



DALBAR'S 22nd Annual

Quantitative Analysis of Investor Behavior

Period Ended: 12/31/15

Compliments of:

Douglas Lennick, CFP
think2perform
612-333-8791

303 Congress St.
Boston, MA 02210
617.723.6400
www.dalbar.com

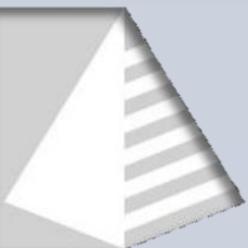


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ABOUT THIS REPORT: QAIB 2016

Since 1994, DALBAR's Quantitative Analysis of Investor Behavior (QAIB) has measured the effects of investor decisions to buy, sell and switch into and out of mutual funds over short and long-term timeframes. The results consistently show that the average investor earns less – in many cases, much less – than mutual fund performance reports would suggest.

The goal of QAIB is to improve performance of both independent investors and financial advisors by managing behaviors that cause investors to act imprudently. QAIB offers guidance on how and where investor behaviors can be improved.

QAIB 2016 examines real investor returns in equity, fixed income and asset allocation funds. The analysis covers the 30-year period to December 31, 2015, encompassing the crash of 1987, the drop at the turn of the millennium, the crash of 2008, plus recovery periods of 2009, 2010 and 2012.

No matter what the state of the mutual fund industry, boom or bust: ***Investment results are more dependent on investor behavior than on fund performance. Mutual fund investors who hold on to their investments have been more successful than those who try to time the market.***

About DALBAR, Inc.

DALBAR, Inc. is the financial community's leading independent expert for evaluating, auditing and rating business practices, customer performance, product quality and service. Launched in 1976, DALBAR has earned the recognition for consistent and unbiased evaluations of investment companies, registered investment advisers, insurance companies, broker/dealers, retirement plan providers and financial professionals. DALBAR awards are recognized as marks of excellence in the financial community.

Registered Fiduciary (RF™)

DALBAR is the registrar of the RF™ (Registered Fiduciary) designation. RF™ is evidence that holders have adopted a Superior Standard of Care that promises to always act in clients' best interest, charge fair compensation, avoid conflicts of interest, is highly qualified and has a favorable history. For more information, please see www.FiduciaryRegistry.com.

Methodology

QAIB uses data from the Investment Company Institute (ICI), Standard & Poor's, Barclays Capital Index Products and proprietary sources to compare mutual fund investor returns to an appropriate set of benchmarks. Covering the period from January 1, 1986 to December 31, 2015, the study utilizes mutual fund sales, redemptions and exchanges each month as the measure of investor behavior. These behaviors reflect the "average investor." Based on this behavior, the analysis calculates the "average investor return" for various periods. These results are then compared to the returns of respective indices.

A glossary of terms and examples of how the calculations are performed can be found in the Appendices section of this report.

The QAIB Benchmark and Rights of Usage

The Advisor Edition of QAIB includes only the rights to redistribute printed or electronic copies of this complete report to investor clients. Investor returns, retention and other industry data presented in this report can be used as benchmarks to assess investor performance in specific situations. Among other scenarios, QAIB has been used to compare investor returns in individual mutual funds and variable annuities, as well as for client bases and in retirement plans. Please see the "Rights of Usage" section in the Appendices for more information and appropriate citation language.

Visit the NEW QAIB Store!



Renowned investor behavior research is now at your fingertips! Visit the QAIB Store at www.QAIB.com for images, infographics and data feeds from the 2016 study.

For more information on creating a custom analysis or presentation using the QAIB data and methodology, contact Cory Clark at cclark@dalbar.com or 617-624-7156.

