Mind the Gap 2018

Target-date funds and benevolent market conditions have improved investors' money-weighted returns.

Morningstar Manager Research
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Executive Summary

Morningstar has found that the gap between official total returns and those actually experienced by investors across all mutual funds has shrunk to 26 basis points for the 10 years ended March 2018. Likewise, the figures for U.S. equity funds show a robust investor return of 8.32% annualized, a modest shortfall versus 8.93% for the average equity fund.

In reviewing this report's findings, it is worth noting that estimates of the behavior gap can be sensitive to the inputs. For instance, if one calculates the gap as the difference between the returns investors experience and funds' asset-weighted--rather than equal-weighted--average total returns, the estimated gap widened to 1.37% per year for all funds over the 10 years ended March 2018. As such, it is best to think of the gap as indicating the range of the potential shortfall or surplus investors experienced with their fund investments.

Given this potential variation, in the remainder of the report's discussion, we refer to gaps that we estimated using funds' average total returns (labeled " Average Total Returns" in all exhibits), but we supplement that with gaps estimated using funds' asset-weighted average total returns ("Ast-Wgt Total Returns"). In this way, a reader can better infer the potential range of behavior gaps investors experienced over the periods and asset classes we examined.

Key Takeaways

- The gap improved for U.S. equity, balanced, and municipal-bond funds while worsening for international-equity and taxable bonds.
- Balanced funds continue to have a positive gap, meaning investors enjoyed better returns than the average fund's returns.
- Municipal-bond funds had the largest gap—something we have observed in past studies.
- We found that target-date funds continue to stand out for producing outstanding results for investors, while alternatives funds stand out for providing little to no returns for investors.
- We limited the study to open-end mutual funds because there is not sufficient data on exchange-traded fund flows.

Mind the Gap USA

These are good days for investors. The last bear market was nearly a decade ago. Socking money away in mutual funds and then watching it grow has worked quite nicely.

We see the proof not only in strong market returns but also in solid investor returns. Investor returns measure return on investments for the typical investor by factoring in cash flows and fund size to mutual fund returns. When the markets move up steadily, investors are part of a positive feedback mechanism that encourages continued investment.

When markets lurch up and down, investors tend to do worse than the markets and mutual funds because they make timing mistakes. Investors large and small tend to sell after downturns only to buy back in after a rally. But times have been good lately, and we can see that in a look at aggregate investor return data through the first quarter of 2018.

A second factor in the shrinking gap is industry assets under management. They have grown dramatically because of equity appreciation, overshadowing fund flows over the period.

We looked at investor returns over the trailing three-, five-, and 10-year periods by asset class and by fund category. Our data set included U.S. open-end mutual funds that hold individual securities and excluded funds of funds. We did not include ETFs because short-term trades and shorting make it difficult to calculate returns on investment.

The data shows when investors tend to use funds well and when they do not. There are some limitations to the granular data, however, so we find broad trends are most telling when it comes to investor success.

Inside the Data

To calculate fund investor returns, we adjust a fund's official returns using monthly cash flows in and out of the fund. Thus, we calculate a rate of return generated by a fund's investors. As with an internal rate of return calculation, investor return is the constant monthly rate of return that makes the beginning assets equal to the ending assets, with all monthly cash flows accounted for.

We aggregate this data across a larger peer group by asset-weighting investor returns among the group's constituents, thus emphasizing the results of the peer group's largest funds and better representing the typical investor's experience. We then compare the peer group's results with those of the average fund to see whether investors timed their investments well. We also use asset-weighted total returns to provide a different perspective on the shortfall.

You can find Morningstar Investor Returns for a fund on its data page in Direct or Morningstar.com by selecting the Performance tab. As you look, it is worth thinking about the investor return on its own as well as the gap with total returns. The investor return is essentially the aggregate investors' bottom line. A significant gap, particularly in this recent bull market, means the typical investor has not captured the fund's total return, but that is not necessarily cause for alarm. As long as the investor return is good, you know most of the fund's assets did OK. If you see a big gap, it is worth considering why that gap happened and whether this is consistent with your own experience in the fund. For example, did you get out of volatile funds after a bad year only to miss the rebound? If so, then you will need to have more-realistic expectations or buy less-volatile funds to avoid repeating your mistake.

