As fund investing keeps growing in popularity with American families, so has the fortunes of one of the industry's biggest players. Fidelity Investments says it works with more than 38 million customers and employs 47,000-plus workers worldwide. It claims to make around 2.6 million trades a day and has built a financial services complex that works with some $11 trillion in total customer assets.

The venerable Boston-based funds manufacturer, which traces its roots to 1946, manages more than 250 mutual funds. Besides running such a plethora of investment vehicles, these days Fidelity is a major competitor in brokerage services, asset custody, wealth management, life insurance and institutional retirement services. In 2018, it opened a dedicated business focused on handling and executing trades for institutions dealing in Bitcoin and other cryptocurrencies.
Given its global reach across financial services and brand recognition as a long-tenured investment manager, we thought it might be insightful to put under our research microscope Fidelity's family of stock mutual funds.

Typically, active managers give us fits in trying to find enough funds to study over periods that can be considered as statistically significant. This can be due to a nasty tendency in the industry to play a sort of shell game with investors. In short, active managers will often shutter or merge a lagging fund into a different member of its fund family.

Although it might sound like a good idea at first, the net effect is to create what's known as "survivorship bias." Such a bias is referencing the fact that in such circumstances, fund companies usually report the existing manager's data, effectively wiping out the old fund's track record. Along these lines, our research methodologies for this article include adjusting for survivorship bias.

We've also been able to take advantage of Fidelity's sheer size to dig deeper into this fund family's performance. It provides us with enough actively managed mutual stock funds to analyze risk and return data spanning 30 years or more. That's key since a smaller data set statistically brings into question whether or not there's sufficient information about a fund's performance to scientifically draw conclusions — or whether we're simply being fooled by randomness in market returns.

The following analysis of Fidelity is a part of our Deeper Look research series. We've also conducted similar studies on fund families from the likes of Vanguard, Morgan Stanley, Goldman Sachs, Franklin Templeton, T. Rowe Price and Putnam, to name just a few. (To read other IFA research reports along these lines, you can search on our site — or, the IFA App — using "Deeper Look" as the search criteria.) One universal conclusion: Active fund managers have failed to deliver on the value proposition they profess, which is to reliably outperform a risk comparable benchmark.

**Controlling for Survivorship Bias**

It's important for investors to understand the idea of survivorship bias. While there are 65 active equity mutual funds with 30 or more years of performance-related data currently offered by Fidelity, it doesn't necessarily mean these are the only
strategies this company has ever managed. In fact, there are six stock mutual funds with 30-plus years of data that no longer exist. This can be for a variety of reasons including poor performance or the fact that they were merged with another fund. We will show what their aggregate performance looks like shortly.

**Fees & Expenses**

Let's first examine the costs associated with Fidelity's surviving 65 equity strategies. It should go without saying that if investors are paying a premium for investment "expertise," then they should be receiving above average results consistently over time. The alternative would be to simply accept a market's return, less a significantly lower fee, via an index fund.

The costs we examine include expense ratios, sales loads — front-end (A), back-end (B) and level (C) — as well as 12b-1 marketing fees. These are considered the "hard" costs that investors incur. Prospectuses, however, do not reflect the trading costs associated with mutual funds.

Commissions and market impact costs are real expenses associated with implementing a particular investment strategy and can vary depending on the frequency and size of the trades executed by portfolio managers.

We can estimate the costs associated with an investment strategy by looking at its annual turnover ratio. For example, a turnover ratio of 100% means that the portfolio manager turns over the entire portfolio in one year. This is considered an active approach, and investors holding these funds in taxable accounts will likely incur a higher exposure to tax liabilities, such as short- and long-term capital gains distributions, than those incurred by passively managed funds.