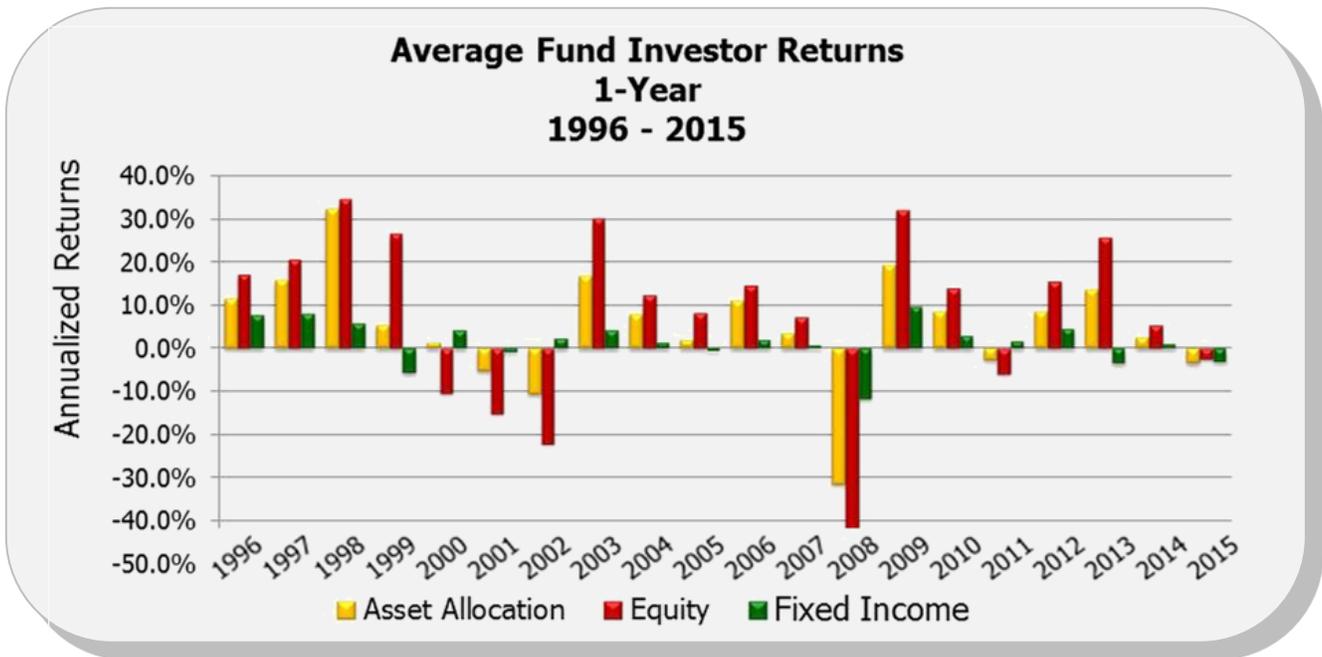
KEY FINDINGS

- In 2015, the average **equity mutual fund investor** underperformed the S&P 500 by a margin of 3.66%. While the broader market made incremental gains of 1.38%, the average equity investor suffered a more-than-incremental loss of -2.28%.
- In 2015, the average **fixed income mutual fund investor** underperformed the Barclays Aggregate Bond Index by a margin of 3.66%. The broader bond market realized a slight return of 0.55% while the average fixed income fund investor lost -3.11%.
- No evidence has been found to link predictably poor investment recommendations to average investor underperformance. Analysis of the underperformance shows that investor behavior is the number one cause, with fees being the second leading cause.
- Equity fund retention rates decreased slightly in 2015 from 4.19 years to 4.10 years.
- Fixed Income retention rates were virtually unchanged from 2014 to 2015 (2.94 years vs. 2.93 years).
- Asset allocation funds were the only funds to experience a material change in retention rates. In 2014 asset allocation fund retention rates were 4.86 years, but decreased to 4.54 years in 2015.
- In 2015, the 20-year annualized S&P return was 8.19% while the 20-year annualized return for the average equity mutual fund investor was only 4.67%, a gap of 3.52%.
- The gap between the 20-year annualized return of the average equity mutual fund investor and the 20-year annualized return of the S&P 500 narrowed from 4.66% to 3.52% in 2015.

	Investor Returns ¹			Inflation	S&P 500	Barclays Aggregate Bond Index
	Equity Funds	Asset Allocation Funds	Fixed Income Funds			
30 Year	3.66	1.65	0.59	2.60	10.35	6.73
20 Year	4.67	2.11	0.51	2.20	8.19	5.34
10 Year	4.23	1.89	0.39	1.88	7.31	4.51
5 Year	6.92	3.28	0.10	1.58	12.57	3.25
3 Year	8.85	3.81	-1.76	1.07	15.13	1.44
12 Months	-2.28	-3.48	-3.11	0.95	1.38	0.55

¹ Returns are for the period ending December 31, 2015. Average equity investor, average bond investor and average asset allocation investor performance results are calculated using data supplied by the Investment Company Institute. Investor returns are represented by the change in total mutual fund assets after excluding sales, redemptions and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses and any other costs. After calculating investor returns in dollar terms, two percentages are calculated for the period examined: Total investor return rate and annualized investor return rate. Total return rate is determined by calculating the investor return dollars as a percentage of the net of the sales, redemptions and exchanges for each period.

