

The Pursuit of Average

The Cost of Passive Investing

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Much of the investment management industry makes a point of being average. Does any other industry or human endeavor seek average? No one seeks to provide or procure average medical care; no airline advertises an average safety record; no professional sports team seeks to be average. Yet average is fully embraced by many investment firms. We believe this seeking of average is not just misguided but comes at a cost to investors.

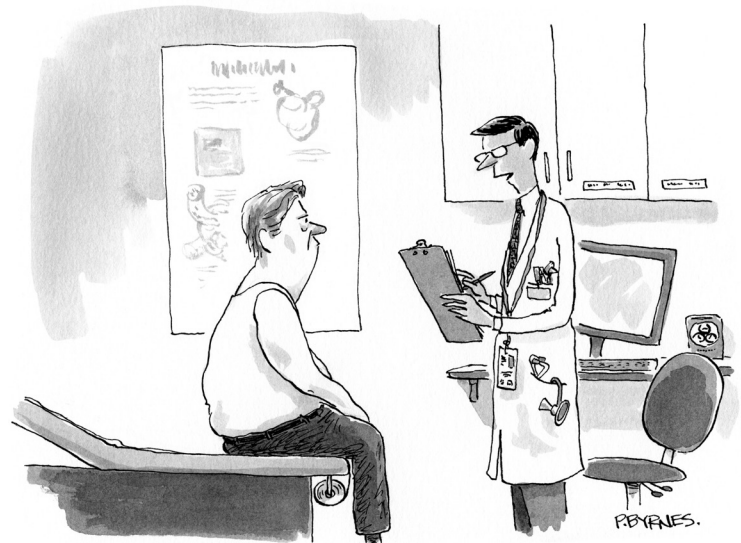
The argument in favor of seeking average, or passive investing, comes down to three points:

1. Active managers are not capable of producing an above average return.
2. Active managers that do produce above average returns do so randomly and such outperformance cannot be predicted or relied upon.
3. Given that outperformance isn't possible to achieve or predict, investors are better served by seeking the lowest cost option that seeks to be average.

We will present evidence, both empirical and

academic, to rebut all three of these points.

Our empirical evidence comes from an examination of readily available data from Morningstar. Our examination involves the review of 12,116 equity mutual funds over the 15 year period ending December 31, 2017. We provide details on our methodology at the end of this report. This update includes data on merged and liquidated funds addressing concerns about survivor bias.

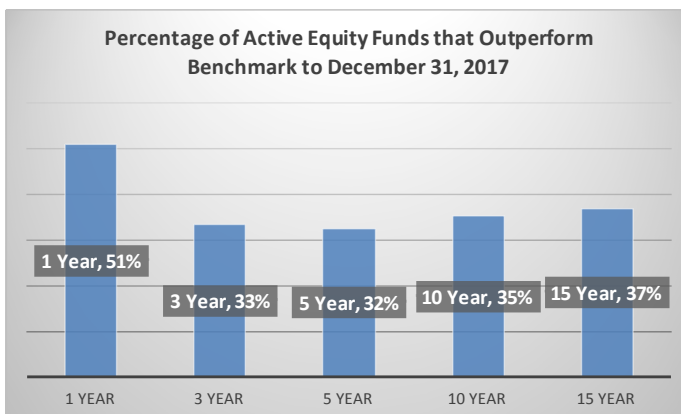


"I can recommend you to an extremely average specialist."

Can Active Managers Outperform Their Benchmark?

The Financial Times had a 2016 article headlined: “99% of Active US Equity Funds Underperform.”¹ And we’ve seen a multitude of news articles that suggest that active managers are incapable of exceeding their benchmark. We’re not sure where this “fact” is originating, but empirical evidence suggests that a decent percentage of active equity managers can and do outperform. In fact, for the 15 year period ending December 31, 2017, 37% of actively² managed equity funds outperformed their benchmark. For the one year period 51% of active equity funds outperform.

