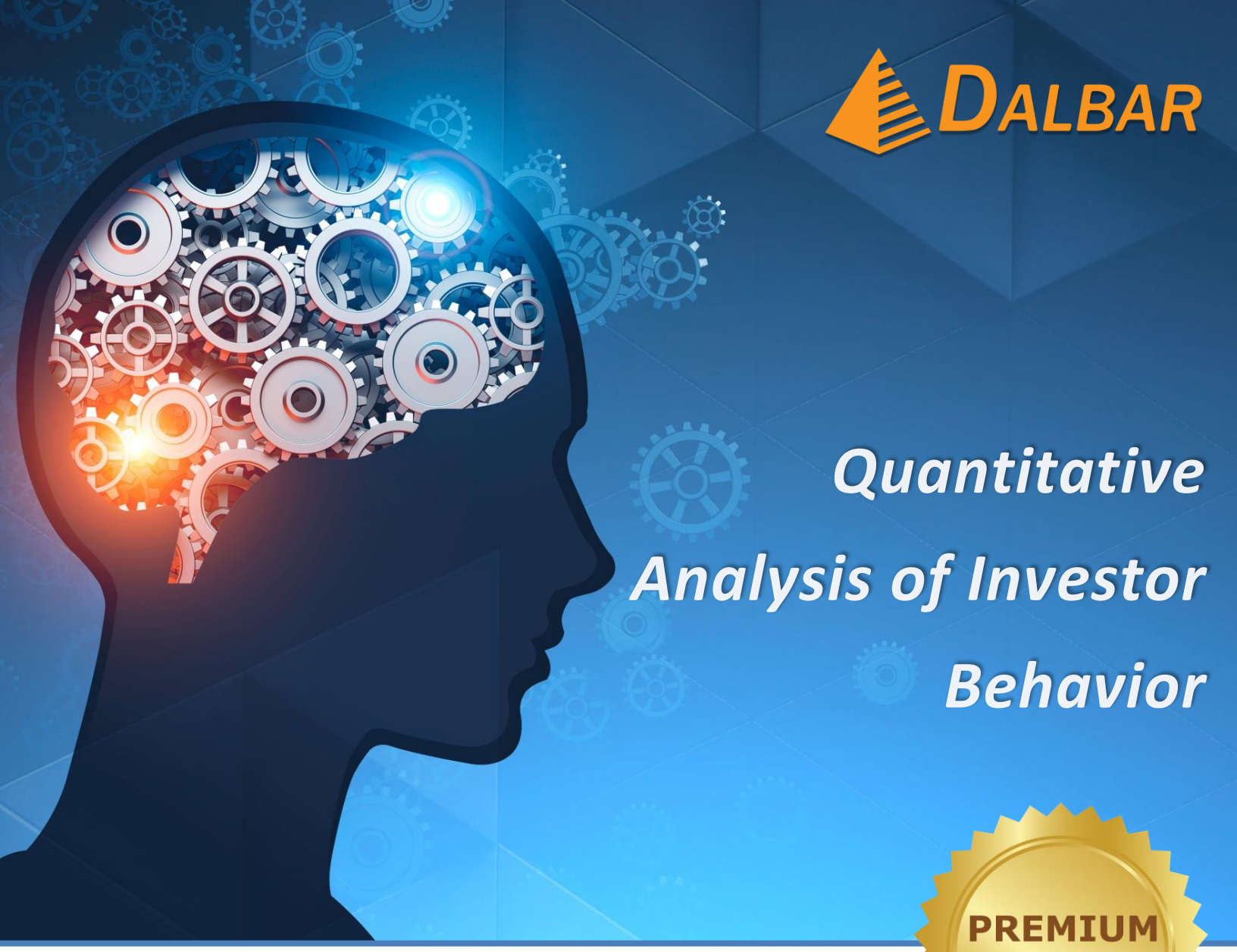

DALBAR

Quantitative Analysis of Investor Behavior

PREMIUM EDITION

2020 QAIB Report

For the period ending: **December 31, 2019**

Complements of Wealth Watch Advisors, LLC

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Introduction

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 time frames. These effects are measured from the perspective of the investor and do not represent the performance of the investments themselves. 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.

The 26th Annual QAIB examines real investor returns in nearly 30 different categories of investors. The analysis covers the 30-year period to December 31, 2019, which encompasses the aftermath of the crash of 1987, the bull market of the 90's, the drop at the turn of the millennium, the crash of 2008, plus recovery periods leading up to the most recent bull market.

Importance of QAIB

The best financial professionals double as behavioral finance coaches of their clients. When markets are down or even volatile, questions will arise from concerned clients and perspective will be needed. The QAIB report and materials give advisors the tools to tell a story, put things into perspective, and deliver the calming messages that are needed to mitigate return-destroying behavior. Such messages include:

- The prudence of a long-term, buy and hold approach
- The folly of measuring investment success against statistical benchmarks
- Awareness of common behavioral influences
- Lessons from past markets
- The importance of investing assets as early as possible

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.

Methodology

QAIB uses data from the Investment Company Institute (ICI), Standard & Poor's, Bloomberg Barclays Indices and proprietary sources to compare mutual fund investor returns to an appropriate set of benchmarks. Covering the period from January 1, 1990 to December 31, 2019, 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

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.

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Renowned investor behavior research is now at your fingertips! Visit the QAIB Store at www.QAIB.com for images, infographics and more.

For questions, please see our FAQ page in the QAIB Store (www.QAIB.com) or contact us at qaib@dalbar.com or 617-624-7100.

Executive Summary

- Since 1984, approximately 70% of Average Investor underperformance occurred during only 10 key periods in which investors withdrew their investments during periods of market crises.

- Of the 10 most severe cases of underperformance:

    - 8 cases would have produced better returns for the Average Investor one year later if they had taken **no action** and held on to their investments.

    - 1 case would have produced better results one year later if the Average Investor had **purchased portfolio insurance**, and

    - 1 case would have produced better results one year later if the Average Investor had **withdrawn assets**.

- A buy and hold strategy of $100,000, earning S&P returns, would have earned:

    - **$25,515** more than the Average Equity Fund Investor from 2016-2019

    - **$16,228** more than the Average Equity Fund Investor from 2017-2019

    - **$12,129** more than the Average Equity Fund Investor from 2018-2019

    - **$5,936** more than the Average Equity Fund Investor in 2019

- The Average Equity Fund Investor earned a return of 26.14% in 2019, 5.35% lower than the S&P 500 return of 31.49%.

- The Average Equity Fund Investor was a net withdrawer of assets in 2019 for the 4th year in a row, cashing out on 2.27% of the equity assets held at the beginning of the year.

- The Average Equity Fund Investor "Guessed Right" 3 of the 12 months in 2019, the lowest Guess Right Ratio (25%) in the last 20 years.

- The Average Equity Fund Investor performed best in growth funds, with the Average Mid-Cap Growth Fund Investor being top performing size and style investor (33.11%).

- The Average Technology Fund Investor was the top performing Sector Fund Investor, earning 43.94% in 2019.

- The Average Equity Fund Investor displayed patience within their investments. Retention rates increased by 6 months, from 4.0 years to 4.5 years, **the highest Retention Rate recorded by the study (covering 36 years)**.

- The Average Fixed Income Fund Investor experienced their best annual gain since 2012, earning 4.62%, but falling well short of the BloombergBarclays Aggregate Bond Index return of 8.72%.
- The Average Fixed Income Fund Investor made strong contributions to their bond portfolio in 2019, contributing 10.72% to the assets held at the beginning of the year.
- Retention rates increased for the Average Fixed Income Fund Investor and Average Asset Allocation Fund Investor in 2019. For bond investors, Retention Rates rose from 3.0 years to 3.6 years. For asset allocation investors, Retention Rates rose from 4.5 to 5.0 years.

	Average Equity Fund Investor (%)	Average Fixed Income Fund Investor (%)	Average Asset Allocation Fund Investor (%)	S&P 500 (%)	Bloomberg-Barclays Aggregate Bond Index (%)	Inflation (%)
30 Year	5.04	0.38	2.29	9.96	5.91	2.40
20 Year	4.25	0.47	2.54	6.06	5.03	2.14
10 Year	9.43	0.63	4.79	13.56	3.75	1.75
5 Year	7.79	0.35	3.88	11.70	3.05	1.82
3 Year	11.50	1.08	5.91	15.27	4.03	2.10
12 Month	26.14	4.62	15.36	31.49	8.72	2.29

Hypothetical Outcomes of Crisis Periods

One major reason that investor returns are considerably lower than index returns has been the fact that many investors withdraw their investments during periods of market crises. Since 1984, approximately 70% of this underperformance occurred during only ten key periods. All of these massive withdrawals took place after a severe market decline.

The investor experiences during and after these key periods reveal the motivation for the underperforming withdrawals.

Forecasts of market rises have coexisted with conflicting forecasts of doom (see #DoomEcho) since the origin of investment markets. History explains the coexistence of the contradictory opinions. Since 1964, positive markets occurred in 54% of cases and negative in 46%.

Investors therefore always have an expert opinion to support the action they take (buy, sell or hold). These opinions serve to maintain the investors' awareness of unpredictability, thus increasing the vulnerability to market changes.

The result is that market changes initiate a call to action, which often translates to withdrawal. A startling event often leads to a withdrawal, but this is almost always after the event has occurred and the market has adjusted. Such a withdrawal takes place after the decline and is only productive if additional declines occur.

The ten most severe cases of such underperformance are presented here, comparing the outcomes of three potential courses of action:

- Withdrawal which avoids the less likely exposure to negative markets and misses the opportunity for the more likely market rise.
- Insurance which uses the DALBAR i-PRT[1] strategy to purchase index puts that protect the investor from a market downturn but allows participation in the more likely case that the market rises.
- No Action where the investor recognizes that their action will be too late to prevent a loss and investments will benefit from the likely market rise.