All single-fund investor returns come with the caveat that there is a fair amount of randomness in them that is beyond the fund manager's control. Two funds doing the same thing might have different investor returns just because they are in different sales channels or had different launch dates. Some factors are more within the fund company's control than others, such as how a fund is positioned in ads and other marketing, the soundness of the strategy, and the volatility of a fund. All of these things play key roles in how well investors use a fund.

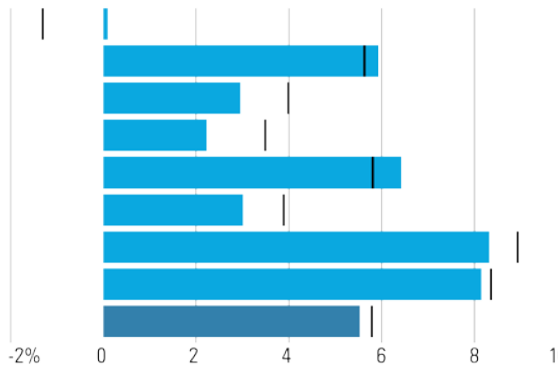
A Narrowing Gap

The typical investor (asset-weighted investor returns) in diversified domestic-equity funds earned a robust 8.32% annualized return for the 10 years ended March 31, 2018. That compares with 8.93% for the average fund, making for a shortfall of 0.61 percentage points. That is a modest improvement over our previous report. It is worth noting that the gap would be different if we included ETFs in the study. Although it is hard to know whether short-term traders in ETFs generated strong returns, the long-term investors have been steadily building positions in low-cost large-cap equity funds, and it could well be that the gap across open-end funds and ETFs would be smaller if those long-term flows were included.

Balanced funds, a group that includes allocation funds, target-date funds, and traditional balanced funds, saw a positive gap of 0.30 percentage points, with the average investor enjoying a 5.93% annualized return. That is an improvement over our last measurement. It reflects the continued strength of target-date funds, both in terms of investor behavior and strong gains among well-diversified funds. Target-date funds are easy for investors to use because performance swings are muted, and most investors buy in through 401(k) retirement plans with automated savings processes, which creates a disciplined track of continued savings.

Exhibit 1 10-Year Annual Investor Returns by Asset Class

Asset Class	Asset-Weighted Investor Return	Average Total Return
Alternative	0.09	–1.31
Balanced	5.93	5.63
International Stock	2.95	3.99
Municipal Bond	2.23	3.49
Sector Stock	6.42	5.81
Taxable Bond	3.01	3.89
US Stock	8.32	8.93
U.S. Stock & Sector Stock	8.15	8.36
All Funds	**5.53**	**5.79**



Source Morningstar, Inc. Data through 3/31/2018. Note: All Funds figures are ex funds of funds. The other groupings are not.

The gap for municipal-bond funds shrank slightly to a 1.26-percentage-point annualized shortfall based on asset-weighted investor returns of 2.23%. It is encouraging that the gap shrank, but it still seems like a pretty high figure for a fairly tame low-return asset class. Outflows in this asset class correspond with headline scares over the past decade, driving investors away from munis at the wrong time—specifically, the Puerto Rico debt debacle and the wildly inaccurate prediction of doom by Meredith Whitney. This suggests fund companies and planners alike need to reassure investors when there are negative events in muni-land.

In other asset classes, the gap worsened. The gap among international-equity funds grew to 105 basis points, with total returns of 2.95% annualized. Investors' timing in regional funds (dedicated to Europe and Asia) and foreign large-growth has been poor.

The gap in taxable-bond funds grew to 87 basis points annualized with an asset-weighted investor return of 3.01% annualized. It is not too surprising that investor timing has been off in more-speculative categories like emerging-markets bond and bank-loan funds, but even core intermediate-bond funds show a gap of 87 basis points.

Alternatives show the worst investor returns but the best investor returns gap. The investor return is a dismal 9 basis points for 10 years, but the gap is a positive 140 basis points. Those two results are actually related rather than contradictory: When a fund has poor returns for an extended period of time, then just about any time is a good time to sell. It is worth noting, though, that bear-market funds are in our alts group, and they drag down returns while boosting the positive gap. We will examine the details in the Category Gaps section.

The alts funds' results also are affected by survivorship bias. Our figures only include funds that were in existence at the end of the period. Given the asset weighting, that likely has a very small effect in more-established asset classes, but it likely has an outsize impact in alts, which was quite small 10 years ago.

