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## **2012 QAIB**

### Quantitative Analysis of Investor Behavior

#### ***Advisor Edition***

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Prepared by  
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Research & Communications  
Division

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April 2012

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## Do Fiduciaries Produce Better Returns?

The legislative and regulatory activity since 2008 has been focused on increasing the fiduciary level of care to the investment market, motivated by the belief that investors are being injured - in spite of the protections that have been in place for decades. The superficial assumption is that investors will benefit from a fiduciary level of care.

While there has been extensive debate over the burden of proposed changes, the value of a shift to a universal fiduciary standard has barely been explored. The theory is that a fiduciary standard of care is simply better, but there has been very little discussion on the net effect such a standard will have on investor returns.

Certainly one could argue, if investment professionals put their clients' interests ahead of their own, the clients would be better off. The theory is simply that a fiduciary standard will lower the expense of investing and ensure that clients get the best recommendations. While the validity of this superficial hypothesis seems self-evident, there are a number of factors that will affect the real outcome for real people.

Consider first the construct into which the fiduciary standard is being introduced. The construct is that investments are sold, not bought. Unlike a car loan, mortgage or even a savings account or CD, investments are made after the investor is convinced to "buy". Very few investors actively seek and make investments without the motivation and urging of others through the selling process. Attempts at introducing fiduciary standards seek to draw a line between this urging of the investor to buy or sell (non-fiduciary) and making a recommendation to buy or sell (fiduciary). It is clearly unworkable to draw and enforce such a line.

A second consideration is the professional market. The pressure to lower expenses will make the business less attractive for professionals. If fiduciary standards are effective in lowering investor cost, it will also lower the compensation of professionals, making it less attractive to enter and remain in the field of work. This reduced supply of professionals will then cause prices to increase, thus undoing the initial lowering of expenses.

A third consideration is the compensation structure in use today. The structure in place today for fiduciaries is to use rates that vary based on portfolio value and are unaffected by the time or effort. A client that requires a high commitment of time is charged the same fee as a client who requires little attention. The current method of dealing with this problem is to require clients to have very high minimum balances in order to pay for the time involved, so that as fees decline, minimums increase. The result is that clients with lower balances remain un-served by fiduciaries.

An unsupported assumption is that lower expenses from a fiduciary standard of care will produce better investor returns. As with the preceding assumptions, this is highly flawed. In a practical sense, the threat of fiduciary breach leads professionals to be more risk averse and avoid investing in areas that produce the highest returns. While this movement to safety may not be in a client's best long term interest, it is virtually impossible to show a fiduciary breach of failing to make an aggressive recommendation.

The four structural roadblocks of a) separating selling from recommending, b) the professional market, c) compensation limitations and d) professional risk aversion, must be addressed to have an effective fiduciary standard that increases returns for the investing community.

It is entirely unlikely that the legislative or regulatory community will address these structural issues, instead it is more probable that the blind force of regulation will continue to march forward and it will be up to the investment community to reform current practices to survive and thrive in the changing environment. The question is what can the investment community do to reform the structures that threaten business in a fiduciary environment.

#### **a) Separating Selling and Recommending**

While possible in theory, there is no practical way to establish processes that make a useful distinction between selling to an investor and recommending a security. Recognizing the futility of such a flawed approach, the reasonable course of action is to treat selling as a fiduciary act. This would apply the same standards of care to selling that regulators seek to apply to making recommendations. Universal application of a fiduciary protocol creates consistency in dealing with investors and protects the professional from fiduciary breach. The single fiduciary protocol reduces the growing complexity and cost of compliance and limits the professional's ability to build business.

#### **b) The Professional Market**

The number of available professionals may be severely limited by lowering compensation when a fiduciary level of care is used. Additionally, this lowering is clearly illogical and counter-intuitive. Investors would certainly be willing to pay a higher fee for the fiduciary. The solution to this hurdle is to revise compensation practices so that a premium is paid for a fiduciary relationship. This will require restructuring compensation to eliminate any potential conflict of interest while maintaining comparable payments. Several alternatives are available for such restructuring. The greater number of professionals will have the added benefit of serving more investors and will therefore eliminate shortages and the resulting price spikes.