In a perfect world, these percentages would be

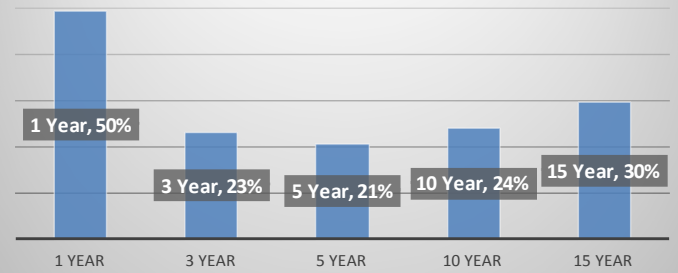


higher, but our single point at this moment is that active funds *can* outperform their benchmark; we can see that approximately one third or more *have* outperformed their benchmark depending on the time period.

Results by Category

We often hear the statement that more efficient markets/sectors are more likely to favor passive over active, *e.g.*, US large cap stocks. On a relative basis this supposition tends to be true; over the 15 year period 30% of active US large cap funds

Percentage of Active US Large Cap Equity Funds that Outperform Benchmark to December 31, 2017



outperformed their benchmark as compared to 37% of the entire active universe.

Clearly this means that the universe of actively managed equity funds excluding these US large cap equity funds will succeed at a higher rate. In fact, 41% of this subset outperform their benchmark over the last 15 years.

Some sectors are clearly more favorable for active management. In the Asia region, for example, active managers have quite handily outperformed passive. Examining four combined Morningstar’s Asia equity sectors,³ we see that 68% of active funds outperformed their benchmark over the 15 year period ending December 31, 2017.

One clear lesson from this data is that the

Percentage of Active US Excluding Large Cap Equity Funds that Outperform Benchmark to December 31, 2017

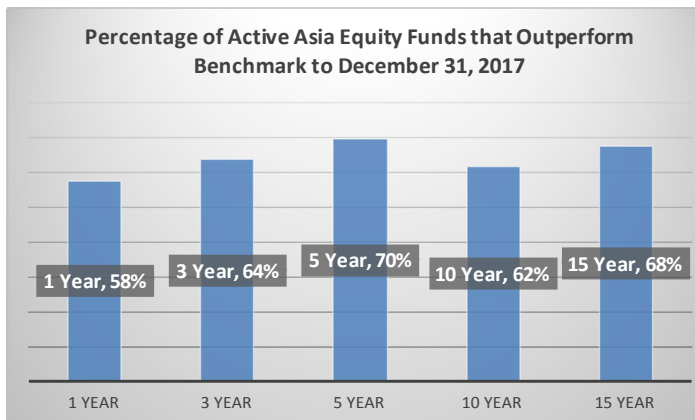


¹ Financial Times, October 24, 2016

² We are making the distinction between actively managed and passive funds here because passive funds fail to outperform their benchmark 91% of the time (over 15 years). Yes, we know that they’re not supposed to outperform but most claims that mutual funds fail to outperform their benchmark include the data for both passive and active and the passive funds lower the overall average.

³ China Region, Diversified Pacific Asia, Japan Stock, Pacific/Asia ex-Japan Stock.

proposition that passive is always superior is false. Many investors will see the headlines about active and passive and presume case closed in



favor of passive across all segments. Investors should be mindful that not all indices are created equally and not all markets/sectors/regions lend themselves to passive investing.

So much for the notion that active managers *cannot* outperform. We accept that it might be argued that active managers *should* outperform with greater frequency. We'll have more to say on that below.

Predictability of Outperformance

We're quite bothered by the notion that it might be impossible to select mutual funds that might outperform their benchmark. There is an entire industry segment devoted to researching, ranking and rating mutual funds. There is another industry segment that provides specific advice regarding fund selection. Have these firms capitulated on a major component of their value proposition? We don't believe so. But in any event, we're here to provide some guidance.

We should first discuss why so many mutual funds fail to match their benchmark. As it turns out, a good percentage of active managers fail to outperform their benchmark because *they don't even try*.

A Yale University Study found that "nearly one-third of actively managed US mutual funds are 'closet indexers.'"⁴ This study introduces the concept of "active share," which is a measure of how much a fund deviates from its benchmark. A fund with active share of zero is completely matching its index. An active share of 100 means it has no overlap with the index.