Assumptions

The hypotheticals presented here cover the ten most severe monthly outflows from equity mutual funds since 1964. It is assumed that investor's holdings are valued at $100,000 at the start of the month during which the outflow occurs.

[1] DALBAR i-PRT is a short-term investment strategy that protects equity portfolios from imminent losses. DALBAR i-PRT enables an advisor or sophisticated investor to design an index put that will make up for expected losses. Investors avoid the necessity of withdrawing funds and instead pay for the desired protection if a portfolio loss occurs.

Hypotheticals compare the results of three investor courses of action, assuming the investments track the performance of the S&P 500. These three courses of action are taken in the month following the associated market decline. The three actions are:

- Investor withdraws funds. Withdrawn assets are held privately by the investors and the value remains constant for the next year.
- Investor obtains insurance using the DALBAR i-PRT strategy:
  - Using Index Puts that track the S&P 500
  - 30-day expiration
  - No action is taken during the year after Puts expire
- Investor takes no action.

Results are measured 30 days and one year after the action is taken.

Two perspectives are presented:

- Effect on investor's holdings
- Effect on asset held by an institution or advisor

DALBAR i-PRT Use

The insurance alternative discussed here is based on the proper use of the DALBAR i-PRT strategy. Fundamentally, DALBAR i-PRT is an asset preservation strategy, not an investment tool. The following practices are essential to proper use:

- DALBAR i-PRT is only presented at the time an investor has expressed a desire to withdraw funds. It is not and does not compete with investment or risk management tools. DALBAR i-PRT is designed for use only when investors seek to abandon their investments in fear of imminent market losses.
- Investors must be told that the DALBAR i-PRT strategy is not the best economic alternative. The best alternative is most often to "Take No Action." This best choice for economic reasons may be off the table if the investor is fearful of market conditions.
- DALBAR i-PRT is a preferred alternative to withdrawal and must be presented in that light.
- DALBAR i-PRT strategy is never offered to answer long term concerns. Such concerns are far more effectively handled by investment or financial planning practices.

Best Economic Alternatives

Best for Investors

While investor actions and choices are heavily influenced by fear of the unknown, historical events presented here illustrate the economic effect of the three alternatives examined.

The best course of action can only be one that an investor is willing to take. During the crises covered here, many investors rejected the alternative of taking no action, even though the historical evidence is overwhelming that "Take No Action" is most often the best course.

Investors who reject the "Take No Action" alternative should consider the DALBAR i-PRT strategy that avoids the more costly and imprudent course of a full withdrawal.

(for Investors) Event Date	Best After 1 Month			Best After 1 Year		
	Withdraw Assets	Purchase Insurance	Take No Action	Withdraw Assets	Purchase Insurance	Take No Action
September 1986			✓			✓
October 1987		✓			✓	
March 1988	✓					✓
August 1988			✓			✓
November 1988			✓			✓
February 1989			✓			✓
August 1990			✓			✓
September 2001			✓	✓		
July 2002			✓			✓
October 2008	✓					✓
TOTAL	**2**	**1**	**7**	**1**	**1**	**8**

Best for Institutions & Advisors

The holders of assets benefit in proportion to the benefits derived by investors, except when it is in the investor's best interest to withdraw assets. As is evident from the previous chart, it is rarely the case that investors benefit from such withdrawals.

This harmony is illustrated in the chart below that shows the best alternatives for institutions and advisors.

(for Institutions & Advisors) Event Date	Best After 1 Month			Best After 1 Year		
	Withdraw Assets	Purchase Insurance	Take No Action	Withdraw Assets	Purchase Insurance	Take No Action
September 1986			✓			✓
October 1987		✓			✓	
March 1988			✓			✓
August 1988			✓			✓
November 1988			✓			✓
February 1989			✓			✓
August 1990			✓			✓
September 2001			✓			✓
July 2002			✓			✓
October 2008		✓				✓
TOTAL	**0**	**2**	**8**	**0**	**1**	**9**

Crisis: September 1986

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-8.22%	$91,780	$91,780
Withdraw Assets			
After 30 days	0.00%	$91,780	$0
After 1 year	0.00%	$91,780	$0
Purchase Insurance (DALBAR i-PRT)		-$1,815	
After 30 days		$95,105	$95,105
After 1 year	35.81%	$129,161	$129,161
Take No Action			
After 30 days	5.56%	✓ $96,883	✓ $96,883
After 1 year	35.81%	✓ $131,576	✓ $131,576

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
1.66%	-5.69%	7.48%	**-8.22%**	5.56%	35.81%

Commentary

The 8.22% decline in one month was one of the largest in investors' memory and resulted in panic withdrawals. This panic came after a decline of 5.69% two months earlier.

The reversal the next month and 35.81% rise over the next year was a handsome payoff to the investors who remained.

Insurance would have been far better alternative than withdrawing for those investors who felt compelled to act.

Crisis: October 1987

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-21.52%	$78,480	$78,480
Withdraw Assets			
After 30 days	0.00%	$78,480	$0
After 1 year	0.00%	$78,480	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,515**	
After 30 days	-8.19	✓ $78,727	✓ $78,727
After 1 year	24.97%	✓ $98,389	✓ $98,389
Take No Action			
After 30 days	-8.19%	$72,052	$72,052
After 1 year	24.97%	$90,047	$90,047

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
4.98%	3.85%	-2.20%	**-21.52%**	-8.19%	24.97%

Commentary

The worst decline since the 1920's was followed by massive withdrawals after the market had suffered most of its losses. Losses continued in the month after, but only at one third the rate.

Investors who withdrew in October did avoid the losses of November but failed to participate in the 24.97% recovery that followed.

Investors with insurance would have avoided the November loss but participated in the recovery.

Crisis: March 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-3.02%	$96,980	$96,980
Withdraw Assets			
After 30 days	0.00%	✓ $96,980	$0
After 1 year	0.00%	$96,980	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	1.08	$96,232	$96,232
After 1 year	16.89%	$112,484	$112,484
Take No Action			
After 30 days	1.08%	$98,027	✓ $98,027
After 1 year	16.89%	✓ $114,583	✓ $114,583

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
7.38%	4.27%	4.70%	**-3.02%**	1.08%	16.89%

Commentary

With the memory of the October 1987 still very fresh, investors saw the 3.02% decline in March as another possible catastrophe and withdrew funds to avoid a repetition. This was a mistake since the decline was short-lived.

Insurance would have been a better course of action but the best course would have been to take no action.

Crisis: August 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-3.31%	$96,690	$96,690
Withdraw Assets			
After 30 days	0.00%	$96,690	$0
After 1 year	0.00%	$96,690	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	4.24%	$98,936	$98,936
After 1 year	33.57%	$132,150	$132,150
Take No Action			
After 30 days	4.24%	✓ $100,790	✓ $100,790
After 1 year	33.57%	✓ $134,626	✓ $134,626

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
0.78%	4.64%	-0.40%	**-3.31%**	4.24%	33.57%

Commentary

A second dip in the market within a year of October 1987 caused another panic and investors that withdrew regretted that action after the market moved ahead 33.57% in the next year.

Other than relieving the panic at the time, insurance would not have been useful.

Crisis: November 1988

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-1.42%	$98,580	$98,580
Withdraw Assets			
After 30 days	0.00%	$98,580	$0
After 1 year	0.00%	$98,580	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	1.81%	$98,539	$98,539
After 1 year	28.60%	$126,719	$126,719
Take No Action			
After 30 days	1.81%	✓ $100,364	✓ $100,364
After 1 year	28.60%	✓ $129,066	✓ $129,066

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-3.31%	4.24%	2.73%	**-1.42%**	1.81%	28.60%

Commentary

November 1988 was one full year after the massive withdrawals of October 1987 and investors who had not withdrawn but were still concerned decided to take the opportunity to avoid further risk. These withdrawals were the last that were a direct effect of October 1987.

Crisis: February 1989

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-2.49%	$97,508	$97,508
Withdraw Assets			
After 30 days	0.00%	$97,508	$0
After 1 year	0.00%	$97,508	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	2.33%	$97,936	$97,936
After 1 year	16.19%	$113,792	$113,792
Take No Action			
After 30 days	2.33%	✓ $99,783	✓ $99,783
After 1 year	16.19%	✓ $115,938	✓ $115,938

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-1.42%	1.81%	7.32%	**-2.49%**	2.33%	16.19%

Commentary

After a robust rise of 7.32% in January, investors moved to take profits in February.

The strong markets continued for the next year, indicating that the above average level of withdrawals were mistakes.

Insurance that avoided withdrawals would have been useful and paid for itself.

Crisis: August 1990

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-9.04%	$90,961	$90,961
Withdraw Assets			
After 30 days	0.00%	$90,961	$0
After 1 year	0.00%	$90,961	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,665**	
After 30 days	-4.87%	✓ $90,223	✓ $90,223
After 1 year	33.40%	✓ $120,354	✓ $120,354
Take No Action			
After 30 days	-4.87%	$86,534	$86,534
After 1 year	33.40%	$115,433	$115,433

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
9.75%	-0.67%	-0.32%	**-9.04%**	-4.87%	33.40%

Commentary

Soft markets for two months followed by a large 9.04% decline set the stage for investor withdrawal panic. As is almost always the case, withdrawal is shown to be a mistake just one year later, evidenced by a 33.40% rise.

Insurance in this case would have paid off handsomely.

