categorized in one of the nine segments of the U.S. Morningstar Style Box both survived and outperformed their average passive peer over the 12 months through June 2018. In 2017, 43% of active managers achieved this feat.
- ▶ Success rates among active value managers experienced a pronounced year-on-year decline. Stock-pickers in the large-, mid-, and small-value categories saw their success rates decline 23, 27, and 27 percentage points, respectively, versus their mid-2017 levels.
- ▶ When compared with midyear 2017 figures, active funds' success rates dropped in 15 of the 19 categories we examined (see Exhibit 2).
- ▶ The one-year success rate among active U.S. real estate funds spiked higher relative to midyear 2017. That said, just 39% of active funds in the category survived and beat their composite passive benchmark in the 12 months through June.
- ▶ Active funds in the intermediate-term bond category continued to stand out. Though their one-year success rate declined, more than 70% of them both lived and beat their average passive peer during the year ended in June. Active managers in the category have been rewarded handsomely for assuming credit risk as both investment-grade and below-investment-grade credits have enjoyed a sustained rally. This is evident in their success rates over the trailing one-, three-, five-, and 10-year periods.
- ▶ In general, actively managed funds have failed to survive and beat their benchmarks, especially over longer time horizons.
- ▶ The average dollar in passively managed funds has tended to outperform the average dollar invested in actively managed funds. That said, there are important exceptions. Over longer time frames, investors in actively managed foreign-stock funds have generally outperformed those in passive funds, as evidenced by their higher asset-weighted returns.
- ▶ Investors would greatly improve their odds of success by favoring low-cost funds, which succeeded far more often than high-cost funds over the long term.

- ▶ The above-average success rates of low-cost funds are partly explained by higher survivorship rates. For example, the 20-year survivorship rate of active funds in the least-expensive fee quartile of the large-, mid-, and small-blend categories was 52% through June 2018. Meanwhile, just 32% of the funds in the most expensive quartile of the same categories survived.
- ▶ Long-term success rates were generally higher among foreign-stock funds and bond funds, and lowest among U.S. large-cap funds.
- ▶ Stylistic headwinds and tailwinds explain some of the fluctuations in active-fund success. Also, active managers tend to have difficulty keeping up with index funds in strong markets, as many will keep cash on hand to make opportunistic investments or meet redemptions. The resulting cash drag can weigh on their performance. The ebb and flow of active managers' beat rates tends to be very noisy over short time horizons. We recently studied the factors that explain fluctuations in active managers' success rates in our paper "Putting Dunn's Law to the Test"¹.

¹ Bryan, A., & McCullough, A. 2018. Putting Dunn's Law to the Test.
<https://corporate1.morningstar.com/ResearchLibrary/article/854025/putting-dunns-law-to-the-test/>

Exhibit 1 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)
U.S. Large Blend	36.2	17.0	20.9	10.6	15.7	16.9	17.9	4.9
U.S. Large Value	34.8	11.2	23.3	5.5	17.8	—	11.0	2.2
U.S. Large Growth	44.1	31.9	25.7	9.8	10.2	—	17.4	6.6
U.S. Mid-Blend	23.5	18.6	14.2	14.2	7.8	9.0	29.7	5.4
U.S. Mid-Value	29.6	15.1	11.3	11.6	14.0	—	16.1	0.0
U.S. Mid-Growth	41.5	33.8	31.0	27.9	23.2	—	31.4	15.9
U.S. Small Blend	23.1	20.9	15.2	17.7	18.5	31.5	27.1	8.3
U.S. Small Value	28.6	25.9	24.8	28.6	4.6	—	37.5	21.9
U.S. Small Growth	41.0	31.3	24.2	18.5	8.4	—	12.3	15.4
Foreign Large Blend	30.1	33.5	41.4	26.3	28.1	33.3	35.6	20.0
Foreign Large Value	40.7	26.1	44.0	48.9	—	—	60.9	28.6
Foreign Small/Mid-Blend	26.7	22.2	34.8	92.9	—	—	100.0	75.0
World Large Stock	44.5	33.9	39.7	29.5	—	—	45.7	8.6
Diversified Emerging Markets	47.7	58.3	57.9	33.7	—	—	43.5	18.2
Europe Stock	25.0	19.0	13.0	51.7	31.1	—	75.0	28.6
U.S. Real Estate	39.4	10.3	32.8	36.5	32.8	25.8	57.9	31.6
Global Real Estate	27.1	33.9	38.5	22.9	—	—	11.1	11.1
Intermediate-Term Bond	70.9	63.4	60.5	49.0	34.4	23.8	62.5	41.7
Corporate Bond	48.1	55.6	59.0	62.5	—	—	66.7	66.7

