

Integrity in Investing Morningstar Ratings and Informed Investing Decisions



Paul Byron Hill, MBA, MFP, MSFS, ChFC®, CFP®
Professional Financial Strategies, Inc. ©2017



PROFESSIONAL
FINANCIAL

Integrative Wealth Management

"All the time and effort that people devote to picking the right fund, the hot hand, the great manager, in most cases have led to no advantage."

– Peter Lynch, legendary Fidelity Magellan Fund manager

This is part of a series exploring integrity in planning financial strategy

Key takeaways:

- Morningstar's "star" rating model is a major driver of many investor planning decisions
- Analysis shows Morningstar's popular "star" rating system has only limited predictive value
- Research shows that simply measuring past performance is a poor predictor of future returns
- The best management model is structured on dimensions of returns with investor discipline

We've met many successful people who've made most of their own planning and investing decisions with varying degrees of success. I'm not thinking of younger families or those with limited resources, but mature people often with substantial assets who we may describe as "middle-class millionaires."¹

Middle-class millionaires are different than both the average people and the average investor. They tend to think about money differently. Many are leaders in their careers or professions. They often assume that because they are smart or because of their career or professional success that they are capable of doing their own planning. Maybe they had a bad advisory experience sometime in the past. Maybe their investments have done well. Most likely, little or nothing has come along, like health or business issues, to disturb a sense of complacency.

Popular magazines like *Money*, *Kiplingers* or *Forbes* glamorize investing with success stories of beautiful people getting rich from shrewd real estate transactions or trading ETFs, mutual funds or stocks with discount brokers. Their articles suggest for the price of a subscription that you can do it, too. Like the flashy casinos in Vegas, the dark allure of easy riches is tempting, and winning big looks easy. But studies show, only the House always wins. Traditional investing—actively trading securities yourself, or hiring

someone to work for you using a hedge fund—has long been shown to be a zero-sum game before expenses, and a negative sum game after costs.²

The success stories promoted by popular media don't work in everyday life, except for a lucky few. Magazines, like the financial industry, are NOT in the education business. They are in the entertainment business: their goal is to attract an audience for the advertisers—like Wall Street brokerages and financial industry firms—who pay those same magazines big dollars to attract reader attention. Editors search for anecdotal stories of a lucky few making money from some familiar investments, like stocks or mutual funds—today—to feature next month, but ignore legions of losers owning poor products they may have been sold by those same advertisers—or those people getting fair, but not spectacular returns. Or during market downturns, stories come out about how to protect what little is left when yesterday's sensational "star" manager from a competitor's article, went bust.



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



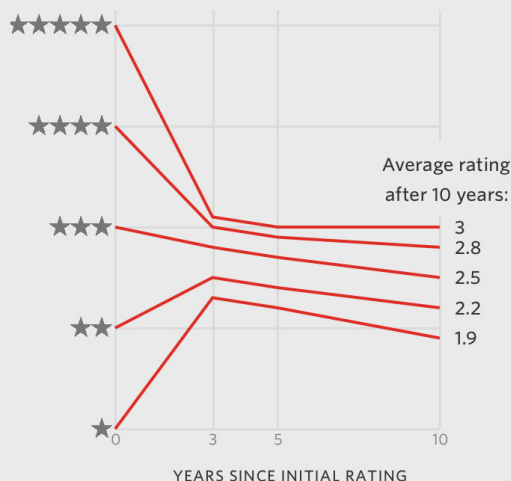
Exhibit 1: MORNINGSTAR RATINGS OVER TIME

HOW FUNDS WITH DIFFERENT RATINGS COMPARE

Morningstar gives funds one to five stars for past performance, **with five the best.**

Many investors treat the stars as a **guide to future performance.**

But over time, the performance of funds with different initial star ratings **converges.**



Notes: Year zero represents the initial overall rating of funds. Other points on chart are their average star ratings for the following three, five or ten years. Funds rated by Morningstar can have up to four ratings: a three-year rating, a five-year rating, a 10-year rating, and an overall rating that is based on a combination of the others.

Source: Morningstar Direct and *Wall Street Journal* (October 25, 2017)

The Morningstar “Star” Ratings Model

The biggest player selling its services to the financial industry is not a popular magazine or internet program. While it has some publishing activities and is moving into limited product sales, Morningstar mostly sells research. And the research activity that Morningstar is best known for, and that the industry broadly encourages, is its Star Rating system.

Morningstar is a US-based research firm that publishes a huge range of stock, mutual fund, exchange traded fund (ETF), index and other data. The firm is popular among individual investors for its easily understandable mutual fund, EFT and stock one-page investment summaries. The Star system ranks securities based on earning us to five “stars”, with five stars indicating the best performance for a historical time period.

Morningstar dutifully warns investors against choosing funds solely on its star rating. Yet many with limited interest or time do exactly that, as does the popular financial media used by those same investors. But should investors expect such a narrowly focused methodology to produce reliable results?

The Wall Street Journal recently published an explosive feature article showing how mutual funds (the subject of interest to most individual investors) that earned high Star Ratings due to recent performance from Morningstar also attracted most investor dollars. A substantial increase of in-flows would start starting shortly after a 5-star rating . . . yet most of those same funds failed to continue outperforming.³

The *Journal’s* study of funds that earned a 5-star rating (see *Exhibit 4* below) showed that only 14% did well enough over the next 10 years to sustain that high rating, while 10% fell all the way to 1-star over the subsequent 10 years—or had merged or gone out of business completely. The fall-off in performance was most dramatic amongst US stock funds.

Morningstar officially maintains that its star system is strictly backwards-looking, and not intended for predicting



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 2: INVESTOR MONEY IN MOTION

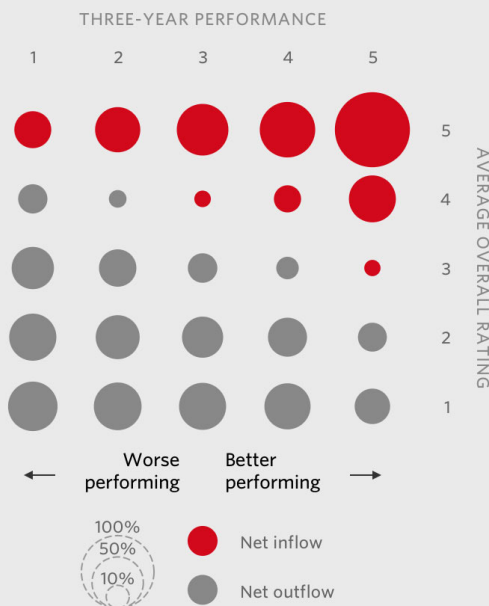
MONEY IN MOTION

The Journal analyzed how much money flowed into or out of funds over three years based on the overall ratings investors saw and how well the funds actually performed.