- In 9 out of 12 months, investors guessed right about the market direction the following month. Despite “guessing right” 75% of the time in 2015, the average mutual fund investor was not able to keep pace with the market, based on the actual volume and timing of fund flows.
- Asset classes tend to move together during market corrections, somewhat muting the benefits of diversification and necessitating a downside protection strategy that goes beyond traditional diversification.
- Acting in the investor’s best interest should include affirmative practices to curb harmful behaviors.
- The average equity fund investor outperformed a hypothetical systematic investor on an annualized basis for the period 1996-2015 (4.67% vs. 3.99%). For that same period, the systematic fixed income investor outperformed the average fixed income investor on an annualized basis (2.58% vs. 0.51%).

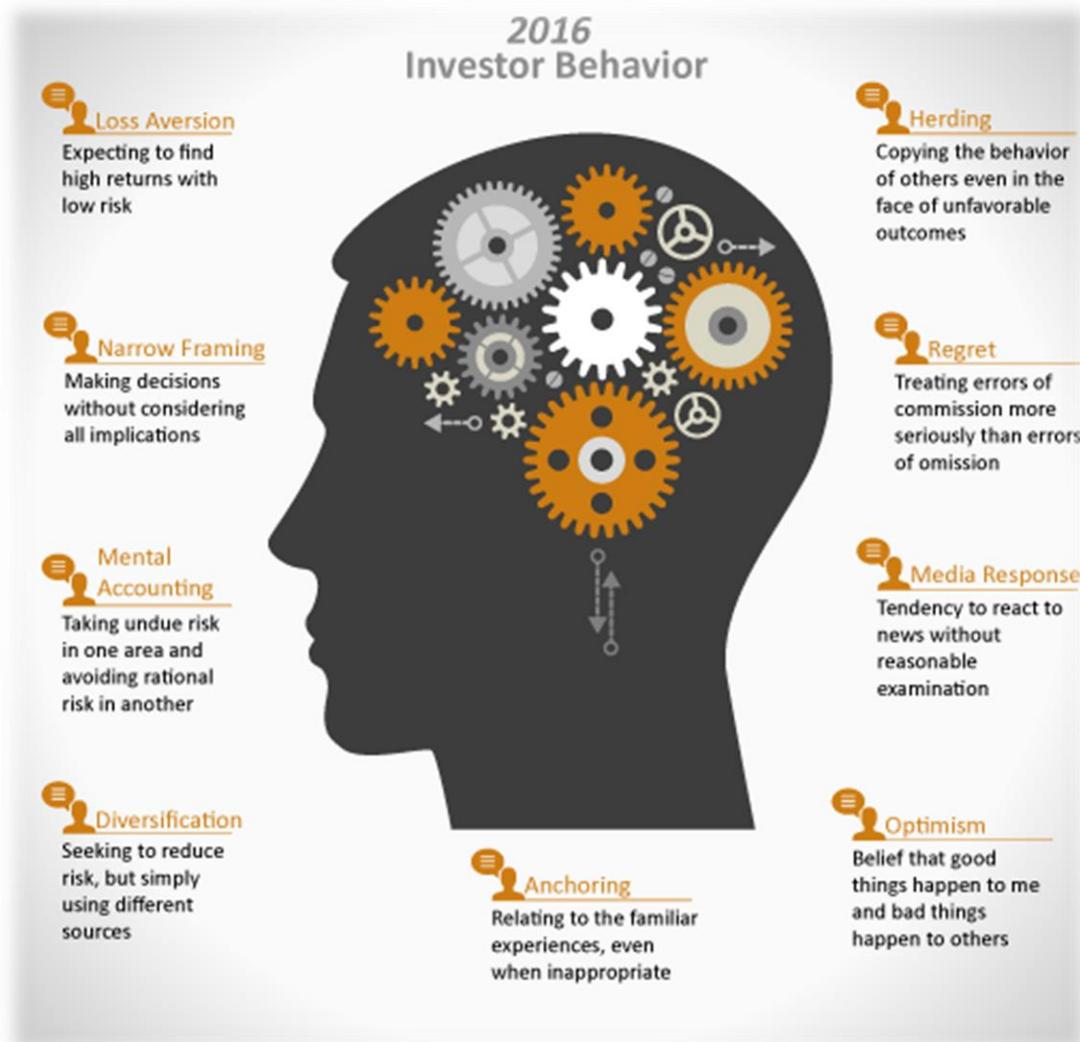


THE CAUSES OF POOR DECISION MAKING

INVESTOR PSYCHOLOGY

After decades of analyzing investor behavior in good times and in bad times, and after enormous efforts by thousands of industry experts to educate millions of investors, imprudent action continues to be widespread. It has become clear that improvements through investor education have only produced marginal benefits. This edition of QAIB focuses on the ways in which one can identify when investors are most vulnerable to poor decision-making and what to do when those triggers arise. To put this in context, it is also helpful to take a look back at what we have learned over the past 30 years about investor behavior.

