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Shooting the Messenger

“Active investing has been subjected to increasing abuse, particularly by those whose opinions are driven by the persistent accumulation of hard data and logical arguments.”¹

- Charles D. Ellis

EXECUTIVE SUMMARY

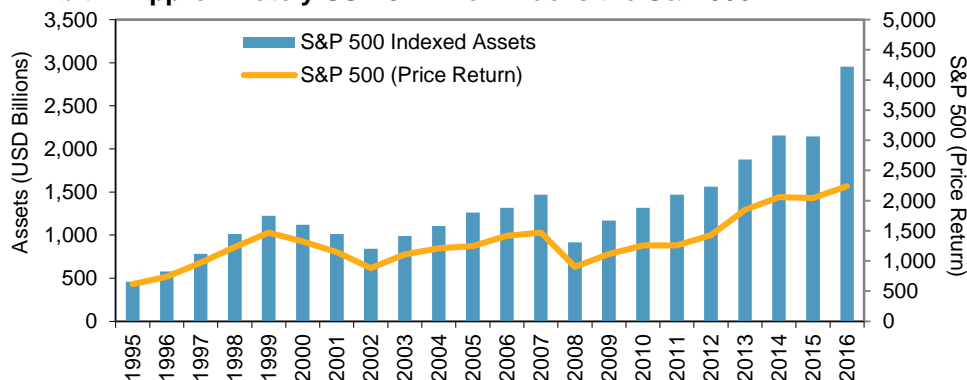
Index funds, which did not exist 50 years ago, now play a prominent role in global financial markets. The growth of indexing was driven by the failure of active managers, in aggregate, to outperform passive benchmarks. This failure is not a new development—it was reported as long ago as the 1930s. **The rise of passive management was the consequence of active performance shortfalls.**

These shortfalls can be attributed to four sources:

- Cost
- The professionalization of investment management
- Market efficiency
- The skewness of stock returns

We estimate that 20% of U.S. equity assets, amounting to approximately USD 5 trillion, was invested in index trackers as of Dec. 30, 2016. This commitment to passive management could save asset owners **more than USD 20 billion annually.**

Exhibit 1: Approximately USD 3 Trillion Tracks the S&P 500®



Source: S&P Dow Jones Indices LLC. Data as of Dec. 30, 2016. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

¹ Ellis, Charles D., “[In Defense of Active Investing](#),” *Financial Analysts Journal*, July/August 2015.

SOME IMPORTANT OBSERVATIONS

Fifty years ago, there were no index funds; all assets were managed actively. The subsequent shift of assets from active to passive management, as illustrated in Exhibit 1, surely must count as one of the most important developments in modern financial history. Our intent in this paper is to suggest why this transformation came about; the answer, in our view, lies both in a *set of observations* and in the subsequent *explanation* of those observations.

The observations to which we refer are designed to identify the extent to which active managers are able to add value to the performance of passive benchmarks. We'll cite evidence from three decades, spanning more than 80 years of history.

The earliest study of active management of which we're aware dates to 1932. Alfred Cowles examined the stock selection records of both financial services and fire insurance companies (what we would today call property and casualty insurers). Both sets of forecasters underperformed the average common stock during the period examined. The same was true of a number of financial publications that made predictions of the overall level of the stock market. For all these cases, "statistical tests...failed to demonstrate that they exhibited skill, and indicated that they more probably were [the] results of chance."²

By the 1970s, the financial markets had grown dramatically as professionals, rather than the retail investors of Cowles' day, had come to dominate asset management and trading.