Investors pour money into top-rated funds even if their performance declines.

Investors pull money from low-rated funds even if their performance improves.

Net flows as a percentage of assets at start of three-year period



Note: Funds rated by Morningstar can have up to four ratings: a three-year rating, a five-year rating, a 10-year rating, and an overall rating that is based on a combination of the others.

Source: Morningstar Direct and *Wall Street Journal* (October 25, 2017)

future performance. That position technically complies with FINRA regulatory requirements. Morningstar emphasized in its highly critical response that even if rankings have only limited predictive value, the “Star” system effectively identifies funds more likely to do poorly in the future (and more likely to liquidate). By avoiding bad funds with poor future returns, investor’s overall results should improve. The *Journal’s* unpublished analysis confirmed that position. However, because once a fund is ranked 5 stars and it becomes an ordinary performer after only three years, are Star ratings of practical benefit or just a marketing device?

Massive Money Flows from Star Rankings

Enormous fund flows are associated with rating changes due to the broad use of Star ratings by media and in company advertisements. Those ratings are endowed with great confidence by investors and financial advisors alike, (see *Exhibit 2*). The primary question is: are investors and their financial advisors putting undue weight into the Star ratings, regardless of Morningstar’s official position on the matter?

Public confidence is so great as to give an almost celebrity status to Star ratings. The constant reinforcement of the Morningstar name in the media has endowed the Star ratings with an implied credibility that financial advisors may exploit. Morningstar research services, along with its Star ratings and analyst research, are readily available on the internet for a modest subscription fee—and much of it may be obtained for free.

The financial industry itself encourages misplaced investor confidence with the tacit support of the popular media, which that same industry supports with its heavy advertising. Magazines like *Money* and *Kiplingers* are permitted to use Morningstar investment data, free of charge. That is in stark contrast to innumerable fund companies and others that must pay a fee to Morningstar in order to advertise their top Star rankings, as well as pay for access to the data services.

There is a perverse information asymmetry that enhances confidence in the minds of investors due to information the financial industry never provides in it



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 3: FIVE-STAR FUNDS OVER TIME



HOW FIVE-STAR FUNDS PERFORMED OVER TIME

For every fund given an overall rating of five stars, The Wall Street Journal looked at future Morningstar ratings to assess how the fund performed.

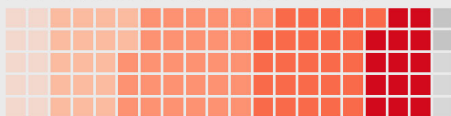
Of funds with a **five-star rating**, three years later only 14% had performed at a five-star level.



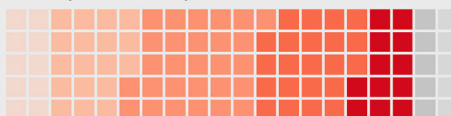
These squares represent 100% of the funds that received an overall rating of five stars



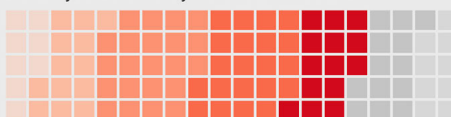
Morningstar rating of the same funds' performance over the three years after they were rated five stars



Morningstar rating of the same funds' performance over the five years after they were rated five stars



Morningstar rating of the same funds' performance over the ten years after they were rated five stars



Notes: To accommodate the format of the chart, the percentages are not precisely rounded in some instances. Please see methodology for actual figures. Funds rated by Morningstar can have up to four ratings: a three-year rating, a five-year rating, a 10-year rating, and an overall rating that is based on a combination of the others.

Source: Morningstar Direct and *Wall Street Journal* (October 25, 2017)

advertisements: funds whose 5 star rankings have been lowered, or actually closed or merged outright. The media almost never writes about that. Individual investors and financial advisor, in this attention-deficit age prefer executive summaries set prominently against a mass of unreadable financial detail that even professional advisors understand with difficulty. They ignore the legal warnings in small print, or long technical articles intended mostly for analysts with a surfeit of time.⁶

Clients need to understand that Morningstar analysis does not employ the same multifactor models we use. The 250,000 financial advisors using Morningstar research (most of whom are selected and trained by financial firms to sell their profitable products) don't understand multifactor investing, and don't care. Morningstar Office, Morningstar Direct, and other Morningstar services are important tools that help financial advisor find needs to help them sell. In fact advisors like to recommend 4- and 5-star rated funds, since that provides a "safe harbor" for liability and compliance (when those investments inevitably end up underperforming, the advisor can deflect the blame to Morningstar's rating system rather than their broker-dealer or their own selection process!).⁷

The Wall Street Journal article provides anecdotal stories of three formerly 5-star mutual funds promoted by advisors to the detriment of their customers. In each case, assets values precipitously dropped over relatively short periods, causing financial distress to pension funds or individuals. It appears to us that a number of poorly performing funds were forced to merge or liquidate simply due to the lowered Morningstar rating as money poured out and moved onto to 5-star funds—when the manager's problem may only have been bad luck from selections, but then investment losses were aggravated from forced stock liquidations due to huge cash flows out of the fund—as Morningstar's star methodology confused what may have been luck with skill.⁸

Rationalizing Rating Mediocrity

Morningstar's Don Phillips was especially upset with the *Journal* article.⁹ His argument mainly is that relying on higher-star-rated funds is superior to randomly choosing funds. He notes that 5-star funds are 40% more likely to remain 5-star funds in the future than funds randomly



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 4: MORNINGSTAR STAR MUTUAL FUND RATINGS AFTER 10 YEARS

Rolling Periods 1/1997 - 12/2016

Morningstar Ending Star Rating after 10-year fund management period as percentage									
MORNINGSTAR ORIGINAL RATING	High Star			3 Stars	TOTALS	Low Star			
	5 Stars	4 Stars	TOTALS			2 Stars	1 Star	Merged	Liquidated
5 Stars	14%	21%	35%	22%	43%	13%	8%	13%	9%
4 Stars	6%	17%	23%	25%	52%	14%	6%	21%	11%
3 Stars	3%	11%	14%	22%	64%	14%	6%	30%	14%
2 Stars	2%	7%	9%	14%	78%	14%	7%	41%	16%
1 Star	2%	3%	5%	9%	86%	9%	8%	48%	21%

Average Star rating outcome for rolling 10 year period beginning in 1997. Original table has been re-arranged. "High Star Total" combines 5 + 4 Star columns. "Low Star Totals" combines 2 + 1 Star, Merged and Liquidated columns. Merged fund star ratings excluded for calculating average future star rating. Benefit of income distributions not shown.

Past performance is no assurance of future results, and there is always a risk that an investor may lose money.