When discussing investor behavior it is helpful to first understand the specific thoughts and actions that lead to poor decision-making. Investor behavior is not simply buying and selling at the wrong time, it is the psychological traps, triggers and misconceptions that cause investors to act irrationally. That irrationality leads to the buying and selling at the wrong time which leads to underperformance. There are 9 distinct behaviors that tend to plague investors based on their personal experiences and unique personalities.



THE EVIDENCE OF POOR DECISION MAKING

Short-Term Focus and Market Timing

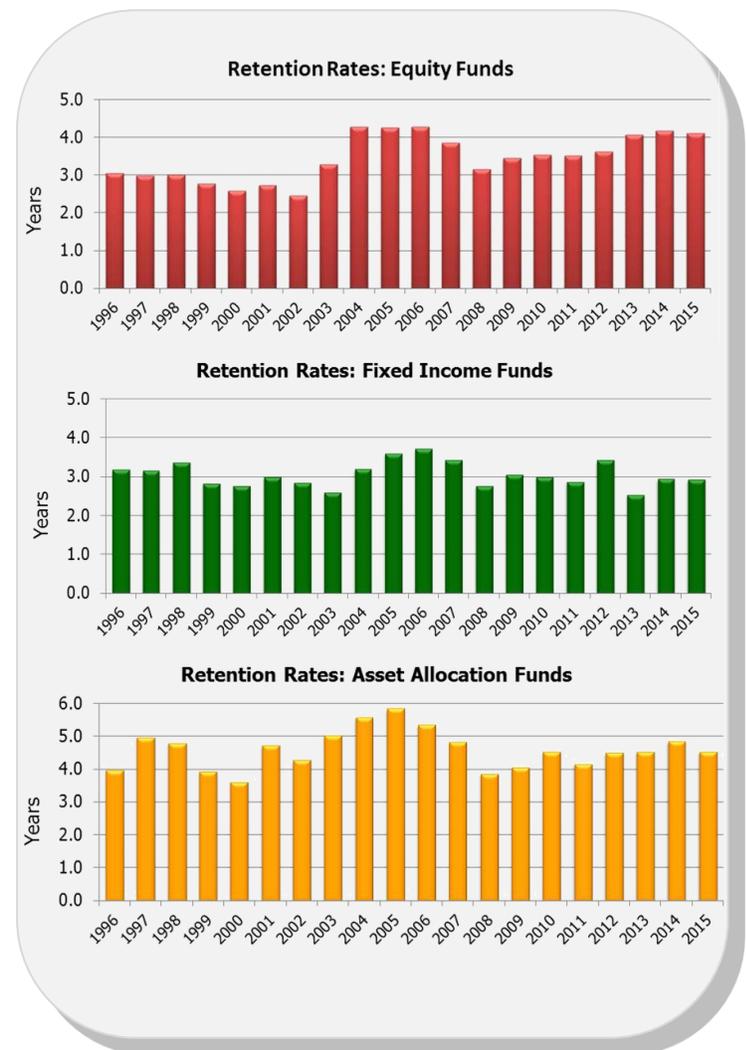
One thing that all the negative behaviors have in common is that they can all lead investors to deviate from a sound investment strategy that was narrowly tailored towards their goals, risk tolerance and time horizon. The best way to fight off the aforementioned negative behaviors is to employ a buy and hold strategy that focuses on one's goals and is not reactive to short-term market conditions. The data shows that the average mutual fund investor has not stayed invested for a long enough period of time to reap the rewards that the market can offer a more disciplined investors. The data also shows that when investors react, they generally make the wrong decision.

