



**DALBAR's  
20<sup>th</sup> Annual  
Quantitative Analysis of  
Investor Behavior  
2014  
Advisor Edition**

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## ABOUT THIS REPORT: QAIB 2014

Since 1994, DALBAR's Quantitative Analysis of Investor Behavior (QAIB) has been measuring the effects of investor decisions to buy, sell and switch into and out of mutual funds over both 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 continue to improve the performance of independent investors on the one hand and of professional financial advisors on the other hand by incorporating the factors that influence behaviors that determine the outcome of investment or savings strategies. QAIB offers guidance on how and where investor behaviors can be improved.

QAIB 2014 examines real investor returns in equity, fixed income and asset allocation funds. The analysis covers the 30-year period since QAIB's inception to December 31, 2013, 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. This year's report discusses the advantages of good asset allocation and costs of poor asset allocation practices. The discussion includes the process of how an asset allocator should be evaluated for effectiveness.

The report explains how investors and advisors adapt to changing market conditions and produce investor returns using investor behaviors, the psychological factors that drive them and the knowledge of how investment classes have changed in the past.

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.

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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.

### Methodology

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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 QAIB's inception (January 1, 1984) to December 31, 2013, 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 at the end of this report.

## KEY FINDINGS FOR 2014

➤ 2014 marks the **20<sup>th</sup> Edition of QAIB** and the introduction of the “since QAIB inception” annualized return. The “since QAIB inception” return looks as far back as the first edition of QAIB did (1984) and encompasses important market events such as the crash of 1987 and the down markets of the early 90’s. The inclusion of these markets amplifies the disparity between the average fund investor and market indices.

➤ Attempts to correct irrational investor behavior through education have proved to be futile. The belief that investors will make prudent decisions after education and disclosure has been totally discredited. Instead of teaching, financial professionals should look to implement practices that influence the investor’s focus and expectations in ways that lead to more prudent investment decisions.

	Investor Returns <sup>1</sup>			Inflation	S&P 500	Barclays Aggregate Bond Index
	Equity Funds	Asset Allocation Funds	Fixed Income Funds			
<b>Since QAIB Inception</b>	3.69	1.85	0.70	2.80	11.11	7.67
<b>20 Year</b>	5.02	2.53	0.71	2.37	9.22	5.74
<b>10 Year</b>	5.88	2.63	0.63	2.38	7.40	4.55
<b>5 Year</b>	15.21	7.70	2.29	2.08	17.94	4.44
<b>3 Year</b>	10.87	6.26	0.70	2.07	16.18	3.27
<b>12 Months</b>	25.54	13.57	-3.66	1.52	32.41	-2.02

➤ Despite guessing right 75% of the months in 2013, investors still failed to beat the market. The best performing months of 2013 did not follow significant fund inflows, suggesting that mutual fund investors were not able to time their cash flows to optimize performance.

➤ The average equity investor outperformed the systematic equity investor for the fourth year in a row. The systematic fixed income investor by far outperformed the average fixed income investor by earning over five times the amount of the average fixed income investor.

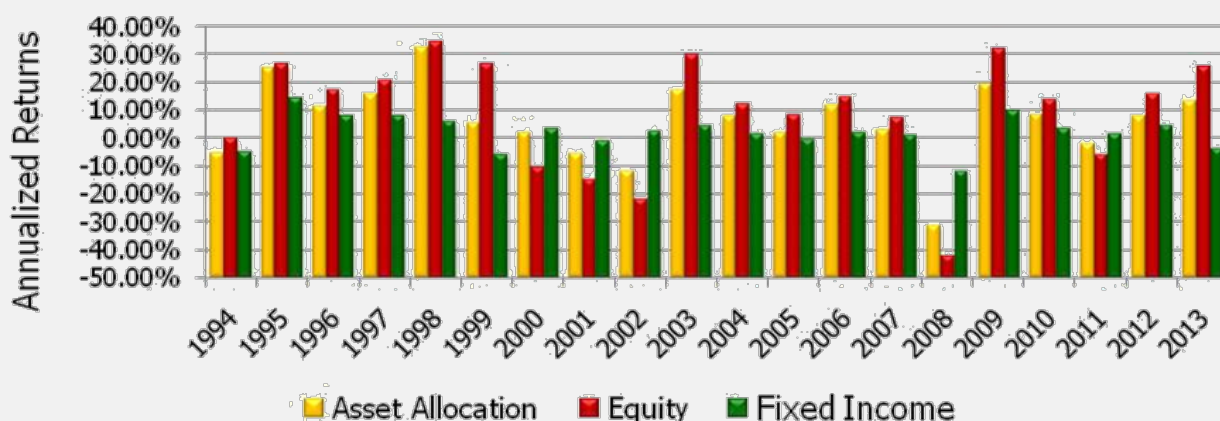
➤ The gap between the 20-year S&P 500 return and the average equity fund investor return expanded in 2013. This was the first gap expansion since 2010 and only the 3<sup>rd</sup> in 10 years. The S&P 500 return increased from 8.21% to 9.22% in 2013 while the average equity fund investor return increased from 4.25% to only 5.02%. This resulted in the gap widening from -3.96% to -4.20%.

➤ Risk tolerance is not static; it can vary greatly based on an individual’s goal, life stage, experiences, etc.

<sup>1</sup> 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.

- The value of capital preservation is clear in bear markets but its value is generally ignored in bull markets. The best asset allocators were able to cut investors' losses in half in 2008 through the use of capital preservation strategies. In cases of well-planned strategies, losses were entirely avoided.
- The risk associated with various asset classes can vary based on market conditions and should not be treated as a constant. To illustrate this point QAIB looked at the probability of the S&P 500 declining by 1% or more in a month from 1987-2013. The results showed that the probability of a loss of 1% or more in any given month increased from 11% to 19% (nearly doubled) after two consecutive down months.
- Investors should not judge their investment success by market index comparisons but instead, they should evaluate their progress towards achieving personal financial goals.
- Retention rates for equity funds increased while retention rates for fixed income funds decreased, reflecting the reaction to the mid-year jump in interest rates. The retention rates for asset allocation funds increased only slightly.
- Capital preservation is an important consideration when evaluating investment performance. Steps need to be taken in the financial services industry to address capital preservation in a tangible way to investors such that both the capital appreciation and preservation and their relationship with each other is utilized.
- An effective way to quantify capital preservation is to provide the investor with the likelihood of achieving their goal. Investors will understand the varying probabilities that come with a higher or lesser degree of capital preservation.

**Annual Average Fund Investor Returns  
1994 - 2013**



## WHY INVESTORS LOSE MONEY

### *AND WAYS TO AVOID IT*

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. Because of the ineffectiveness of the educational efforts, the 2014 edition of QAIB will focus on the ways in which practices in the investment community can alter the money-losing behaviors of investors. While still the exception, a combination of practices have successfully reduced money-losing behaviors.