Sources: Morningstar Direct and *The Wall Street Journal* study (October 25, 2017).

chosen and statistically more likely to be at least be 4-star funds. He concedes that even if Morningstar's star ratings aren't perfect predictors, they give the investor (or an advisor who uses them) superior odds over not using them.

Employing the pejorative phrase "statistical fog," Mr. Phillips accuses *Journal* reporters of quantitative ignorance. That may be true, but *Exhibit 4* above using the *Journal's* internal unpublished Morningstar ratings analysis raises highly troubling questions even assuming Mr. Phillips is technically correct. With a 10-year planning horizon for evaluating initial 5 Star ratings, we find:

- Only 27% to 35% are still 4 or 5 stars after 10 years;
- 22% to 25% are 3 stars with index-like returns;
- and 43% to 52% are 1 or 2 stars or no longer exist!

Pardon me if Mr. Phillips' intellectual pretensions leaves me unpersuaded of Morningstar ratings as a practitioner and a consultant. As a professional entrusted with our clients' life savings, our firm maintains an economic moat for preserving and protecting wealth in the face of inevitable economic uncertainty. Once retired, most clients can never return to work due to age or health issues. But applying simple logic to *Exhibit 4* figures implies the following:

*There is a 1-out-of-3 chance of above-average return;
There is a 1-out-of-2 chance of very below-average return;
So, 5-star portfolios have below-average expected returns.*

Playing in Mr. Phillips casino makes absolutely no financial sense where investing alternatives grounded in decades of economic science and empirical research are available. The Morningstar Star Model, which has been improved since its initial conception (according to the *Journal* article, the Star ratings was developed for marketing and not research purposes), but it provides not practical advantage simply relative to a sensible index fund allocation. The more complex 36-factor "Global Risk Model" also introduced by Morningstar is not likely to improve implementing a portfolio strategy. However, Star rating system benefits the company by requiring continuous employment of Morningstar services because declining 5 star funds need new 5 star funds for replacement.

There are a few individual "Do-It-Yourself" investors with the time and inclination to play "beat the market" with their portfolio, who may benefit from Morningstar's research services. I knew a man who made his wealth from real estate ventures. He hired a full-time CFA to manage his family office portfolio, and made all the final decisions. His manager confided one day that his results were not especially good. But he was already rich, and liked to brag about a CFA on staff. Hedge funds, targeted for the very wealthy, are perennial losers. But rich men buy them for bragging rights, or to be part of an "in" group among their equally



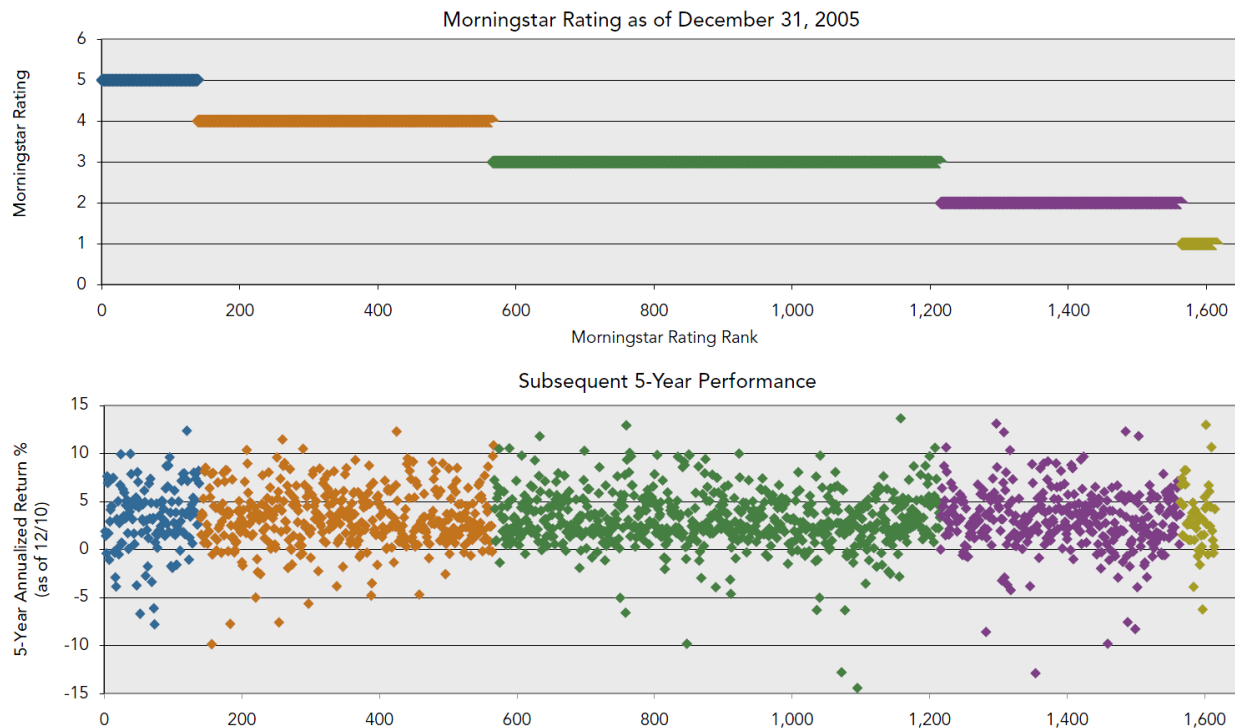
PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 5: MORNINGSTAR RATINGS LACK PREDICTIVE POWER

US Equity Mutual Funds, 1996 - 2010



Funds are ordered based on a multi-level sort, using data as of December 31, 2005, first by Overall Star Rating, followed by Ten-Year Star Rating, Five-Year Star Rating, Three-Year Star Rating, and finally by the Three-Year Total Return Percentile Rank in Category.

Sources: Mutual fund universe statistical data and non-Dimensional money managers' fund data provided by Morningstar, Inc. Sample size (1,615 funds) taken from entire domestic equity universe with an inception date prior to January 1, 2001. Subsequent 5-year period represent existing funds from the Morningstar rating as of December 2005. Past performance is no guarantee of future results.

risk friends. For that type of investor, it's an alternative to a huge trophy house or a big yacht (a hole in the water which you pour money into). But for the typical middle-class millionaire looking for peace, freedom and leaving a legacy, do-it-yourself makes no practical sense.

Ratings Lack Predictive Power

While *Wall Street Journal* reporters may not have the statistical sophistication or technical expertise to analyze the efficacy of Morningstar fund ratings, the uber-intellects at Dimensional Fund Advisors most certainly do. Because so many investors in their quest for higher returns choose funds solely on Morningstar star rating, it was a target that the academics at Dimensional could ignore. Not expecting Morningstar's narrowly focused approach to produce reliable results over time, Dimensional completed several predictive power studies back in 2006.