#### **c) Compensation Limitations**

The irrational practice of setting prices independent of the service that professionals provide is another practice that makes a fiduciary protocol painful. In no other area of business is pricing disconnected from costs. Whether in manufacturing or service, consumers expect that the price of the goods and services covers the cost of providing them. The solution here is also quite simple. Use a pricing structure that reflects the time and skill level of the professional as well as the benefit derived by the investor. Rational pricing will reflect fees for services rendered in addition to compensation for achieving desired results. Results will depend on the investor's stated goals, whether they are asset preservation, stability or appreciation. Such a pricing arrangement will eliminate the need for minimums and permit investors to decide on the level and quality of support they need.

#### **d) Professional Risk Aversion**

The exposure to regulatory action, arbitration and litigation will limit the professional's willingness to introduce any but the lowest risk investment alternatives. Such a posture negates the value of the professional to create portfolios that reflect the investors' goals. The solution is to use a process in which the investor can make an informed decision, with full knowledge of the reasonable level of return and potential loss that can be expected. This decision-making process protects the professional and the investor when these critical factors are presented in a clear and concise way.

An effective fiduciary protocol is not buried in arcane disclosures or complex mathematical formulas or buried in volumes of paperwork that very few investors bother to study. Effective protection is achieved through simple clear language that quantifies reasonable expectations in terms the investor can evaluate.

### **The Alternative**

These four measures can reestablish the investment professional as a highly valued and well compensated contributor to the well-being of investors. With no need for regulatory changes, they remove the inefficiency of confusion, rationalize compensation and create the protection for risk-taking that is necessary to take advantage of market appreciation. The alternative is a growing conundrum of regulations, higher costs and diminished efforts to sell investments to the public.

## Investor Irrationality on Display

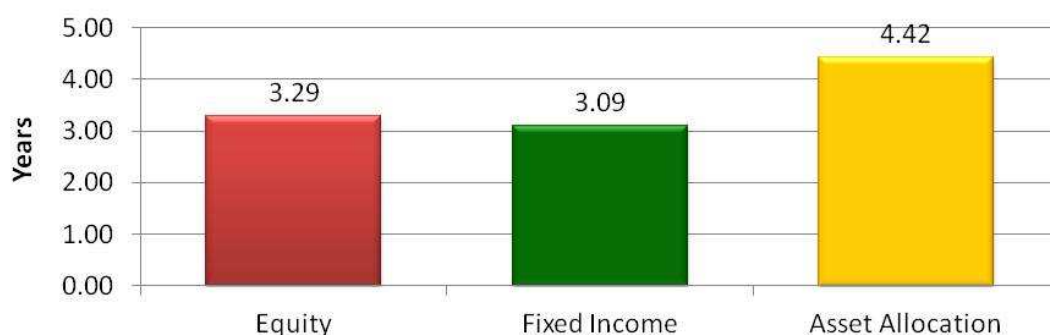
### Retention Rates

The following charts 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.

The chart below shows that recommendations by many mutual fund companies to remain invested have had little effect on what investors actually do. The result is that the alpha created by portfolio management is lost to the average investor, who generally abandons investments at inopportune times, often in response to bad news.

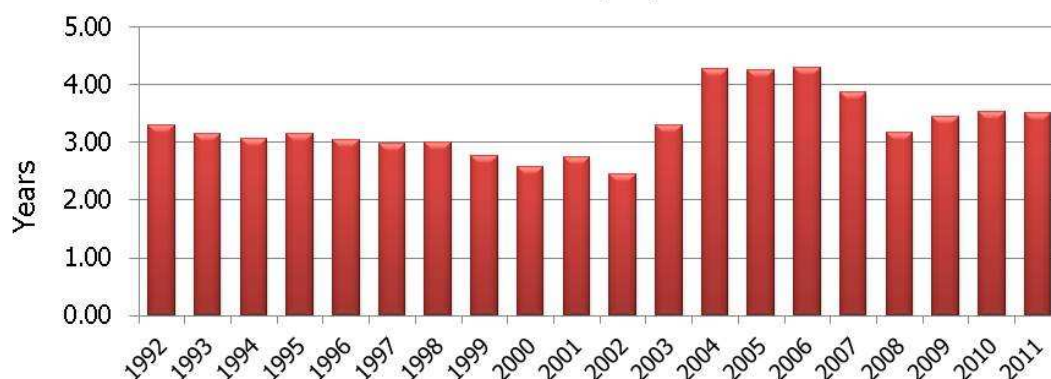
In 2011, as in years past, asset allocation (including target date funds) fund investors have remained invested in their respective funds longer than equity or fixed income investors. Investors' tendency to hold asset allocation funds longer is a strong case for their inclusion in an investor's portfolio.