Crisis: September 2001

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-8.08%	$91,925	$91,925
Withdraw Assets			
After 30 days	0.00%	$91,925	$0
After 1 year	0.00%	✓ $91,925	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	1.91%	$91,857	$91,857
After 1 year	-21.97%	$71,673	$73,036
Take No Action			
After 30 days	1.91%	✓ $93,678	✓ $93,678
After 1 year	-21.97%	$73,093	✓ $73,093

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-2.43%	-0.98%	-6.26%	**-8.08%**	1.91%	-21.97%

Commentary

The panic surrounding 9/11 drove down the market and prompted investors to withdraw their funds. Unlike the case with other massive withdrawals, the 9/11 actions were justified by the next year's market. Losses continued resulting with a shortfall of 21.97%.

This is the only case among the major withdrawal events where there is a loss for following year.

Insurance would not have been helpful.

Crisis: July 2002

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-7.80%	$92,205	$92,205
Withdraw Assets			
After 30 days	0.00%	$92,205	$0
After 1 year	0.00%	$92,205	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,815**	
After 30 days	0.66%	$91,312	$91,312
After 1 year	9.92%	$100,372	$100,372
Take No Action			
After 30 days	0.66%	✓ $92,810	✓ $92,810
After 1 year	9.92%	✓ $102,019	✓ $102,019

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-6.06%	-0.74%	-7.12%	**-7.80%**	0.66%	9.92%

Commentary

Four consecutive months of S&P 500 declines led to one of the 10 greatest withdrawals. The recovery after a year was 9.92%, which is among the lowest of the greatest withdrawal events. As is the case in 9 of the top 10 events, withdrawal at that time was also a mistake.

Insurance provided a better alternative to withdrawal, but the best option would have been to take no action.

Crisis: October 2008

	% Change	Client Valuation	Amount Held at Institution
Value before event		$100,000	$100,000
After event	-16.79%	$83,205	$83,205
Withdraw Assets			
After 30 days	0.00%	✓ $83,205	$0
After 1 year	0.00%	$83,205	$0
Purchase Insurance (DALBAR i-PRT)		**-$1,515**	
After 30 days	-7.18%	$82,896	✓ $82,896
After 1 year	18.29%	✓ $98,060	✓ $98,060
Take No Action			
After 30 days	-7.18%	$77,235	$77,235
After 1 year	18.29%	$91,363	$91,363

Investor Experience Based on S&P 500 During Key Period					
3 Months Before	2 Months Before	1 Month Before	Key Event	1 Month After	12 Months After
-0.84%	1.45%	-8.91%	**-16.79%**	-7.18%	18.29%

Commentary

News reports of the collapse of the world's financial system led a market meltdown and drove investors to withdrawal. Despite the dire reports, the market rebounded with an 18.29% gain in the succeeding 12 months.

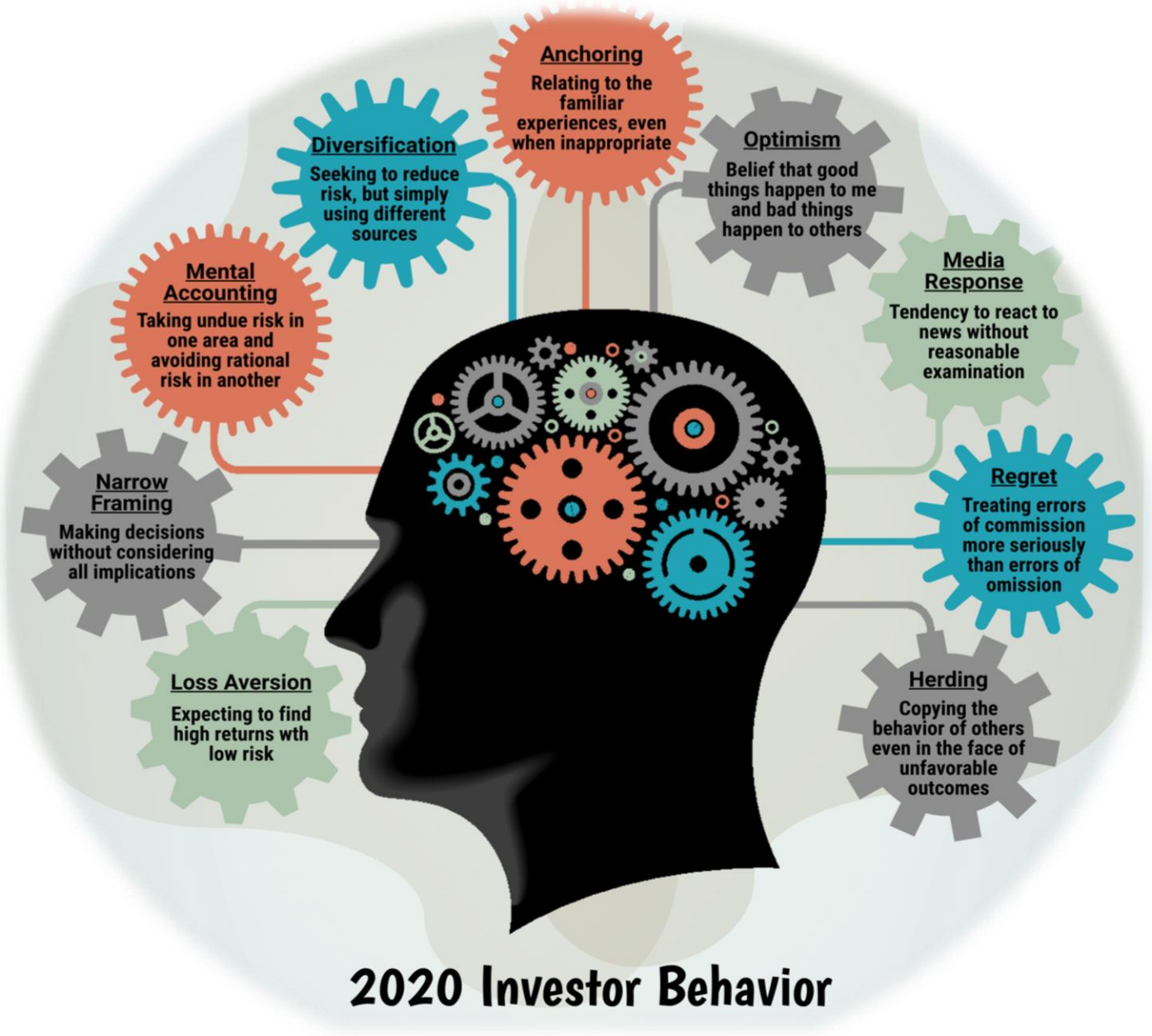
Insurance would have been very valuable, producing nearly 7% higher returns than taking no action.

BEHIND THE NUMBERS…

INVESTOR PSYCHOLOGY

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 buying and selling at the wrong time, which leads to underperformance.

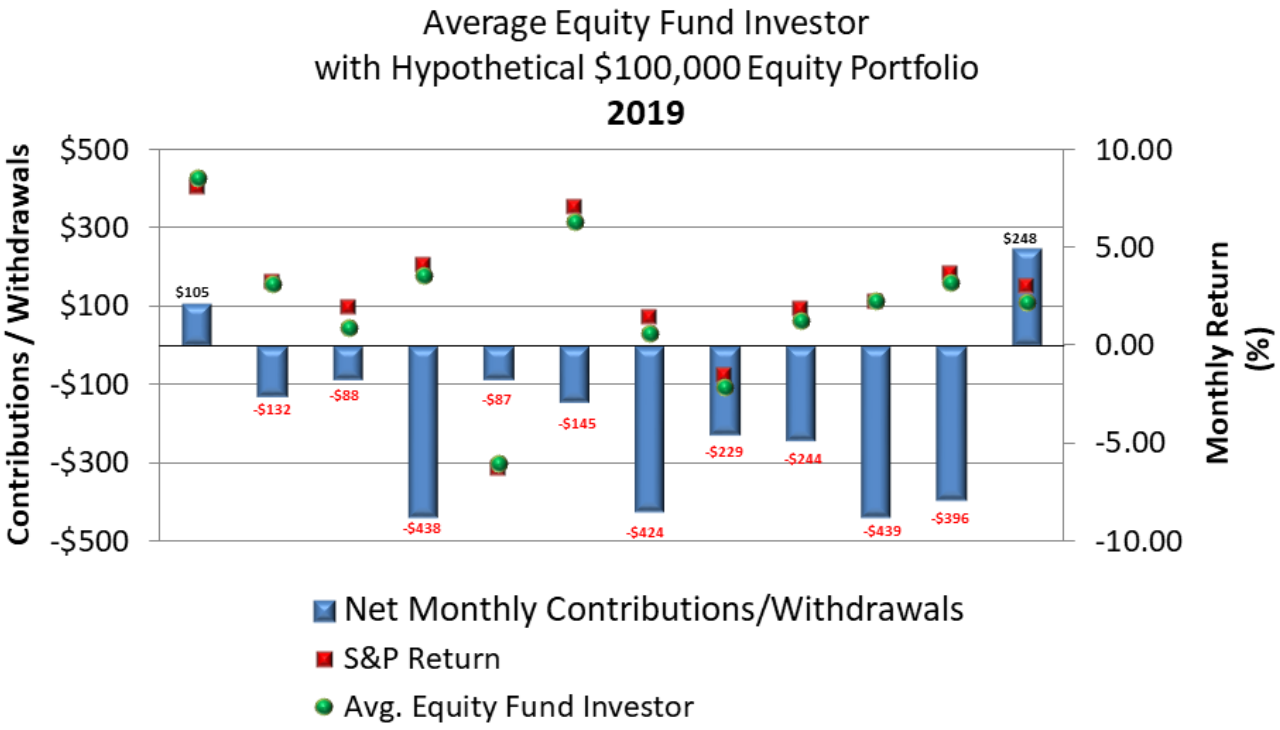
There are 9 distinct behaviors that tend to plague investors based on their personal experiences and unique personalities.