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 2 Year-Over-Year Change in Active Funds' 1-Year Success Rates by Category (%)

	2018	2017	Year-Over-Year Change
U.S. Large Blend	36.2	48.8	-12.6
U.S. Large Value	34.8	58.2	-23.4
U.S. Large Growth	44.1	42.4	1.7
U.S. Mid-Blend	23.5	39.7	-16.2
U.S. Mid-Value	29.6	56.1	-26.5
U.S. Mid-Growth	41.5	55.4	-13.9
U.S. Small Blend	23.1	31.5	-8.4
U.S. Small Value	28.6	55.9	-27.3
U.S. Small Growth	41.0	60.8	-19.8
Foreign Large Blend	30.1	53.8	-23.7
Foreign Large Value	40.7	47.9	-7.2
Foreign Small/Mid-Blend	26.7	57.1	-30.5
World Large Stock	44.5	59.8	-15.3
Diversified Emerging Markets	47.7	61.8	-14.1
Europe Stock	25.0	18.2	6.8
U.S. Real Estate	39.4	14.5	24.9
Global Real Estate	27.1	16.4	10.7
Intermediate-Term Bond	70.9	85.1	-14.2
Corporate Bond	48.1	76.0	-27.9

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 3 Trends in Active Funds' 1-Year Success Rates by Category (%)

	2014		2015		2016		2017		2018	Trend
	December	June	December	June	December	June	December	June		
U.S. Large Blend	31.2	43.0	27.7	20.6	25.3	48.8	37.5	36.2		
U.S. Large Value	16.2	49.1	36.5	14.1	20.3	58.2	35.2	34.8		
U.S. Large Growth	26.0	43.5	49.3	29.8	29.8	42.4	43.5	44.1		
U.S. Mid-Blend	33.0	40.2	42.1	23.5	24.8	39.7	27.0	23.5		
U.S. Mid-Value	25.7	63.9	53.5	8.1	19.8	56.1	40.0	29.6		
U.S. Mid-Growth	49.5	47.1	41.4	35.4	30.7	55.4	57.7	41.5		
U.S. Small Blend	40.2	36.2	50.2	46.2	36.7	31.5	38.8	23.1		
U.S. Small Value	23.6	44.0	66.7	27.7	15.0	55.9	49.2	28.6		
U.S. Small Growth	51.6	52.5	22.3	27.8	28.4	60.8	57.7	41.0		
Foreign Large Blend	46.1	58.0	63.6	36.3	33.5	53.8	50.8	30.1		
Foreign Large Value	29.3	88.3	89.2	37.0	14.7	47.9	69.5	40.7		
Foreign Small/Mid-Blend	40.0	40.0	38.5	18.5	30.8	57.1	62.5	26.7		
World Large Stock	29.1	56.8	62.1	29.9	16.6	59.8	48.2	44.5		
Diversified Emerging Markets	56.3	46.4	63.0	67.9	37.1	61.8	59.1	47.7		
Europe Stock	12.5	59.1	63.6	33.3	17.4	18.2	56.5	25.0		
U.S. Real Estate	75.8	85.1	83.8	64.7	4.3	14.5	32.4	39.4		
Global Real Estate	74.1	68.5	54.5	73.2	29.5	16.4	14.5	27.1		
Intermediate-Term Bond	46.5	26.0	28.5	24.5	74.8	85.1	61.4	70.9		
Corporate Bond	46.2	27.3	31.1	42.2	68.1	76.0	73.5	48.1		

Source: Morningstar. Data and Calculations as of 6/30/18.

Results by Category

U.S. Large-Cap Funds

- ▶ Long-run success rates across actively managed U.S. large-cap funds have been generally lower than those among mid- and small-cap U.S. equity funds.
- ▶ The large-growth category has been particularly difficult for active managers. Nearly two thirds of the active funds that existed in this category 15 years ago survived and just 10.2% managed to both survive and outperform their average passively managed peer.
- ▶ Large-growth funds' struggles and large-value funds' relatively greater success ratios may be evidence of "Dunn's Law" in action. Over the 15-year period ended June 30, 2018, the Russell 1000 Value Index increased at an annualized rate of 8.6%. Meanwhile, the Russell 1000 Growth Index increased by 10.3% annualized. Thus, many active large-cap growth managers have been penalized for straying from their style, while large-cap value managers have been rewarded for out-of-style bets.
- ▶ Attrition rates are high among large-cap funds. Overall, just 39% of large-cap funds survived to the end of the 15-year period ended June 30, 2018. The odds of survival improved to about 49% for the lowest-cost funds but sagged to 32% for the highest-cost funds during that same time frame.
- ▶ Passively managed large-blend funds had the lowest 20-year survivorship rate of any of the categories making up the nine segments of the U.S. Morningstar Style Box. This was driven largely by the near-extinction of the most costly passive options in this category that were around two decades ago. Of the 25 index funds that occupied the most expensive half of the group two decades ago, just seven survived through June 2018.