The table below details the hard costs as well as the turnover ratio for all 65 surviving active stock funds offered by Fidelity that have at least 30 years of complete performance history. You can search this page for a symbol or name by using Control F in Windows or Command F on a Mac. Then click the link to see the alpha chart. Also, remember that this is what is considered an in-sample test; the next level of analysis is to do an out-of-sample test (for more information see here).
<table>
<thead>
<tr>
<th>Fund Name</th>
<th>Ticker</th>
<th>Turnover Ratio %</th>
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<tr>
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<td><strong>Fidelity Select Utilities</strong></td>
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<td>Utilities Sector Equity</td>
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<tr>
<td><strong>Fidelity Telecom and Utilities</strong></td>
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<td>Utilities Sector Equity</td>
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<td><strong>Fidelity Select Air Transportation Port</strong></td>
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<td>Weight</td>
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<td>FAGOX</td>
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<td>1.30, 0.50, 3.50</td>
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<td>Fidelity International Discovery</td>
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<td>34%</td>
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Please read the prospectus carefully to review the investment objectives, risks, charges and expenses of the mutual funds before investing. Fidelity Investment prospectuses are available at: [https://www.fidelity.com](https://www.fidelity.com)

On average, an investor who utilized a surviving Fidelity active equity mutual fund strategy experienced an annual expense ratio of 0.81%.

These expenses can have a substantial impact on an investor's overall accumulated wealth if they are not backed by superior performance. The average turnover ratios for surviving active equity strategies from Fidelity was 51.11%. This implies an average holding period of 23.48 months.

By contrast, most index funds have very long holding periods — decades, in fact, thus deafening themselves to the random noise that accompanies short-term market movements, and focusing instead on the long-term. Again, turnover is a cost that is not itemized to the investor but is definitely embedded in the overall performance.

**Performance Analysis**

The next question we address is whether investors can expect superior performance in exchange for the higher costs associated with Fidelity's implementation of active management. We compare all of its 71 strategies with data for 30 or more years against its Morningstar assigned benchmark to see just how well each has delivered on their perceived value proposition. We also use the oldest share class of each fund, which sometimes are older than its assigned benchmark. In those cases, comparisons can only be made for the length of time that the benchmark has data available.

We have included alpha charts for each of their current strategies at the bottom of this article. Here is what we found:

- 36.62% (26 of 71 funds) have underperformed their respective benchmarks since inception.
- 63.38% (45 of 71 funds) have outperformed their respective benchmarks since inception, having delivered a positive alpha.

Here's the real kicker, however:

- 5.63% (4 of 71 funds) wound up outperforming their respective benchmarks consistently enough since inception to provide 97.5% confidence that such outperformance could persist (as opposed to being based simply on random outcomes).

So, relatively few — less than 6% — of Fidelity's active managers were able to deliver statistically significant benchmark outperformance. The inclusion of the statistical significance of alpha is key to this exercise, as it indicates which outcomes are due to a skill that is likely to repeat and those that are more likely due to a random-chance outcome.

Such a finding supports other Deeper Look studies we've conducted looking at different fund families and active managers.

Another caveat worth noting about this performance analysis of Fidelity is how many U.S. sector and international country or region-specific actively managed equity mutual funds are part of this family's lineup. By their very nature — i.e., taking a narrower investment focus and turning over positions at higher rates — these sort of specialty fund managers can expose investors to greater risk.

These red flags (heightened concentration risks and higher turnover rates) serve to temper any top-line numbers indicating that Fidelity's actively managed stock mutual funds were consistent winners. Why? Of the 45 Fidelity stock mutual funds that were found to have outperformed by delivering positive alpha, the vast majority were run as a U.S. sector or international country/region-specific strategy.

That's significant since a breakdown of each fund's annual alpha over 30 years — as shown in each fund's alpha chart — shows that in almost all cases removing just a few years of relatively high positive alpha would've turned short-term winners into long-term laggards.

For example, see below the alpha chart for the Fidelity Select Computers (FDCPX) fund. Although this sector fund managed to outperform its respective benchmark
— as indicated by producing a positive alpha reading during this period — look how much a single year (1999) boosted otherwise relatively lackluster performance against its assigned benchmark. Then, remove another big year (2004), and this sector fund's ability to generate positive alpha looks even less rosey.

While volatility in returns can be exaggerated in such singularly focused investment vehicles, it's still not an isolated issue. Consider the alpha chart for the diversified Fidelity Low-Priced Stock (FLPSX) fund. Again, it generated positive alpha over the 30 years studied. Take out a single year (2001), however, and this fund's ability to outperform its assigned index looks a lot more pedestrian.
Whether targeting entire asset classes or a specific industry/geographic region, too many of Fidelity's active stock mutual fund managers appear to have benefited from relatively short bursts of high positive alpha during this 30-year period. In such an analysis, a lack of persistence by Fidelity's active stock mutual funds in sustaining outperformance against their benchmarks posed a clear and present danger for investors trying to build wealth over a lifetime.