**Average Mutual Fund Retention Rates  
(Based on 20-Year Analysis)**

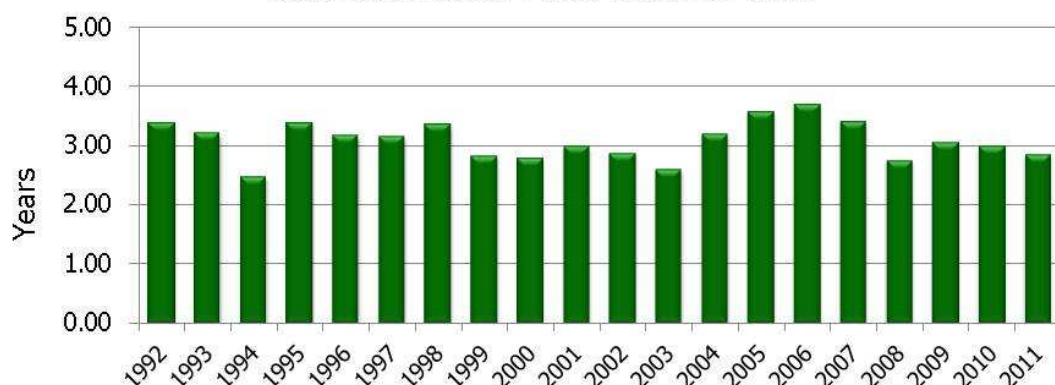


While we still see that investors will react to market corrections over the 20 years since 1992, the reaction has been more muted since 2003. This is especially true for equity fund retention rates.