### **Market Timing Failure**

Through QAIB, we have learned that the greatest losses occur after a market decline. Investors tend to sell after experiencing a paper loss and start investing only after the markets have recovered their value. The devastating result of this behavior is participation in the downside while being out of the market during the rise.

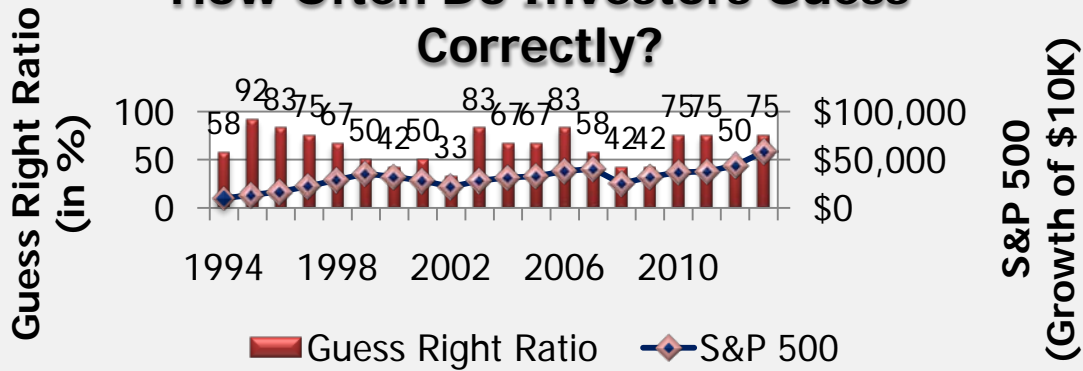
DALBAR continues to analyze the investor's decision making process through their purchases and sales. This form of analysis, known as the Guess Right Ratio, examines fund inflows and outflows to determine how often investors correctly anticipate the direction of

the market. Investors guess right when a net inflow is followed by a market gain, or a net outflow is followed by a decline. In general, investors make money when the Guess Right Ratio exceeds 50%.<sup>2</sup>

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.

<sup>2</sup> Please note that the Guess Right Ratio is not dollar weighted, so it cannot be used to measure returns.

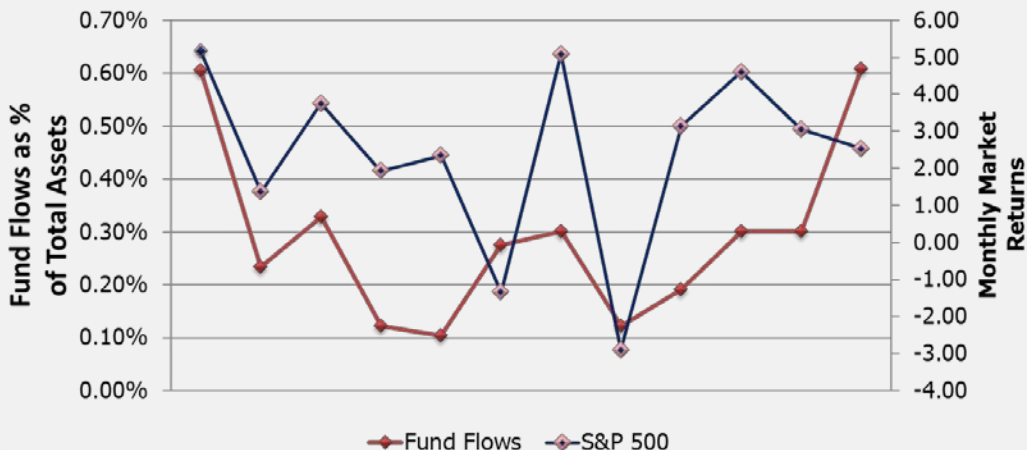
## How Often Do Investors Guess Correctly?



In a steadily rising 2013 market that saw only two down months, it is not surprising that investors “guessed right” 75% of the time. However, while investors may have guessed right, they were not successfully timing the market. In the 6 months of 2013 in which the S&P 500 performed best (all months in which investors “guessed right”) none of those months followed a month in which fund flows were significantly above the yearly average of +0.26%. These figures show no evidence that investors anticipated the larger market moves of the year.

	S&P Return (%)	Previous Month's Fund Flow (% of Total Assets)
→ January	5.18	0.27
February	1.36	0.61
→ March	3.75	0.23
April	1.93	0.33
May	2.34	0.12
June	-1.34	0.10
→ July	5.09	0.28
August	-2.90	0.30
→ September	3.14	0.12
→ October	4.60	0.19
→ November	3.05	0.30
December	2.53	0.30

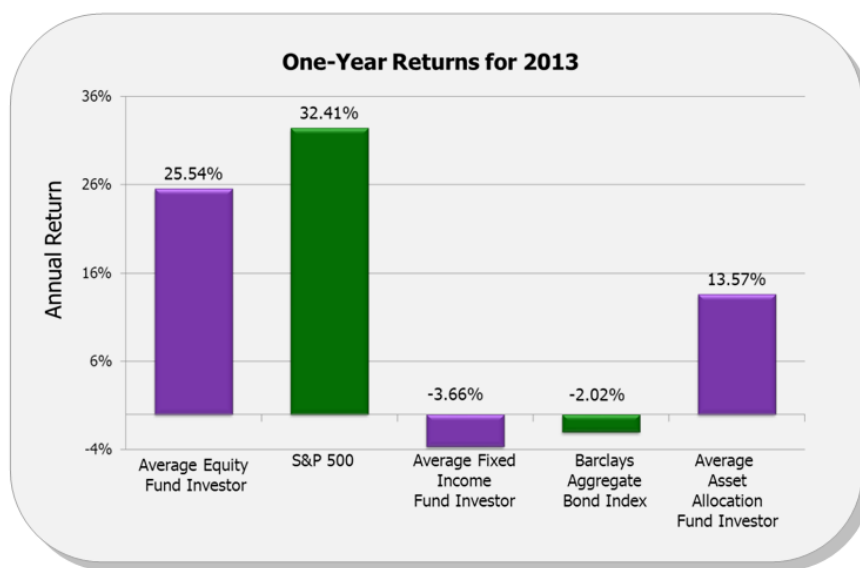
### Investor Fund Flows and Market Performance for Calendar Year 2013



In a market such as the one in 2013 the appropriate question may not be how often investors guessed right but rather what guessing wrong cost them. Was the timing of the cash flows enough to put the average equity fund investor's performance above the overall equity market? The month-by-month breakdown on the previous page suggests this was not the case as there were no large upticks of inflows before the best performing months of the year. A look at the average equity fund investor returns compared to the S&P 500 provides a definitive answer: the timing of mutual fund investor cash flows did not cause them to beat the market. Despite "guessing right" 75% of the time, the average investor

still trailed the broad equity market by 6.87%. This illustrates the ineffectiveness of market timing because as we will discuss later, it is often imprudent for investors to judge their investment performance against major market indices.

Earning 25.54% will go a long way towards accomplishing an investor's goals but could it have been achieved without the risk associated with market timing? A prudent asset allocation strategy could also put an investor on track to achieve a goal but with more secure capital preservation.