Trying to pick the right fund and specific outperformance interval isn't just a problem for investors in this fund family. The myth of persistency in positive alpha has been debunked by the Standard and Poor's Persistence Scorecard. This ongoing research series biannually compares thousands of different mutual funds from hundreds of U.S.-based fund distributors. It tracks how consistently recent top-performers are able to keep producing winning records in subsequent years.
The most consistent finding uncovered by these S&P researchers: The number of managers remaining in the top half or quartile of their peer group over time is lower than what we would expect from chance alone.

Regression Analysis

How we define or choose a benchmark is extremely important. If we relied solely on commercial indexes assigned by Morningstar, then we may form a false conclusion that Fidelity has the "secret sauce" as active managers.

Since Morningstar is limited in terms of trying to fit the best commercial benchmark with each fund in existence, there is of course going to be some error in terms of matching up proper characteristics such as average market capitalization or average price-to-earnings ratio.

A better way of controlling these possible discrepancies is to run multiple regressions where we account for the known factors (betas) of expected return in the U.S. (i.e., market, size, relative price, etc.).

For example, if we were to look at all of the U.S.-based equity strategies offered as a part of the Fidelity funds family that've been around for at least the past 30 years, we could run multiple regressions to see what each fund's alpha looks like once we control for the multiple betas that are being systematically priced into the overall market.

The chart below displays the average alpha and standard deviation of that alpha for the past 30 years through 2020. Screening criteria include funds with holdings of 90% or greater in U.S. equities and uses the oldest available share classes.

As shown above, 12 of the mutual funds studied had positive excess returns over the stated benchmarks. All of these funds were either sector-focused or country-focused strategies. At the same time, three equity funds produced a statistically significant level of alpha, based on a t-stat of 2.0 or greater. However, two of these were U.S. sector funds. (A review of how to calculate a fund's t-stat can be found at the end of this report — right after the presentations of all Fidelity funds individual alpha charts included in this study.)

Conclusion
Like many of the other large active managers, a deep analysis into the performance of the Fidelity family of funds has yielded a not so surprising result: Active management is likely to fail many investors. This is due to market efficiency, costs and increased competition in the financial services sector.

As we always like to remind investors, a more reliable investment strategy for capturing the returns of global markets is to buy, hold and rebalance a globally diversified portfolio of index funds.

Below are the individual alpha charts for Fidelity's actively managed mutual funds. Each of these funds have 30 years or more of returns data. As we stated earlier in this article, though, some of these funds are older than the Morningstar-assigned benchmarks. In those cases, comparisons can only be made for the length of time that the benchmark has data available.
Fidelity Convertible Securities (FCVSX) - Alpha Chart
33 Years (1/1/1988 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 98 Yrs Standard Deviation of Alpha: 7.94
Average Alpha: 1.61 t-Statistic: 1.16 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Convertible Securities (FCVSX) | BENCHMARK: ICE BofA US Conv Bonds TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Technology (FSPTX) - Alpha Chart
29 Years (1/1/1992 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 61 Yrs
Average Alpha: 3.33 Standard Deviation of Alpha: 13.02
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Technology (FSPTX) | BENCHMARK: Morningstar US Technology TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity Select Software & IT Svcs Port (FCSX) - Alpha Chart**

29 Years (1/1/1992 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: 3.03</th>
<th>t-Statistic: 1.39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): 60 Yrs</td>
<td>Standard Deviation of Alpha: 11.78</td>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
</tr>
</tbody>
</table>

**FUND:** Fidelity Select Software & IT Svcs Port (FCSX)  |  **BENCHMARK:** Morningstar US Technology TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Comms Equip Port (FSDCX) - Alpha Chart
29 Years (1/1/1992 - 12/31/2020)