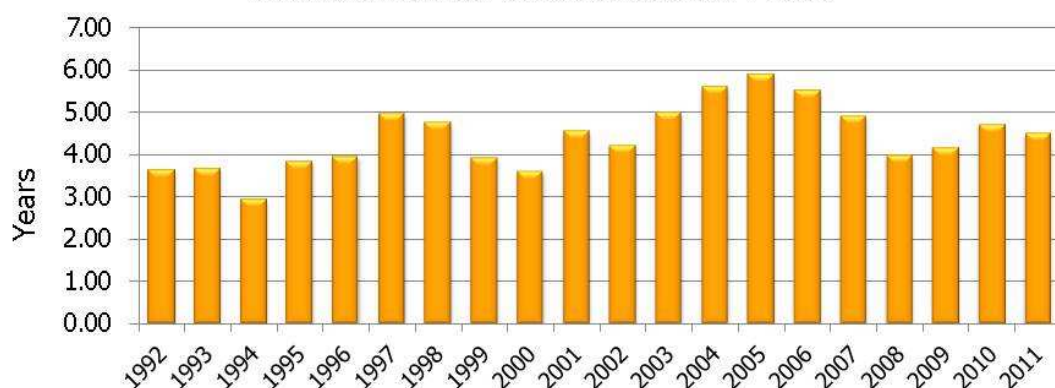
**Retention Rates: Equity Funds**



### Retention Rates: Fixed Income Funds



### Retention Rates: Asset Allocation Funds



## Guess Right Ratio

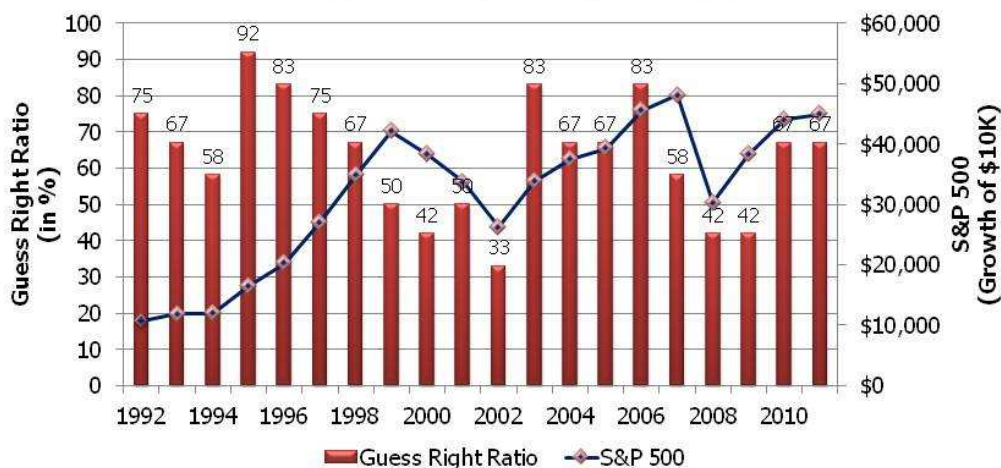
DALBAR continues to analyze the investor's decision making process for their purchases and sales. This analysis, known as the Guess Right Ratio, examines fund inflows and outflows to determine how often investors correctly anticipate the direction of the market. Investors guess right when a net inflow 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>1</sup>

DALBAR looks at the data to determine if an investor can 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 erode return created by portfolio managers.

<sup>1</sup> Please note that the Guess Right Ratio is not dollar weighted, so it cannot be used to measure returns.

From 2000 through 2002, the S&P 500 declined each year. During that same timeframe, investors experienced a Guess Right Ratio at or below 50%. This same trend emerged again in 2008, when the market experienced a significant decline and investors' attempts to time the market during this tumultuous time were largely unsuccessful (42%). As the markets have improved since 2009, we notice that it is easier for investors to make the right decision when markets are rising and their fear of loss is not the major decision driver.