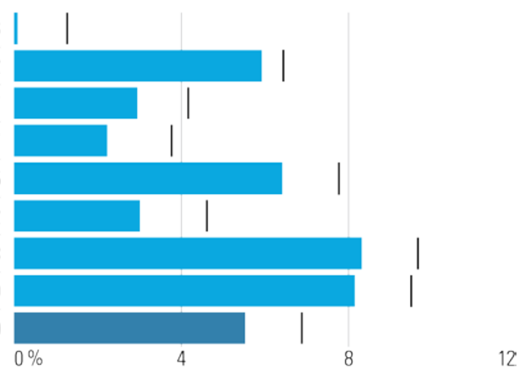
A Small Gap in the Aggregate

In the aggregate, the average investor trailed the average fund by 26 basis points annualized over the past 10 years. The asset-weighted investor return for the period was 5.53% annualized versus 5.79% for the average fund.

This aggregate figure excludes funds of funds, but our asset-class figures include funds of funds to capture investors' experiences in areas where that structure is common, like balanced funds. As target-date funds are collectively the largest and fastest-growing subset of balanced funds and usually are funds of funds, we thought it was important to include that structure.

Exhibit 2 10-Year Annual Investor Returns by Asset Class Compared to Annual Asset-Weighted Returns

Asset Class	Asset-Weighted Investor Return	Asset-Weighted Total Return
Alternative	0.09	1.26
Balanced	5.93	6.42
International Stock	2.95	4.17
Municipal Bond	2.23	3.77
Sector Stock	6.42	7.75
Taxable Bond	3.01	4.62
U.S. Stock	8.32	9.68
U.S. Stock & Sector Stock	8.15	9.50
All Funds	**5.53**	**6.90**



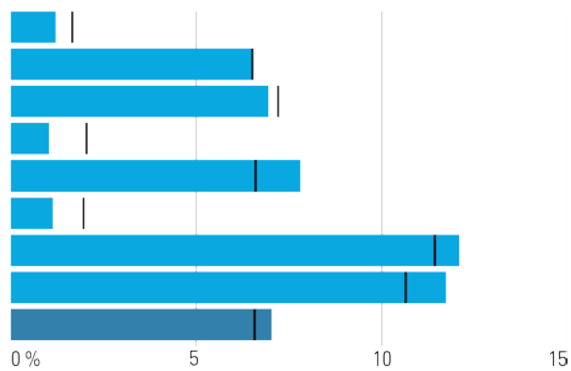
Source Morningstar, Inc. Data through 3/31/2018. Note: All Funds figures are ex funds of funds. The other groupings are not.

Five-Year Figures

The five-year investor return gap figures are significantly better than the 10-year numbers, with one notable exception.

Exhibit 3 Five-Year Annual Investor Returns by Asset Class

Asset Class	Asset-Weighted Investor Return	Average Total Return
Alternative	1.21	1.66
Balanced	6.50	6.49
International Stock	6.94	7.15
Municipal Bond	1.03	2.02
Sector Stock	7.80	6.60
Taxable Bond	1.13	1.91
U.S. Stock	12.09	11.42
U.S. Stock & Sector Stock	11.73	10.60
All Funds	**7.03**	**6.58**



Source Morningstar, Inc. Data through 3/31/2018. Note: All Funds figures are ex funds of funds. The other groupings are not.

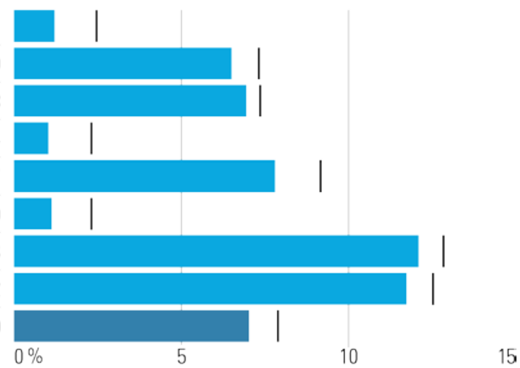
Alternatives funds saw their gap flip into negative territory with a 46 basis-point gap on asset-weighted investor returns of 1.21% annualized. As mentioned, the 10-year figures were likely boosted by survivorship bias, but the number of alts funds with investor return figures triples when we go to the five-year record. As a result, the survivorship bias is likely smaller and reflects the fact that investors have had a hard time picking winning funds. Also, they tend to give up on alts funds more quickly than those in other asset classes of funds (See "Many Alternative Funds Have Disappointed Investors" by Russel Kinnel).