Minimum Track Record to 2015
Indicate Skill (t-stat > 2): N/A
Average Alpha: -3.36
Standard Deviation of Alpha: 17.45
(t-Stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Comms Equip Port (FSDCX) | BENCHMARK: Morningstar US Technology TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Semiconductors (FSELX) - Alpha Chart
29 Years (1/1/1992 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 32 Yrs
Average Alpha: 4.85 Standard Deviation of Alpha: 13.69
(t-Stat: 1.91) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Semiconductors (FSELX) | BENCHMARK: Morningstar US Technology TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Computers (FDCPX) - Alpha Chart
29 Years (1/1/1992 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: 1.67</th>
<th>t-Statistic: 0.83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): 169 Yrs</td>
<td>Standard Deviation of Alpha: 10.86</td>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
</tr>
</tbody>
</table>

FUND: Fidelity Select Computers (FDCPX) | BENCHMARK: Morningstar US Technology TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity International Discovery (FIGRX) - Alpha Chart**

20 Years (1/1/2001 - 12/31/2020)

- **Minimum Track Record to Indicate Skill (t-stat > 2):** 96 Yrs
- **Average Alpha:** 0.97
- **t-Statistic:** 0.91
- **Standard Deviation of Alpha:** 4.77

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity International Discovery (FIGRX) | BENCHMARK: MSCI ACWI Ex USA Growth NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Advisor Overseas M (FAERX) - Alpha Chart
20 Years (1/1/2001 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -1.15 Standard Deviation of Alpha: 6.29
(t-stat: -0.82)
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Overseas M (FAERX) | BENCHMARK: MSCI ACWI Ex USA Growth NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifac.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Overseas (FOSFX) - Alpha Chart
20 Years (1/1/2001 - 12/31/2020)

Minimum Track Record to: N/A
Indicate Skill (t-stat > 2): N/A
Average Alpha: -0.03
t-Statistic: -0.02
Standard Deviation of Alpha: 6.28
(a t-stat of >2 = 97.5% confidence of skill)

| Fund: Fidelity Overseas (FOSFX) | Benchmark: MSCI ACWI Ex USA Growth NR USD |

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Canada (FICDX) - Alpha Chart
22 Years (1/1/1999 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha:</th>
<th>t-Statistic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): 32 Yrs</td>
<td>3.8</td>
<td>1.65</td>
</tr>
<tr>
<td>Standard Deviation of Alpha:</td>
<td>10.8</td>
<td></td>
</tr>
</tbody>
</table>

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Canada (FICDX) | BENCHMARK: MSCI ACWI Ex USA NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Worldwide (FWWFX) - Alpha Chart
20 Years (1/1/2001 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 60 Yrs
Average Alpha: 1.28
Standard Deviation of Alpha: 4.96
t-Statistic: 1.15
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Worldwide (FWWFX) | BENCHMARK: MSCI ACWI Growth NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.IFA.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Advisor Emerging Markets (FEMKX) - Alpha Chart
20 Years (1/1/2001 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 68 Yrs
Average Alpha: 1.68 Standard Deviation of Alpha: 6.95
(t-Stat: 1.08) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Emerging Markets (FEMKX) | BENCHMARK: MSCI EM NR USD

Alpha (%) Returns relative to benchmark


*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Europe (FIEUX) - Alpha Chart
34 Years (1/1/1987 - 12/31/2020)

- Minimum Track Record to Indicate Skill (t-stat > 2): 167 Yrs
- Average Alpha: 0.91
- t-Statistic: 0.9
- Standard Deviation of Alpha: 5.91
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Europe (FIEUX) | BENCHMARK: MSCI Europe NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Pacific Basin (FPBFX) - Alpha Chart
34 Years (1/1/1987 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 32 Yrs
Average Alpha: 5.76 Standard Deviation of Alpha: 16.2
(t-Stat: 2.07) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Pacific Basin (FPBFX) | BENCHMARK: MSCI Pacific NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)

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Fidelity Select Gold (FSAGX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -1.36 Standard Deviation of Alpha: 25.4
t-Statistic: -0.27 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Gold (FSAGX) | BENCHMARK: MSCI World/Metals & Mining NR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Capital Appreciation (FDCA) - Alpha Chart
34 Years (1/1/1987 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: 0.3</th>
<th>t-Statistic: 0.14</th>
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</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): 7219 Yrs</td>
<td>Standard Deviation of Alpha: 12.7</td>
<td></td>
</tr>
</tbody>
</table>