Forty years later, by the 1970s, financial markets had grown dramatically as professionals, rather than the retail investors of Cowles' day, had come to dominate asset management and trading. The growth of professional investment management led to the formation of a number of performance measurement services. Their verdict, by mid-decade, was ominous: "Disagreeable data are streaming out of the computers of Becker securities and Merrill Lynch and all the other performance measurement firms. Over and over and over again, these facts and figures inform us that investment managers are failing to perform. Not only are the nation's leading portfolio managers failing to produce positive absolute rates of return...but they are also failing to produce positive relative rates of return. Contrary to their oft articulated goal of outperforming the market averages, **investment managers are not beating the market: The market is beating them.**"³

In reaction to such data, some academics and forward-looking professionals began to argue for the establishment of a new kind of investment vehicle. **Since active managers were generally not able to beat the market, why not buy the market instead?** Such a vehicle—an

² Cowles 3rd, Alfred, "[Can Stock Market Forecasters Forecast?](#)" *Econometrica*, July 1933. See also Edwards, Tim, "[Eighty-one years later...](#)," Dec. 19, 2013.

³ Ellis, Charles D., "[The Loser's Game](#)," *Financial Analysts Journal*, July/August 1975. Emphasis added.

index fund—would buy stocks not because a manager thought they had above-average performance potential, but simply because they were there. “What we need is a no-load, minimum-management-fee mutual fund that simply buys the hundreds of stocks making up the broad stock-market averages and does no trading from security to security in an attempt to catch the winners.”⁴

Nobel laureate Paul Samuelson suggested in 1974 that “some large foundation should set up an in-house portfolio that tracks the S&P 500 Index—if only for the purpose of setting up a naïve model against which their in-house gunslingers can measure their prowess.”⁵ Samuelson’s evaluation of active portfolio managers was biting: “a respect for evidence compels me to incline toward the hypothesis that most portfolio decision makers should go out of business—take up plumbing, teach Greek, or help produce the annual GNP by serving as corporate executives.”

Samuelson’s wish for an [S&P 500](#) index fund was granted, more rapidly than he expected,⁶ as index funds became available, even to retail investors, in the 1970s. Although many things have changed in the intervening 40 years, the performance data that animated Ellis, Malkiel, and Samuelson have been remarkably robust. Our firm’s SPIVA[®] reports have documented the performance of U.S. managers since 2001 (with shorter histories for other markets), and the results have been almost uniformly discouraging for the advocates of active management. Exhibit 2 illustrates the most recent update.⁷

Note that most active funds underperformed benchmarks appropriate to their investment style. This is not unusual—in fact, over the history of the SPIVA database, underperformance is far more common than not.

Exhibit 2: The Majority of Active Managers Underperformed Passive Benchmarks

| FUND CATEGORY | COMPARISON INDEX | PERCENTAGE OF UNDERPERFORMING U.S. EQUITY FUNDS | | |
|---------------|-------------------------------|---|---------|----------|
| | | 1 YEAR | 5 YEARS | 10 YEARS |
| Large Cap | S&P 500 | 57 | 82 | 85 |
| Mid Cap | S&P MidCap 400 [®] | 61 | 87 | 95 |
| Small Cap | S&P SmallCap 600 [®] | 60 | 94 | 94 |

Source: S&P Dow Jones Indices LLC, CRSP. Data as of June 30, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Note that most active funds underperformed benchmarks appropriate to their investment style. This is not unusual—in fact, over the history of the SPIVA database, underperformance is far more common than not.⁸

Moreover, **extending the time horizon makes active management look worse, not better.** This is consistent with the view that the true odds of

⁴ Malkiel, Burton G., *A Random Walk Down Wall Street*, first edition, 1973, p. 226.

⁵ Samuelson, Paul A., “[Challenge to judgment](#),” *Journal of Portfolio Management*, Fall 1974. Interestingly, John Bogle credits this article with inspiring him to start the first index mutual fund at Vanguard in 1976.

⁶ Bogle, John C., “[The Professor, the Student, and the Index Fund](#),” Sept. 6, 2011.

⁷ Soe, Aye M. and Ryan Poirier, “[SPIVA U.S. Scorecard](#),” September 2017.

⁸ Soe, Aye M. and Ryan Poirier, “[SPIVA U.S. Scorecard](#),” April 2017, p. 4.

outperformance are less than even. If the likelihood of outperformance were greater than 50%, we would expect to see fluctuations above and below 50% over a period as short as one year, but over time we would expect to see more outperformers than underperformers. In fact, we observe the opposite.