Exhibit 4 U.S. Large Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	367	91.6	150	84.7	12.6	14.4	12.3	13.4	36.2
3-Year	389	80.2	119	80.7	10.2	11.7	8.9	11.2	17.0
5-Year	387	78.0	107	78.5	11.6	13.2	10.7	12.5	20.9
10-Year	491	54.4	129	59.7	8.1	10.0	8.0	9.8	10.6
15-Year	428	41.1	111	44.1	8.8	9.3	8.2	8.9	15.7
20-Year	320	34.7	51	49.0	6.5	6.4	5.7	6.2	16.9
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	123	56.9	40	62.5	8.8	10.2	8.5	10.0	17.9
50th Percentile	123	59.3	25	60.0	7.7	9.7	8.5	9.8	10.6
75th Percentile	122	54.1	32	68.8	8.3	8.6	8.0	9.8	9.0
100th Percentile	123	47.2	32	46.9	6.0	9.4	7.0	9.7	4.9

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 5 U.S. Large Value

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	325	91.7	70	94.3	9.2	8.8	9.0	9.9	34.8
3-Year	348	81.6	54	92.6	8.9	9.8	8.1	10.1	11.2
5-Year	309	79.9	42	88.1	10.4	10.9	9.8	10.8	23.3
10-Year	363	54.5	28	78.6	8.4	9.2	7.9	9.8	5.5
15-Year	320	42.8	12	41.7	8.4	8.6	7.8	8.5	17.8
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	91	61.5	11	42.9	8.9	8.8	8.5	8.4	11.0
50th Percentile	91	52.7	7	85.7	8.2	10.5	7.9	10.6	3.3
75th Percentile	90	55.6	7	100.0	7.3	9.9	7.9	10.4	5.6
100th Percentile	91	48.4	7	85.7	7.5	9.2	7.2	9.6	2.2

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 6 U.S. Large Growth

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	388	91.8	50	88.0	22.4	20.8	20.4	21.1	44.1
3-Year	429	80.9	47	78.7	13.8	14.0	11.9	13.1	31.9
5-Year	444	75.0	41	85.4	15.6	15.7	14.1	15.7	25.7
10-Year	482	49.0	30	70.0	10.4	11.5	9.6	12.0	9.8
15-Year	430	33.7	18	61.1	9.8	9.9	9.0	10.2	10.2
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	121	62.0	10	50.0	10.7	11.4	10.5	11.5	17.4
50th Percentile	120	48.3	8	71.4	11.1	12.2	9.7	13.4	8.3
75th Percentile	120	40.8	7	85.7	9.4	12.3	9.7	12.0	6.7
100th Percentile	121	44.6	7	75.0	8.9	12.3	8.4	11.6	6.6

Source: Morningstar. Data and Calculations as of 6/30/18.

U.S. Mid-Cap Funds

- ▶ Mid-cap managers' one-year success rates plummeted on a year-over-year basis.
- ▶ Success rates for actively managed U.S. mid-cap funds have tended to be more widely dispersed and variable than those for U.S. large- or small-cap funds.
- ▶ 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, for example.

Exhibit 7 U.S. Mid-Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	119	93.3	53	94.3	10.1	13.9	10.3	13.4	23.5
3-Year	113	84.1	46	82.6	7.9	9.9	6.8	9.8	18.6
5-Year	120	76.7	43	83.7	10.8	12.3	9.7	12.1	14.2
10-Year	148	63.5	38	71.1	9.0	10.3	8.1	10.2	14.2
15-Year	116	57.8	24	54.2	9.1	11.0	8.8	10.9	7.8
20-Year	122	41.0	7	85.7	6.4	8.6	6.9	9.0	9.0
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	37	75.7	10	70.0	9.7	10.4	9.4	10.6	29.7
50th Percentile	37	67.6	10	80.0	7.6	10.4	8.7	10.8	18.9
75th Percentile	37	59.5	9	55.6	8.0	10.1	8.1	9.9	2.7
100th Percentile	37	51.4	9	77.8	7.5	7.5	6.0	9.0	5.4