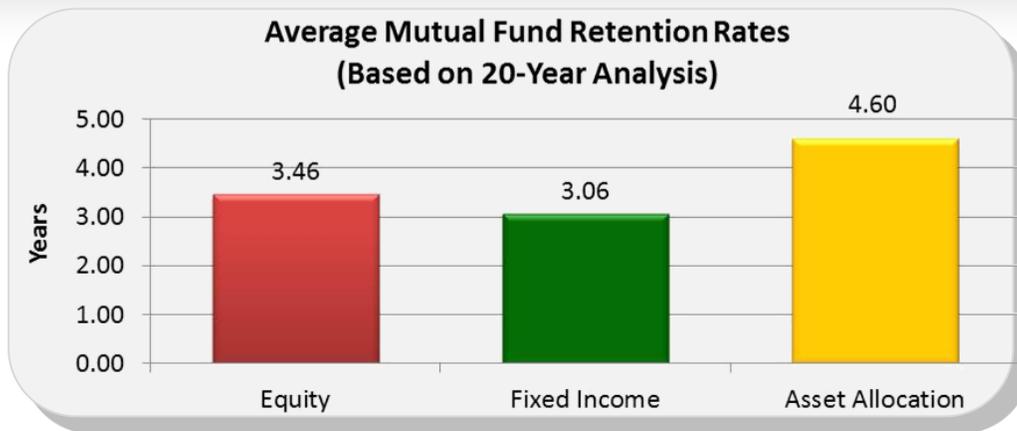
RETENTION RATES

Over the past 20 years, **equity mutual fund investors** have seldom managed to stay invested in their funds for more than 4 years. When they have done so, it has generally been during periods of bull markets. Equity fund retention rates broke the 4 year barrier in 2004, after the S&P rose over 28% in the previous year, and stayed there for the 3 years leading up to 2007. Equity fund retention rates are currently back on a 3 year streak of exceeding 4 years, starting in 2013 with an S&P surge of over 32%.

Fixed income mutual fund investors have not remained invested in their funds for longer than 4 years at any time in the past 20 year and has exceeded 3 years only once in the past 8 years.

Asset allocation mutual fund investors have continued to stay invested longer than their equity and fixed income counterparts. This data illustrates the importance of an asset allocation strategy and how it tends to curb negative behavior and lead investors to stay more committed to that strategy. Asset allocation fund retention rates have stood above the 4 year mark for 7 straight years.





MARKET TIMING

The retention rate data for equity, fixed income and asset allocation mutual funds strongly suggests that investors lack the patience and long-term vision to stay invested in any one fund for much more than 4 years. This short-term retention does not adhere to a prudent, long-term strategy and is likely the result of short-term thinking and market timing. This begs the question: has investors' market timing been successful?

DALBAR continues to analyze the investor's market timing successes and failures through their purchases and sales. This form of analysis, known as the Guess Right Ratio, examines fund inflows and outflows to determine how often investors correctly anticipate the direction of the market. Investors guess right when a net inflow is followed by a market gain, or a net outflow is followed by a decline.

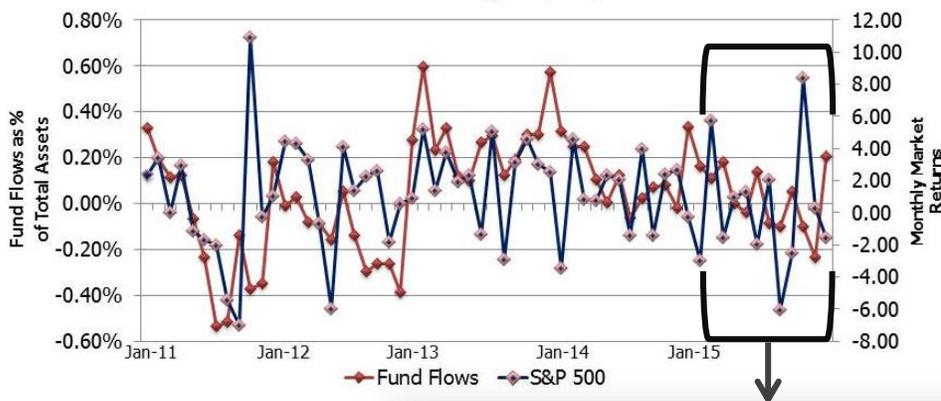
DALBAR looks at the data to determine when investors correctly guess the timing of their purchases or sales and what impact those decisions have on their returns. The Guess Right Ratio shows that investors who execute purchases or sales in response to something other than a prudent investment decision reduce the return created by the markets and portfolio managers.