### How Often Do Investors Guess Correctly?

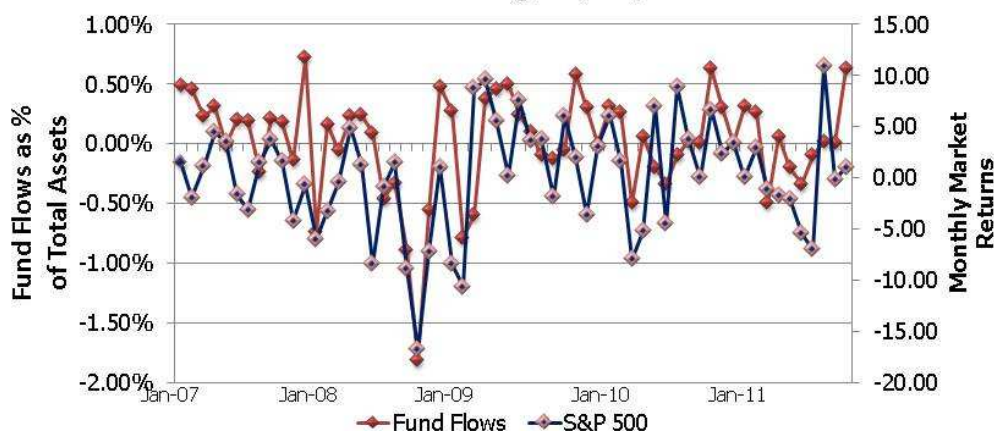




## Market Timing Success/Failure

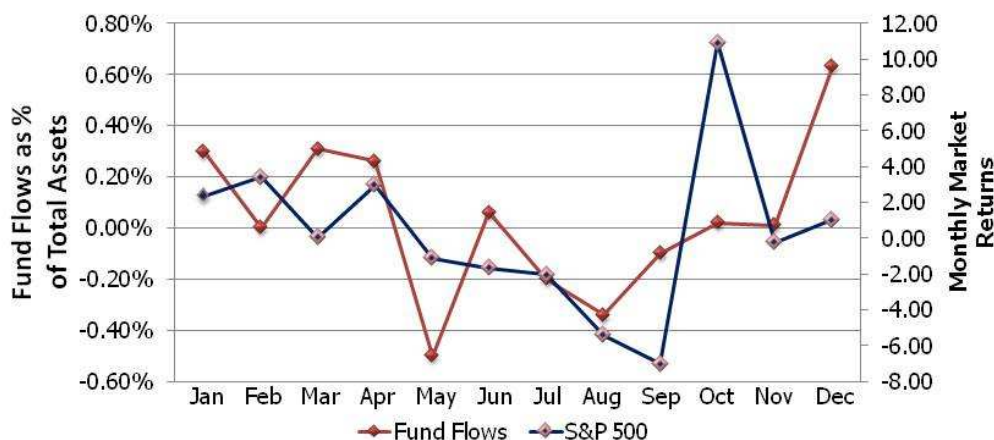
The following chart illustrates how mutual fund inflows and outflows compare with monthly market returns. Notice how the two data series are often on opposite sides of the x-axis. This further underscores the fact that investors fail at timing the market, resulting in inflows when the market declines and outflows when the market rises.

**Investor Fund Flows and Market Performance for the 5 Years Ending 12/31/11**



When looking at the same chart for the calendar year of 2011, we can see more clearly how investors' attempts to time the market are futile. The largest uptick in the S&P 500 occurred in September, a month when fund flows were close to 0% of total assets. Fund flows were near 10% of total assets 2 months later. Unfortunately, by that time the S&P had lost nearly half of its September gains.

**Investor Fund Flows and Market Performance for Calendar Year 2011**





## Irrational Decisions Lead to Inferior Results

### Equity and Fixed Income Funds

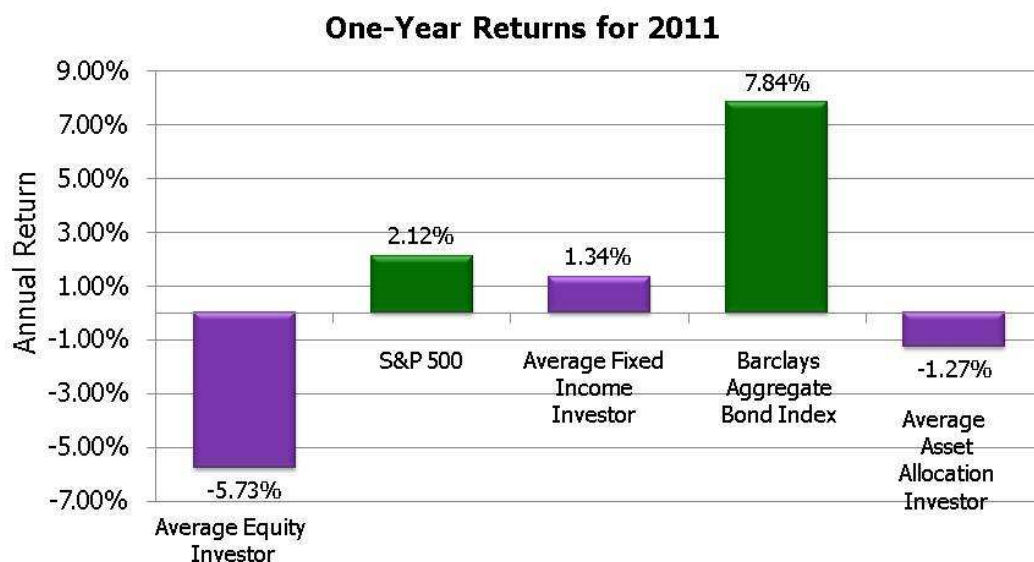
In 2011, market volatility reigned supreme. Additionally, the credit quality of US Treasuries was downgraded and at the same time these “safe” investments outperformed the equity markets by a wide margin.

The equity investors were driven by volatility to cash out and the bond investors driven by fear of the downgrade to do the same thing, both at the wrong time.

The results were that equity **investors lost 5.73% in their flight to safety** compared to the gain of 2.12% that simply holding the S&P 500 produced. This fear driven activity took place primarily after down swings and lead investors into cash that offered virtually no return.