What is the point of closet indexing? We will offer two reasons why some active managers engage

4 For the paper itself, dated March 31, 2009, see this link: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=891719 For a short description from Yale University see this link: <http://som.yale.edu/news/news/nearly-one-third-actively-managed-us-mutual-funds-are-closet-indexers-finds-new-study-yale>

Global Innovators Fund Standardized Performance Results					
For periods ending September 30, 2018	1 Year	3 Year	5 Year	10 Year	Inception Dec 15, 1998
Global Innovators Fund (investor class)	6.15%	16.61%	12.55%	13.13%	7.91%
Global Innovators Fund (institutional class)	6.41%	16.88%	12.70%	13.21%	7.95%
MSCI World Index	11.85%	14.20%	9.92%	9.21%	6.08%

Performance data shown for Global Innovators, Institutional Class (GINNX), prior to its launch date on 12/31/15, uses performance data from the Global Innovators, Investor Class (IWIRX).

Performance data quoted represents past performance and does not guarantee future results. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. Current performance of the Funds may be lower or higher than the performance quoted. For most recent month-end and quarter-end performance, visit https://www.gafunds.com/our-funds/#fund_performance or call 800 915-6565.

Expense ratio investor class (IWIRX): 1.24% net, 1.35% gross; Institutional class: 0.99% net, 1.38% gross. The adviser has contractually agreed to waive fees through June 30, 2019.

in closet indexing. First, some managers closet index because it is what they think their investors want. Many investors want to construct their portfolios using building blocks comprised of various asset classes and styles⁵ and they do not want the underlying portfolio to deviate meaningfully from the stated asset class or style. Their objective is to remain true to the “style box” and seek to provide incremental outperformance. Given that mutual funds have fees and expenses while indices do not this incremental approach faces a headwind that is difficult to overcome. We don’t mean to be critical of this approach; “style drift” is a problematic negative to many industry professionals and this pressures some fund managers.

Secondly, some asset managers closet index in the interest of job security. According to the Financial Times, “...most fund managers perceive the biggest threat to their job is not whether they lose investors’ money but whether they differ from their peers.”⁶

Randomness and Inability to Predict

Is it really impossible to select mutual funds that might be expected to outperform their index? If not, how is an investor to sort through the thousands of mutual funds? Here we’ll return to the previously cited Yale Study where K.J. Martijn Cremers and Antti Petajisto found that funds with high active share had a strong tendency to outperform their benchmark. Cremers and Petajisto found that, after fees and costs, high active share funds outperformed their benchmark by an average of 1.13% to 1.15% per year. “Economically, these results suggest that the most active stock pickers have enough skill to outperform their benchmarks even after fees and



*“I got myself the most average lawyer
I could find.”*

transaction costs.”⁷

In addition to active share we offer some observations on portfolio construction. We’re believers in equally weighted concentrated portfolios. Typically, our equity portfolios have either 30 or 35 holdings. This set number of equal holdings means two things. First, if we like a stock sufficiently to hold it in our portfolio we need to first figure out which holding must be removed. This puts an interesting sell discipline in place and puts a premium on our best ideas. Second, we believe that a portfolio comprised of 30 or 35 equally weighted positions is well diversified.⁸ The fact that no single holding represents more than approximately a three to four percent⁹ weight means that our stock specific risk is low. Contrast this to a market capitalization approach and you might have holdings that approximate 11% of a portfolio.¹⁰

⁵ E.g., small cap value or large cap growth.

⁶ Financial Times, April 12, 2013. Article by Terry Smith.