## Retention Rates

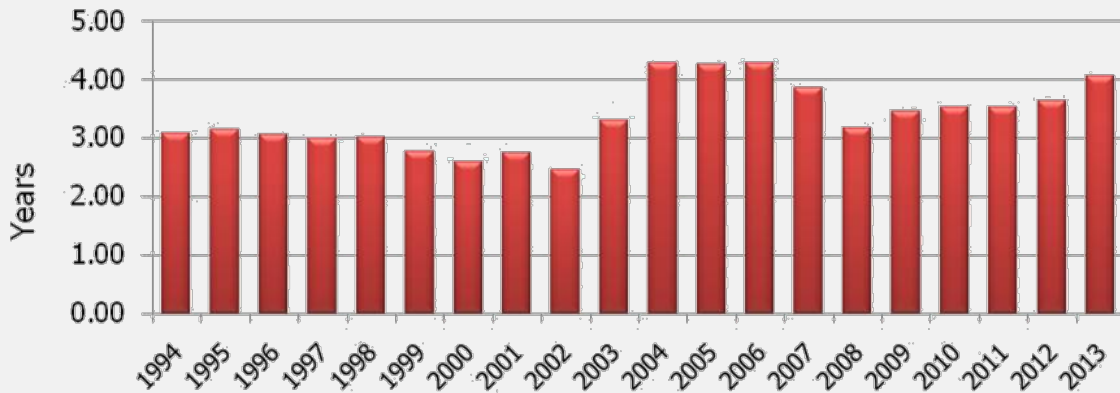
Correcting the folly of market timing can be approached in one of two ways. The first is to guess correctly instead of incorrectly. This approach is unachievable and clearly does nothing to alleviate the market timing problem, in fact only serves to reinforce it. A second way to avoid market timing pitfalls is to not time the market but instead adopt a buy and hold strategy that has rewarded prudent and patient investors for decades. The following section will

explore evidence that buy and hold strategies are not being employed by the average investor. The charts on the following page illustrate that investors continue to react to market movements and the news. One of the most startling and ongoing facts is that at no point in time have average investors remained invested for sufficiently long periods to derive the benefits of the investment markets. Recommendations by the investment

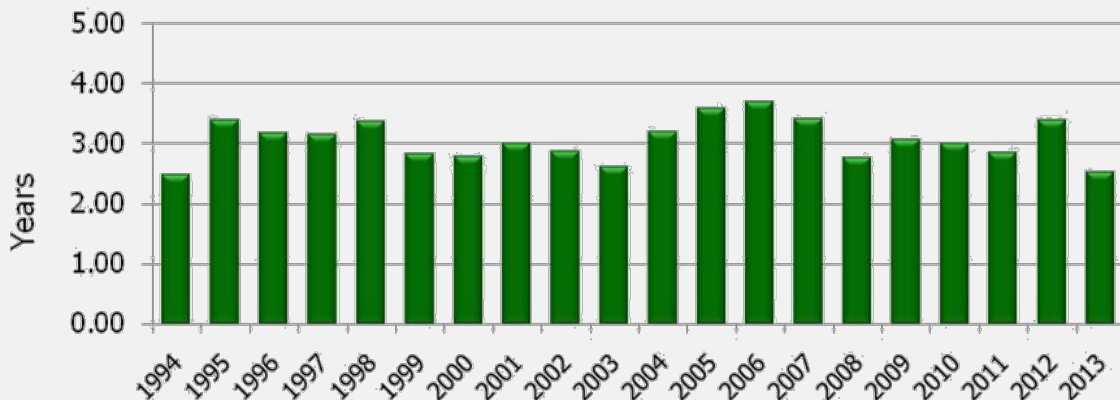
community to remain invested have had little effect on what investors actually do. The result is that the alpha created by the portfolio is lost

to the average investor, who generally abandons investments at inopportune times, often in response to bad news.

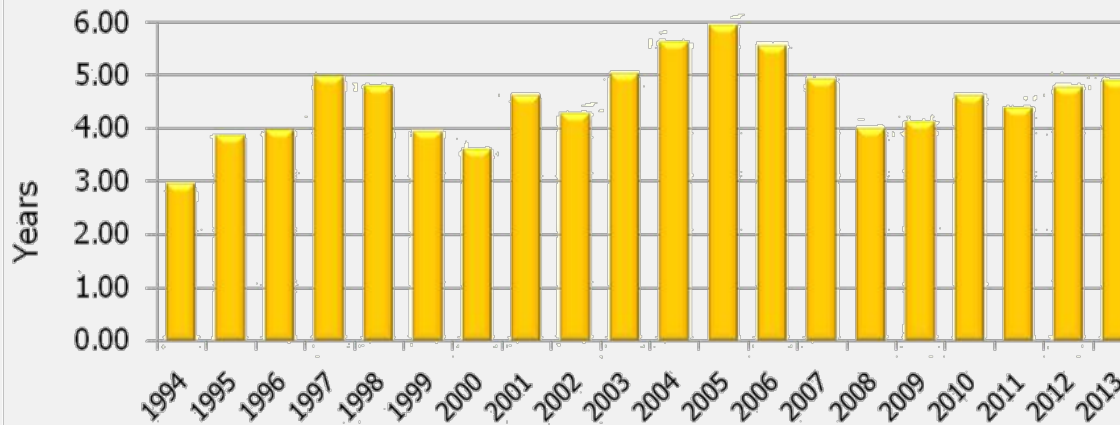
**Retention Rates: Equity Funds**



**Retention Rates: Fixed Income Funds**



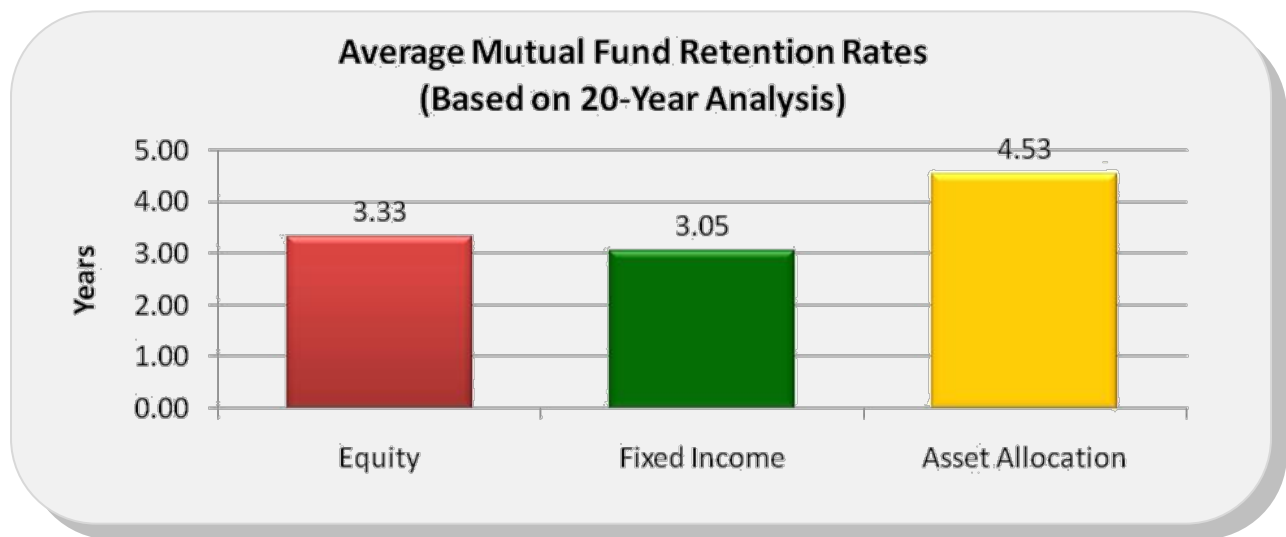
**Retention Rates: Asset Allocation Funds**