2019 Year in Review

The year of 2019 brought spectacular gains to the Average Investor, who despite the continued bull run, seemed wary of the fact that the bull market could soon be coming to an end. The boom in the stock market did not result in the Average Investor being overweight in equities. Since 2016, the Average Investor had been incrementally decreasing their equity exposure while increasing investments in fixed income. This in essence rebalanced the Average Investor's portfolio to maintain an equity allocation of between 69.4% and 71.7% throughout the 4 years.

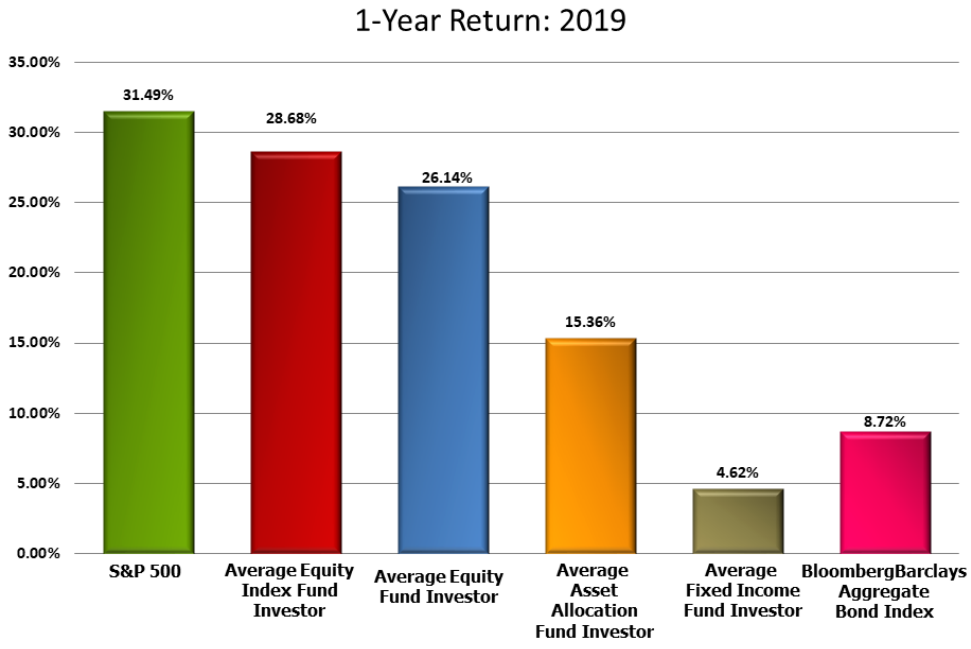
Echoes of doom reverberated through the media, and while the Average Investor was still generally on board the gravy train, the sentiment was far from "*irrational exuberance*." The Average Investor was a net withdrawer of equity assets in 2019, withdrawing 1.1% of equity assets over the twelve months.



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. Investor Return vs. S&P 500 (bps)	+56	-6	-101	-50	+33	-77	-82	-58	-60	+9	-40	-84

In the first two months of 2019, the Average Equity Fund Investor outperformed the S&P 500. By the end of March, the S&P 500 had experienced its best 1st quarter performance since 1998. But March brought fear of a trade war and economic slowdown, causing the Average Equity Fund Investor to materially lag the index in March (by 1.01%) and April (by 0.50%). The market continued to surge forward in those two months while the Average Investor was taking money off the table. This would help the Average Equity Investor slightly in May, as they were able to mitigate 33 bps of May's -6.35% decline (Avg. Equity Investor lost -6.02%). Unfortunately, the Average Equity Fund Investor underperformed the S&P by more than a half a percent each of the next 4 months.

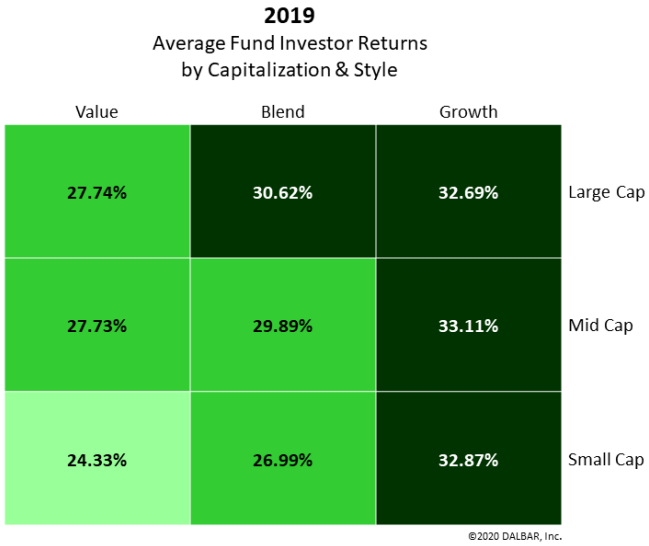
The Average Equity Fund Investor did not chase gains by putting more money into the equity market, nor did they bounce in and out of equity funds. Retention rates for the Average Equity Fund Investor skyrocketed by more than 6 months in 2019, from 3.04 to 3.60 years. This suggests the Average Equity Fund Investor was not attempting to find the outperforming asset class or fund manager during 2019, they had the wherewithal to stay put. They were sedentary, gradually taking money off the table, and captured a reasonable amount of the 31.49% gain that the large cap equity market experienced in 2019 (26.14%). The Average Equity **Index** Fund Investor captured a bit more of the market's return, earning 28.68% for the year.



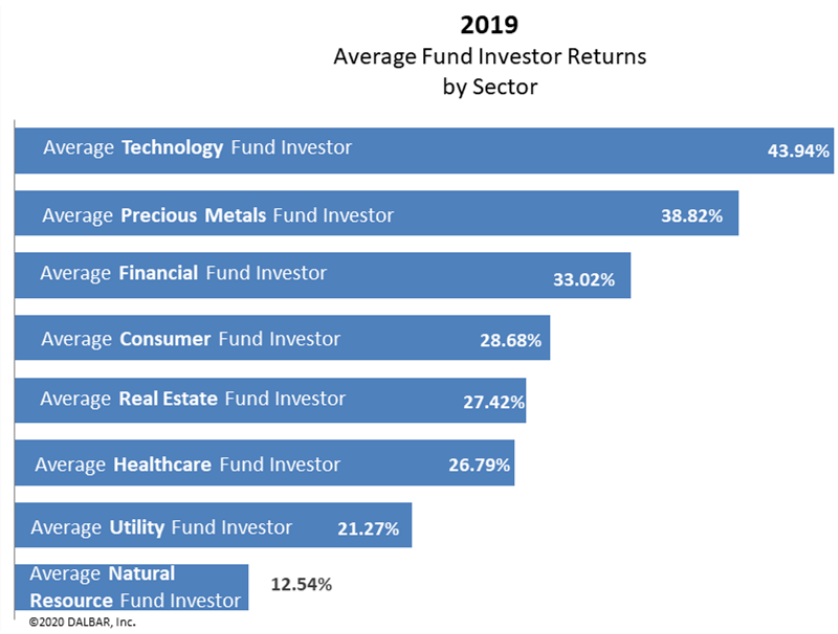
The Average Fixed Income Investor experienced their best annual gain since 2012, earning 4.62%, but falling well short of broad bond index. Meanwhile, net inflows for the Average Fixed Income Investor were an astounding 10.7% (as a percentage of fixed income assets at the beginning of the year).

The Average Asset Allocation Fund Investor (funds that invest in a mix of fixed income and equity securities) earned 15.36%, the best return for that type of investor since 2009.

If we take a more refined look at the Average Equity Fund Investor by size and style, we see that growth funds led the charge while value remained hard to find at the end of a lengthy bull market. Small cap value stocks were the lowest performing in terms of size and style although still yielding a respectable 24.33% return.



All sectors experienced growth in 2019, technology being the leader of the pack with the Average Technology Investor enjoying a 43.94% annual gain. The Average Precious Metals Fund Investor and Financial Fund Investor both outperformed the S&P 500, gaining 38.82% and 33.02% respectively. The Average Consumer, Real Estate, Healthcare, and Utility Fund Investors all earned over 20% for the year 2019 while the Average Natural Resources Fund Investor trailed the other sectors considerably with a relatively modest 12.54% gain.



Sellers vs. Holders

The Average Equity Fund Investor's behavior changed in 2016 in terms of net contribution/withdrawals from their equity portfolio. It began with fears over election results and continued straight through until the end of 2019.

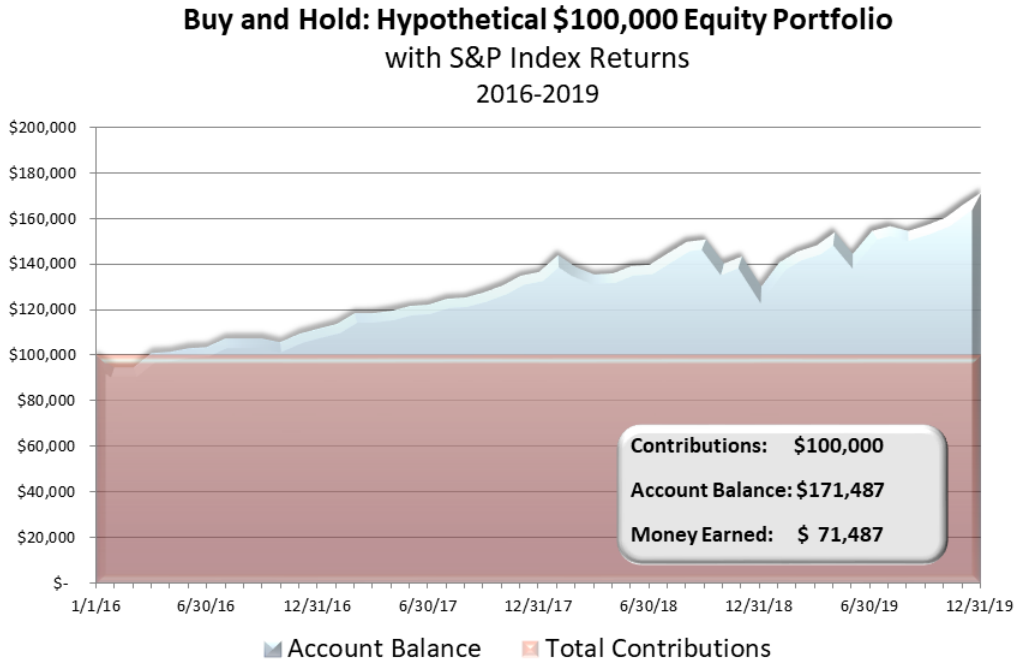
The following graphs compare a hypothetical $100,000 investment that is bought and held to a hypothetical $100,000 investment by the Average Equity Fund Investor. The graphs will compare the money earned for starting points at the beginning of each year from 2016 to 2019.