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 8 U.S. Mid-Value

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	108	92.6	24	83.3	10.3	9.5	8.8	10.4	29.6
3-Year	119	81.5	23	82.6	7.9	10.6	7.3	9.8	15.1
5-Year	106	78.3	19	84.2	10.1	11.9	9.6	11.7	11.3
10-Year	121	57.9	16	68.8	8.9	10.1	8.9	10.7	11.6
15-Year	114	67.5	3	33.3	8.6	10.8	8.9	10.3	14.0
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	31	58.1	5	40.0	9.1	10.2	9.3	10.3	16.1
50th Percentile	30	73.3	3	100.0	9.3	11.2	9.5	11.5	16.7
75th Percentile	31	67.7	4	100.0	8.5	9.8	8.5	11.0	12.9
100th Percentile	29	31.0	4	50.0	8.7	8.6	7.8	9.6	0.0

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 9 U.S. Mid-Growth

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	183	90.2	28	82.1	17.5	16.6	18.0	18.2	41.5
3-Year	210	81.0	22	72.7	10.2	9.6	9.3	10.1	33.8
5-Year	210	76.2	19	68.4	12.7	12.6	11.8	12.5	31.0
10-Year	276	51.4	16	75.0	9.3	9.7	8.8	9.1	27.9
15-Year	271	40.6	5	60.0	9.8	10.6	9.3	9.5	23.2
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	70	55.7	5	40.0	10.2	10.2	9.7	10.3	31.4
50th Percentile	68	55.9	3	100.0	8.7	9.0	8.8	10.2	33.8
75th Percentile	69	50.7	4	100.0	8.8	7.5	8.6	7.7	30.4
100th Percentile	69	43.5	4	75.0	8.3	8.0	8.1	8.9	15.9

Source: Morningstar. Data and Calculations as of 6/30/18.

U.S. Small-Cap Funds

- ▶ Small-Cap value and growth managers' one-year success rates tumbled versus the 12-month period ended June 30, 2017.
- ▶ Long-run success rates among actively managed U.S. small-cap funds were generally higher than those seen among large-cap funds—though not materially so.
- ▶ The small-cap growth category had the lowest 15-year survivorship rate among its size cohort. Just 46% of the funds that were in the category at the end June 2003 lived through June 2018.

Exhibit 10 U.S. Small Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	225	93.8	50	90.0	14.3	17.7	14.1	16.8	23.1
3-Year	215	87.0	50	76.0	9.5	11.2	9.1	10.8	20.9
5-Year	191	82.2	44	79.5	10.8	12.8	10.7	12.6	15.2
10-Year	192	64.1	43	65.1	9.3	11.1	9.4	10.8	17.7
15-Year	135	62.2	25	52.0	10.1	11.0	9.6	10.7	18.5
20-Year	92	52.2	9	55.6	7.9	8.6	8.3	8.4	31.5
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	48	72.9	11	54.5	10.1	11.2	10.3	11.2	27.1
50th Percentile	49	67.3	11	81.8	9.7	11.2	9.6	11.6	22.4
75th Percentile	47	51.1	10	60.0	7.0	10.3	8.8	10.2	12.8
100th Percentile	48	64.6	11	63.6	7.9	10.6	8.8	9.9	8.3

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 11 U.S. Small Value

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	112	92.9	21	85.7	12.5	13.3	12.2	13.7	28.6
3-Year	116	87.1	19	84.2	9.3	10.8	9.1	10.6	25.9
5-Year	105	88.6	17	88.2	10.4	12.1	9.9	11.3	24.8
10-Year	126	62.7	11	63.6	9.6	10.7	9.7	10.1	28.6
15-Year	108	59.3	6	50.0	9.9	10.6	9.8	11.5	4.6
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	32	56.3	5	40.0	10.4	10.7	10.3	11.2	37.5
50th Percentile	31	67.7	1	100.0	8.9	11.7	9.7	11.7	25.8
75th Percentile	31	71.0	2	100.0	9.9	9.8	9.8	11.2	29.0
100th Percentile	32	56.3	3	66.7	8.8	5.3	8.7	6.8	21.9