In 2013, as in years past, asset allocation fund investors have remained invested in their respective funds longer than equity or fixed income investors. Higher retention rates are evidence that behavioral factors are muted when investors are invested in asset allocation funds. Investors' expectations when investing in asset allocation funds may explain why they

stay invested longer. Asset allocation investors do not expect their funds to perform as well as an equity fund or preserve capital as well as a fixed income fund. They are also less likely to see dramatic price swings that tempt buying and selling. Overall, the average asset allocation mutual fund investor has stayed invested in their funds over a year longer than equity and fixed income mutual fund investors.



## SET EXPECTATIONS BELOW MARKET INDICES

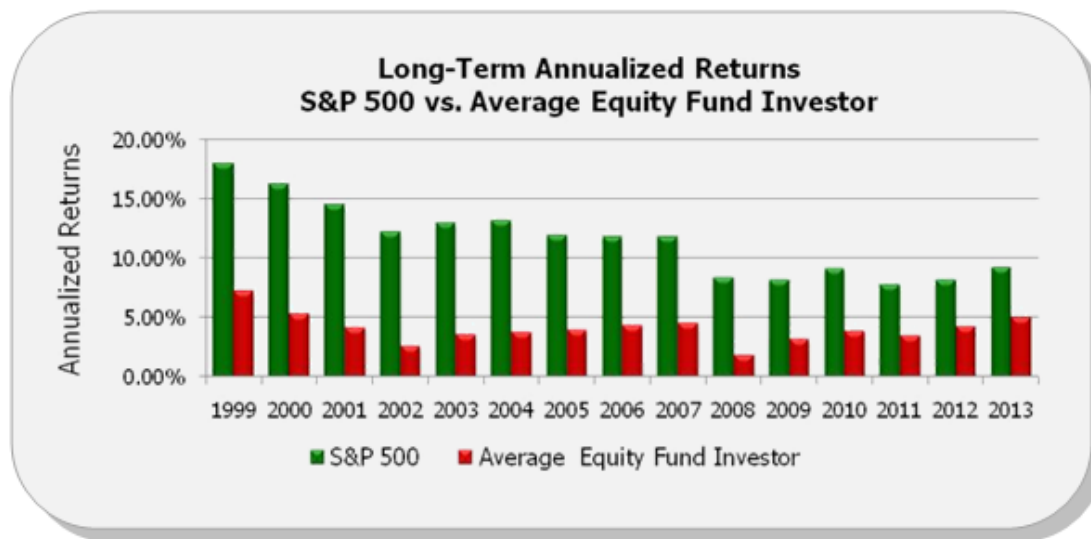
*THE AVERAGE INVESTOR CANNOT BE ABOVE AVERAGE*

Expectations are often set inadvertently, but the expectations are set and remain. The successful practice is to explicitly set reasonable expectations and not permit expectations to be inferred from historical records, market indexes, investors' own experiences or media coverage.

The market-lagging returns of the average fund investor in 2013 was not an isolated incident. In fact, the average mutual fund investor rarely exceeds the performance of the market. When looking at long-term annualized returns<sup>3</sup> of the average equity mutual fund investor compared to the returns of the S&P 500, the gap between the two is staggering. In 2013, the long-term return of the S&P is nearly double that of the average equity mutual fund investor (9.22% vs. 5.02%). The silver lining is that despite this gap, things are a whole lot better for investors than they used to be. In 1999 the long-term annualized return of the equity market was 2.5 times that of the average equity mutual fund investor (18.01% vs. 7.23%).

The zero-sum nature of the market makes over performance impossible for at least half the participants; after all, for every winning transaction there is a buyer/seller losing on the other end. Furthermore, advantages of the large, institutional market participants put the average investor in a "David vs. Goliath" scenario in which David rarely comes out on top. The humbling fact has been and always will be that: **the average investor cannot be above average**. Investors should understand this fact and not judge the performance of their portfolio based on broad market indices, but rather based on their individual path towards a personal goal.

**Inappropriate expectations are the leading cause of inappropriate actions... Set explicit and achievable expectations, linked to a personal desire.**



<sup>3</sup> The original analyses began in 1984; so that between 1998 and 2002, the period covered was less than 20 years. Since 2003, however, the long-term analysis has covered a 20-year timeframe.