Exhibit 5 documents the challenge of picking a future winner based on its Morningstar rating. The top chart displays all US-based mutual funds (over 6,000 at the time) based on their Morningstar rating at the end of 2005. The rankings are sorted by historical star rating strength, from strongest to weakest. The bottom chart plots fund performance over the subsequent five-year period based on each fund's annualized return rank in its respective star category. Annualized returns after 5 years appear nearly random.

If funds with high star ratings could repeat their top relative performance in the future, the data in the bottom chart would demonstrate this, with high-star-rated funds delivering high annualized returns, and lower-star-rated funds showing lower annualized performance. The exhibit would display fund performance in stair-step fashion, with a large concentration of five-star funds in the higher



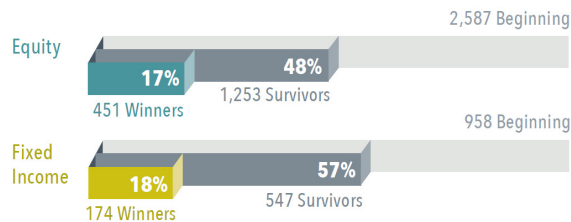
PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.

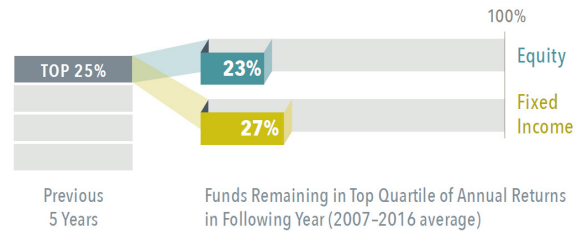


Exhibit 6: US-BASED MUTUAL FUND PERFORMANCE, 2002-2016 & PERCENTAGE OF TOP-RANKED FUND THAT STAYED ON TOP

US-Based Mutual Fund Performance, 2002-2016



Percentage of Top-Ranked Funds That Stayed on Top



The market's pricing power works against mutual fund managers who try to outperform through stock picking or market timing. As evidence, only 17% of US equity mutual funds and 18% of fixed income funds have survived and outperformed their benchmarks over the past 15 years.

Some investors select mutual funds based on past returns. However, research shows that most funds in the top quartile (25%) of previous five-year returns did not maintain a top quartile ranking for one-year returns in the following year. Past performance offers little insight into a fund's future returns.

Sources: US-domiciled open-end mutual fund data is from Morningstar and Center for Research in Security Prices (CRSP) from the University of Chicago. Index funds and fund-of-funds are excluded from the sample. Benchmark data provided by Bloomberg Barclays, MSCI, Russell, Citigroup, and Standard & Poor's Index Services Group. For illustrative purposes only.

Past performance is no guarantee of future results, and there is always the risk that an investor may lose money. Indices are not available for direct investment, therefore their performance does not reflect the expenses associated with the management of an actual portfolio.

returns range (e.g., top 20%) and most lower-rated funds concentrated in the bottom returns range.

non-professionals. So the funds and losses get quickly forgotten.

The actual data tell a very different story. In the bottom exhibit, each successive star rating displays broadly dispersed relative five-year performance, confirming that a fund's past rating does not imply future relative returns. We note that nearly one third of funds across all star ratings failed to survive subsequent five-year period. These results are consistent with academic performance research on funds and managers, which finds little evidence of persistent outperformance based on different rating methodologies.¹⁰

The size of the mutual fund landscape masks the fact that many funds disappear each year, often as a result of poor investment performance. Morningstar's rating system likely accelerates that high rate of disappearance.

Many investors are surprised by how many mutual funds become obsolete over time. Funds tend to disappear quietly, and underperforming funds—especially those that do not survive and are no longer available for investment—receive little attention. In fact, historical information on disappearing funds also disappears from the Morningstar research services available to

Non-surviving funds tend to be poor performers.

Certainly, investors would like to identify in advance those funds which will fail and become obsolete and avoid buying them. But the reality is that every investor must choose from a universe that includes funds that will not survive, and an accurate depiction of the difficulty of the fund selection challenge requires including data from both surviving and non-surviving funds.

Most investors and their advisors likely want to do more than just pick a fund that survives. Most want funds that outperform a relative market benchmark. But Exhibit 6, updating fund data of Exhibit 5, continues to illustrate the low chances of picking an outperforming "winning" fund. Over both short and longer time horizons, the deck is stacked against investors seeking outperforming equity and fixed income funds. Over time, a declining percentage of mutual funds from the beginning sample survived, and only a fraction of those surviving delivered winning performance. For the 15-year period through 2016 in the exhibit, only 17% of equity funds and 18% of fixed income funds survived AND outperformed their benchmarks.



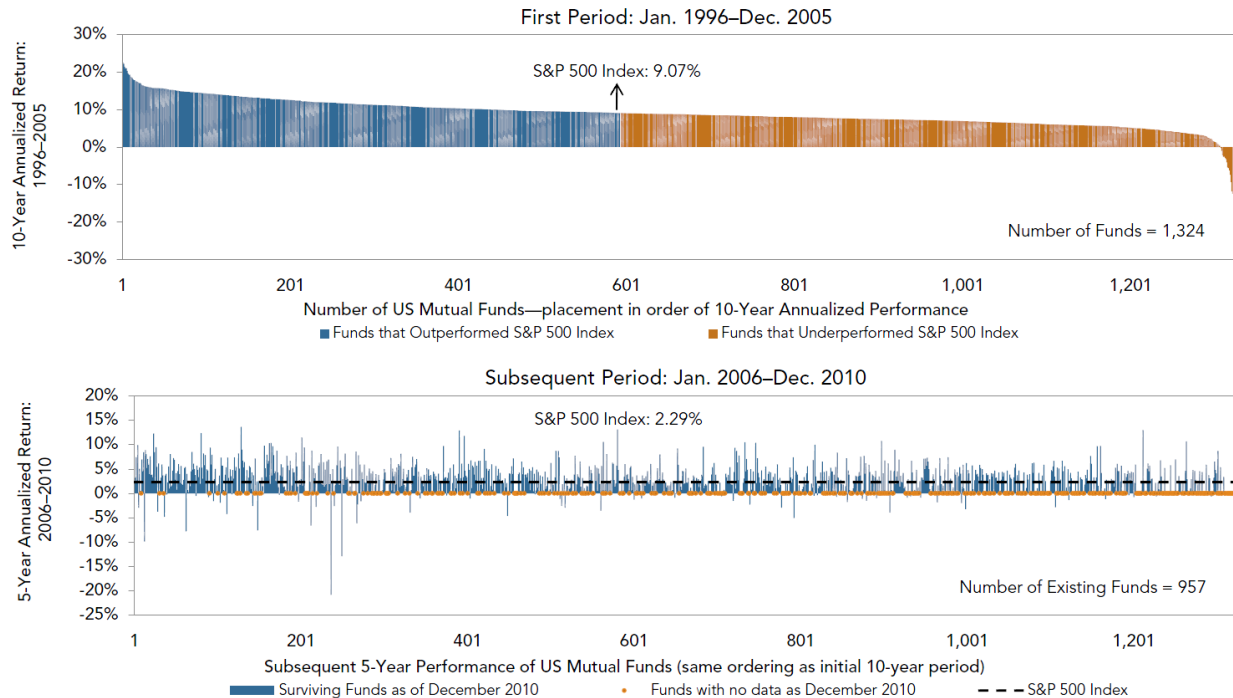
PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 7: PERSISTENCE IN PERFORMANCE