The picture gets considerably brighter, though, when we move to diversified U.S. equities where the asset-weighted investor return is a robust 11.73% and the gap is a positive 0.67 percentage points. Investors have benefited in a market that has been relatively stable and consistently rising. Thus, it is the best of both worlds for U.S. equity fund investors.

The gap for balanced funds also was smaller for the five-year period, though it was still a positive 2 basis points. For international equity, muni bonds, and taxable bonds, the gap also shrank relative to the 10-year period but remained negative.

Exhibit 4 Five-Year Annual Investor Returns by Asset Class Compared to Annual Asset-Weighted Returns

Asset Class	Asset-Weighted Investor Return	Asset-Weighted Total Return
Alternative	1.21	2.51
Balanced	6.50	7.30
International Stock	6.94	7.38
Municipal Bond	1.03	2.34
Sector Stock	7.80	9.17
Taxable Bond	1.13	2.30
U.S. Stock	12.09	12.83
U.S. Stock & Sector Stock	11.73	12.52
All Funds	**7.03**	**7.89**



Source Morningstar, Inc. Data through 3/31/2018. Note: All Funds figures are ex funds of funds. The other groupings are not.

Exhibit 5 Annual Investor Returns, Average Returns, and Asset-Weighted Average Returns, by Asset Class for Five- and 10-Year Periods

	5-Years						**10-Years**					
Asset Class	Asset-Weighted Investor Return	Average Total Return	Gap	Asset-Weighted Total Return	Gap (Asset-Weighted)	# Funds	Asset-Weighted Investor Return	Average Total Return	Gap	Asset-Weighted Total Return	Gap (Asset-Weighted)	# Funds
Alternative	1.21	1.66	−0.46	2.51	−1.30	642	0.09	−1.31	1.40	1.26	−1.17	198
Balanced	6.50	6.49	0.02	7.30	−0.79	3,142	5.93	5.63	0.30	6.42	−0.49	1,609
International Stock	6.94	7.15	−0.22	7.38	−0.45	2,194	2.95	3.99	−1.05	4.17	−1.22	1,105
Municipal Bond	1.03	2.02	−0.98	2.34	−1.30	1,269	2.23	3.49	−1.26	3.77	−1.54	864
Sector Stock	7.80	6.60	1.20	9.17	−1.37	923	6.42	5.81	0.61	7.75	−1.33	590
Taxable Bond	1.13	1.91	−0.78	2.30	−1.17	2,927	3.01	3.89	−0.87	4.62	−1.60	1,564
U.S. Stock	12.09	11.42	0.67	12.83	−0.74	4,500	8.32	8.93	−0.60	9.68	−1.36	2,631
U.S. Stock & Sector Stock	11.73	10.60	1.13	12.52	−0.79	5,423	8.15	8.36	−0.21	9.50	−1.35	3,221
All Funds	**7.03**	**6.58**	**0.45**	**7.89**	**−0.87**	**13,266**	**5.53**	**5.79**	**−0.26**	**6.90**	**−1.37**	**7,381**

Source Morningstar, Inc. Data through 3/31/2018. Note: All Funds figures are ex funds of funds. The other groupings are not.

Category Gaps

We have included a table of 10-year investor returns by fund category. The highest investor returns were predominantly sector funds and target-date funds. It is intriguing to see speculative sector funds and sober target-date funds together like that. One reason sector funds may have fared well is that some of the largest sector offerings, focused on areas like technology and healthcare, had very high total returns and a long-sustained rally.

Meanwhile, target-date funds have proved remarkably consistent at producing good results for investors. We have noted that in the U.S. and in other countries where investors commit to consistent investment regimes, investor returns are strong and the gaps are often positive. We think that the tremendous diversification of target-date funds, combined with the steady investment of 401(k) plans, shows the fund industry at its best. This is where well-designed investments meet a well-designed structure to help investors save and grow their retirement nest eggs.

Some categories of U.S. diversified equity funds, such as small growth and large growth, also did well for the typical investor, thanks to strong, steady gains over the period.

Among the categories with the worst investor-return gaps were trading and bear-market funds. Europe stock and various natural-resources categories followed, with significant losses for the typical investor.

Looking at the gaps for alternatives categories, we can see that dismal investor returns were not limited to bear-market funds. Multialternative funds produced a poor investor return of 0.00% over 10 years. Market-neutral funds made only 0.32% for investors, while long-short had a more tolerable 3.07% annualized figure. All three had a gap of greater than 100 basis points per year. So, the funds produced poor returns, and investors did a pretty poor job of timing them, too.