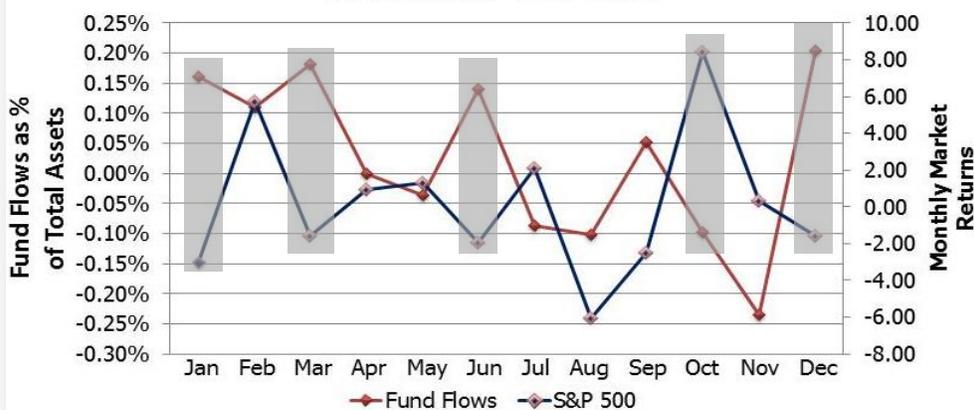
As is often the case, fund inflows and outflows corresponded with the direction of the market the following month. This was the case 75% of the time 2015. This would leave one to believe that investors are correctly timing the market and should therefore have the returns to prove it. Unfortunately for the average mutual fund investor, they gained nothing from their prognostications. To the contrary, the average mutual fund investor left a considerable amount of money on the table. Why is this so?

Fund flows may coincide with the market direction the following month, but to what extent, is it enough to make up for the damage done the previous month? January and February of 2015 are illustrative of how an investor can guess right but still be wrong. In January of 2015 fund flows increased by .15% while the S&P shaved -3%. While buying into a weak market in January, investors guessed right; February brought positive returns that more than recouped the losses of the previous month. However, mutual fund assets grew in February at only a fraction of the rate they did in January (.10% versus .15%), suggesting that more investors bought into the -3% correction of January than bought into the 5.75% surge in February. A look at the S&P performance and fund flows throughout the calendar year of 2015, we see several instances of the data series are on extreme opposite sides of the X-axis (money coming in while the market is going down or money coming out while the market is going up).