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 12 U.S. Small Growth

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	212	89.6	14	85.7	22.7	21.7	22.6	22.8	41.0
3-Year	217	79.3	13	84.6	11.6	11.1	10.9	11.7	31.3
5-Year	207	76.3	13	84.6	13.2	13.2	12.8	13.7	24.2
10-Year	259	47.5	11	72.7	11.0	11.4	10.2	11.2	18.5
15-Year	263	45.6	5	60.0	10.5	11.5	9.6	11.6	8.4
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	65	47.7	5	40.0	11.8	11.4	10.4	12.1	12.3
50th Percentile	65	58.5	1	100.0	11.0	11.2	10.8	11.2	30.8
75th Percentile	64	46.9	2	100.0	9.8	11.2	10.0	11.8	15.6
100th Percentile	65	36.9	3	100.0	10.2	9.5	9.6	10.2	15.4

Source: Morningstar. Data and Calculations as of 6/30/18.

Foreign Stock

- ▶ Investors in the lowest-cost quartile of actively managed foreign small/mid-blend funds had a 100% win rate over the decade ended in June. But this doesn't mean that picking winners in this category is an easy task. This is evident in the low success rates among managers in the category over the trailing one-, three-, and five-year periods. This perfect hit rate is largely a factor of a small sample size (just 14 funds were represented in this category at the beginning of the period) and stylistic differences between the indexes underpinning the passive funds in the category and their active peers.
- ▶ With the exceptions of Europe stock and foreign small/mid-blend, investors have consistently chosen above-average funds in these categories. This is evidenced by the fact that active funds' asset-weighted performance exceeded their equal-weighted performance during the trailing five-, 10-, 15-, and 20-year periods we examined.
- ▶ At 92.9%, actively managed diversified foreign small/mid-blend funds had the highest 10-year success rate of any category in the study.
- ▶ While generally thought of as an "inefficient" area that's more hospitable to active funds, the data indicates that cost matters even in emerging markets: The lowest-cost funds in this category had a success rate that was 25.3 percentage points higher than the success rate for the category as a whole during the decade ended June 2018.

Exhibit 13 Foreign Large Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	176	92.6	77	92.2	5.0	7.0	5.9	7.0	30.1
3-Year	176	86.4	53	83.0	4.4	5.3	4.6	5.1	33.5
5-Year	181	79.6	40	80.0	6.5	6.5	6.0	6.2	41.4
10-Year	179	57.0	33	78.8	3.4	2.7	2.3	2.7	26.3
15-Year	167	46.1	20	55.0	7.8	7.2	6.8	6.9	28.1
20-Year	123	43.1	10	60.0	5.0	4.3	4.1	3.7	33.3
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	45	68.9	9	77.8	4.2	2.9	2.9	2.9	35.6
50th Percentile	45	66.7	8	75.0	2.2	2.7	2.4	2.7	33.3
75th Percentile	44	40.9	8	62.5	2.3	2.0	2.2	2.4	15.9
100th Percentile	45	51.1	8	100.0	2.7	1.4	1.4	2.7	20.0

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 14 Foreign Large Value

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	86	94.2	30	83.3	4.7	4.9	4.1	4.4	40.7
3-Year	92	80.4	20	75.0	4.0	4.2	3.7	4.4	26.1
5-Year	91	78.0	15	80.0	6.4	5.1	5.6	5.3	44.0
10-Year	88	62.5	5	60.0	3.2	0.9	2.5	1.7	48.9
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	23	65.2	2	100.0	3.1	0.8	2.8	1.4	60.9
50th Percentile	21	76.2	1	100.0	3.2	2.2	2.4	2.2	52.4
75th Percentile	23	60.9	1	0.0	4.8	2.1	2.7	2.1	52.2
100th Percentile	21	47.6	1	0.0	1.8	-1.0	1.9	-1.0	28.6

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 15 Foreign Small/Mid-Blend

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	30	86.7	9	88.9	8.4	10.9	9.1	11.0	26.7
3-Year	27	81.5	8	87.5	7.8	8.8	7.9	9.4	22.2
5-Year	23	78.3	8	87.5	9.1	9.7	9.0	9.5	34.8
10-Year	14	92.9	4	50.0	5.8	6.4	6.2	4.6	92.9
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	4	100.0	1	100.0	6.3	4.8	6.7	4.8	100.0
50th Percentile	3	100.0	1	100.0	5.1	5.3	5.3	5.3	100.0
75th Percentile	3	100.0	1	0.0	5.5	-0.2	6.1	-0.2	100.0
100th Percentile	4	75.0	1	0.0	5.3	-1.8	5.9	-1.8	75.0