Moreover, it's notable that active managers of mid- and small-cap portfolios seem to have just as much difficulty as their large-cap peers. This is not an intuitive conclusion; in fact it's sometimes argued that investors should index large-cap, well-researched, relatively "efficient" stocks and use active managers in the less well-covered mid- and small-cap arenas. At first blush, this is plausible, and it's certainly true that research coverage is tilted toward larger companies. However, the scarcity of research coverage only implies that the likelihood of *misvaluation* is higher among smaller companies. There's no reason to assume that the likelihood of *undervaluation* is higher, and it's the assumption of undervaluation that's critical to the argument for active management of smaller stocks.

It's notable that active managers of mid- and small-cap portfolios seem to have just as much difficulty as their large-cap peers.

We would argue, in fact, that overvaluation is at least as likely as undervaluation among smaller names. A manager who thinks he sees undervaluation can take advantage of it by buying the undervalued stock. A manager who thinks he sees overvaluation can sell his position down to zero. After that, he's helpless—unless he wants to borrow stock in order to short it. However, smaller names can often be quite difficult (or expensive) to borrow. This implies that overvaluation is likely to be more persistent than undervaluation; it's simply harder to get rid of it.

The SPIVA database focuses on mutual funds, net of fees, and critics sometimes argue that manager underperformance is entirely due to fee levels. It's also fair to observe that institutional asset owners have substantial bargaining power, resulting in lower fees and potentially better performance outcomes than mutual fund investors realize. **These objections are accurate, but not decisive.** Even ignoring fees altogether, Exhibit 3 shows that the majority of active managers still underperform.⁹

⁹ Poirier, Ryan, Aye. M. Soe, and Hong Xie, "[SPIVA Institutional Scorecard: How Much Do Fees Affect the Active Versus Passive Debate?](#)" August 2017.

Exhibit 3: Ignoring Fees Mitigated, but Did Not Eliminate, Active Underperformance

| FUND CATEGORY | COMPARISON INDEX | PERCENTAGE OF UNDERPERFORMING U.S. EQUITY FUNDS | | | |
|---------------|------------------|---|----------------------|------------------------------|--------------------------------|
| | | MUTUAL FUNDS (NET) | MUTUAL FUNDS (GROSS) | INSTITUTIONAL ACCOUNTS (NET) | INSTITUTIONAL ACCOUNTS (GROSS) |
| Large Cap | S&P 500 | 85 | 68 | 80 | 69 |
| Mid Cap | S&P MidCap 400 | 96 | 86 | 92 | 83 |
| Small Cap | S&P SmallCap 600 | 96 | 81 | 91 | 79 |

Source: S&P Dow Jones Indices LLC, CRSP, eVestment Alliance. Data for 10 years ending Dec. 31, 2016. Past performance is no guarantee of future results. Table is provided for illustrative purposes. Gross of fee data adds each fund's expense ratio to its net performance.

If the majority of active managers underperform, it's nonetheless theoretically possible that *some* managers are consistently above average. Samuelson was explicit on this point: "It is not ordained in heaven, or by the second law of thermodynamics, that a small group of intelligent and informed investors cannot systematically achieve higher mean portfolio gains with lower average variabilities. People differ in their heights, pulchritude, and acidity. Why not in their P.Q. or performance quotient?"¹⁰ SPIVA lets us test for this possibility in a number of ways.

Top-quartile managers were more likely to move to the bottom quartile than they were to remain at the top.

Exhibit 4 is representative of the data in our Persistence Scorecard.¹¹ In this exhibit we take a long-term view of the SPIVA database, looking at 10 years of history. We sorted managers into quartiles based on the first five years' performance and then examined quartile rankings for the second five years.