Investor Fund Flows and Market Performance for the 5 Years Ending 12/31/15



Investor Fund Flows and Market Performance for Calendar Year 2015



THE CONSEQUENCES OF POOR DECISION MAKING

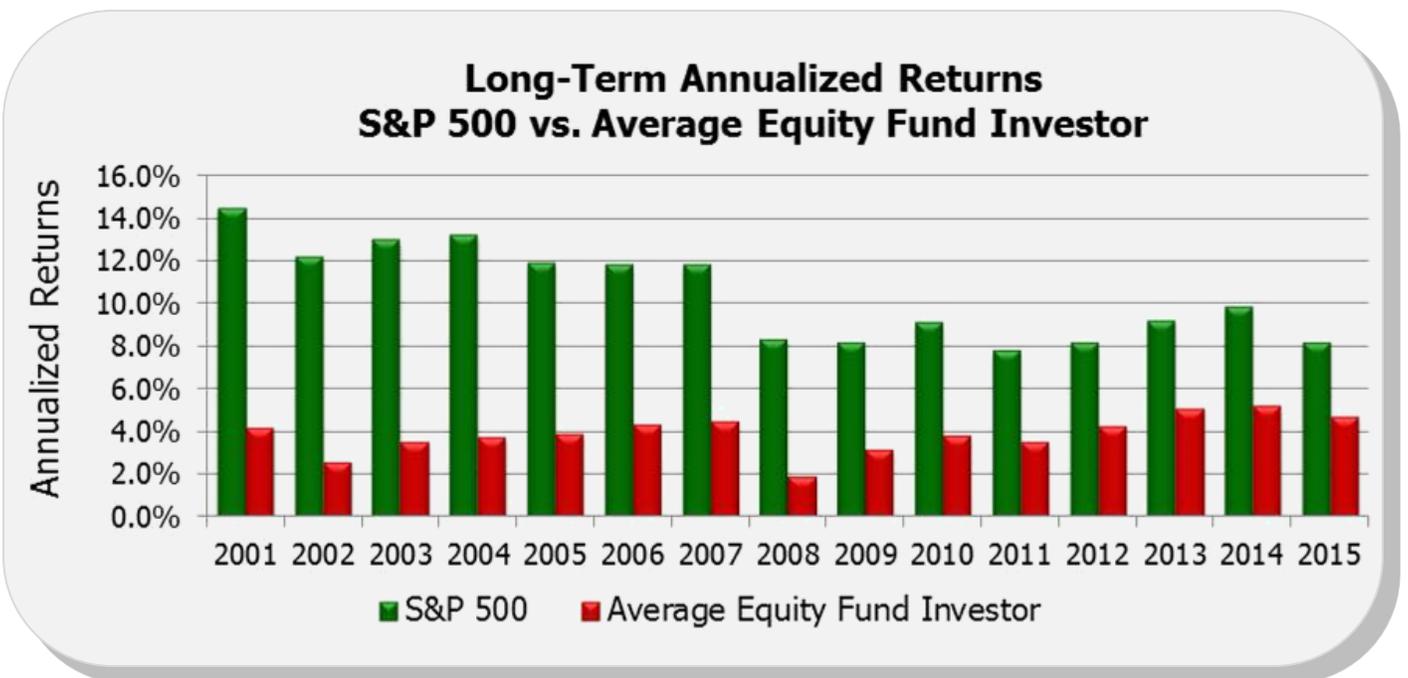
Consistent Underperformance

We have seen the various psychological phenomena that take hold of an investor at various points of the market cycle. Some are driven by fear, some by greed, and others by misconceptions perpetuated by our limited experiences and outside influences.

We have seen that these psychological factors led investors to move into and out of investments too frequently, and that their timing in doing so is askew. But what about the alternative? What are investors losing by engaging in such behavior? If one looks at the returns of the average investor against the returns of the overall market, it is clear that the consequences of this investor behavior is serious and detrimental to long-term financial goals.

LONG-TERM RESULTS

When looking at the long-term annualized returns* of the average equity mutual fund investor compared to the S&P 500 we see that the average investor has always lagged the overall market. While the gap between the average equity mutual fund investor and the S&P 500 has narrowed considerably in the past 15 years, the average investor has earned almost half of what they would have earned by buying and holding an S&P index fund (4.67% vs. 8.19%).