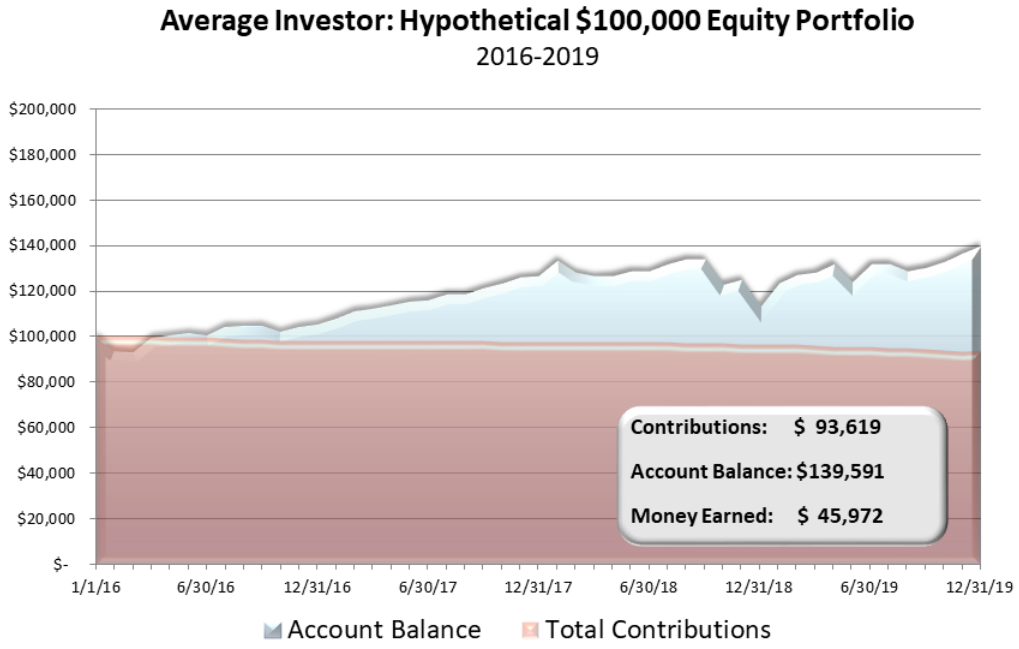
The results are summarized in the table below:

Money Earned on $100K Portfolio by:	**Time Period**			
	2016-2019	**2017-2019**	**2018-2019**	**2019**
Sellers (Average Investor)	$45,972	$36,941	$13,593	$25,550
Holders	$71,487	$53,169	$25,722	$31,486
Difference	**$ 25,515**	**$16,228**	**$12,129**	**$5,936**

Please note: The contributions and withdrawals displayed in this section will vary slightly from the analysis found here. This analysis is based on an initial $100,000 investment and the hypothetical account balances that follow each month. The contribution/withdrawal analysis, on the other hand, assumes a $100,000 portfolio each month to facilitate comparison.

January 1, 2016 – December 31, 2019





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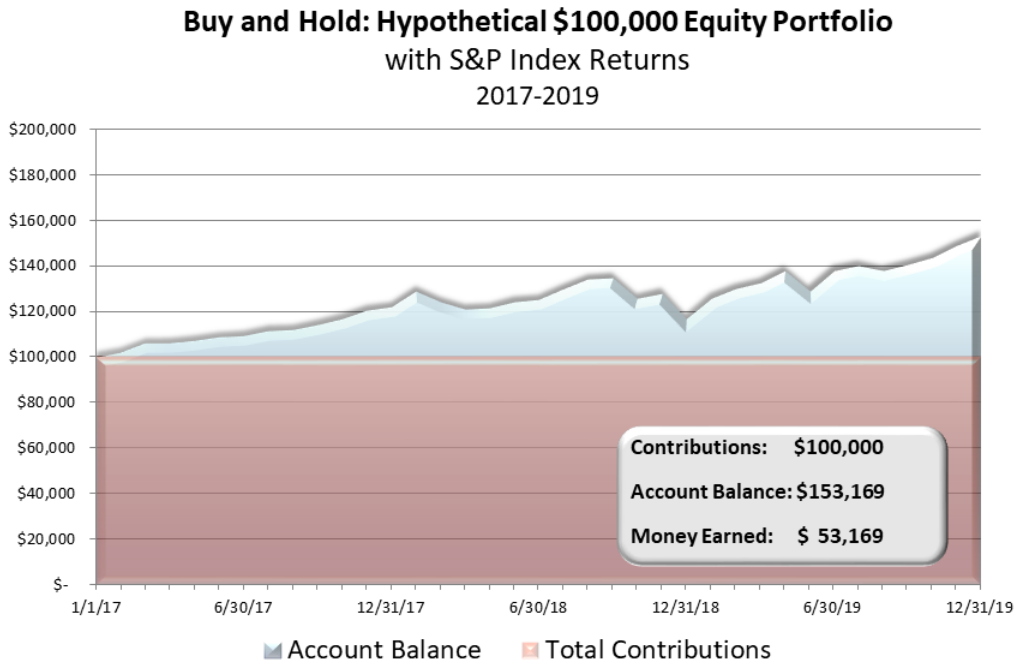
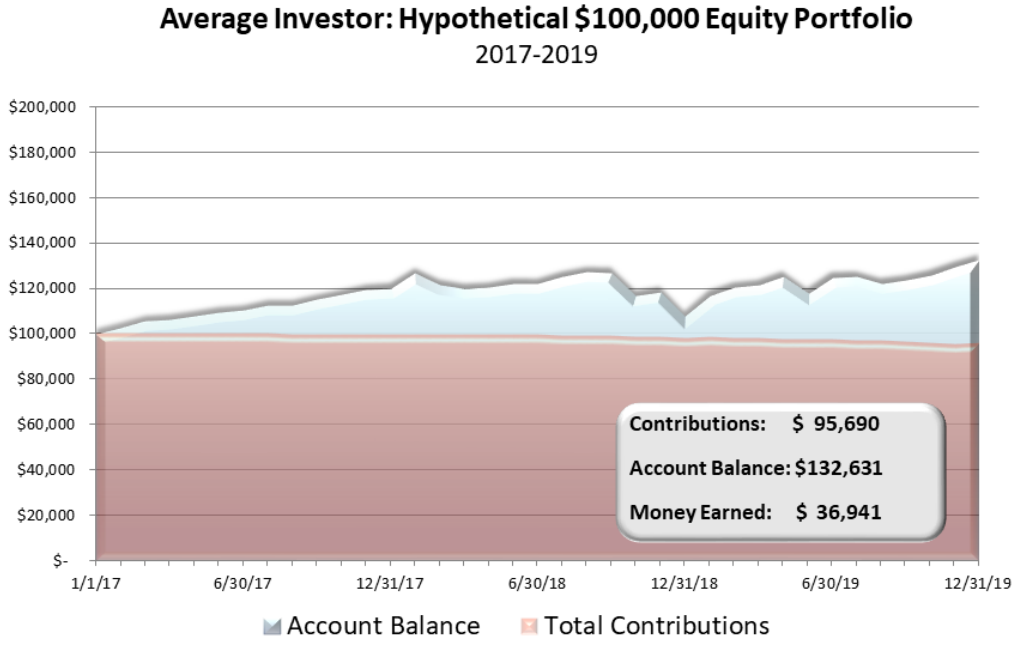
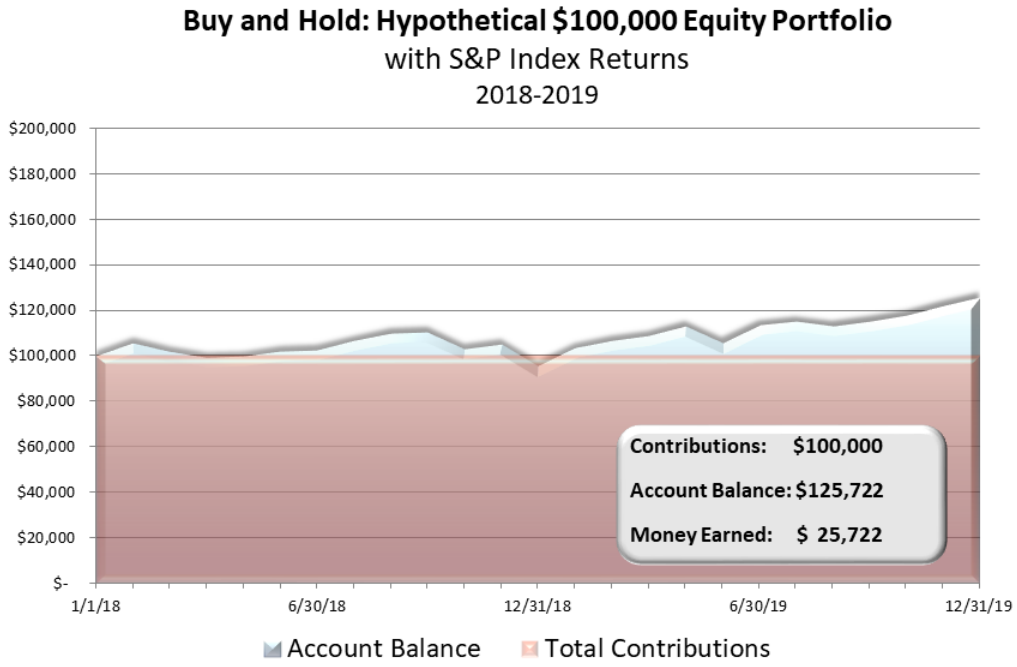
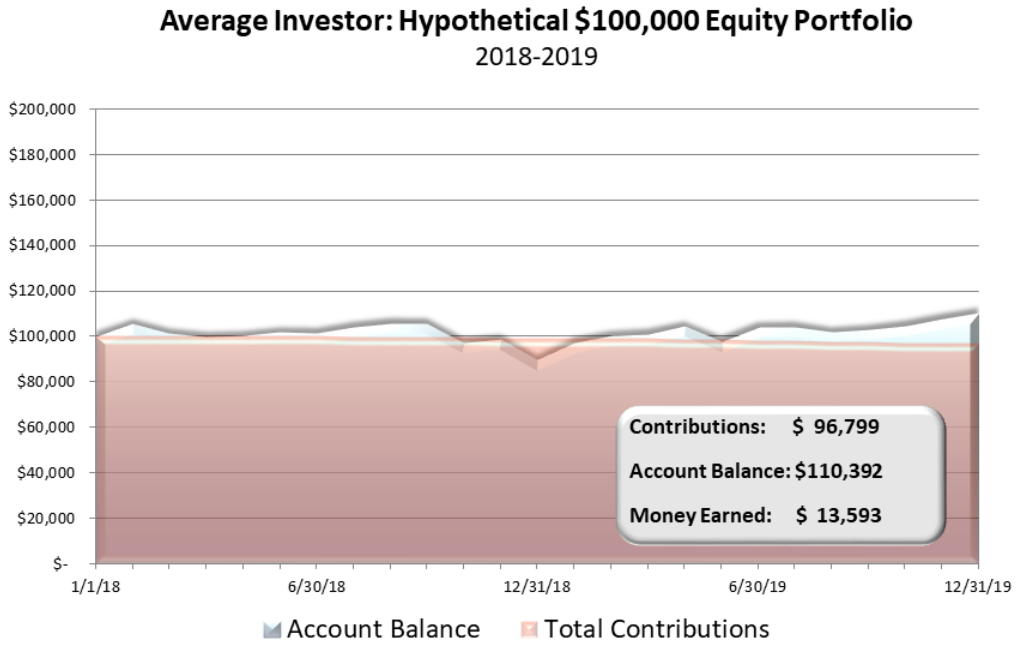