The fixed income investor realized a positive return of **1.34%, significantly below the treasury yield.**<sup>2</sup>

The investor losses in equities and the modest gains of fixed income investors illustrate investors' loss of confidence in the investment markets.



<sup>2</sup> Average stock 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 gross underperformance of the average investor in 2011 clearly displays what has been the case for over twenty-five years – irrational decisions lead to inferior returns. This is not just the case on a year-by-year basis, but for intermediate and long-term results as well.

The table below shows the 1, 3, 5, 10 and 20 year annualized returns for the average equity and fixed income investor. **When comparing these annualized returns to corresponding benchmarks we see that both equity and fixed income mutual fund investors underperformed the market for every timeframe.**

### Annualized Investor Returns vs. Benchmark

	Avg. Equity Investor	S&P 500	Difference	Avg. Fixed Income Investor	Barclays Aggregate Bond Index	Difference
20 Year	3.49%	7.81%	-4.32%	0.94%	6.50%	-5.56%
10 Year	2.39%	2.92%	-0.53%	0.93%	5.78%	-4.85%
5 Year	-2.21%	-0.25%	-1.96%	0.95%	6.50%	-5.55%
3 Year	12.56%	14.11%	-1.55%	4.07%	6.77%	-2.70%
12 month	-5.73%	2.12%	-7.85%	1.34%	7.84%	-6.50%

Notice the sizable gap in the average investors' 20-year annualized return compared to the major indices.

- ✓ The average equity investor underperformed the S&P 500 by **4.32%** for the past 20 years on an annualized basis.

The average fixed income investor underperformed the Barclay's Aggregate Bond Index by **5.56%** for the past 20 years on an annualized basis.

### Asset Allocation Funds

Asset Allocation funds that include "Target Date" funds have been studied in QAIB since 2005. Similar to the average equity and fixed income investor, the average asset allocation investor has underperformed the market. The average asset allocation investor underperformed the S&P 500 on an annualized basis for all timeframes. The average asset allocation investor underperformed Barclay's Aggregate Bond Index on an annualized basis for all timeframes except 3 years.

The table and corresponding chart below show the average asset allocation fund investor's 1, 3, 5, 10 and 20-year annualized returns compared to the S&P 500, Barclays Aggregate Bond Index and inflation.

	Average Asset Allocation Investor	S&P 500	Barclays Aggregate Bond Index	Inflation
20 Year	2.12%	7.81%	6.50%	2.56%
10 Year	1.11%	2.92%	5.78%	2.62%
5 Year	-1.48%	-0.25%	6.50%	2.54%
3 Year	7.57%	14.11%	6.77%	2.38%
12 Months	-1.27%	2.12%	7.84%	2.96%

### Asset Allocation Funds vs Comparative Indices (For period ending December 31, 2011)



## 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.

### Key Findings

- ✓ Last year was the first year since the QAIB Report was first published that the average equity investor outperformed the systematic equity investor ([see charts, page 13](#)). That fact remained in 2011 with the average equity investor earning \$9,853 against a systematic investor's earnings of \$8,665.
- ✓ The systematic equity investor underperforming the average equity investor does not mean that investors should abandon the concept of systematic investing. It should however cause investors or their financial advisors to seek new strategies to counteract investor behavior that loses alpha.
- ✓ As in previous years, the average systematic fixed income investor overwhelmingly outperformed the average fixed income investor over the twenty year period by earning over four times as much ([see charts, page 14](#)).

### Average Equity Fund Investor 1992 - 2011



### Systematic Equity Investor 1992 - 2011



*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. Past performance cannot guarantee future results. 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 1992 - 2011



### Systematic Fixed Income Investor 1992 - 2011



*The systematic fixed income investor is represented by the Barclays Aggregate Bond Index. Past performance cannot guarantee future results. Systematic investing involves continuing 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 1992 - 2011



### Systematic Equity Investor 1992 - 2011



*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. Past performance cannot guarantee future results. Systematic investing involves continuing 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**

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 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**

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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## Methodology

QAIB uses data from the Investment Company Institute (ICI), Standard & Poor's and Barclays Capital Index Products to compare mutual fund investor returns to an appropriate set of benchmarks. Covering the period from January 1, 1992, to December 31, 2011, 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.

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