US Equity Mutual Funds, 1996 - 2010



Most recent 5-year period was chosen; then the preceding 10-year period. Mutual funds were placed in descending order of 10-year annualized performance, and subsequent 5-year performance assumes the same ordering as the 10-year period. The number of funds for the subsequent 5-year period represent existing funds from the 10-year period recognizable by ticker. Eligible universe is surviving distinct share class Domestic Stock Mutual Funds from Morningstar Principia.

Sources: Mutual fund universe statistical data and non-Dimensional money managers' fund data provided by Morningstar, Inc. and Standard & Poor's Index Services Group. Some fund returns and rankings may have been corrected by Morningstar since the data was first published.

Past performance is no guarantee of future results, and there is always the risk that an investor may lose money. Indices are not available for direct investment, therefore their performance does not reflect the expenses associated with the management of an actual portfolio.

Many investors assume that a fund's past performance offers insight into a fund manager's skill and prospect for future success. *Exhibit 7* and following exhibits remind us that is not the case. Choosing a US mutual fund based on its strong track record has no relationship with persistently strong relative returns going forward. In fact, a fund's historical performance offers no insight into its manager's skill or ability to repeat this performance.¹¹

In *Exhibit 7*, the top graph sorts US equity mutual funds by 10-year ranked performance (1996–2005). The bottom graph shows subsequent five-year performance of the funds (2006–2010) sorted by prior period ranking. Both graphs show the average annualized return of the S&P 500 Index. The five-year returns in the bottom graph appear almost random, illustrating that most mutual fund winners do not persist in the future.¹² One surprise is that

many of the more poorly-performing funds that do survive out-perform those previously doing better.

Moreover, a significant portion of funds—about 20% in this analysis—do not even survive the period, and the proportion of non-survivors appears to grow among the low-performing funds, as indicated by the red plot points on the baseline. This is just as we saw earlier in *Exhibit 6* with more current data. Some things never change.

These results are broadly consistent with much of the research into the persistence of mutual fund performance and implied skill. This large body of research casts serious doubt on the existence of skilled or informed mutual fund managers after adjusting for survivorship, and finds persistence in returns only among poor performers.¹³

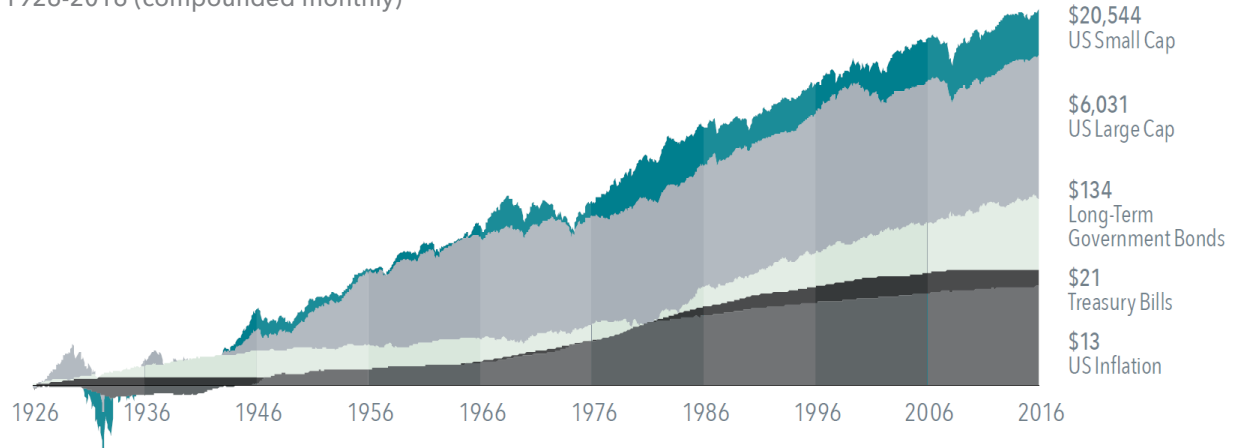


PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 8: GROWTH OF A DOLLAR 1926-2016 (compounded monthly)



The financial markets have rewarded long-term investors. People expect a positive return on the capital they supply, and historically, the equity and bond markets have provided growth of wealth that has more than offset inflation.

Sources: In US dollars. US Small Cap is the CRSP 6-10 Index. US Large Cap is the S&P 500 Index. Long-Term Government Bonds is the IA SBBI US LT Govt TR USD. Treasury Bills is the IA SBBI US 30 Day T-Bill TR USD. US Inflation is measured as changes in the US Consumer Price Index. CRSP data is provided by the Center for Research in Security Prices, University of Chicago. The S&P data is provided by Standard & Poor's Index Services Group. Long-term government bonds and Treasury bills data provided by Ibbotson Associates via Morningstar Direct. US Consumer Price Index data is provided by the US Department of Labor Bureau of Labor Statistics.

For illustrative purposes only. Past performance is no guarantee of future results, and there is always the risk that an investor may lose money.

Some investors look to financial metrics to anticipate future mutual fund winners. But are other metrics provided by Morningstar, Bloomberg or other services any better at predicting performance than a star rating system?

Let's consider the Sharpe Ratio, a popular metric that measures an asset's return relative to its volatility. The ratio is calculated by first subtracting the risk-free rate from the return of the fund, then dividing by the fund's standard deviation. A positive ratio indicates better historical risk-adjusted performance where volatility is the primary risk.

While not shown in this paper, a sort by Dimensional of the US fund universe (over 1,600 funds) by five-year Sharpe Ratio and shows the funds' subsequent five-year annualized returns, with each fund positioned according to its prior period sort. If a fund's historical Sharpe Ratio has predictive power, higher-ratio funds would produce higher relative returns in the subsequent period. But that is not the case. The broad dispersion of five-year returns showed no statistical difference between high- and low-ratio funds. So, funds with high Sharpe Ratios have no better chance than low-ratio funds of delivering exceptional performance in the future.