Exhibit 4: Top Quartile Performance Did Not Persist

| FUND CATEGORY | % REPEATING IN TOP QUARTILE | % MOVING TO BOTTOM QUARTILE |
|---------------|-----------------------------|-----------------------------|
| Large Cap | 20.1 | 20.9 |
| Mid Cap | 15.4 | 19.2 |
| Small Cap | 14.0 | 26.7 |

Source: S&P Dow Jones Indices LLC. Data for 10 years ending March 31, 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

If performance were completely random, we'd expect 25% of the top-quartile managers from the first five years to be in the same quartile for the second five years. In fact, consistency is less than random—in no capitalization category did as many as 25% of the original top-quartile managers stay there. In fact, top-quartile managers were more likely to move to the bottom quartile than they were to remain at the top.¹²

¹⁰ Samuelson, *op. cit.*, p 19.

¹¹ Soe, Aye M. and Ryan Poirier, "[Does Past Performance Matter? The Persistence Scorecard](#)," June 2017.

¹² Lazzara, Craig, "[Getting What You Pay For](#)," Oct. 27, 2017. Interestingly, if we ask about the persistence of outperformance versus the benchmark (as opposed to the persistence of ranking versus other managers), the results are equally discouraging. See Poirier, Ryan and Aye M. Soe, "[Fleeting Alpha: Evidence from the SPIVA and Persistence Scorecards](#)," February 2017.

The evidence, over many years, is clear:

- Most active managers underperformed most of the time.
- Outperformance, when it occurred, tended not to persist.

The next section of our paper asks why active managers—well educated, hardworking, and motivated to a fault—nonetheless have such a difficult time delivering outperformance.

THE EXPLANATION: WHY INDEXING “WORKS”

Four (not mutually exclusive) arguments have been advanced to explain why active managers fail much of the time.

Cost

Lower cost is the simplest explanation for the success of passive management. Imagine a market in which all assets are actively managed, and into which a passive alternative is, *deus ex machina*, inserted. This passive alternative buys a pro-rata slice of every company in the market. Since the passive managers buy a pro-rata share of every stock’s capitalization, their portfolio, in aggregate, will be identical to the *aggregate* portfolio of the active managers. Before costs, therefore, the passive and active portfolios will have the same return.

However, active managers’ costs—for research, trading, management fees, etc.—are inherently higher than those of passive managers. Thus, “properly measured, the average actively managed dollar must underperform the average passively managed dollar, net of costs. Empirical analyses that appear to refute this principle are guilty of improper measurement.”¹³

To illustrate the importance of costs, consider that the average expense ratio for active U.S. equity mutual fund managers in 2016 was 0.82%, compared to only 0.09% for their passive competitors.¹⁴ This difference of approximately 70 bps offers investors an automatic advantage for choosing a passive manager versus an active one. The growing popularity of index funds, along with industry consolidation and economies of scale, has the potential to lower the costs of passive vehicles further.

The Professionalization of Investment Management

Investment management is a zero-sum game. There is no *natural* source of outperformance; the outperformance of above-average investors is offset by the underperformance of below-average investors. “Investors”

Lower cost is the simplest explanation for the success of passive management.

¹³ Sharpe, William F., “[The Arithmetic of Active Management](#),” *Financial Analysts Journal*, January/February 1991, p. 7-9.

¹⁴ Collins, Sean, and James Duvall, “[Trends in the Expenses and Fees of Funds, 2016](#),” *ICI Research Perspective*, May 2017.

in this sense encompass not just professional money managers, but any owner of securities. These owners may well be undiversified owners of concentrated positions who are not aware that they're in a zero-sum game. Indeed, they may not be aware that there's a game at all.

For example, imagine a conservative retail investor who owns a few high-quality, dividend-paying electric utility companies because he values their relatively secure income stream. Such an investor is a potential source of alpha for every professional manager who is overweight utilities. Similarly, every corporate manager who owns a concentrated position in his own company's stock is a potential source of alpha for every professional manager who is overweight that industry or company. If professional investors represent a relatively small fraction of a market's assets, such undiversified amateurs can be an important source of the professionals' outperformance. **The outperformance garnered by professionals, in other words, could be provided by the underperformance of amateurs.**¹⁵

If professional investors represent a relatively small fraction of a market's assets, undiversified amateurs can be an important source of the professionals' outperformance.