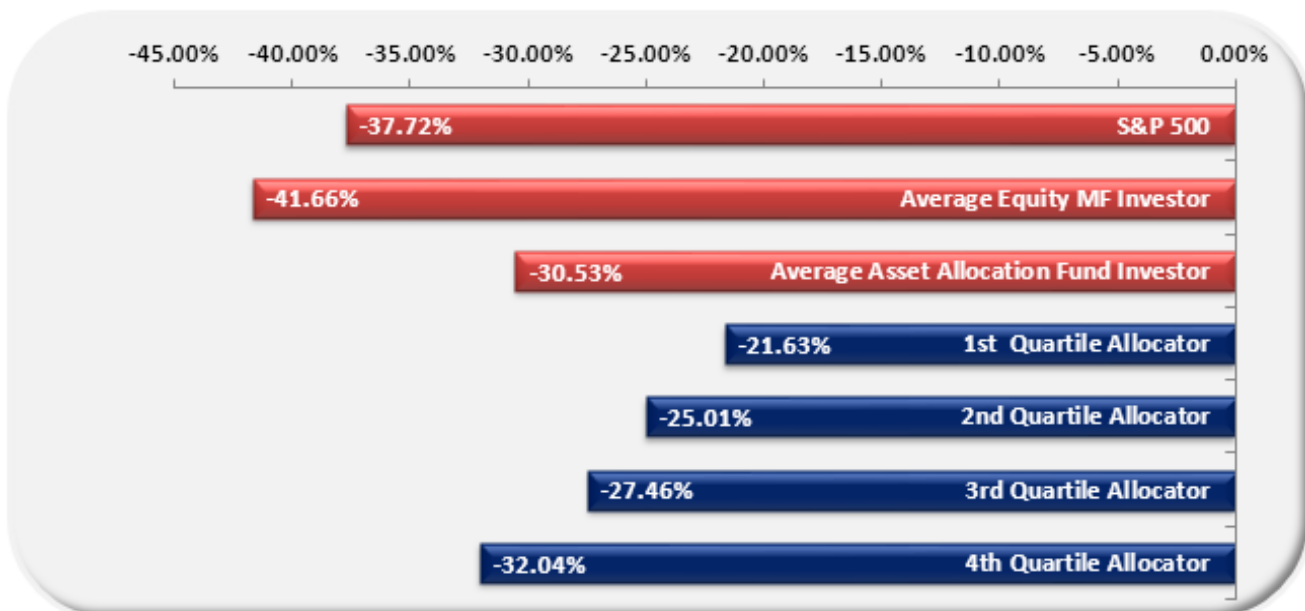
## CONTROL EXPOSURE TO RISK

### HAIL TO THE CAPITAL PRESERVATIONISTS

Another form of unreasonable expectations comes from a basic principal of behavioral finance called **Loss Aversion**. Loss Aversion occurs when investors expect to find high returns with low risk. Investors may want to lower their exposure yet still expect their returns to meet or exceed the market. It is not practical for an investor to expect returns on par with the market if a portion of their portfolio is protected through a capital preservation strategy. The short-sighted desire for above-average returns should not overshadow the vital role of capital preservation, the benefits of which should be taken into consideration when assessing the success of one's investment strategy.

The market of 2008 was a time when capital preservation became more obvious and highly appreciated. In this year the average equity mutual fund investor lost over 40% of their

value, again trailing the market. Mutual fund investors that were invested in asset allocation funds that utilized varying degrees of capital preservation strategies beat the market that year. However, that is not the whole story as the average asset allocation investor did not reap the full rewards that the top capital preservationist (allocators) provided. In the 2013 edition of QAIB, the allocators in various markets were rated. The top quartile of allocators would have nearly cut the losses that the average equity mutual fund investor experienced in 2008 in half (-41.66% to -21.63%). The value of capital preservation shines through in down markets but tends to become lost during markets like 2012 and 2013. Of course if 2008 had turned out to be a year like 2012 or 2013, the inherent value of capital preservation would have been invisible to the naked eye.



Investment managers that successfully preserve capital should not be considered underperformers. Financial professionals will be well served to implement reporting techniques that bring to light the safety and stability brought to a portfolio in all markets through capital preservation. The gateway to this type of reporting is one that is inextricably tied to the client's goals, risk tolerance and resulting investment policy.

When the client is presented with a tangible goal along with the likelihood of achieving that goal, the benefit of capital preservation can be more clearly appreciated.

Take for example the illustrations below that show various projections towards a goal, given an array of asset allocation strategies. In

**Exhibit A** the client's asset allocation strategy projects the client to exceed his/her goal. Due to the risk associated with that investment strategy, the probability of the investor reaching or exceeding that goal is 75%.

The client may, depending on their **risk tolerance**, want to maximize the probability of meeting their goal, even if it is at the expense of exceeding the goal. In this case, an investment strategy that incorporates more capital preservation like the one in **Exhibit B** may be more suitable as it will increase the probability of meeting the goal from 75% to 88%. This will undoubtedly lead to lower returns in a bull market but the tradeoff is clear to the investor in any market: "My chances of reaching my goal are better."

Explicit, reasonable expectations are best set by agreeing on a **goal** that consists of a use of funds, a dollar amount and a date. Progress to meeting that goal is then tracked, showing how much the investor is ahead or behind the established goal. Keeping the focus on the goal will indicate when action is necessary and divert attention away from frequent fluctuations that lead to imprudent actions. Linking the investment to a personal desire keeps the attention focused on that desire and avoids the distraction of market volatility that leads to bad investment decisions.

EXHIBIT A

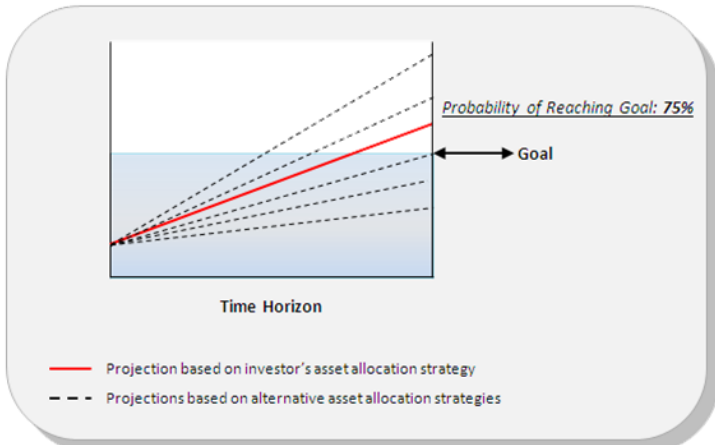
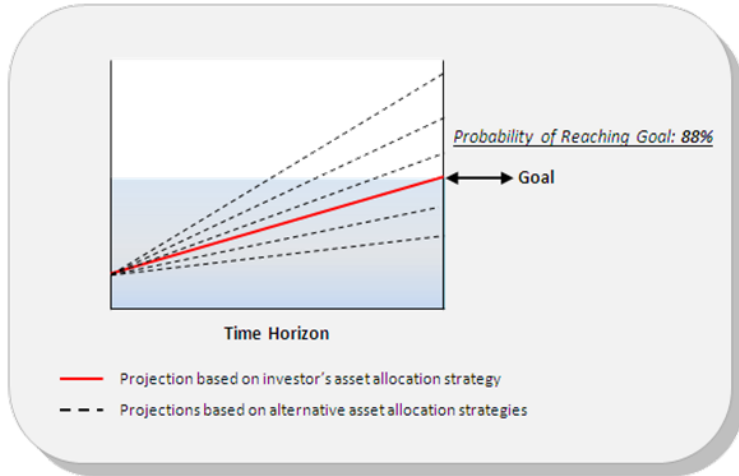


EXHIBIT B



## MONITOR RISK TOLERANCE

### *RISK TOLERANCE IS NOT A STATIC VARIABLE*

Even when presented as alternatives, investors intuitively seek both preservation and appreciation. Successful investors overcome the irrational urge to find the best of both and substitute a blend or balance, often described as risk tolerance.

Risk tolerance is the proper alignment of an investor's need for preservation and desire for capital with an appropriate asset allocation. Determination of risk tolerance is highly complex and is not rational, homogenous nor stable.

**Risk tolerance is subject to many variations and must be monitored regularly to keep investments aligned.**

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**Risk tolerance is not rational.** It will depend on the investor's experiences and awareness of the experiences of others. An understanding of the psychology of decision making is essential to accurately determining risk tolerance although several rudimentary techniques are used with some degree of success.

**Risk tolerance is not homogenous.** Investors have several different purposes for their investment capital and each purpose can have its own risk tolerance, producing an array of risk tolerances. The array of risk tolerances are best accommodated by multiple asset

allocations, each addressing a specific purpose that the investor has in mind.