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 16 World Large Stock

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	245	93.5	31	96.8	10.5	10.6	10.2	10.0	44.5
3-Year	254	79.5	16	87.5	8.2	8.3	7.7	8.0	33.9
5-Year	232	71.1	12	91.7	9.5	9.4	9.0	8.9	39.7
10-Year	139	59.7	4	50.0	6.4	6.1	5.6	6.1	29.5
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	35	57.1	1	0.0	6.6	5.8	6.7	5.8	45.7
50th Percentile	35	62.9	1	100.0	7.0	4.7	6.4	4.7	34.3
75th Percentile	34	64.7	1	100.0	5.8	5.0	5.0	5.0	29.4
100th Percentile	35	54.3	1	0.0	4.0	-0.2	4.2	-0.2	8.6

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 17 Diversified Emerging Markets

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	222	93.2	66	90.9	6.7	7.0	6.1	6.1	47.7
3-Year	211	83.4	59	71.2	5.9	4.2	4.9	3.9	58.3
5-Year	159	80.5	48	66.7	4.8	4.2	4.2	3.3	57.9
10-Year	89	71.9	11	81.8	2.3	1.6	1.7	2.2	33.7
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	23	78.3	3	33.3	2.2	1.8	1.9	1.6	43.5
50th Percentile	22	86.4	3	100.0	3.5	3.1	2.2	3.6	36.4
75th Percentile	22	77.3	2	100.0	2.0	0.1	1.9	1.6	36.4
100th Percentile	22	45.5	3	100.0	1.3	1.6	0.6	1.4	18.2

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 18 Europe Stock

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	24	95.8	40	75.0	3.2	5.2	3.7	5.7	25.0
3-Year	21	85.7	21	81.0	2.6	5.4	4.2	6.1	19.0
5-Year	23	73.9	11	90.9	5.6	7.3	6.0	7.5	13.0
10-Year	29	65.5	25	76.0	2.6	2.0	2.4	1.7	51.7
15-Year	45	44.4	6	50.0	7.8	7.1	8.1	7.1	31.1
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	8	75.0	14	92.9	3.4	2.5	4.9	2.5	75.0
50th Percentile	7	71.4	6	66.7	3.2	1.7	2.0	1.1	42.9
75th Percentile	7	57.1	5	40.0	3.5	-6.6	3.5	-1.4	57.1
100th Percentile	7	57.1	2	50.0	-0.5	7.3	-0.7	7.3	28.6

Source: Morningstar. Data and Calculations as of 6/30/18.

Real Estate

- ▶ Long-term success rates for actively managed U.S. and global real estate funds have been unimpressive. That said, selecting from the lowest-cost quartile of actively managed U.S. real estate funds offered investors decent odds of picking a winner a decade ago.
- ▶ At 69%, the 10-year survivorship rate for active funds in the U.S. real estate category was the highest of any of the U.S. equity categories we examined.

Exhibit 19 U.S. Real Estate

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	66	92.4	23	87.0	4.1	2.7	3.5	4.1	39.4
3-Year	68	88.2	18	72.2	7.5	7.6	7.0	8.6	10.3
5-Year	67	83.6	19	63.2	8.2	7.9	7.7	8.2	32.8
10-Year	74	68.9	13	38.5	7.3	7.6	7.0	7.3	36.5
15-Year	58	62.1	5	60.0	9.5	9.5	9.3	9.4	32.8
20-Year	31	41.9	3	33.3	9.0	9.1	8.8	8.7	25.8
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	19	68.4	3	33.3	7.6	7.2	7.6	7.4	57.9
50th Percentile	18	66.7	2	100.0	7.5	9.8	6.9	9.8	27.8
75th Percentile	18	72.2	1	100.0	6.6	9.6	6.6	9.6	27.8
100th Percentile	19	68.4	1	0.0	7.5	8.9	6.8	8.9	31.6

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 20 Global Real Estate

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	59	91.5	16	87.5	6.5	6.5	6.8	7.6	27.1
3-Year	56	78.6	15	80.0	5.2	4.7	5.4	5.9	33.9
5-Year	52	76.9	11	81.8	6.0	5.3	5.9	6.0	38.5
10-Year	35	62.9	9	66.7	4.4	3.9	4.5	5.0	22.9
Performance by Fee Quartile (Trailing 10 Years)									
25th Percentile	9	66.7	1	100.0	4.5	4.7	4.7	4.7	11.1
50th Percentile	9	55.6	2	100.0	3.6	3.3	4.3	4.2	33.3
75th Percentile	8	100.0	2	50.0	4.4	4.5	4.6	6.9	37.5
100th Percentile	9	33.3	0	0.0	3.7	0.0	3.5	0.0	11.1

Source: Morningstar. Data and Calculations as of 6/30/18.