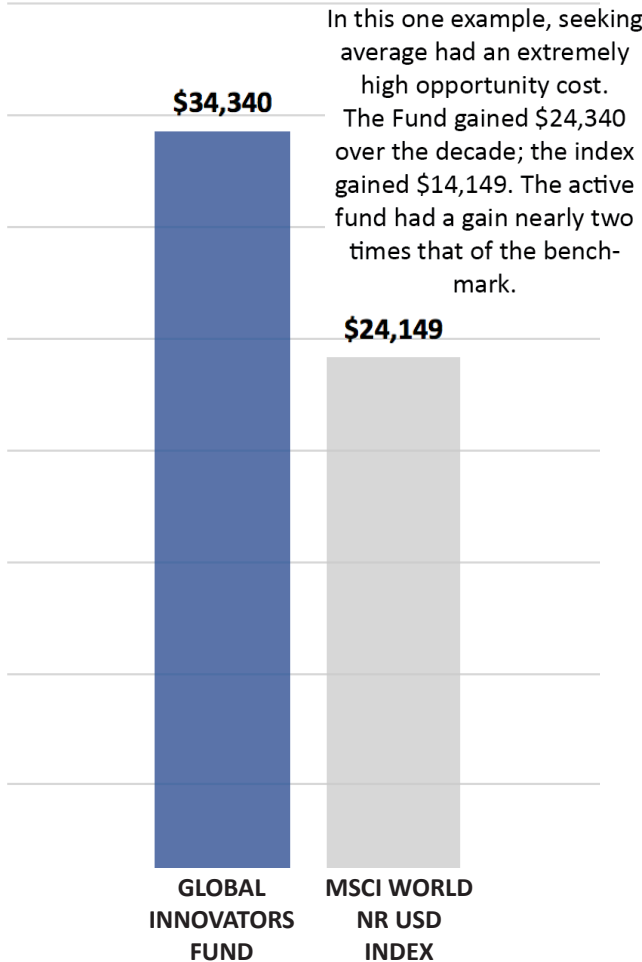
⁷ Cremers and Petajisto 2009 page 3.

⁸ There is an abundance of academic research on this point but most studies that favor more stocks are equating risk to deviating from the index. Obviously, that isn’t our view. We refer readers to the previously cited article in the Financial Times headlined Too Many Stocks Spoil the Portfolio (Financial Times April 12, 2013).

⁹ An equal weight 30 stock portfolio would have 30 3.33% positions. But, as prices fluctuate these percentages vary. We rebalance first based on flows but then as necessarily if the weightings move beyond 4%.

¹⁰ The largest stock in the NASDAQ 100 index has an approximate weight of 10.9%. (Source: <http://slickcharts.com/nasdaq100>)

Growth of \$10,000 for 10 Years Ending September 30, 2018



Implications for Investors

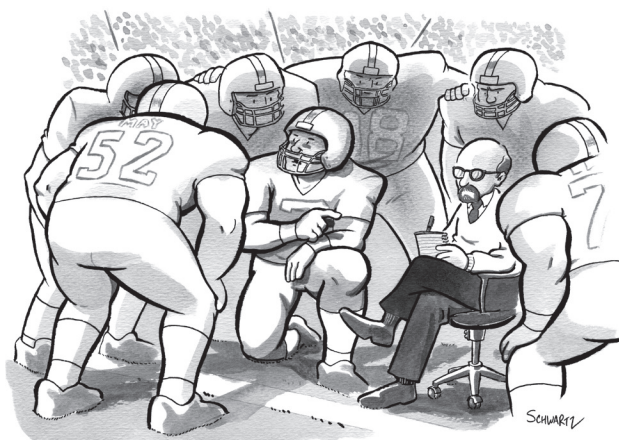
There is a lot at stake here for investors. We accept that fund expenses are important and that the majority of active funds underperform their index. But this isn't a reason to give up on active management; investors should understand there can be a huge opportunity cost to being average. To illustrate this point we calculate and compare the return of \$10,000 over the last 10 years for our high active share Global Innovators Fund to its Morningstar identified benchmark, the MSCI World Stock Index. The Global Innovators Fund,

which has an active share of 94, has outperformed its benchmark in the 3, 5, and 10-year time periods ending September 30, 2018 -- by a significant amount. Here are the figures for our \$10,000, 10 year investment:

\$10,000 invested in the index returned \$14,149 over the 10 year period ending September 30, 2018.¹¹ Over that same 10 year period a \$10,000 investment in the Global Innovators Fund grew to \$34,340. The Global Innovators Fund has a total expense ratio of 1.24% net (1.35% gross). We acknowledge that this active fund has a significantly higher total expense ratio than many index funds (although there is an institutional share class with a net expense ratio of 0.99%). And, note the index returns provided here do not include any expenses. Readers can draw their own conclusions but clearly the Fund provided a hugely superior outcome over this time period despite the expense ratio.

What's an Investor to Do?