Capital Markets Build Wealth

Markets throughout the world has a history of rewarding investors for the capital they supply. Companies compete for investment capital, and millions of investors compete to find the most attractive returns. Markets quickly incorporate information from this intense competition into security prices.

Traditional investment approaches, such as the stock or fund picking that Morningstar encourages, strive to beat different markets by taking advantage of pricing "mistakes" and attempting to find managers able to predict the future. All too often as we've seen above, these approaches prove costly and futile. Predictions go awry and managers may hold the wrong securities at the wrong time, missing the strong returns that markets can provide. Meanwhile, capital-based economies thrive—not because markets fail, but because they succeed. Investors need look no further than the historical performance in *Exhibit 8* to see how markets have compensated investors.



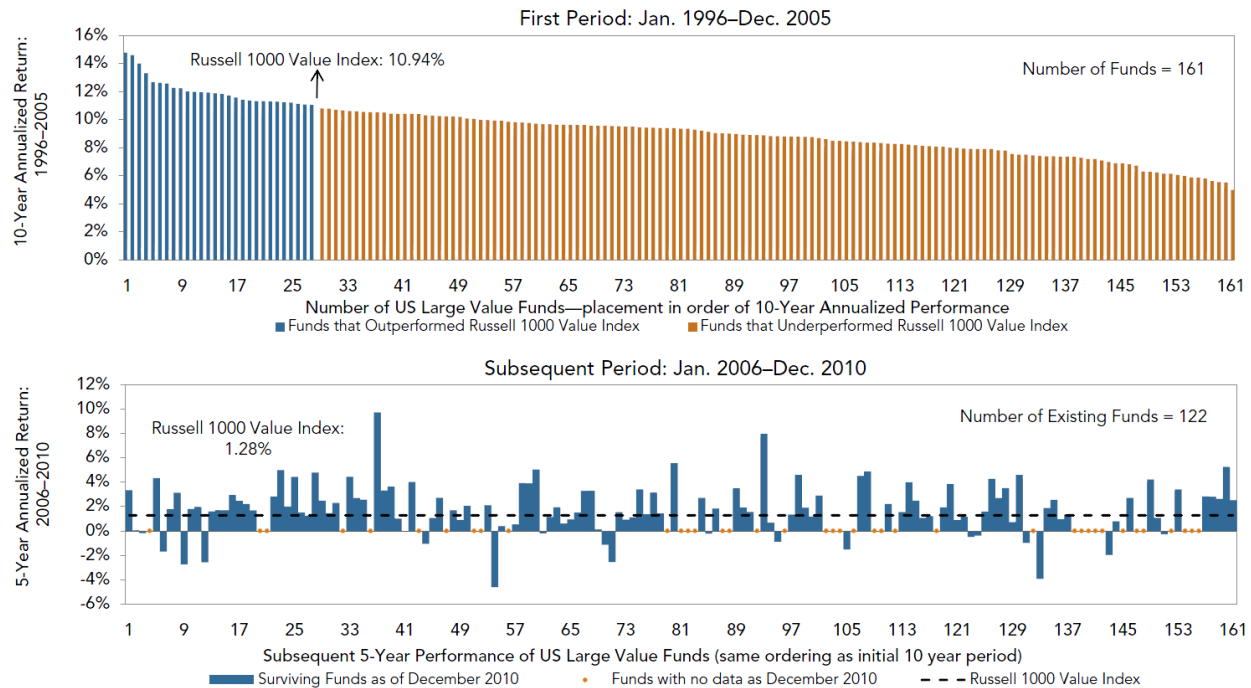
PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 9: PERSISTENCE IN PERFORMANCE

US Large Value Equity Mutual Funds, 1996 - 2010



Most recent 5-year period was chosen; then the preceding 10-year period. Mutual funds were placed in descending order of 10-year annualized performance, and subsequent 5-year performance assumes the same ordering as the 10-year period. The number of funds for the subsequent 5-year period represent existing funds from the 10-year period recognizable by ticker. Eligible universe is surviving distinct share class Domestic Stock Mutual Funds, and Morningstar Category is equal to US Large Value from Morningstar Principia. Most recent 5-year period was chosen; then the preceding 10-year period. Mutual funds were placed in descending order of 10-year annualized performance, and subsequent 5-year performance assumes the same ordering as the 10-year period. The number of funds for the subsequent 5-year period represent existing funds from the 10-year period recognizable by ticker. Eligible universe is surviving distinct share class Domestic Stock Mutual Funds from Morningstar Principia.

Sources: Mutual fund universe statistical data and non-Dimensional money managers' fund data provided by Morningstar, Inc. and Russell data copyright © Russell Investment Group 1995–2011. Some fund returns and rankings may have been corrected by Morningstar since the data was first published. For illustrative purposes only.

Past performance is no guarantee of future results, and there is always the risk that an investor may lose money. Indices are not available for direct investment, therefore their performance does not reflect the expenses associated with the management of an actual portfolio.

The Futility Of Speculating vs. Investing

Following the same methodology as previous exhibits, Exhibit 9 shows initial 10-year ranked performance and subsequent five-year performance of the US Large Value Mutual Fund universe. Average annualized performance of the Russell 1000 Value Index is offered for comparison. Rather than looking at the entire US market of stocks, we are looking at a asset class that with a higher expected return due to the riskier characteristics of value stocks.

As shown in the lower graph, previous fund performance appears to have little bearing on future outcomes relative to

the market benchmark. Almost one-quarter of the original funds did not survive the subsequent five-year period.

With the exception of non-surviving funds, which appear mostly in the bottom half of the universe and usually stay there, a mutual fund's historical performance offers no predictive power for investors.

The principle of non-persistence would also apply to US Small Value Mutual Fund returns, although the universe for the ten-year period (1996–2005) is smaller. A study showed that almost half of the outperforming funds in the first ten-year period failed to match the Russell 2000 Value Index in the next five years, and over one-third of the underperforming funds beat the index.



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Exhibit 10: DIMENSIONS OF EXPECTED RETURNS



Academic research has identified these equity and fixed income dimensions, which point to differences in expected returns. Investors can pursue higher expected returns by structuring their portfolio around these dimensions.