However, if professionals become the dominant force in a market and amateur investors are relatively unimportant, the game changes—**the professionals are now competing against each other.** In the U.S., professionals had come to dominate by the mid-1970s, as Ellis' 1975 assessment makes clear: "Gifted, determined, ambitious professionals have come into investment management in such large numbers during the past 30 years that it may no longer be feasible for any of them to profit from the errors of all the others sufficiently often and by sufficient magnitude to beat the market averages."¹⁶ This is one reason why, in our view, the 1970s saw so many calls for the establishment of market-tracking index portfolios.

It's important here to distinguish between *absolute* and *relative* skill. Absolute skill in active investing requires managers to access information and to form, based on some combination of fundamental, technical, and quantitative metrics, an assessment of the difference between a stock's current price and its true value. To criticize active managers' performance is by no means to impugn their absolute level of skill.¹⁷ But managers don't operate in a vacuum. Absolute skill may be *necessary* for success as an active manager, but it is not *sufficient*. It's relative skill that determines outperformance and underperformance. It's not enough to be good at valuing companies; a successful active manager has to be better than his competitors.

¹⁵ Mauboussin, Michael J. and Dan Callahan, "[Alpha and the Paradox of Skill](#)," July 15, 2013, p. 7.

¹⁶ Ellis (1975), *op. cit.*, p.19.

¹⁷ See Pastor, Lubos, Robert F. Stambaugh, and Lucian A. Taylor, "[Scale and Skill in Active Management](#)," February 2014.

If investment management is not unique in this respect, it at least is highly unusual. An average physician may be able to cure most illnesses, and an average lawyer may be a perfectly adequate source of legal representation for most needs. Indeed, below-average physicians and lawyers may still be sources of considerable value to their clients. However, investment management is different: an average investment manager is of no value at all. “Investing is unusual, in that the collective judgement of all the participants (weighted by the amount of money they control) is...available for free....**If a professional investor is to earn excess returns for his client, being good is insufficient—he must be exceptional.**”¹⁸

Market Efficiency

“In investing, efficiency means that value and price are one and the same.”¹⁹ To the degree that price and value correspond, active managers will be unable to generate incremental risk-adjusted returns. The trouble with this convenient formulation, of course, is that while we can easily observe prices, the proper value of any security is always a matter of opinion and subject to dispute.

If markets are efficient, active management is fruitless.

Eugene Fama coined the term “efficient market” in 1965, defining it as “a market in which prices always ‘fully reflect’ available information.”²⁰ He concluded that stock market prices follow a random walk, causing analysts to be unable to outperform consistently via fundamental or technical analysis. The challenge for advocates of the efficient markets hypothesis is that it’s quite easy to find *retrospective* evidence of times when value and price did not correspond—for example, during the technology bubble of the late 1990s or immediately prior to the market’s recovery in early 2009.²¹

What such examples demonstrate is that markets are not infallible. But not even Fama claims infallibility for the efficient markets hypothesis. “It’s a model, so it’s not completely true. No models are completely true. They are approximations to the world. The question is: ‘For what purposes are they good approximations?’ As far as I’m concerned, they’re good approximations for almost every purpose. I don’t know any investors who

¹⁸ Arbit, Hal, “[The Nature of the Game](#),” *Journal of Portfolio Management*, Fall 1981, pp. 5-9. Emphasis added.

¹⁹ Mauboussin, Michael J., “[The Paradox of Skill: Why Greater Skill Leads to More Luck](#),” Nov. 14, 2012, p. 12.