- ✓ Seek funds that seek to outperform. If you wish to achieve above benchmark performance then we suggest investing in a fund that constructs its portfolio in a way to achieve that objective. High active share is a key indicator.
- ✓ Avoid funds that are extremely large. Some very large equity funds have trouble differentiating themselves from their benchmark because as they grow they



"He wants us to do our best to be average."

¹¹ The source for the returns for a \$10,000 investment both in the text and the adjacent chart is Bloomberg.

tend to end up with too many holdings and that makes them look too much like the index.

- ✓ Look for funds that use portfolio construction rules that are dissimilar to their benchmark. One example is equal weight, concentrated portfolios.

Conclusion

Returning to the three arguments advanced in favor of seeking average:

1. Active managers are capable of producing above benchmark returns. While the majority of active managers may fail, a significant number of active managers succeed and, importantly, in some sectors the majority of active managers outperform their benchmark. Additionally, one-third of active managers are closet indexing. We aren't defending this behavior but note that it means that active managers that seek to outperform do so with more frequency than the raw data suggests.
2. The Yale study has identified a simple attribute, high active share, that has historically indicated which funds were,

on average, likely to outperform. This historical tendency does not, of course, mean high active share funds will continue to outperform. But, as we see it, seeking not to be average is the best way not to be average.

3. Investing on the basis of cost alone can be costly. The Yale study has indicated outperformance after fees and costs for high active share funds and we've provided one admittedly self-serving example of where outperformance produced a substantial return premium.

As we said at the outset, no other industry makes a point of being average. And while seeking average can make sense, investors should realize that a significant number of mutual funds meaningfully outperform their benchmark, and in fact, on average, funds with high active share have outperformed. The opportunity cost for seeking average can be extremely high.

Important Information

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Opinions expressed are subject to change at any time, are not guaranteed and should not be considered investment advice. Investors should consider the investment objectives, risks, charges and expenses carefully before investing. For a prospectus with this and other information about the Fund, please call 800-915-6565 or visiting <https://www.gafunds.com>. Read the prospectus carefully before investing.

Investments in foreign securities involve greater volatility, political, economic and currency risks and differences in accounting methods. These risks are greater for emerging markets countries. Non-diversified funds concentrate assets in fewer holdings than diversified funds. Therefore, non-diversified funds are more exposed to individual stock volatility than diversified funds. Investments in debt securities typically decrease in value when interest rates rise, which can be greater for longer-term debt securities. Investments in derivatives involve risks different from, and in certain cases, greater than the risks presented by traditional investments. Investments in smaller companies involve additional risks such as limited liquidity and greater volatility. Funds concentrated in a specific sector or geographic region may be subject to more volatility than a more diversified investment. Investments focused in a single geographic region may be exposed to greater risk than investments diversified among various geographies. Investments focused on the energy sector may be exposed to greater risk than an investments diversified among various sectors.

MSCI World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets.

One cannot invest directly in an index.

Appendix A: Methodology

For investment professionals the data collection and analysis we performed isn't difficult. If you're inclined to do so, we encourage you to do your own research. We're happy to answer questions.

The Details

Using Morningstar data we examined all equity funds in the US mutual funds universe. A previous version of this report only focused on A shares, no-load and investor class funds. In this report we've included all share classes in our research. This presents a potential problem in that multiple share class funds will mean some funds are effectively counted multiple times. In Appendix B we show results for all share classes and separately for only the oldest share class. Readers will see that compared to the all share class analysis presented here the oldest share class only analysis improves the outperform percentages for active equity funds.

The Morningstar universe has 13,060 "surviving" equity funds. The universe also has 19,295 "obsolete" funds. These funds have either been liquidated or merged into other funds. This large number of obsolete funds give rise to the issue of survivor bias which we will discuss in Appendix C. For now note that the results presented above only include the surviving funds.

There are a number of funds whose prospectus identified benchmark isn't in the Morningstar Benchmark Universe. And, of course, some funds don't have a one-year track record. In the end 12,116 funds met all of our criteria and had sufficient data available to produce at least a one year benchmark comparison. Here is how the funds made it through each stage.