Buy and Hold: Hypothetical $100,000 Equity Portfolio
with S&P Index Returns
2017-2019
$200,000
$180,000
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$-
1/1/17
6/30/17
12/31/17
6/30/18
12/31/18
6/30/19
12/31/19
Contributions: $100,000
Account Balance: $153,169
Money Earned: $ 53,169
Account Balance
Total Contributions


Average Investor: Hypothetical $100,000 Equity Portfolio
2017-2019
$200,000
$180,000
$160,000
$140,000
$120,000
$100,000
$80,000
$60,000
$40,000
$20,000
$-
1/1/17
6/30/17
12/31/17
6/30/18
12/31/18
6/30/19
12/31/19
Contributions: $ 95,690
Account Balance: $132,631
Money Earned: $ 36,941
Account Balance
Total Contributions

January 1, 2018 – December 31, 2019





January 1, 2019 – December 31, 2019

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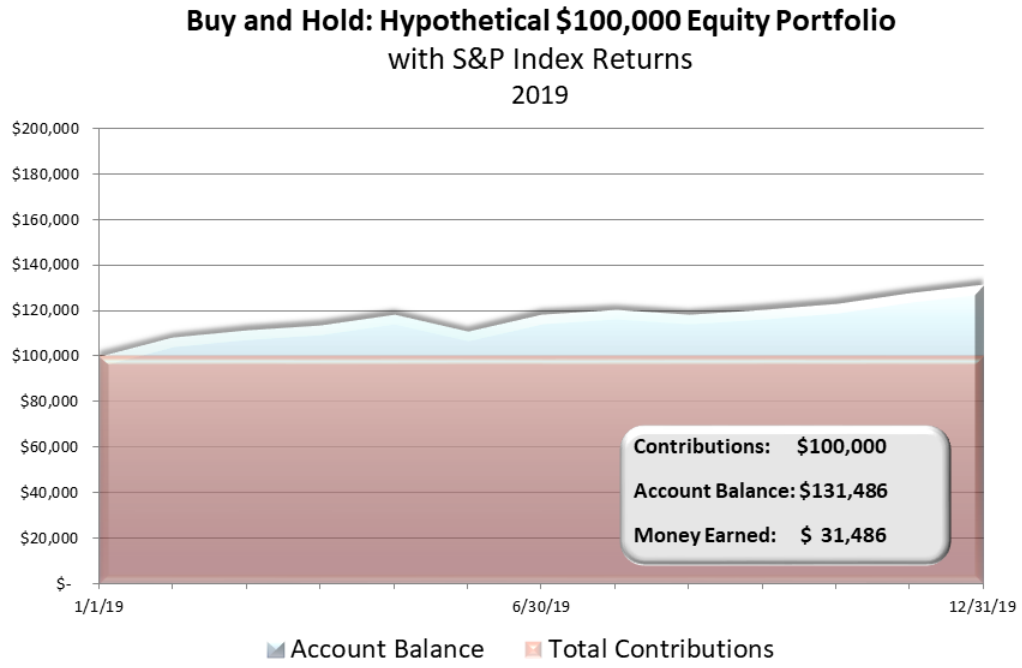
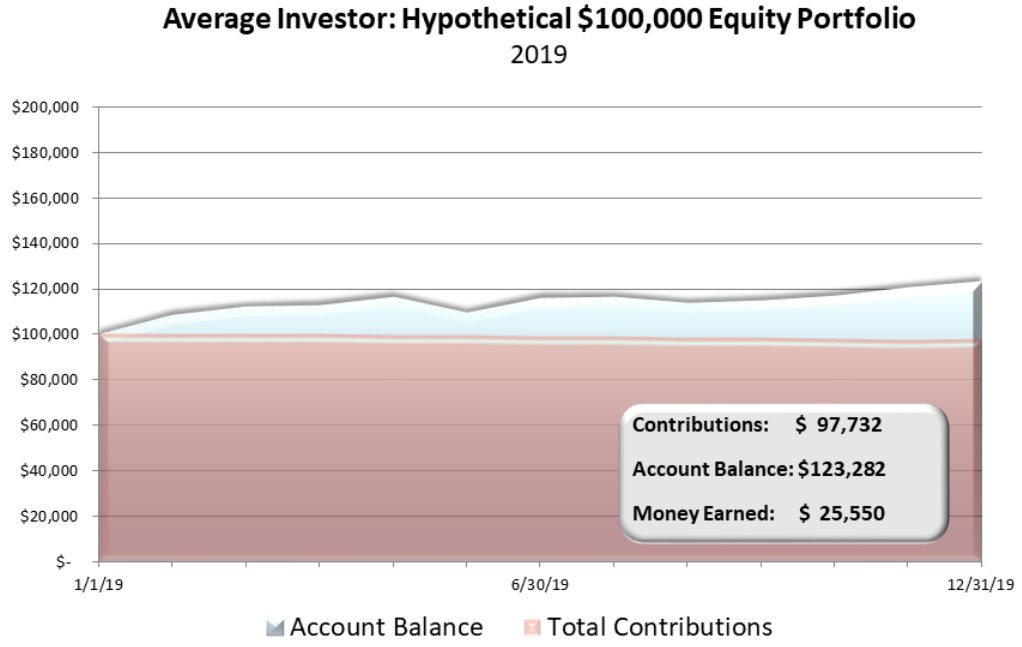




Examining Investor Behavior Through Money Movements

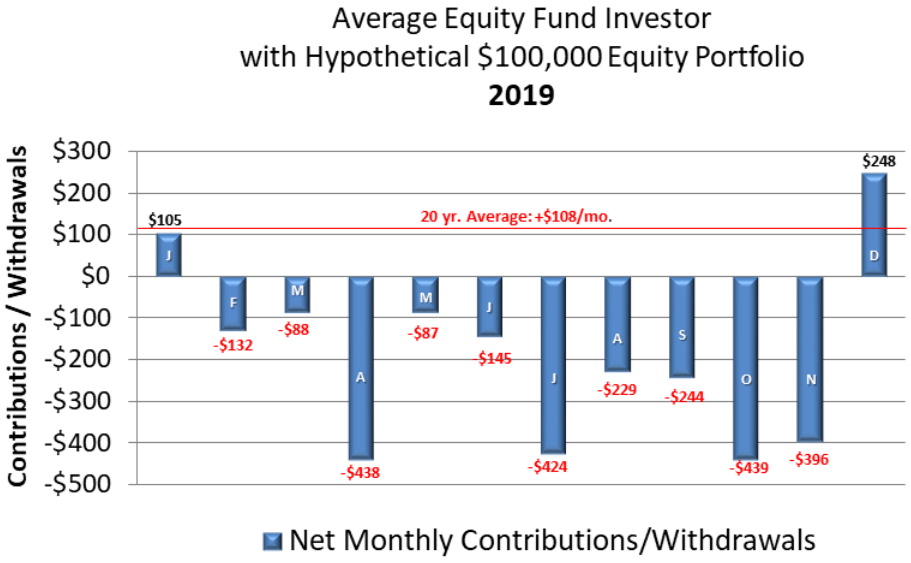
QAIB has historically examined investor money movement in two ways. The first way is to analyze the net inflow or outflow of cash as a percentage of total assets. When looking at the net flows of the Average Equity Fund Investor along with the Average Fixed Income Investor, we see how the Average Investor's appetite for equities and thus risk changes over time.