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Capital Appreciation (FDCA) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Blue Chip Growth (FBGRX) - Alpha Chart
33 Years (1/1/1988 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 76 Yrs
Average Alpha: 1.75  t-Statistic: 1.31
Standard Deviation of Alpha: 7.67
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Blue Chip Growth (FBGRX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
### Fidelity Advisor Equity Growth I (EQPGX) - Alpha Chart

**37 Years (1/1/1984 - 12/31/2020)**

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: 1.58</th>
<th>t-Statistic: 1.31</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): 87 Yrs</td>
<td>Standard Deviation of Alpha: 7.36</td>
<td></td>
</tr>
<tr>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FUND: Fidelity Advisor Equity Growth I (EQPGX) | BENCHMARK: Russell 1000 Growth TR USD**

![Alpha Chart](image)

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Advisor Diversified Stock O (FDESX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 2124 Yrs Standard Deviation of Alpha: 10.37
Average Alpha: 0.45 t-Statistic: 0.28 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Diversified Stock O (FDESX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Contrafund (FCNTX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 88 Yrs
Average Alpha: 1.66
Standard Deviation of Alpha: 7.81
T-Statistic: 1.38
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Contrafund (FCNTX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Disciplined Equity (FDEQX) - Alpha Chart
32 Years (1/1/1989 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -1.39 Standard Deviation of Alpha: 7.83
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Disciplined Equity (FDEQX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Stock Select All Cp (FDSSX) - Alpha Chart
30 Years (1/1/1991 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): N/A
Average Alpha: -0.88
T-Statistic: -0.62
Standard Deviation of Alpha: 7.75
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Stock Select All Cp (FDSSX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Growth Company (FDGRX) - Alpha Chart
37 Years (1/1/1984 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 35 Yrs
Average Alpha: 3.6 t-Statistic: 2.07
Standard Deviation of Alpha: 10.57
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Growth Company (FDGRX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Magellan (FMAGX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 54 Yrs
Average Alpha: 3.11
Standard Deviation of Alpha: 11.39
t-Statistic: 1.77
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Magellan (FMAGX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity (FFIDX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2):  
N/A  

Average Alpha: -0.67  
Standard Deviation of Alpha: 6.81  
t-Statistic: -0.64  
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity (FFIDX)  
BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity OTC (FOCPX) - Alpha Chart**

36 Years (1/1/1985 - 12/31/2020)

| Minimum Track Record to Average Alpha: | 3.95 | t-Statistic: | 2.08 |
| Indicate Skill (t-stat > 2): | 33 Yrs | Standard Deviation of Alpha: | 11.39 |

*(a t-stat of >2 = 97.5% confidence of skill)*

**FUND: Fidelity OTC (FOCPX) | BENCHMARK: Russell 1000 Growth TR USD**

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)*
Fidelity Trend (FTRNX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: -0.6</th>
<th>t-Statistic: -0.39</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): N/A</td>
<td>Standard Deviation of Alpha: 9.97</td>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
</tr>
</tbody>
</table>

FUND: Fidelity Trend (FTRNX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifacd.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity Advisor Growth Opps M (FAGOX) - Alpha Chart**
33 Years (1/1/1988 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha:</th>
<th>t-Statistic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2):</td>
<td>168 Yrs</td>
<td>1.73</td>
</tr>
<tr>
<td>Standard Deviation of Alpha:</td>
<td>11.18</td>
<td></td>
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</tbody>
</table>

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Growth Opps M (FAGOX) | BENCHMARK: Russell 1000 Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFAd.com)
Fidelity Advisor Capital Development O (FDETX) - Alpha Chart
35 Years (1/1/1986 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 169 Yrs
Average Alpha: 1.4 Standard Deviation of Alpha: 9.13
(t-Stat: 0.91) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Capital Development O (FDETX) | BENCHMARK: Russell 1000 TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Growth & Income (FGRIX) - Alpha Chart
35 Years (1/1/1986 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): \(2287 \text{ Yrs}\) Standard Deviation of Alpha: 7
Average Alpha: 0.29 t-Statistic: 0.25
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Growth & Income (FGRIX) | BENCHMARK: Russell 1000 Value TR USD

* Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Equity Dividend Income (FEQTX) - Alpha Chart
30 Years (1/1/1991 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -0.31 t-Statistic: -0.28
Standard Deviation of Alpha: 6.04 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Equity Dividend Income (FEQTX) | BENCHMARK: Russell 1000 Value TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Equity-Income (FEQIX) - Alpha Chart
42 Years (1/1/1979 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): 118739 Yrs  Standard Deviation of Alpha: 4.81

Average Alpha: 0.03  t-Statistic: 0.04

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Equity-Income (FEQIX)  |  BENCHMARK: Russell 1000 Value TR USD

\*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity Advisor Equity Income I (EQPIX) - Alpha Chart**

37 Years (1/1/1984 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha: -1.12</th>
<th>t-Statistic: -1.76</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): N/A</td>
<td>Standard Deviation of Alpha: 3.85</td>
<td></td>
</tr>
</tbody>
</table>

(A t-stat of >2 = 97.5% confidence of skill)

**FUND: Fidelity Advisor Equity Income I (EQPIX) | BENCHMARK: Russell 1000 Value TR USD**

![Graph showing the performance of Fidelity Advisor Equity Income I (EQPIX) relative to the Russell 1000 Value TR USD benchmark over 37 years (1984-2020). The graph includes bars representing annual returns and lines showing the alpha and benchmark performance.]

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Growth Strategies (FDEGX) - Alpha Chart
30 Years (1/1/1991 - 12/31/2020)

FUND: Fidelity Growth Strategies (FDEGX) | BENCHMARK: Russell Mid Cap Growth TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Value Strategies (FSLSX) - Alpha Chart
35 Years (1/1/1986 - 12/31/2020)

Minimum Track Record to: 
Indicate Skill (t-stat > 2): N/A

Average Alpha: -0.03 
Standard Deviation of Alpha: 10.62 
t-Statistic: -0.01 
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Value Strategies (FSLSX) | BENCHMARK: Russell Mid Cap Value TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Low-Priced Stock (FLPSX) - Alpha Chart
31 Years (1/1/1990 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 51 Yrs
Average Alpha: 2.02 t-Stat: 1.57
Standard Deviation of Alpha: 7.19
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Low-Priced Stock (FLPSX) | BENCHMARK: Russell Mid Cap Value TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Value (FDVLX) - Alpha Chart
35 Years (1/1/1986 - 12/31/2020)

Minimum Track Record to: N/A
Indicate Skill (t-stat > 2): N/A
Average Alpha: -0.74
Standard Deviation of Alpha: 6.18

FUND: Fidelity Value (FDVLX) | BENCHMARK: Russell Mid Cap Value TR USD

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Communication Services (FBMPX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to 46 Yrs
Indicate Skill (t-stat > 2): 46 Yrs
Standard Deviation of Alpha: 18.11
Average Alpha: 5.34
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Communication Services (FBMPX) | BENCHMARK: S&P 1500 Commun Services TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Telecommunications Port (FSTCX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): 550 Yrs
Average Alpha: 1.32
Standard Deviation of Alpha: 15.46
(t-Stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Telecommunications Port (FSTCX) | BENCHMARK: S&P 1500 Commun Services TR

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Fidelity Select Retailing (FSRPX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 24 Yrs
Average Alpha: 2.77 t-Statistic: 2.07
Standard Deviation of Alpha: 6.81 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Retailing (FSRPX) | BENCHMARK: S&P 1500 Cons Discretionary TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Construction & Hsg Port (FSHOX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Average Alpha: 0.6  t-Statistic: 0.22
Indicate Skill (t-stat > 2): 2229 Yrs  Standard Deviation of Alpha: 14.18
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Construction & Hsg Port (FSHOX) | BENCHMARK: S&P 1500 Cons Discretionary TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Leisure (FDLSX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to 266 Yrs
Indicate Skill (t-stat > 2): 266 Yrs
Standard Deviation of Alpha: 8.19
Average Alpha: 1
(t-Statistic: 0.62)
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Leisure (FDLSX) | BENCHMARK: S&P 1500 Cons Discretionary TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
**Fidelity Select Consumer Discret Port (FSCPX) - Alpha Chart**

26 Years (1/1/1995 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha:</th>
<th>t-Statistic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): N/A</td>
<td>-0.75</td>
<td>-0.66</td>
</tr>
<tr>
<td>Standard Deviation of Alpha:</td>
<td>5.81</td>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
</tr>
</tbody>
</table>