Total number of surviving equity funds: 13,060
 One year fund performance data and index data and identified benchmark: 12,116
 Three year fund performance data and index data and identified benchmark: 11,506
 Five year fund performance data and index data and identified benchmark: 10,666
 Ten year fund performance data and index data and identified benchmark: 8,765
 Fifteen year fund performance data and index data and identified benchmark: 6,917

Morningstar also identifies mutual funds as index funds or not. We used this identifier to classify funds as passive or active.

We compared the returns for the identified time periods to the identified benchmark returns counting as outperforming if a fund produced a return greater than the return of its benchmark over the time period. In a small number of instances funds matched the index; these instances were recorded as "Underperform."

From here it is a simple matter of counting and summing the outperformers and underperformers over each period.

Appendix B: Additional Data

All Share Class Results and Oldest Share Class Results

As mentioned, the data presented here is largely for all share classes which, in theory could skew the data by counting some funds multiple times. The two tables below show all share class data and then data only for the oldest share class.

Equity Funds Active Only: All Share Classes					
	1 Year	3 Year	5 Year	10 Year	15 Year
Outperform	5,837	3,650	3,272	2,928	2,430
Underperform	5,626	7,262	6,819	5,394	4,143
Outperform %	51%	33%	32%	35%	37%
Underperform %	49%	67%	68%	65%	63%

Equity Funds Active Only: Oldest Share Class					
	1 Year	3 Year	5 Year	10 Year	15 Year
Outperform	1,669	1,098	956	853	669
Underperform	1,626	1,997	1,849	1,372	1,022
Outperform %	51%	35%	34%	38%	40%
Underperform %	49%	65%	66%	62%	60%

Calendar Year Data

In Appendix C we discuss survivorship bias and discuss calendar year data for the 10 year period ending December 31, 2016. The tables below provide this calendar year data.

Surviving Equity Funds Data											
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Totals
Out	3,073	5,639	3,145	5,411	4,608	3,522	4,434	4,890	4,060	5,062	43,844
Under	8,862	5,820	7,903	5,212	5,616	6,222	5,009	4,299	4,675	3,324	56,942
Out %	26%	49%	28%	51%	45%	36%	47%	53%	46%	60%	44%
Under %	74%	51%	72%	49%	55%	64%	53%	47%	54%	40%	56%

Obsolete Equity Funds Data											
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Totals
Out	131	1,346	826	1,630	1,462	1,218	2,035	2,573	2,343	3,455	17,019
Under	725	1,869	2,795	2,165	2,776	3,515	3,144	3,105	4,299	2,550	26,873
Out %	15%	42%	23%	43%	34%	26%	39%	45%	36%	58%	39%
Under %	55%	58%	77%	57%	66%	74%	61%	55%	64%	42%	61%

Appendix B: Additional Data p. 2

Liquidated vs. Merged Data

While not of meaningful importance to our analysis it is interesting to see how liquidated funds compare to merged funds.

Liquidated Equity Funds Data											
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Totals
Out	65	1,034	664	1,127	1,028	841	1,233	1,450	1,297	1,726	10,465
Under	332	1,429	1,949	1,459	1,737	2,109	1,743	1,731	2,221	1,420	16,130
Out %	16%	41%	25%	44%	37%	29%	41%	46%	37%	55%	39%
Under %	84%	59%	75%	56%	63%	71%	59%	54%	63%	45%	61%

Merged Equity Funds Data											
	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	Totals
Out	66	312	162	503	434	377	802	1,123	1,046	1,729	6,554
Under	393	440	846	706	1,039	1,406	1,401	1,374	2,008	1,130	10,743
Out %	14%	41%	16%	42%	29%	21%	36%	45%	34%	60%	38%
Under %	86%	59%	84%	58%	71%	79%	64%	55%	66%	40%	62%

Appendix C: Obsolete Funds & Survivor Bias

As mentioned, there are a large number of obsolete funds in the Morningstar universe; more in fact than surviving funds. It might be presumed that the funds that did not survive would be biased to underperform their benchmark which would call into question the relevance of the percentage of funds that outperform their benchmark.¹ As we'll see in the data below there is a slight skew to underperform for the obsolete funds and we believe the data suggests that the effect of survivor bias is negligible. This may surprise some readers who may reasonably inquire as to why a fund would be merged or liquidated if it was outperforming its index. There are a number of reasons a fund might be liquidated or merged out of existence. Liquidation is generally a function of lack of commercial success, *i.e.*, small asset size. Obviously performance plays a role in commercial success but it is only one element in the mix. Further, besting the benchmark is only one aspect of the performance component.