²⁰ Fama, Eugene F. “[The Behavior of Stock-Market Prices](#),” *Journal of Business*, January 1965, pp. 34-105, and “[Efficient Capital Markets: A Review of Theory and Empirical Work](#),” *Journal of Finance*, May 1970, p.383-417. The *weak form* of the efficient market hypothesis assumes that current stock prices fully reflect all currently available security market information, so that technical analysis cannot be used to achieve excess returns. The *semi-strong form* assumes that current prices quickly adjust to the release of all new public information. Prices reflect available market and non-market public information, eliminating the possibility of achieving excess returns using fundamental analysis. The *strong form* of the efficient market hypothesis assumes that current stock prices fully incorporate *all* public and private information, so that realizing consistent excess returns is impossible.

²¹ Mauboussin (2012), *op. cit.*

shouldn't act as if markets are efficient."²² And if markets are efficient, active management is fruitless.

Skewness

The skewness of stock returns is an underappreciated element in the performance difficulties of active managers. Exhibit 5 is a simple example of skewed returns; we posit a market with five stocks, one of which dramatically outperforms the others.²³ We assume that at the beginning of the year, the stocks' capitalizations are identical, so that the market's return is 18%, driven by the outstanding performance of stock E.

Exhibit 5: Hypothetical Returns in a Five-Stock Market

| STOCK | A | B | C | D | E |
|------------|----|----|----|----|----|
| RETURN (%) | 10 | 10 | 10 | 10 | 50 |

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

The skewness of stock returns is an underappreciated element in the performance difficulties of active managers.

We can form portfolios of various sizes from these five stocks, as shown in Exhibit 6. There are, for example, five possible one-stock portfolios, four of which underperform the market as a whole. Alternatively, there are also five possible four-stock portfolios, four of which outperform the market as a whole. Since the market, in this example, is up 18%, the *average* return of the portfolios is always 18%—if the market gives us 18%, it doesn't matter how we slice it up. What changes is the *distribution of returns* across portfolios. **Holding more stocks increases the likelihood of outperformance.**²⁴

Exhibit 6: More Concentrated Portfolios Are More Likely to Underperform

| NUMBER OF STOCKS | NUMBER OF PORTFOLIOS | MEDIAN RETURN (%) | AVERAGE RETURN (%) | PROBABILITY OF OUTPERFORMANCE (%) |
|------------------|----------------------|-------------------|--------------------|-----------------------------------|
| 1 | 5 | 10 | 18 | 20 |
| 2 | 10 | 10 | 18 | 40 |
| 3 | 10 | 23 | 18 | 60 |
| 4 | 5 | 20 | 18 | 80 |

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes.

The intuition here is simple: a manager's picks are more likely to underperform than to outperform simply because there are more underperformers than outperformers from which to choose.²⁵ If returns are positively skewed, more concentrated portfolios are therefore relatively

²² Chicago Booth Review, "[Are Markets Efficient?](#)" June 30, 2016.

²³ This example is drawn from Heaton, J.B., Nick Polson, and Jan Hendrik Witte, "[Why Indexing Works](#)," October 2015.

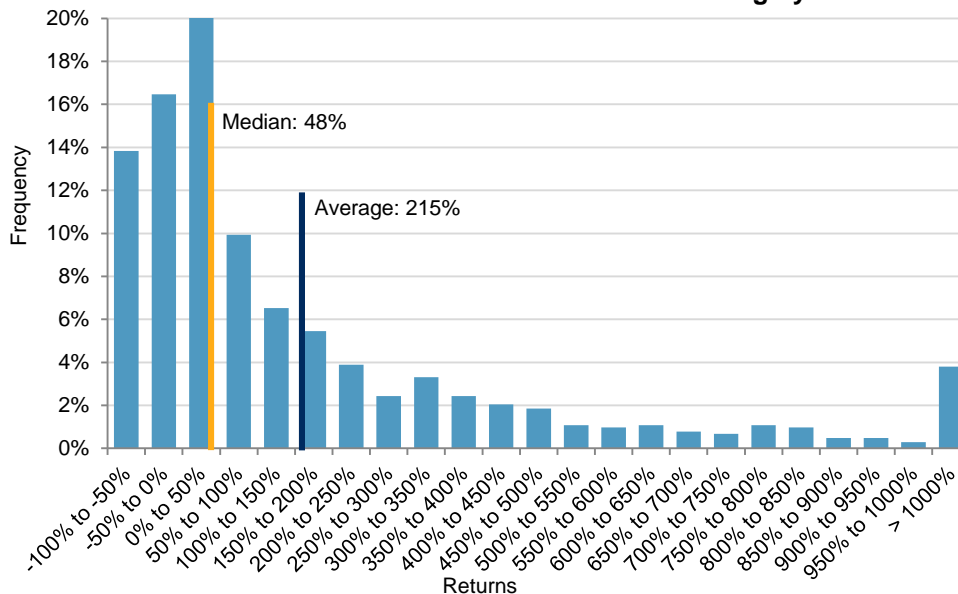
²⁴ Edwards, Tim and Craig J. Lazzara, "[Fooled by Conviction](#)," July 2016. See also Livnat, Joshua, Gavin Smith, and Martin B. Tarlie, "[Modified IR As a Predictor of Fund Performance](#)," October 2015, for evidence that among comparably-skillful active managers, greater diversification is an indicator of better future performance.