**FUND:** Fidelity Select Consumer Discret Port (FSCPX) | **BENCHMARK:** S&P 1500 Cons Discretionary TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Automotive Port (FSAVX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2):  6391 Yrs
Average Alpha:  0.57  Standard Deviation of Alpha:  22.96
(t-Statistic:  0.13)  (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Automotive Port (FSAVX) | BENCHMARK: S&P 1500 Cons Discretionary TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.IFA.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Consumer Staples Port (FDFA) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -0.1 Standard Deviation of Alpha: 5.67
t-Stat: -0.09 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Consumer Staples Port (FDFA) | BENCHMARK: S&P 1500 Cons Staples TR

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Fidelity Select Energy Service Port (FSESX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to: 402 Yrs
Indicate Skill (t-stat > 2): Standard Deviation of Alpha: 22.44
Average Alpha: 2.24 t-Statistic: 0.51
(a t-stat of >2 = 97.5% confidence of skill)

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Advisor Energy M (FAGNX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): Average Alpha: 10.6
N/A Standard Deviation of Alpha: -0.53 -0.25
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Advisor Energy M (FAGNX) | BENCHMARK: S&P 1500 Energy TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA's advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Energy (FSENX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 2111 Yrs
Average Alpha: 0.45 Standard Deviation of Alpha: 10.45
(α t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Energy (FSENX) | BENCHMARK: S&P 1500 Energy TR

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Fidelity Select Banking (FSRBX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

<table>
<thead>
<tr>
<th>Minimum Track Record to</th>
<th>Average Alpha:</th>
<th>t-Statistic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicate Skill (t-stat &gt; 2): N/A</td>
<td>-1.54</td>
<td>-1.16</td>
</tr>
<tr>
<td>Standard Deviation of Alpha:</td>
<td>6.81</td>
<td>(a t-stat of &gt;2 = 97.5% confidence of skill)</td>
</tr>
</tbody>
</table>

FUND: Fidelity Select Banking (FSRBX) | BENCHMARK: S&P 1500 Financials TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Insurance Port (FSPCX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to: 266 Yrs
Indicate Skill (t-stat > 2): Standard Deviation of Alpha: 9.59
Average Alpha: 1.18
(t-Stat: 0.62)
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Insurance Port (FSPCX) | BENCHMARK: S&P 1500 Financials TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A – Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Consumer Finance Port (FSVLX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -2.06 Standard Deviation of Alpha: 10.92
(t-Stat: -0.96) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Consumer Finance Port (FSVLX) | BENCHMARK: S&P 1500 Financials TR

*Alpha - The excess return of an investment relative to the return of a benchmark index. | Benchmark selected by Morningstar, Inc. | N/A - Not Available based upon historical data. Indexes are not available for direct investment and performance does not reflect the expenses of an actual portfolio. Unless indicated otherwise, the performance includes reinvestment of dividends and capital gains but does not include the deduction of IFA’s advisory fees, transaction costs or taxes. Please visit the www.ifa.com/glossary for explanation of standard deviation (a quantification of risk), T-statistic and other terms. © 2021 Index Fund Advisors, Inc. (IFA.com)
Fidelity Select Brokerage & Invmt Mgmt (FSLBX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 62 Yrs
Average Alpha: 3.64 Standard Deviation of Alpha: 14.29
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Brokerage & Invmt Mgmt (FSLBX) | BENCHMARK: S&P 1500 Financials TR

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Fidelity Select Biotechnology (FBIOX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): 170 Yrs

Average Alpha: 3.38
t-Statistic: 0.78
Standard Deviation of Alpha: 22.05
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Biotechnology (FBIOX) | BENCHMARK: S&P 1500 Health Care TR

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Fidelity Select Health Care (FSPHX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 57 Yrs
Average Alpha: 1.82 Standard Deviation of Alpha: 6.88
(t-Statistic: 1.35 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Health Care (FSPHX) | BENCHMARK: S&P 1500 Health Care TR

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Fidelity Select Health Care Svcs Port (FSHCX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): 2686 Yrs
Average Alpha: 0.71
Standard Deviation of Alpha: 18.46
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Health Care Svcs Port (FSHCX) | BENCHMARK: S&P 1500 Health Care TR