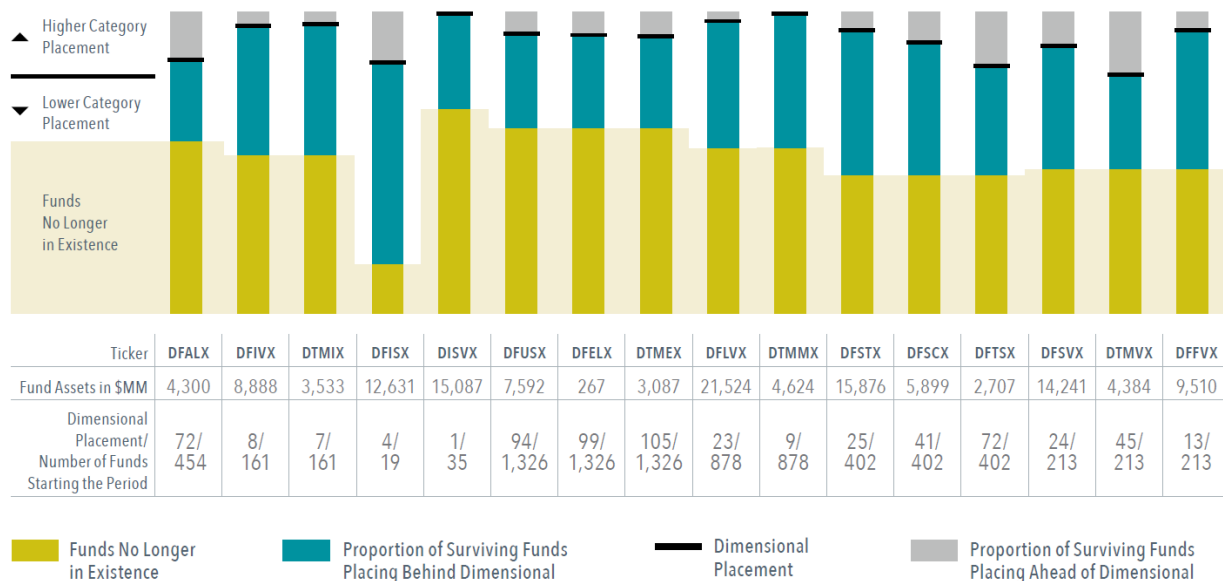
In summary, relying on past performance to choose future mutual fund winners appears to be an exercise in futility. Funds with high past returns offer no predictive power for investors who are attempting to capture high relative performance in the future.

Investors are better served by choosing funds based on more substantial criteria, such as investment philosophy, financial objectives, targeted asset class exposure, risk

tolerance, and cost—and integrating the funds into a broadly diversified portfolio structured for long-term participation in the capital markets. This means a planning commitment.

The futility of speculation is good news for an informed investor with a sensible strategy. It means that prices for public securities are fair and that portfolio structure, not mispricing, explains differences in average expected

Exhibit 11: RELATIVE PERFORMANCE OF EQUITY FUNDS WITH MORE THAN 15 YEARS OF HISTORY COMPARED WITH DIMENSIONAL ADVISOR FUNDS



Dimensional placement is the Morningstar 15-Year Total Return Absolute Category Rank sourced from Morningstar. Number of funds starting the period is the number of share classes, within the respective Morningstar Category, with return histories as of the start of the 15-year period ending in June 30, 2017. Funds that are unranked due to having changed Morningstar Category are excluded from the number of funds starting the period. Number of Surviving Funds Placing Ahead (Behind) of Dimensional is the count of ranked funds with a higher (lower) Morningstar 15-Year Total Return Absolute Category Rank than the corresponding Dimensional fund. The table includes all Dimensional institutional equity funds available on or before July 1, 2002. Dimensional feeder funds are excluded from the table because they ultimately invest in master-feeder funds. Master-feeder funds are included in the table. All funds are US-domiciled. Bar heights are scaled to aid comparison across funds. Fund Assets are as of June 30, 2017. Funds may have experienced negative performance over the time period. Past performance is no guarantee of future results, and there is always the risk that an investor may lose money. Visit us.dimensional.com for standardized performance information for Dimensional's funds.



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



returns. It is certainly possible to outperform the broader market, but not without balancing risks and costs against expected returns. *Exhibit 9* summarizes the dimensions of expected returns identified by financial research. Dimensional Fund Advisors provides Professional Financial the tools and experience to successfully target these sources of returns and help client realize their families' needs, values and goals with less worry, fear and confusion. *Exhibit 11* shows how Dimensional Advisor have functioned benchmarked to groups of similar funds. We find no need for Morningstar rating services.

Conclusion

The problem with most planning efforts is that people and advisors focus on tactics rather than strategy. As a result, people serve their money rather than let money serve them. Sun Tsu in an ancient military treatise *The Art of War*, wrote: "Strategy without tactics is the slowest route to victory. Tactics without strategy is the noise before defeat." A corollary could be, *strategy with tactics assures eventual victory*.

So wealth management should focus on strategy for informed planning. Financial advisors along with their clients, are too easily lost in a googled sea of information, drifting without compass or GPS to guide the way.

Traditional investing approaches, like that of Morningstar, assume a manager's tactical ability to profitably move between different managers or funds based on past results, which is unlikely to lead to a good outcome, as we tried to illustrate with Morningstar ratings. Tactics tied to past performance as the main criterion for evaluating any investment's future potential in the pursuit of higher returns, compromise investor outcome with high taxes, high fees, high turnover and other drags to return leading to disappointment and confusion.

Investment models derived from economic science and empirical research that employ sound judgment and thoughtful implementation for structuring and selecting portfolios are far more likely to have satisfying outcomes. Clients also should consider: underlying market philosophy, robustness of portfolio design, and attention to total costs—all of which are essential for delivering you a successful retirement experience.

By working closely with Dimensional Fund Advisors and their decades of experience putting theory into practice, connecting academic concepts with implementing models, clients of Professional Financial can better control their financial future, manage uncertainty, enjoy peace of mind and gain financial freedom.

In Summary

Every family must make informed decisions to realize their hopes, goals and dreams. That doesn't happen by chance. We believe the most important decision for wealth management you can make is not what to learn or how to do it—because no one can be an expert in a second career— but it is deciding, who can you trust? Who has the reputation, expertise, education and judgement to ask questions you don't know even to ask?

Look for an independent CFP, specializing in advanced retirement, with a process focused first and foremost on you, who works for people and families just like you. They add value to your investing by advice for mitigating taxes, passing wealth to heirs, protecting assets from unjust loss, making a charitable impact, and so much more. You can never know enough, but you can know how to make informed decisions by selecting a knowledgeable and trusted advisor with a strong network of experts in finance, accounting, tax and law.

As you review your quarterly statements, you are likely once again to be pleased with current results. But we know that clients inevitably will encounter periods when returns will disappoint. In those times the economic philosophy and your commitment to your underlying investment strategy will be tested. Being able to stay the course requires confidence that we possess a true compass and a GPS, and possess the clarity to guide your ship across the troubled waters of a uncharted sea—to connect the present situation with your ideal future, to manage life's uncertainty with peace of mind, in order to finish strong.