²⁵ The challenge for stock pickers is exacerbated when the outperformers include the largest stocks in the index. See Chan, Fei Mei and Craig J. Lazzara, "[Degrees of Difficulty: Indications of Active Success](#)," December 2017, pp. 8-9.

likely to underperform, while more diversified portfolios are relatively likely to outperform. Since most active managers run fairly concentrated portfolios (at least relative to the universe from which they draw their stock picks), **if returns in the real world are skewed, that helps us explain active underperformance.**

Real-world returns are skewed. We might suspect that there is a natural tendency toward skewed equity returns—after all, a stock can only go down by 100%, while it can appreciate by much more than that. This intuition is confirmed by Exhibit 7, which plots the distribution of cumulative returns for the constituent stocks of the S&P 500 for the last 20 years. The median return was 48%, far less than the average of 215%. Importantly, the positive skew in equity returns demonstrated by Exhibit 7 is not simply a long-term phenomenon: in the 26 years between 1991 and 2016, the average S&P 500 stock outperformed the median 22 times.²⁶

Exhibit 7: Constituent Returns for S&P 500 Members Are Highly Skewed



Since data on exchange-traded funds are relatively easy to come by, other pools of assets are sometimes ignored.

Source: S&P Dow Jones Indices LLC, Factset. Data from Oct. 31, 1997, to Oct. 31, 2017. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

WHERE ARE WE NOW?

We conclude by estimating the extent to which asset owners in the U.S. market have adopted passive management. Understanding the market share of passive assets requires us to get both the numerator (passive AUM) and denominator (total market capitalization) correct, and much press commentary is mistaken about one or both. Moreover, since data on exchange-traded funds are relatively easy to come by, other pools of assets

²⁶ We find similar results in other markets. The average stock outperformed the median in 15 of the last 19 years for the [S&P/TSX Composite](#), 13 of 18 years for the [S&P Europe 350](#), 20 of 21 years for the [S&P/TOPIX 150](#), 9 of 16 years for the [S&P/ASX 200](#), and 20 of 20 years for the [S&P Pan Asia ex-Japan & Taiwan BMI](#). For a longer term perspective, see Bessembinder, Hendrik, [“Do Stocks Outperform Treasury Bills?”](#) November 2017.

are sometimes ignored. For example, a common misconception is that the Bank of Japan (BoJ) owns more than two-thirds of the Japanese stock market. In fact, the BoJ owns 70% of *listed ETFs*, and only 2.5% of the capitalization of the market.²⁷

We estimate that 20% of total float-adjusted U.S. market capitalization is held by passive index trackers. As detailed by Exhibit 8, this estimate includes assets tracking our own indices, as well as those of some prominent competitors. For S&P DJI indices, estimates are drawn from our annual survey of indexed assets.²⁸ Information on other index providers came from sell-side sources²⁹ as well as from their own websites. The denominator includes the total float-weighted market capitalization of the large- and small-cap universe. Importantly, this estimate *excludes* the factor indices that underlie “smart beta” ETFs. This exclusion makes sense because factor indices represent a hybrid of passive and active approaches. They are based on fundamental metrics like value or momentum, seeking much the same end, although by different means, as active managers. Hence it is appropriate to exclude them from an estimate of purely passive assets.