A second way that QAIB looks at money movement is through **retention rates**. Rather than looking at contributions to and withdrawals from the investment portfolio, retention rates capture the velocity of money movement, including exchanges among various funds. This measure does not so much speak to risk tolerance as it does overall patience versus performance chasing.

In 2019, the Average Investor had a consistent, if not incrementally decreasing appetite for equity exposure. At the same time the Average Investor exhibited patience within their investments that has not been seen in quite some time.

Contribution/Withdrawal Analysis

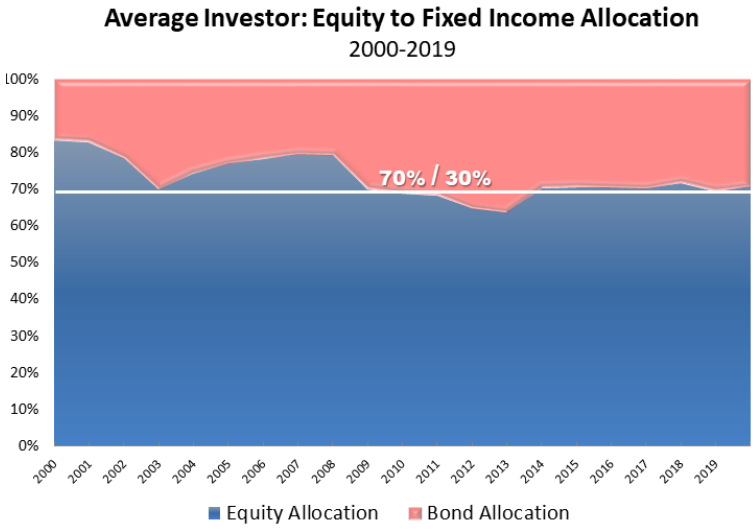
The Average Investor may have been attempting to decrease their equity exposure in 2019 but the rapid appreciation of their equity portfolio offset significant net outflows. The Average Equity Fund Investor with a hypothetical $100K equity portfolio has contributed on average $108 to that equity portfolio each month over the last 20 years. In 2019, the same Average Equity Fund Investor was a net withdrawer of $1,980[2], or $165 per month.



[2] Each month's hypothetical contribution/withdrawals are based on a $100,000 portfolio each month to normalize for comparison. This amount will differ slightly from the hypothetical contributions/ withdrawals shown in Holders vs. Sellers, which is based on an initial $100,000 investment and the same proportion of cash flows applied to the varying account balances each month throughout the period.

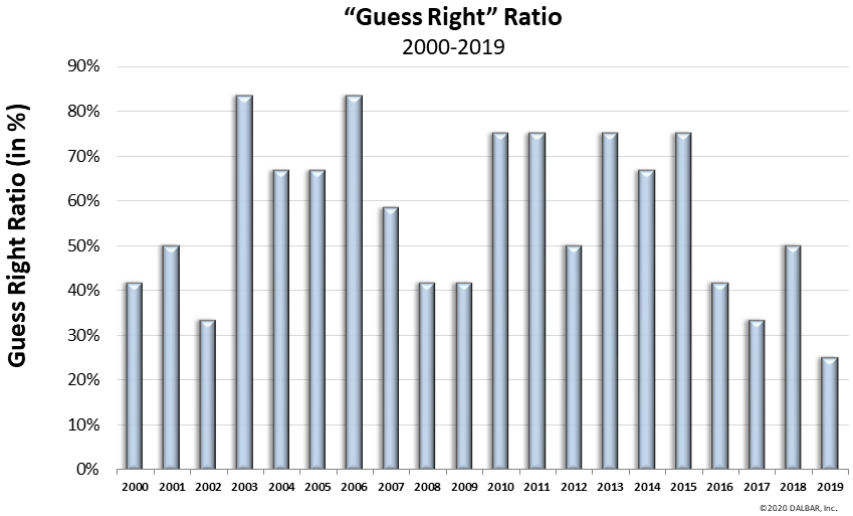
These withdrawals, along with historically high inflows of fixed income, led to the Average Investor maintaining a 70/30 equity to fixed income allocation, despite an appreciation of the equity portfolio of over 26%.

The graph below shows the equity to fixed income allocation of the Average Fund Investor over the past 20 years. Despite strong gains in most of the past few years, equity levels failed to reach levels before the dotcom crash and the crash of 2008.



Market Timing

For 26 years, DALBAR has analyzed investors' market timing successes and failures through their net 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 the following month. Investors guess right when a net inflow is followed by a market gain, or a net outflow is followed by a decline.

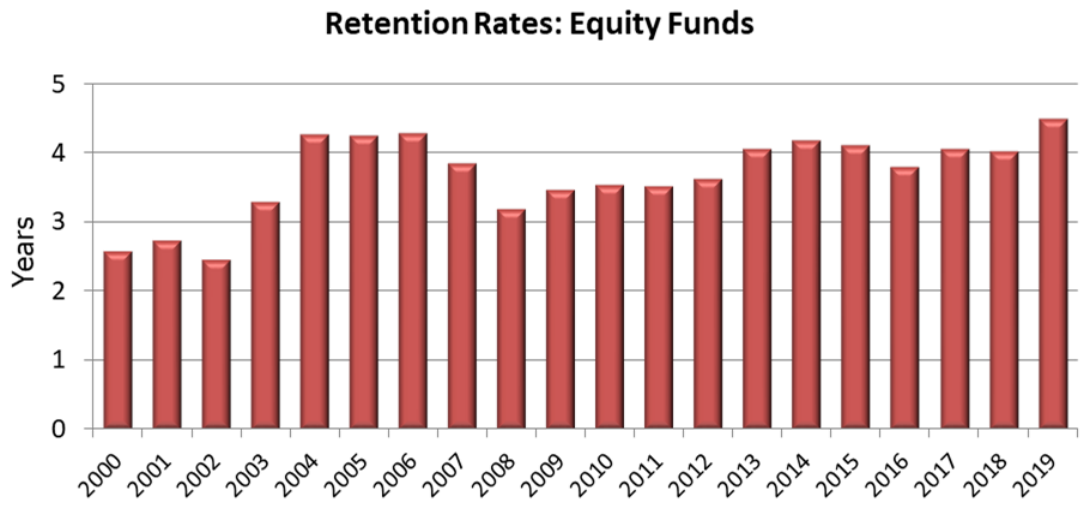


Investors have guessed right at least half the time in 12 out of the last 20 years, but guessed correctly right only 3 of the 12 months in 2019. Unfortunately for the Average Investor, whether they guess right or wrong, it seldom produces superior gains either way because the dollar volume of bad guesses exceeds the dollar volume of right guesses. Even one month of wrong guesses can wipe out several months of right ones.

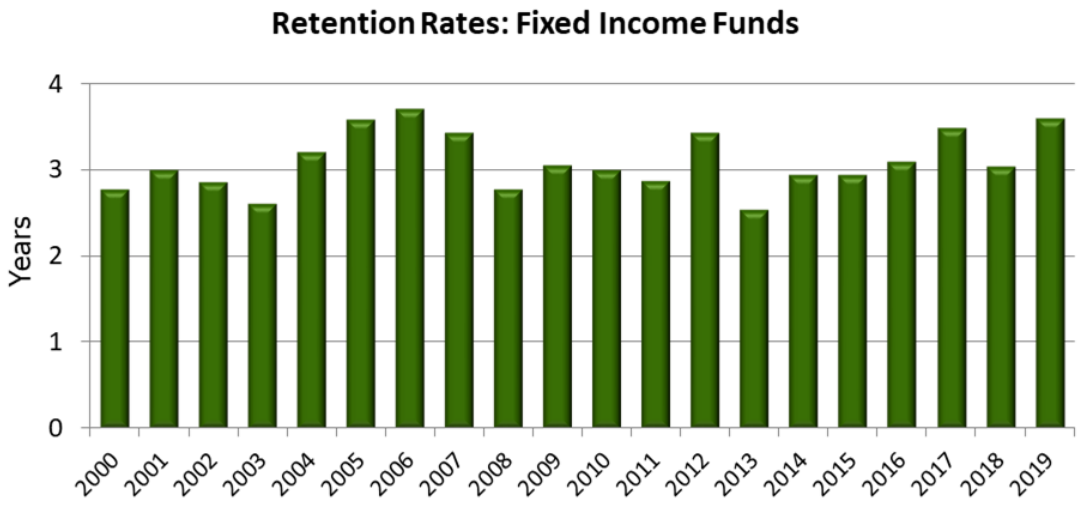
Retention Rates

Generally speaking, the Average Investor fails to stay invested in any given fund for a long enough period of time to realize the long-term benefits of asset ownership. Retention rates measure cash outflows in proportion to assets to arrive at the length of time the average investor holds a fund if the current redemption rate persists. Historically, Retention Rates increase when the market is rising and contract during market downturns.