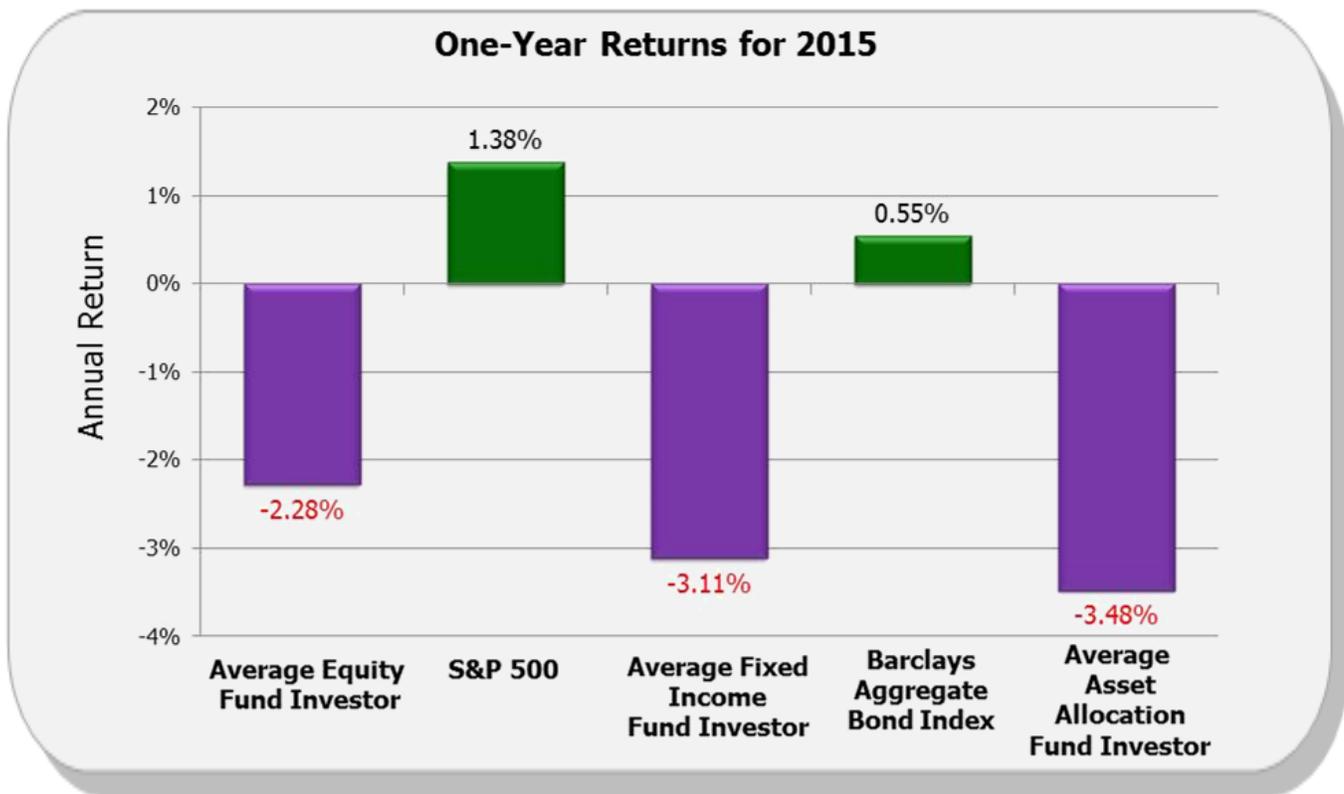


* The original analyses began in 1984, so 2001 represents an 18 year analysis and 2002 represents a 19 year analysis. Starting in 2003, the long-term analysis covers a 20-year timeframe.

2015 RESULTS

The year 2014 represented a textbook example of underperformance in a booming market. The underperformance existed for equity, fixed income and asset allocation mutual fund investors alike. The average equity mutual fund investor earned less than half the S&P 500's 13.69% gain. This gap for fixed income mutual fund investors was proportionally worse. The Barclay's Aggregate Bond Index earned over five times that of the average fixed income mutual fund investor who just barely exceeded the inflation rate of 0.75%.

Asset allocation mutual fund investors also saw disappointing results despite their tendency to stay invested longer. Asset allocation mutual fund investors may have also been hurt by the quality of their asset allocator (See QAIB 2012 for an in-depth discussion on the importance of a quality asset allocator).



GLOSSARY

Average Investor

The average investor refers to the universe of all mutual fund investors whose actions and financial results are restated to represent a single investor. This approach allows the entire universe of mutual fund investors to be used as the statistical sample, ensuring ultimate reliability.

[Average] Investor Behavior

QAIB quantitatively measures sales, redemptions and exchanges (provided by the Investment Company Institute) and describes these measures as investor behaviors. The measurement of investor behavior is the net dollar volume of these activities that occur in a single month during the period being analyzed.

[Average] Investor Return (Performance)

QAIB calculates investor returns as the change in assets, after excluding sales, redemptions, and exchanges. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses and any other costs. After calculating investor returns in dollar terms (above) two percentages are calculated:

- Total investor return rate for the period
- Annualized investor return rate

Total return rate is determined by calculating the investor return dollars as a percentage of the net assets, sales, redemptions and exchanges for the period.

Annualized return rate is calculated as the uniform rate that can be compounded annually for the period under consideration to produce the investor return dollars.

Dollar Cost Averaging

Dollar cost averaging results are based on the equal monthly investments into a fund where performance is identical to the appropriate benchmark (either the S&P 500 or the Barclays Aggregate Bond Index). Investments total \$10,000 over 20 years. Dollar values represent the total amount accumulated after the period under consideration. The percentage is the uniform annualized return rate required to produce the dollar returns.

Guess Right Ratio

The Guess Right Ratio is the frequency that the average investor makes a short-term gain. One point is scored each month when the average investor has net inflows and the market (S&P 500) rises in

the next month. A point is also scored when the average investor has net outflows and the market declines in the next month. The ratio is the number of points scored as a percentage of the total number of months under consideration.

Holding Period

Holding period (retention rate) reflects the length of time the average investor holds a fund if the current redemption rate persists. It is the time required to fully redeem the account. Retention rates are expressed in years and fractions of years.

Hypothetical Average Investor

A \$10,000 investment is made in a pattern identical to the average investor behavior for the period and asset class under consideration. Rates of return are applied each month that are identical to the investor return for each month. The resulting dollar value represents what a \$10,000 investment would be worth to the average investor. The dollar amount of the return is then converted to an annualized rate.

Hypothetical Systematic Investor

A \$10,000 investment is evenly distributed across each month for the period under consideration. The appropriate benchmark (either the S&P 500 or the Barclays Aggregate Bond Index) is used as an assumed return rate and applied each month.

The resulting dollar value represents what \$10,000 would be worth to the systematic investor. The dollar amount of the return is then converted to an annualized rate.

Inflation Rate

The monthly value of the consumer price index is converted to a monthly rate. The monthly rates are used to compound a “return” for the period under consideration. This result is then annualized to produce the inflation rate for the period.

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