Fixed Income

- ▶ Active funds in the intermediate-term bond category continued to stand out. Though their one-year success rate declined, more than 70% of them both lived and beat their average active peer during the year ended in June. Active managers in the category have been rewarded handsomely for assuming credit risk as both investment-grade and below-investment-grade credits have enjoyed a sustained rally. This is evident in their success rates over the trailing one-, three-, five-, and 10-year periods.
- ▶ Actively managed corporate-bond funds are survivors. Survivorship rates among this group exceeded 90% over all lookback periods.

Exhibit 21 Intermediate-Term Bond

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)	
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)		
Trailing Total Return										
1-Year	275	91.3	34	94.1	-0.1	-0.6	-0.2	-0.7	70.9	
3-Year	262	86.3	32	90.6	2.0	1.6	1.9	1.5	63.4	
5-Year	266	79.3	27	92.6	2.5	2.2	2.3	2.0	60.5	
10-Year	286	58.7	23	73.9	4.2	3.6	3.8	3.3	49.0	
15-Year	294	43.2	21	47.6	4.0	3.6	3.4	3.3	34.4	
20-Year	227	32.6	12	58.3	4.8	4.5	4.3	4.2	23.8	
Performance by Fee Quartile										
(Trailing 10 Years)										
25th Percentile	72	65.3	8	87.5	4.4	3.7	4.2	3.6	62.5	
50th Percentile	71	56.3	4	100.0	4.4	3.3	4.0	3.4	50.7	
75th Percentile	71	56.3	5	60.0	3.2	3.4	3.1	3.4	40.8	
100th Percentile	72	56.9	6	50.0	4.2	2.2	3.6	2.8	41.7	

Source: Morningstar. Data and Calculations as of 6/30/18.

Exhibit 22 Corporate Bond

	Active Funds		Passive Funds		Asset-Weighted Performance		Equal-Weighted Performance		Active Success Rate (%)
	# at Beginning of Period	Survivorship Rate (%)	# at Beginning of Period	Survivorship Rate (%)	Active (%)	Passive (%)	Active (%)	Passive (%)	
Trailing Total Return									
1-Year	52	92.3	36	72.2	-0.9	-1.2	-0.5	-0.8	48.1
3-Year	45	91.1	32	56.3	3.3	2.7	2.9	2.6	55.6
5-Year	39	92.3	21	57.1	4.1	3.3	3.4	3.0	59.0
10-Year	24	95.8	3	100.0	5.9	5.2	5.2	4.8	62.5
Performance by Fee Quartile									
(Trailing 10 Years)									
25th Percentile	6	100.0	1	100.0	6.1	5.5	5.5	5.5	66.7
50th Percentile	6	83.3	2	100.0	4.9	4.2	4.8	4.5	50.0
75th Percentile	6	100.0	0	0.0	5.9	0.0	5.2	0.0	66.7
100th Percentile	6	100.0	0	0.0	5.4	0.0	5.2	0.0	66.7

Source: Morningstar. Data and Calculations as of 6/30/18.

Appendix— Summary of Results for the Periods Ended Dec. 31, 2017 and June 30, 2017**Exhibit 23** Summary Results for The Period Ended Dec. 31, 2017