The merging (as opposed to liquidating) of funds can be done for a variety of commercial reasons. One of these reasons may be lack of commercial success but one clear message in the data on the merged funds is a large number of share classes merged into other share classes, which indicates that the fund itself may have survived even if a share class did not. Such a merger likely is independent of performance having more to do with the changing distribution landscape.² Because a reasonable reader may wonder if liquidated funds and merged funds may have a different outperform/underperform profile we provide this data in Appendix B.

The Details

There is an inherent problem in determining if an obsolete fund outperformed over any standardized period (1, 3, 5, 10 and 15 years) to a consistent end date, namely that there is no data for these funds past their end of life date. Compounding the problem is that these funds have a very large variety of end dates making it impossible to make comparisons over a uniform time period.

To overcome this problem we've analyzed the data for our entire universe of equity funds using annual return figures over calendar years for both the surviving funds and the obsolete funds. Clearly this is a different comparison from the standardized time periods presented in the main body of this report but it answers the same basic question: what percentage of funds, surviving or not, outperformed their benchmark?

Morningstar has calendar year returns from 2007 through 2017. Calendar year returns for 2017 are of no value in this calculation as any funds that became obsolete in 2017 wouldn't have a full calendar year of performance. Which leaves us with 10 consecutive years--2007 to 2016--of calendar year returns to examine. We provide the details in the table below, but here is a summary of the results.

For operating funds, we have a total of 100,786 data points (each operating fund for each year either outperform or under perform). In 43,844 of these instances (44%) the operating funds outperformed their benchmark. In 56,942 (56%) instances they underperformed. For obsolete funds we have a total of 43,892 data points over the 10 calendar years with 17,019 (39%) instances of outperform and 26,873 (61%) instances of underperform. This supports the notion that obsolete funds skew to underperform. For investors the more important question is what is their likelihood of selecting a fund that will outperform?

This is a slightly more difficult question to answer. Simply averaging all of the data points underweights the

¹ We're not overly persuaded by this argument; our intent was to see if any reasonable number of active funds have outperformed. But, for investors this is a more important issue as they may rightfully wonder what are the chances of selecting a fund that will outperform its benchmark and accounting for survivor bias is essential to this analysis.

² A lot may be said on this point but consolidation of share classes is extremely common and the discussion regarding the large number of obsolete funds inherently overstates the survivor issue.

likelihood of investing in an obsolete fund simply because there are fewer data points. To overcome this we weight the results for surviving funds and obsolete funds based on the percentage each represented at the start of the period. On December 31, 2006 there were 13,967 open end equity funds. On December 31, 2016 only 5,177--41%--of these funds were still in operation. As mentioned, many of these funds were merged with other funds, often into a different share class of the same fund. Further, some of the merged funds themselves were either liquidated or subsequently merged. In any event, an investor on December 31, 2006 had only a 41% chance of investing in a fund that would survive without merger or liquidation over the next decade. Going back to our annual return outperform/underperform data, we have 100,786 data points for the operating funds and 43,892 data points for the obsolete funds. If we weigh these data points 41% for surviving funds and 59% for the obsolete funds we see the following outperform/underperform numbers with the unadjusted data presented first:

Calendar Year Data 2007 through 2016	Instances of Outperform	Instances of Underperform
All Surviving Funds	44%	56%
Surviving Active Funds	45%	55%
Surviving Passive Funds	15%	85%
Adjusted for Survivor Bias		
All Funds	42%	58%
Active Funds	43%	57%
Passive Funds	15%	85%

An investor that invested on December 31, 2006 in an active equity Fund that survived the next 10 years had a 45% chance of outperforming over any single calendar year. This investor's chances of outperforming in any of the next ten calendar years regardless of whether his selection survived were reduced to 43%. This two percent reduction isn't nothing but it doesn't change our conclusion which is that a meaningful number of actively managed mutual funds can and do outperform their benchmark.

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