**Risk tolerance is not stable.** Even the most carefully constructed risk tolerance array is subject to change as the investor has new experiences and purposes change. It is necessary to be able to detect these changes and make the necessary adjustments.

Changes in risk tolerance make any attempts at automatic rebalancing futile at best and may result in unnecessary losses.

**Risk tolerance depends on the purpose, not the person.**

## PRESENT FORECASTS IN TERMS OF PROBABILITIES

*THOSE WHO FORGET THEIR PAST ARE DOOMED TO REPEAT IT*

Generally accepted investment theories often incorporate a fundamentally false assumption. Many assume that specific asset classes carry a constant level of risk. A simple analysis shows this belief to be untrue. The exposure to loss in each asset class varies greatly as is illustrated in the following table that shows the

probabilities of a 1% or greater loss in the S&P 500. It should be noted that this example is used for illustration and in reality each asset class has its own array of probabilities that must be considered to control the exposure to risk.

Predictive Condition	Probability of Occurring	-1% Next Month	-1% In 2 Months	-1% In 3 Months
Random Probability	100%	11%	20%	28%
1 Up Month	65%	10%	19%	26%
1 Down Month	37%	13%	21%	31%
2 Consecutive Up Months	42%	12%	18%	25%
2 Consecutive Down Months	14%	19%	28%	37%

It becomes clear that asset allocations must change continuously in order to control the exposure to risk. Long term commitments to a specific mix of assets exposes investors to uncontrolled levels of risk as the probability of a downturn in each asset class changes.

The use of simplistic declarative language and “hard numbers” is one of the greatest sources of investor confusion. It is impossible to make a rational decision when presented with a “hard number” accompanied with a statement that can only be interpreted to be that the number is meaningless. As outlandish as this sounds, it

is a bedrock principle of presenting investment results.

The effect of this confusion is that investors choose to either ignore the warning and accept the “hard numbers” or believe the warning and make an imprudent decision. Ultimately, this confusion sets the stage for investors’ irrational action when a market correction occurs.

The cure for this dilemma is truth. The truth is that the numbers are not hard but each has a probability of occurring. Measuring and assigning a statistical probability enables the investor to make a rational choice among investments based on the probability of reward.

## CONCLUSION

While investor education can lead to prudent investing in theory, past history has shown that this is rarely the case. In fact, the knee-jerk reaction to crises and mistakes has been to try to educate or inform investors but this education has for the most part been to present ambiguities and teach an arcane language to uninterested consumers.

Additionally, education has been used as the vehicle to transfer responsibility from the expert to the unwitting neophyte. By providing education, the investor is expected to make prudent decisions that relieve the expert of any responsibility. This use of education as a litigation defense may be effective in arbitration, in the courts and with regulators but it does nothing to protect the investor from making bad decisions.

Investors generally have two interests, one is making money and the other is not losing it.

Trying to explain the difference between a stock and a bond is unconnected to those interests. Investment strategies, theories and processes are not helpful without some assurance that they will be successful at making money and not losing it.

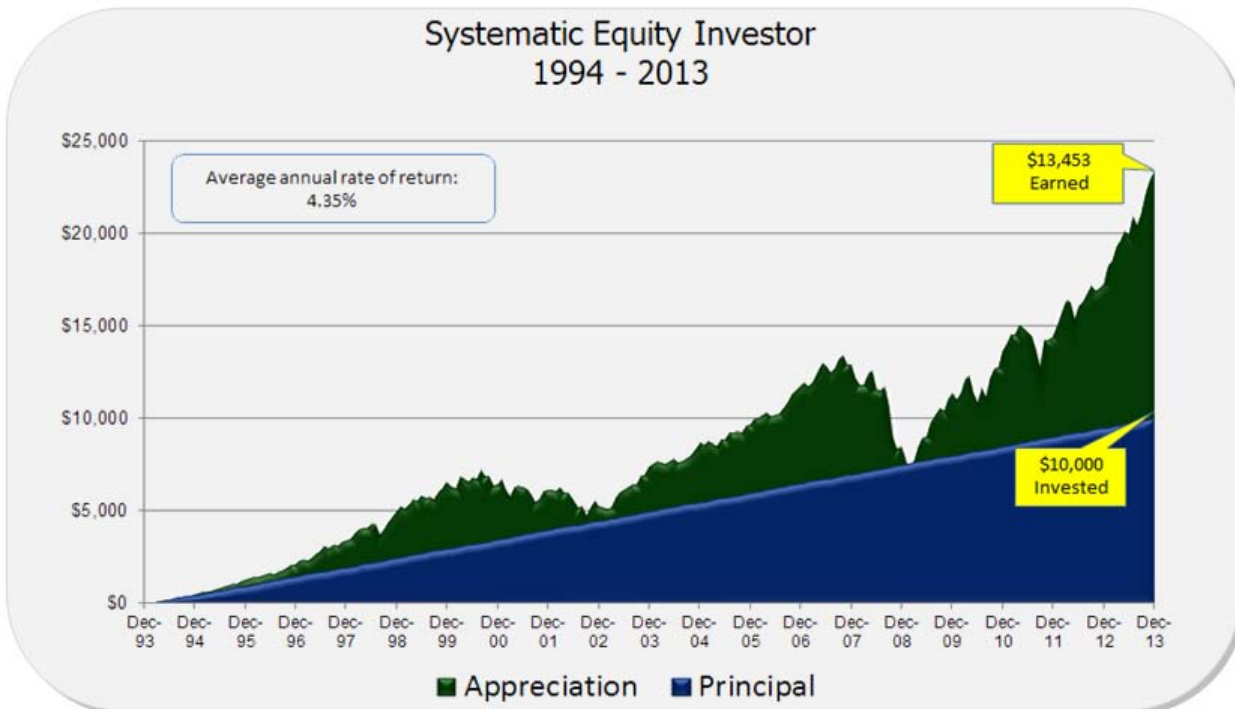
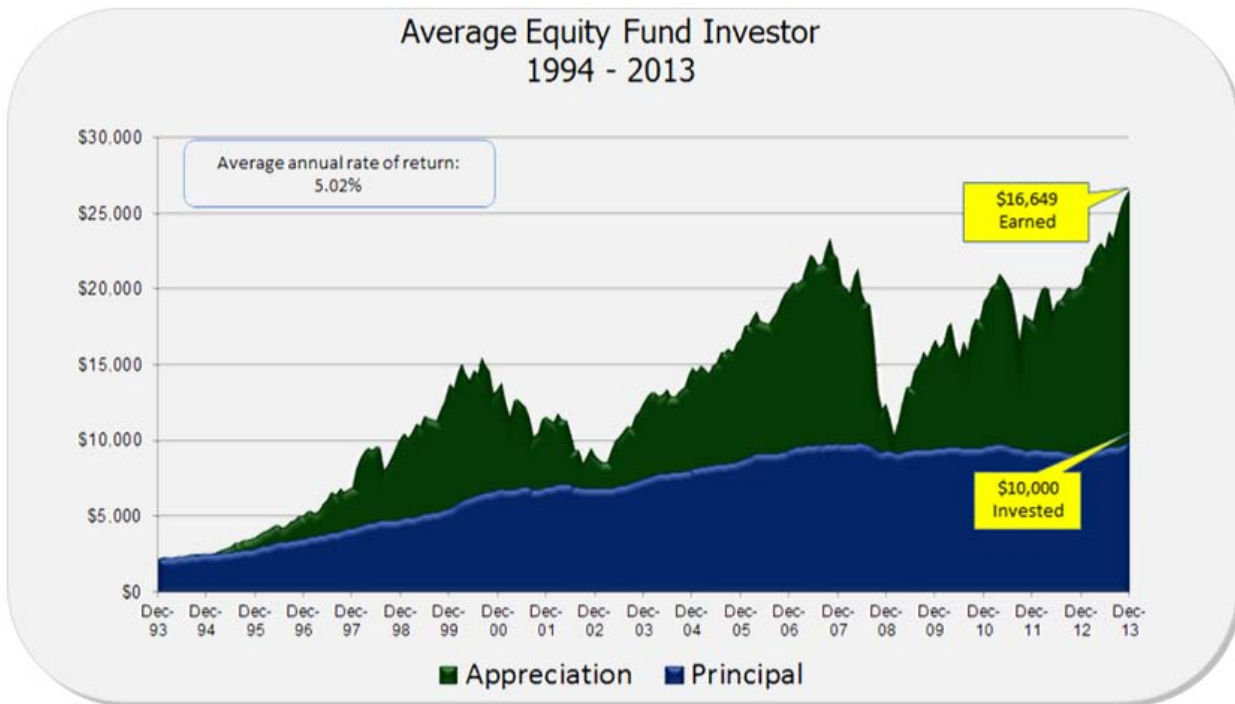
The subjects outlined in this article present the complexities and unknowns of investments in a way that does not require more massive education since they are aligned with the primary investor interests in making money and not losing it. Each subject has had a record of success when properly applied.