Category	Active Funds' Success Rates by Category (%)							10-Year	10-Year
	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	(Lowest Cost)	(Highest Cost)	
U.S. Large Blend	37.5	15.0	17.1	11.2	11.7	13.4	17.5	4.0	
U.S. Large Value	35.2	14.1	21.1	10.1	20.8	—	13.8	8.5	
U.S. Large Growth	43.5	30.5	13.6	7.5	7.5	—	16.7	3.3	
U.S. Mid-Blend	27.0	19.5	15.3	12.7	7.7	11.0	17.5	7.9	
U.S. Mid-Value	40.0	28.3	13.8	20.7	—	—	32.3	10.0	
U.S. Mid-Growth	57.7	35.2	34.5	21.3	21.7	—	22.5	12.7	
U.S. Small Blend	38.8	27.5	18.7	23.4	19.6	31.3	40.4	14.9	
U.S. Small Value	49.2	37.1	35.2	21.1	23.4	—	17.6	13.8	
U.S. Small Growth	57.7	30.8	33.0	14.0	11.2	—	13.6	9.1	
Foreign Large Blend	50.8	41.2	39.9	26.4	28.1	28.6	30.4	17.4	
Foreign Large Value	69.5	55.9	65.7	47.1	—	—	68.2	28.6	
Foreign Small/Mid-Blend	62.5	38.5	70.8	53.8	—	—	100.0	0.0	
World Large Stock	48.2	34.4	41.4	44.4	—	—	52.9	24.2	
Diversified Emerging Markets	59.1	50.5	57.9	34.8	—	—	43.5	13.6	
Europe Stock	56.5	22.7	46.7	44.8	29.2	—	75.0	14.3	
U.S. Real Estate	32.4	33.8	30.3	43.4	33.3	25.0	70.0	31.6	
Global Real Estate	14.5	14.5	47.1	41.2	—	—	44.4	11.1	
Intermediate-Term Bond	61.4	61.2	59.5	45.7	33.6	20.5	63.5	30.1	
Corporate Bond	73.5	68.9	57.9	56.5	—	—	50.0	66.7	

Source: Morningstar. Calculations as of 12/31/17.

Exhibit 24 Summary Results for The Period Ended June 30, 2017

Category	Active Funds' Success Rate by Category (%)							10-Year	10-Year
	1-Year	3-Year	5-Year	10-Year	15-Year	20-Year	(Lowest Cost)	(Highest Cost)	
U.S. Large Blend	48.8	18.7	20.4	13.8	14.6	16.7	22.1	4.1	
U.S. Large Value	58.2	10.4	24.1	18.3	21.4	—	23.6	11.2	
U.S. Large Growth	42.4	25.7	16.5	11.7	7.1	—	18.4	10.6	
U.S. Mid-Blend	39.7	24.3	20.0	12.5	9.1	10.5	13.9	5.6	
U.S. Mid-Value	56.1	24.3	13.3	21.4	—	—	32.1	10.7	
U.S. Mid-Growth	55.4	41.0	27.8	27.6	21.7	—	36.1	16.7	
U.S. Small Blend	31.5	25.0	28.0	26.1	19.6	31.3	42.6	19.1	
U.S. Small Value	55.9	40.7	42.5	30.2	38.3	—	18.2	31.0	
U.S. Small Growth	60.8	37.5	32.1	18.0	8.6	—	18.8	9.4	
Foreign Large Blend	53.8	46.0	39.4	31.8	36.2	39.3	38.6	18.2	
Foreign Large Value	47.9	76.6	67.3	43.0	—	—	50.0	30.0	
Foreign Small/Mid-Blend	57.1	36.0	63.6	75.0	—	—	100.0	66.7	
World Large Stock	59.8	44.4	41.0	49.1	—	—	51.7	37.9	
Diversified Emerging Markets	61.8	67.4	70.0	33.7	—	—	50.0	18.2	
Europe Stock	18.2	31.8	41.9	51.9	28.9	—	71.4	28.6	
U.S. Real Estate	14.5	17.9	13.6	50.0	33.3	34.8	66.7	47.4	
Global Real Estate	16.4	55.6	38.0	—	—	—	—	—	
Intermediate-Term Bond	85.1	54.1	66.1	44.4	38.7	22.2	59.5	32.9	
Corporate Bond	76.0	59.1	55.9	47.8	—	—	33.3	50.0	

Source: Morningstar. Calculations as of 6/30/2017.

Appendix—Methodology

Data Source

Morningstar's U.S. 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

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.

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 quartiles. We then apply the same steps described above to calculate the success rates for funds in each quartile. 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.

Appendix—How Our Approach Compares With Others'

How is our approach different from others'?

- ▶ Our "benchmark" for measuring success is different than others'. We measure active managers' success relative to investable passive alternatives in the same Morningstar Category. For example, an active manager in the U.S. 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 that this is a better benchmark because it reflects the performance of actual investable options and not an index. Indexes are not directly investable. 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 U.S. large-blend fund managers may vary depending on whether one uses the S&P 500 or the Russell 1000 Index as their 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, and others) and we mitigate the effects that might stem from cherry-picking a single index as a benchmark. The net result is a far more fair 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 whose returns exceed 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 narrow at the end of 2004. We expect that the number of categories we include in this study will expand over time.
- ▶ We cut along the lines of cost. Cost matters. Fees are the one of the best predictors of future fund performance. We have sliced our universe into fee quartiles to highlight this relationship. ■■