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Fidelity Select Transportation (FSRFX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 276 Yrs
Average Alpha: 1.35 Standard Deviation of Alpha: 11.18
(t-Statistic: 0.61) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Transportation (FSRFX) | BENCHMARK: S&P 1500 Industrials TR

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Fidelity Envir and Alt Enyg Fund (FSLEX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): N/A
Average Alpha: -4.05
Standard Deviation of Alpha: 12.9

(a t-stat of > 2 = 97.5% confidence of skill)

FUND: Fidelity Envir and Alt Enyg Fund (FSLEX) | BENCHMARK: S&P 1500 Industrials TR

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Fidelity Select Air Transportation Port (FSAIX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 137 Yrs
Average Alpha: 2.25 Standard Deviation of Alpha: 13.17
(t-Stat: 0.87) (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Air Transportation Port (FSAIX) | BENCHMARK: S&P 1500 Industrials TR

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Fidelity Select Defense & Aero Port (FSDAX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 29 Yrs
Average Alpha: 3.03 t-Statistic: 1.9
Standard Deviation of Alpha: 8.13 (a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Defense & Aero Port (FSDAX) | BENCHMARK: S&P 1500 Industrials TR

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Fidelity Telecom and Utilities (FIUIX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): N/A
Average Alpha: -1
t-Statistic: -0.28
Standard Deviation of Alpha: 18.28
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Telecom and Utilities (FIUIX) | BENCHMARK: S&P 1500 Utilities TR

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Fidelity Select Utilities (FSUTX) - Alpha Chart
26 Years (1/1/1995 - 12/31/2020)

Minimum Track Record to
Indicate Skill (t-stat > 2): 24131 Yrs
Standard Deviation of Alpha: 17.45
Average Alpha: 0.22
t-Statistic: 0.07
(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Utilities (FSUTX) | BENCHMARK: S&P 1500 Utilities TR

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Fidelity Select Materials (FSDPX) - Alpha Chart
24 Years (1/1/1997 - 12/31/2020)

Minimum Track Record to Indicate Skill (t-stat > 2): 71 Yrs
Average Alpha: 4.17
Standard Deviation of Alpha: 17.63
(t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Materials (FSDPX) | BENCHMARK: S&P North American Natural Resources TR

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**Fidelity Select Chemicals (FSCHX) - Alpha Chart**

24 Years (1/1/1997 - 12/31/2020)

Minimum Track Record to 36 Yrs

Indicate Skill (t-stat > 2): 36 Yrs

Standard Deviation of Alpha: 16.87

Average Alpha: 5.64

t-Statistic: 1.64

(a t-stat of >2 = 97.5% confidence of skill)

FUND: Fidelity Select Chemicals (FSCHX) | BENCHMARK: S&P North American Natural Resources TR

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Here is a calculator to determine the t-stat. Don’t trust an alpha or average return without one.

The Figure below shows the formula to calculate the number of years needed for a t-stat of 2. We first determine the excess return over a benchmark (the alpha) then determine the regularity of the excess returns by calculating the standard deviation of those returns. Based on these two numbers, we can then calculate how many years we need (sample size) to support the manager’s claim of skill.

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Fidelity Fidelity Funds Mutual Funds Alpha Performance Track Record Skill T-Stat Returns Survivorship Bias

About Index Fund Advisors

Index Fund Advisors, Inc. (IFA) is a fee-only advisory and wealth management firm that provides risk-appropriate, returns-optimized, globally-diversified and tax-managed investment strategies with a fiduciary standard of care.

Founded in 1999, IFA is a Registered Investment Adviser with the U.S. Securities and Exchange Commission that provides investment advice to individuals, trusts, corporations, non-profits, and public and private institutions. Based in Irvine, California, IFA manages individual and institutional accounts, including IRA, 401(k), 403(b), profit sharing, pensions, endowments and all other investment accounts. IFA also facilitates IRA rollovers from 401(k)s and 403(b)s.

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Murray is an investment writer at Index Fund Advisors. Prior to joining IFA, he worked as a funds reporter for The Wall Street Journal, The Financial Times, Barron's and MarketWatch.