The number of funds with 10-year records in alternatives is pretty small (198), however. It could be that we will see an improvement as these investment strategies mature, and, of course, we will likely have more downturns in the next 10 years than the previous 10. Still, the poor result suggests alternative funds will need greatly improved results to justify their existence.

Moving to Morningstar Categories with a gap between asset-weighted investor returns and total returns, we see a strange mix of target-date funds, strong-performing sector categories, and poor-performing categories like bear market and commodities broad basket. Although that combination is perplexing at first, there is a good reason for it.

While investor returns equate to an investor's portfolio growth, the gap measures how well one traded a fund. If a fund loses 8% a year every year for a decade, then anyone who sold along the way would have fared better than that fund and thus generate a positive gap.

This illustrates why investor returns and the gaps are best considered together. Low or positive gaps are desirable, to be sure, but they are meaningful when the absolute return is strong.

Acknowledgements

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Exhibit 6 10-Year Annual Investor Returns By Category

Category	Asset-Weighted Investor Return	Average Total Return	Gap	Asset-Weighted Total Return	Gap (Asset-Weighted)	# Funds With Both Returns
Allocation–15% to 30% Equity	3.65	4.21	–0.57	4.04	–0.40	62
Allocation–30% to 50% Equity	5.05	5.06	–0.01	5.95	–0.90	187
Allocation–50% to 70% Equity	6.12	5.99	0.13	7.14	–1.02	324
Allocation–70% to 85% Equity	5.20	6.09	–0.89	6.22	–1.02	153
Allocation–85%+ Equity	4.82	6.83	**–2.01**	6.38	–1.56	91
Bank Loan	2.85	4.51	–1.66	4.91	–2.06	75
Bear Market	–14.93	–20.02	**5.09**	–13.04	–1.89	31
China Region	4.33	5.50	–1.17	7.00	**–2.67**	24
Communications	11.97	5.39	**6.58**	12.94	–0.97	20
Consumer Cyclical	13.93	11.24	**2.69**	14.68	–0.75	20
Convertibles	5.04	6.47	–1.43	6.69	–1.65	38
Corporate Bond	4.29	5.44	–1.15	5.88	–1.58	58
Diversified Emerging Mkts	3.24	2.88	0.37	3.40	–0.16	130
Emerging Markets Bond	4.04	6.10	**–2.06**	7.08	**–3.04**	44
Equity Energy	–1.80	–3.11	1.31	–0.93	–0.87	32
Equity Precious Metals	–6.18	–5.43	–0.75	–5.87	–0.31	39
Europe Stock	–7.78	2.57	**–10.35**	2.73	**–10.51**	36
Financial	6.99	6.15	0.84	7.30	–0.31	44
Foreign Large Blend	3.29	2.57	0.71	3.47	–0.18	237
Foreign Large Growth	2.59	3.77	–1.19	4.32	–1.73	162
Foreign Large Value	1.08	1.80	–0.73	2.74	–1.67	88
Foreign Small/Mid Blend	5.88	5.97	–0.09	6.30	–0.42	28
Foreign Small/Mid Growth	5.85	6.85	–1.00	7.49	–1.65	51
Global Real Estate	1.41	3.31	**–1.91**	3.34	–1.93	70
Health	11.64	12.76	–1.12	13.91	–2.26	67
High Yield Bond	5.48	6.69	–1.20	7.37	–1.88	217
High Yield Muni	2.77	4.53	–1.76	4.79	–2.02	67
Inflation–Protected Bond	2.06	2.14	–0.08	2.77	–0.71	95
Intermediate Government	2.43	2.73	–0.30	3.20	–0.77	123
Intermediate–Term Bond	2.87	3.73	–0.87	4.45	–1.58	373
Large Blend	8.57	8.46	0.10	9.17	–0.60	520
Large Growth	8.93	9.93	–1.00	10.79	–1.87	505
Large Value	6.51	7.44	–0.93	8.17	–1.66	427
Long–Short Equity	3.07	4.23	–1.16	4.13	–1.06	24
Market Neutral	0.32	1.92	–1.60	1.00	–0.67	30
Mid–Cap Blend	8.85	8.71	0.14	9.69	–0.84	131
Mid–Cap Growth	8.44	9.45	–1.01	10.58	–2.14	208
Mid–Cap Value	6.91	8.60	–1.69	9.22	–2.31	158
Multialternative	0.00	1.30	–1.31	1.43	–1.43	33
Multisector Bond	4.48	5.51	–1.03	6.80	**–2.33**	87

Source Morningstar, Inc. Data through 3/31/2018. Note: Figures are ex funds of funds.
Categories with fewer than 20 funds with 10-year records are not shown.
The five largest positive gaps are highlighted in green and the five largest negative gaps are highlighted in red.