And if you have concerns or issues with your planning, go to the resource section or contact pages on our website.



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Endnotes:

- 1 Russ Alan Prince and Lewis Schiff, *The Middle-Class Millionaire* (Doubleday), 2008. See also, Thomas J. Stanley and William D. Danko, *The Millionaire Next Door: The Surprising Secrets of America's Wealthy* (Pocket Books), 1996.
- 2 William F. Sharpe, "The Arithmetic of Active Management," *Financial Analysts Journal* (Vol 47, No. 1), January 1991.
- 3 Kirsten Grind, Tom McGinty and Sarah Krouse, "The Morningstar Mirage," *Wall Street Journal* (October 25, 2017). Accessed: <https://www.wsj.com/articles/the-morningstar-mirage-1508946687>
- 4 Jeffrey Ptak, "Setting the Record Straight on Our Fund Ratings," *Morningstar.com* (October 26, 2017), assessed: <http://beta.morningstar.com/articles/831740/setting-the-record-straight-on-our-fund-ratings.html>
- 5 By allowing their data to be used for free, with full acknowledge of Morningstar as the source, it becomes "free" advertising.
- 6 See for instance, Jeffrey Ptak, "Does the Star Rating for Funds Predict Future Performance," *Morningstar.com*, access: <http://beta.morningstar.com/articles/831740/setting-the-record-straight-on-our-fund-ratings.html>, and also: Jeffrey Ptak, "The Morningstar Rating for Funds: A Good Starting Point for Investors?" *Morningstar.com* (September 5, 2017), access: <http://news.morningstar.com/articlenet/article.aspx?id=824319>
- 7 Full disclosure: Professional Financial regularly uses Morningstar Direct with its vast historical and analytical database. However, the "star" ratings are largely irrelevant to our recommendations. In fact, we do rarely use it for recommendations.
- 8 See Paul Byron Hill, "Integrity in Investing: Stories vs. Statistics", *Planning Perspectives* (1st Quarter, 2014).
- 9 Don Phillips, "The Wall Street Journal's Statistical Fog," *Morningstar.com* (October 26, 2017), access: <http://news.morningstar.com/articlenet/article.aspx?id=832008>
- 10 Christopher R. Blake and Matthew R. Morey, "Morningstar Ratings and Mutual Fund Performance," *Working Paper*, March 15, 1999.
- 11 Mark Carhart, "On Persistence of Mutual Fund Performance," *Journal of Finance*, 52, no. 1, March 1997.
- 12 Stephen J. Brown and William N. Goetzmann, "Performance Persistence," *Journal of Finance*, 50, no. 2, June 1995.
- 13 Eugene F. Fama and Kenneth R. French, "Luck versus Skill in the Cross Section of Mutual Fund Returns," *Journal of Finance*, 65, no. 5, October 2010.

Disclosure: Professional Financial Strategies, Inc. is an investment advisor registered with the Securities and Exchange Commission, and an independent, fee-only firm. Certified Financial Planner™ professionals are individually licensed.

Please remember that past performance may not be indicative of future results. Indexes use for illustration purposes are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio. Different types of investments involve varying degrees of risk, and there can be no assurance that the future performance of any specific investment, investment strategy, or product (including the investments and/or investment strategies recommended or undertaken by Professional Financial Strategies, Inc.), or any non-investment related content made reference to directly or indirectly in this whitepaper, will be profitable, or equal any corresponding indicated historical performance level(s), or be suitable for your portfolio or individual situation, or prove successful. All expressions of opinion are subject to change without notice in reaction to changing market conditions and/or applicable laws. Due to various factors, such as rapidly changing market, social or geopolitical conditions, content herein may no longer be reflective of current opinions or positions of Paul Byron Hill or Professional Financial Strategies, Inc.

Moreover, you should not assume that any discussion or information contained in this paper serves as the receipt of, or as a substitute for, personalized investment advice from Professional Financial or a Certified Financial Planner® professional. To the extent that a reader has any questions regarding the applicability of any specific issue discussed above to his/her individual situation, he/she is encouraged to consult with the professional advisor of his/her choosing. Professional Financial Strategies, Inc. is neither a law firm nor a certified public accounting firm, and so no portion of the newsletter content should be construed as legal or accounting advice.



PROFESSIONAL
FINANCIAL
Integrative Wealth Management

CLARITY. COMMITMENT. CONFIDENCE.



Paul Byron Hill, MBA, MFP, MSFS, ChFC®
Certified Financial Planner™
Wealth Management Consultant

Kam-Lin K. Hill, MBA, ChFC®, CFP®
Chartered Global Management Accountant
Accredited Wealth Management Advisor™

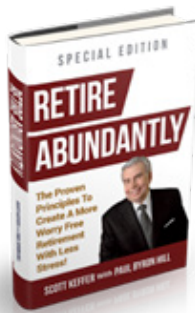
Professional Financial Strategies, Inc.

Powder Mill Office Park
1159 Pittsford-Victor Road, Suite 120
P. O. Box 999
Pittsford, NY 14534
(585) 218-9080

planning@ProfessionalFinancial.com
www.ProfessionalFinancial.com



Paul Byron Hill, MBA, MFP, MSFS, ChFC®, ATA, Certified Financial Planner™ is a nationally recognized Wealth Management Consultant, Educator, Author and Speaker, written about in *Money*, *Fortune*, and *Forbes*, among others.



Paul is the co-author of *Retire Abundantly*. Reuters honored him in a NYC event of one of 500 "Top Advisers." Professional Financial Strategies, Inc., the independent investment advisory firm he founded, has been ranked multiple times as a "Top Wealth Manager" in *Wealth Manager* and in financial magazine surveys. Paul has been interviewed by James Malinchak, featured on ABC-TV's hit series, *Secret Millionaire*.

Paul and his team act as a personal chief financial officer for his clients, bringing a unique interdisciplinary, consultative process to strategically guide retirement planning—integrating investment management, financial consulting and advanced planning—preserving wealth, mitigating taxes, caring for heirs, protecting assets and leaving a legacy.

Paul and his team are committed to continuing professional education. In 1983, Paul earned a pioneering designation and license as a Certified Financial Planner (CFP®), ChFC® (Chartered Financial Consultant) and later ATA (Accredited Tax Advisor). He later earned his MBA in Finance from the Simon Business School at the University of Rochester. His extensive education includes MFP (Master of Science in Financial Planning) and MSFS (Master of Science in Financial Services). Marquis Who's Who presented Paul in 2017 with the Albert Nelson Marquis Lifetime Achievement Award for "achievements, leadership qualities, and the credentials and successes he has accrued in his field."

THE PROFESSIONAL WEALTH MANAGEMENT PROCESS™