Passive management, for the S&P 500 alone, saves investors USD 22.5 billion annually.

Exhibit 8: Index Trackers Account for 20% of the Value of the U.S. Equity Market

| INDEX | ESTIMATES OF ASSETS TRACKING (IN USD BILLIONS) | FLOAT-ADJUSTED MARKET CAP (IN USD BILLIONS) |
|---|--|---|
| S&P 500 | 2,955 | 21,150 |
| S&P MidCap 400 | 133 | 1,644 |
| S&P SmallCap 600 | 62 | 724 |
| Russell 1000 | 847 | 23,539 |
| Russell 2000 | 185 | 1,904 |
| CRSP – Vanguard Funds (Large, Mid, Small Cap) | 822 | |
| Total Assets Tracking | 5,004 | |
| Total Float-Adjusted Market Cap (Large and Small Cap) | 25,443 | |
| Passive Market Share Estimate | 20% | |

Source: S&P Dow Jones Indices LLC, Factset, Barclays, CRSP. S&P DJI assets tracking data as of December 2016, Factset data as of July 2017, CRSP data as of June 2017, and Barclays data as of September 2017. Past performance is no guarantee of future results. Table is provided for illustrative purposes.

Exhibit 8 tells us that approximately USD 5 trillion tracks various U.S. cap-weighted indices, with USD 3 trillion tracking the S&P 500 alone. These numbers enable us to estimate one benefit of passive management to investors. We previously noted the roughly 70 bps fee differential that

²⁷ Takeo, Yuko, Lee, Min Jeong, and Toshiro Hasegawa, “[Japan’s Central Bank Is Distorting the Market, Bourse Chief Says](#),” July 19, 2017. See also Ganti, Anu, “[Don’t Shoot the Messenger](#),” Sept. 27, 2017.

²⁸ S&P Dow Jones Indices, “[Annual Survey of Assets](#),” June 29, 2017.

²⁹ U.S. Index Corporate Action Calendar: Week of Sept. 4-Sept. 7, 2017, *Barclays Desk Analysts and Trading*, September 2017.

separates active and passive U.S. mutual fund managers.³⁰ Multiplying this fee differential by USD 3 trillion tells us that **passive management, for the S&P 500 alone, saves investors USD 22.5 billion annually.**

It would, of course, be penny wise and pound foolish for investors to save a few basis points on management fees if those savings caused them to miss an even larger increment of active performance, but as we've already seen, it isn't because they don't. These savings accrue entirely to the benefit of index fund investors.

FINAL THOUGHTS

Fifty years ago, there were no index funds. Edward Johnson of Fidelity spoke for most active managers of that time when he said (criticizing the nascent Vanguard), "I can't believe that the great mass of investors are going to be satisfied with receiving just average returns."³¹ Ironically, of course, **above-average returns are exactly what index investors have received—and what most active investors have missed.**

If active managers had delivered above-average performance, the passive investment industry would not have developed and would not exist today. Evidence of active underperformance is nearly a century old, and we've suggested some of the reasons—cost, professionalization, market efficiency, and skewness—that help explain it.

Index-tracking assets, conservatively reckoned, amount to perhaps 20% of the value of the U.S. stock market today, and their growth shows no sign of abating. Even at today's share of assets, there has been an enormous transfer of wealth from active managers to asset owners—a transfer amounting to over USD 20 billion annually.

If active managers had delivered above-average performance, the passive investment industry would not have developed and would not exist today.

³⁰ Collins and Duvall, *op. cit.*, p. 1.

³¹ Swedroe, Larry, "[Passive Investing Won't Break Market](#)," Sept. 6, 2016.

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