Exhibit 6 10-Year Investor Annual Returns By Category (Continued)

Category	Asset-Weighted Investor Return	Average Total Return	Gap	Asset-Weighted Total Return	Gap (Asset-Weighted)	# Funds With Both Returns
Muni California Intermediate	2.43	3.68	–1.26	4.11	–1.68	30
Muni California Long	2.97	4.52	–1.56	4.86	–1.89	49
Muni Massachusetts	2.58	3.41	–0.83	4.01	–1.43	33
Muni Minnesota	2.55	3.71	–1.17	3.98	–1.44	33
Muni National Interm	2.29	3.54	–1.25	3.90	–1.61	87
Muni National Long	2.97	4.07	–1.10	4.72	–1.75	52
Muni National Short	1.05	1.73	–0.68	1.97	–0.93	73
Muni New Jersey	2.56	3.78	–1.23	4.07	–1.51	34
Muni New York Intermediate	2.39	3.32	–0.93	3.73	–1.34	25
Muni New York Long	2.41	3.93	–1.52	4.53	–2.12	38
Muni Ohio	2.60	3.29	–0.69	4.07	–1.47	26
Muni Pennsylvania	2.63	3.74	–1.11	4.23	–1.60	42
Muni Single State Interm	2.29	3.21	–0.93	3.49	–1.20	101
Muni Single State Long	2.35	3.48	–1.13	3.81	–1.46	146
Muni Single State Short	1.31	2.19	–0.88	2.42	–1.10	28
Natural Resources	–3.64	–1.36	**–2.28**	–1.82	–1.82	41
Nontraditional Bond	2.15	3.61	–1.46	4.36	–2.21	46
Real Estate	6.05	5.79	0.25	6.66	–0.62	106
Short Government	0.97	1.30	–0.33	1.51	–0.54	60
Short–Term Bond	1.59	2.12	–0.53	2.80	–1.21	189
Small Blend	8.68	8.91	–0.23	9.85	–1.17	261
Small Growth	10.23	10.27	–0.04	11.39	–1.16	268
Small Value	8.80	8.83	–0.03	9.62	–0.82	153
Tactical Allocation	2.93	4.21	–1.28	4.88	–1.96	52
Target–Date 2000–2010	4.05	4.78	–0.73	5.28	–1.23	66
Target–Date 2015	5.75	5.10	0.66	5.77	–0.01	43
Target–Date 2020	6.04	5.19	0.85	6.02	0.02	82
Target–Date 2025	7.14	5.78	1.36	6.48	0.66	60
Target–Date 2030	7.38	5.84	1.54	6.70	**0.68**	72
Target–Date 2035	8.27	6.35	1.92	7.06	**1.21**	55
Target–Date 2040	8.45	6.27	2.18	7.21	**1.24**	72
Target–Date 2045	9.17	6.60	**2.57**	7.38	**1.79**	54
Target–Date 2050	9.55	6.55	**2.99**	7.37	**2.18**	49
Target–Date Retirement	4.03	4.21	–0.18	4.25	–0.22	36
Technology	14.43	12.68	1.74	15.21	–0.78	80
Trading–Leveraged Equity	11.19	9.62	1.57	14.88	**–3.69**	31
Ultrashort Bond	0.90	1.13	–0.24	1.63	–0.74	45
Utilities	5.20	5.58	–0.39	6.44	–1.25	40
World Allocation	4.28	4.59	–0.30	5.19	–0.91	103
World Bond	1.90	3.25	–1.35	3.88	–1.97	112
World Large Stock	4.11	5.82	–1.71	5.90	–1.79	231
World Small/Mid Stock	8.46	6.91	1.56	9.69	–1.22	70
World Small/Mid Stock	8.52	6.78	1.74	9.67	–1.15	43

Source Morningstar, Inc. Data through 3/31/2018. Note: Figures are ex funds of funds.
Categories with fewer than 20 funds with 10-year records are not shown.
The five largest positive gaps are highlighted in green and the five largest negative gaps are highlighted in red.

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