**The future success in the investment business will belong to those who manage prudently and relieve investors of the burden of learning the business themselves.**

## SYSTEMATIC INVESTING

On the next three pages you will find charts that compare a hypothetical \$10,000 investment made by the average investor to a series of systematic investments totaling the same \$10,000. This

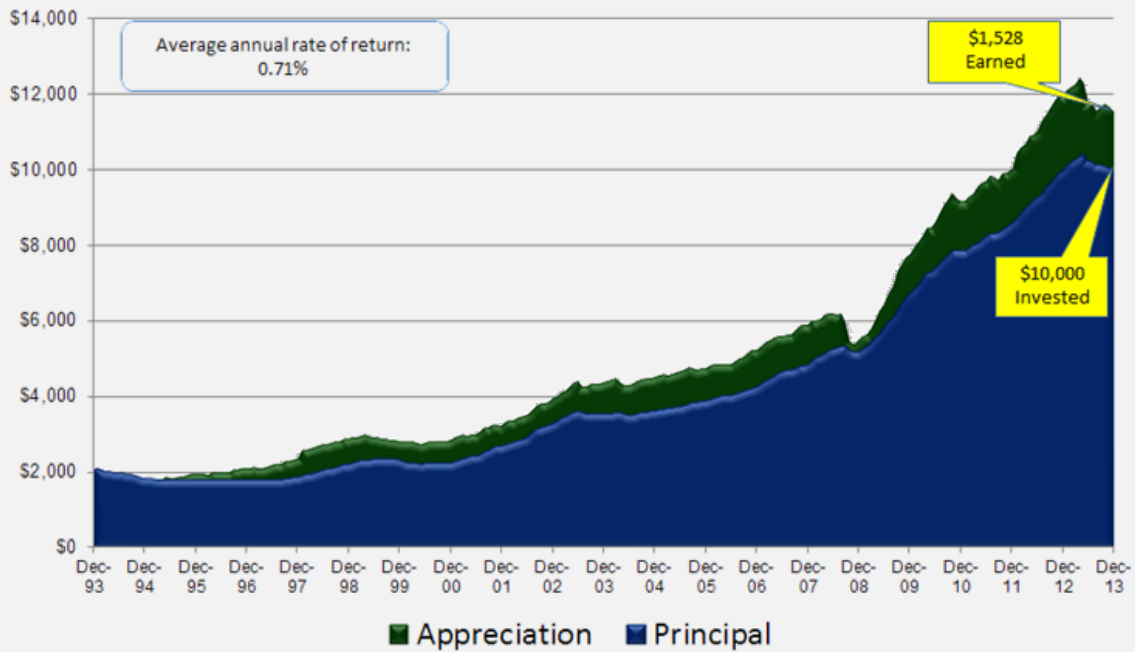
comparison is provided for the average equity, fixed income and asset allocation mutual fund investor over a comparable twenty year time horizon.



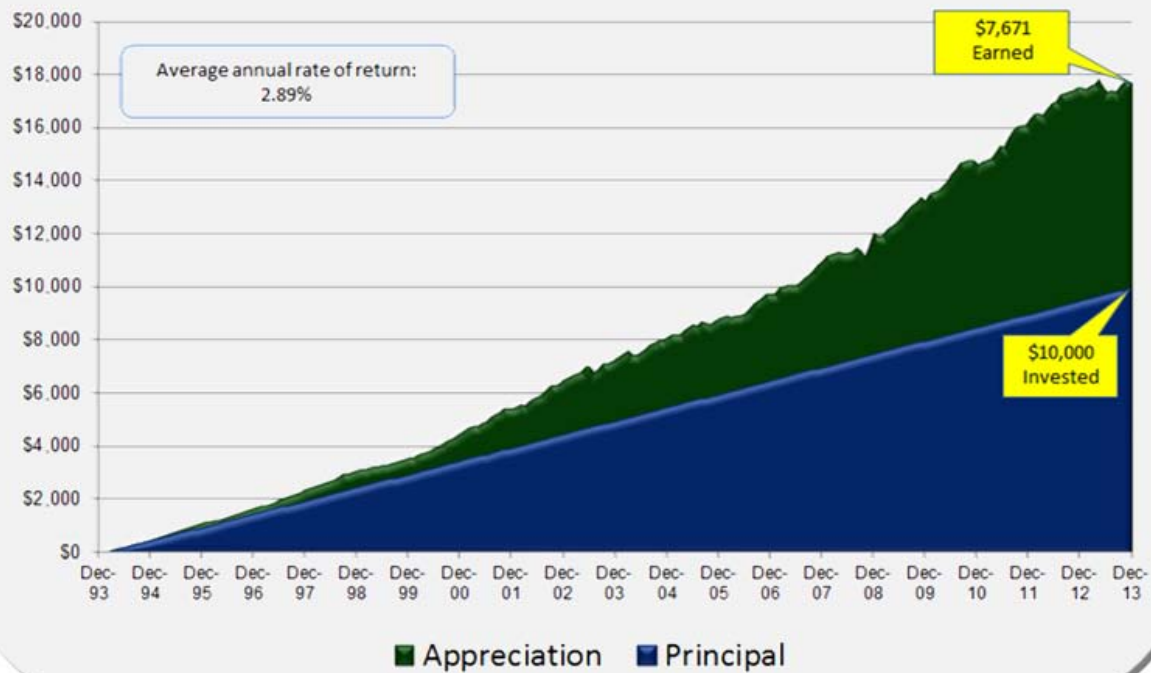
*The systematic equity investor is represented by the S&P 500, an unmanaged index of common stock. Data supplied by Standard & Poor's. Indexes do not take into account the fees and expenses associated with investing, and individuals cannot invest directly in any index. Systematic investing involves continuous investing in securities regardless of price levels. It cannot assure a profit or protect against loss during declining markets. Past performance cannot guarantee future results.*



### Average Fixed Income Fund Investor 1994 - 2013

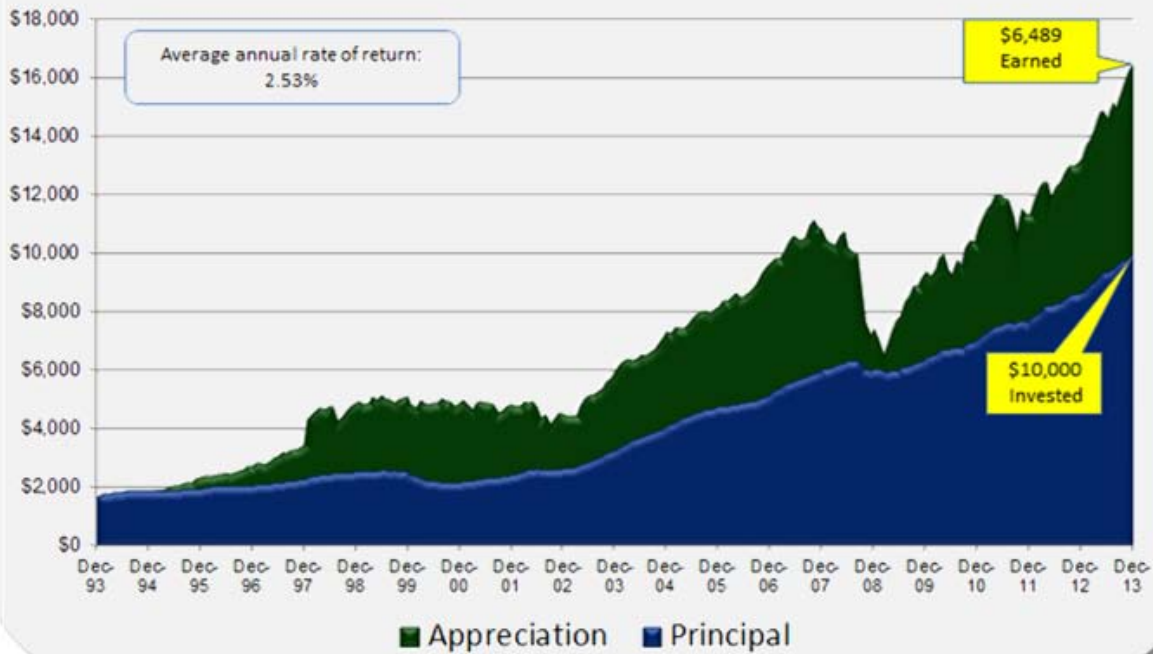


### Systematic Fixed Income Investor 1994 - 2013

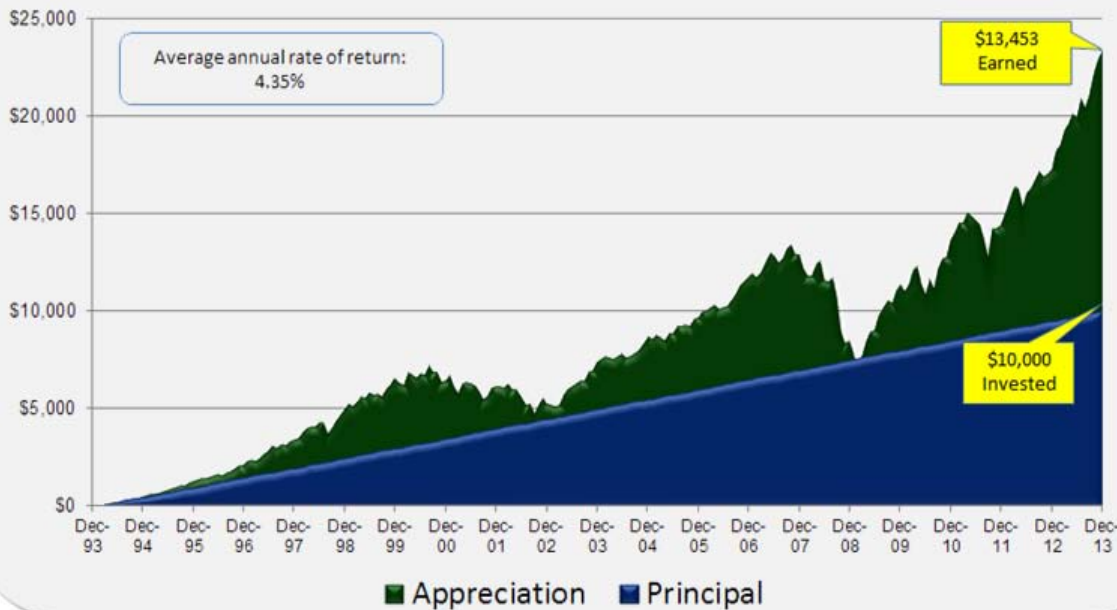


*The systematic fixed income investor is represented by the Barclays Aggregate Bond Index. Systematic investing involves continuous investing in fixed income assets regardless of price levels. It cannot assure a profit or protect against loss during declining markets. Past performance cannot guarantee future results.*

### Average Asset Allocation Fund Investor 1994 - 2013



### Systematic Equity Investor 1994 - 2013



*The systematic equity investor is represented by the S&P 500, an unmanaged index of common stock. Data supplied by Standard & Poor's. Indexes do not take into account the fees and expenses associated with investing, and individuals cannot invest directly in any index. Systematic investing involves continuous investing in securities regardless of price levels. It cannot assure a profit or protect against loss during declining markets. Past performance cannot guarantee future results.*

## GLOSSARY

### **Average Investor**

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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**

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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)**

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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 of the 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**

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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**

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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**

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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**

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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**

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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**

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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.

## The QAIB Benchmark and Rights of Usage

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.

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*For more information on creating a custom analysis or presentation using the QAIB data and methodology, contact Stephanie Ptak at [sptak@dalbar.com](mailto:sptak@dalbar.com) or 617-624-7134.*

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