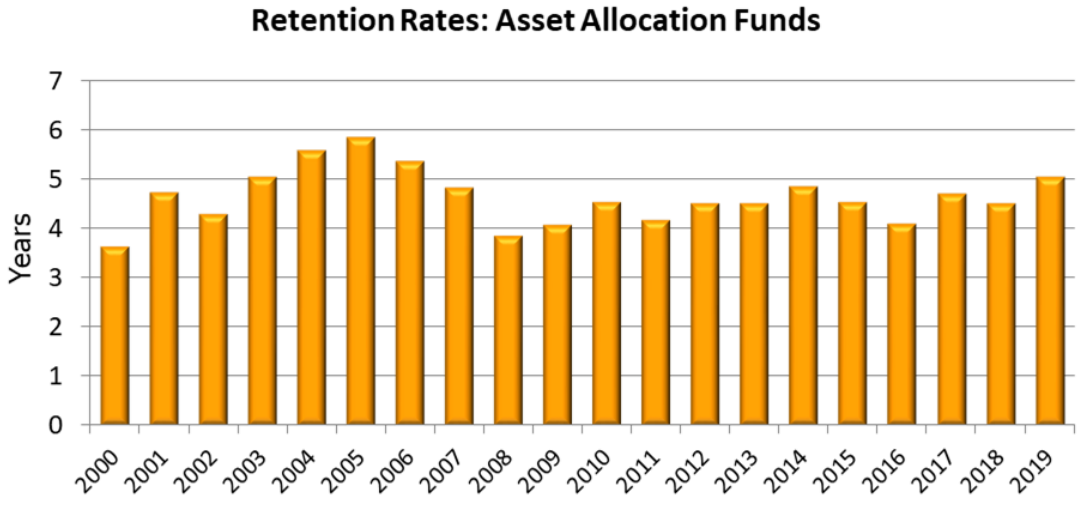
The Average Equity Fund Investor showed some resolve during 2018. While the equity markets pulled back a bit, Retention Rates held consistent. The Average Investor appeared to maintain confidence in their position while the S&P shed 4.38%. In 2019, the Average Equity Fund Investor was even more content to stay in current investments. Retention Rates increased in 2019 from 4 years 4.5 years. This was the highest Retention Rate ever recorded for the Average Equity Fund Investor, which dates back to 1985.



Retention Rates rose for all types of investors, including the Average Fixed Income and Asset Allocation Fund Investors. The Average Fixed Income Investor, who historically has the shortest Retention Rates, experienced a similar incremental increase to the Average Equity Fund Investor in 2019. Retention Rates increased by .56 years or over 6 months, from 3.04 to 3.60. This was the highest Retention Rate for the Average Fixed Income Fund Investor since 1991.



The Average Asset Allocation Fund Investor, who typically has the longest Retention Rates, increased their Retention Rates to over 5 years for the first time since 2006. Rates went from 4.52 in 2018 to 5.04 in 2019.



APPENDICES

1. Year-by-Year Investor Returns
2. Glossary
3. QAIB Products
4. Investor Return Calculations: An Example
5. Rights of Usage and Sourcing Information

YEAR-BY-YEAR INVESTOR RETURNS

The following table shows the one-year investor return since inception from 1985 to 2019. These calculations assume that investors start investing on January 1 of each year and withdraw their investments on December 31. The effect of compounding across years is therefore lost. Additionally, because of the year-by-year nature of the calculation, returns cannot be asset weighted.

Year	Avg. Equity	Avg. Fixed Income	Avg. Asset Allocation
1985	27.79%	11.86%	20.50%
1986	17.53%	7.94%	5.97%
1987	0.51%	-0.84%	6.03%
1988	17.88%	4.70%	-1.78%
1989	23.51%	6.63%	20.77%
1990	-5.62%	2.18%	6.81%
1991	29.40%	11.94%	17.25%
1992	7.28%	8.60%	1.13%
1993	15.93%	7.87%	16.66%
1994	-0.02%	-4.99%	-5.48%
1995	26.52%	14.37%	25.36%
1996	17.33%	7.71%	11.51%
1997	20.59%	8.14%	16.02%
1998	34.48%	5.92%	32.40%
1999	26.58%	-5.68%	5.47%

2000	-10.20%	4.17%	1.39%
2001	-14.92%	-0.75%	-5.15%
2002	-21.86%	2.20%	-10.56%
2003	30.08%	4.31%	16.80%
2004	12.60%	1.30%	8.01%
2005	8.45%	-0.58%	1.95%
2006	14.65%	2.09%	11.12%
2007	7.33%	0.80%	3.47%
2008	-41.77%	-11.55%	-31.35%
2009	32.10%	9.78%	19.31%
2010	14.11%	3.05%	8.83%
2011	-5.73%	1.84%	-2.60%
2012	15.62%	4.70%	8.53%
2013	25.69%	-3.47%	13.72%
2014	5.51%	1.19%	2.60%
2015	-2.28%	-3.11%	-3.48%
2016	7.26%	1.23%	5.48%
2017	20.64%	1.52%	10.08%
2018	-9.42%	-2.84%	-6.97%
2019	26.14%	4.62%	15.36%

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.

Average Equity Fund Investor

The Average Equity Fund Investor is comprised of a universe of both domestic and world equity mutual funds. It includes growth, sector, alternative strategy, value, blend, emerging markets, global equity, international equity, and regional equity funds.

Average Fixed Income Investor

The Average Fixed Income Fund Investor is comprised of a universe of fixed income mutual funds, which includes investment grade, high yield, government, municipal, multi-sector, and global bond funds. It does not include money market funds.

Average Asset Allocation Investor

The Average Asset Allocation Fund Investor is comprised of a universe of funds that invest in a mix of equity and debt securities.

Average [Sector] Fund Investor

The Average [Sector] Fund Investor is comprised of a universe of funds that invest solely in companies that operate in related fields or specific industries. The following Average Sector Fund Investors were referenced in this report: Consumer, Health, Financial, Tech/Telecom, Real Estate, Precious Metals, Utilities, and Natural Resources.

Average [Capitalization and Style] Fund Investor

The Average [Capitalization and Style] Fund Investor is comprised of a universe of funds that are categorized by the types of companies in which they invest:

Small-cap mutual funds invest primarily in companies with market capitalizations of up to $2-2.5 billion.

Mid-cap mutual funds invest primarily in companies with market capitalization that generally ranges from $1 billion to $7 billion or in companies with both small and medium market capitalization.

Large-cap mutual funds invest primarily in companies with market capitalizations which are generally more than $5 billion or in companies with both medium and large market capitalizations.

Growth mutual funds invest primarily in common stock of growth companies, which are those that exhibit signs of above-average growth, even if the share price is high relative to earnings/intrinsic value.

Value mutual funds invest primarily in common stock of value companies, which are those that are out of favor with investors, appear underpriced by the market relative to their earnings/intrinsic value, or have high dividend yields.

Blend mutual funds invest primarily in common stock of both growth and value companies or are not limited to the types of companies in which they can invest.

Average Equity Index Fund Investor

The Average Equity Index Fund Investor is comprised of a universe of funds that are designed to track the performance of a U.S. equity market index.

Average Target Date Fund Investor

The Average Target Date Fund Investor is comprised of a universe of funds that follow a predetermined reallocation of assets over time based on a specified target retirement date.

Average Alternative Strategies (Alt-) Fund Investor

The Average Alternative Strategies (Alt-) Fund Investor is comprised of a universe of funds that employ alternative investment approaches like long/short, market neutral, leveraged, inverse, or commodity strategies to meet their investment objective. The following Average Alternative Strategies Fund Investors were referenced in this report: Alt-Domestic Equity, Alt-World Equity, Alt – Asset Allocation ("AA"), and Alt-Multisector Bond.

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.

Retention Rate

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.

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.

INVESTOR RETURN CALCULATION…

AN EXAMPLE

Investor return is calculated by measuring the actual gains that investors realize. The following example is hypothetical:

Step 1: Compute Monthly Net Change

The equity assets at the end of 1/31 are subtracted from the assets at 12/31 to determine the change for the month. The change is the net of investor actions [new investments (which includes the reinvestment of dividends and capital gain distributions), withdrawals (redemptions), exchanges in and out], changes in market value, net of loads, fees, expenses, commissions, etc.

1/31 Assets - 12/31 Assets = Change

5196 – 4940

= 256

(In $ Billions)

Monthly Change	256
Minus New Investments	-123
Plus Withdrawals	+105
Minus Exchanges in	-25
Plus Exchanges out	+12
Equal Net Change in Market Value	225

(In $ Billions)

Step 2: Compute Change in Market Value

The change in assets due to investor actions are deducted from monthly net change, resulting in the market value change that is net of loads, fees, expenses, commissions, etc. The net change in market value is the return earned by the investor for the month, after all fees and expenses are paid. This could be either a gain or loss.

Step 3: Calculate Total for Period

The calculation is repeated for each month to develop the total for the periods for which the investor return is being measured – (1, 3, 5, 10 and 20 years.)

The example illustrates a one-year period. Note that the average investor suffered losses in February, May, June and July, but these were more than offset by the gains in the other months.

January	225
February	-28
March	+106
April	+106
May	-213
June	-5
July	-20
August	+119
September	+88
October	+195
November	+154
December	+30
Total for period	757

Step 4: Determine Cost Basis

The cost basis is the opening balance for the period adjusted by the investor actions (new investments, withdrawals, exchanges in and out).

Opening Assets	4940
Plus New Investments	+1288
Minus Withdrawals	-1150
Plus Exchanges in	+206
Minus Exchanges out	-128
Equal Cost Basis	5156

(In $ Billions)

Investor Return $ / Cost Basis = % Return

757 / 5156= 15%

(In $ Billions)

Step 5: Calculate Investor Return Percentage

Dividing the investor return dollars calculated in Step 3 by the cost basis in Step 4 gives the total investor return percentage.

Step 6: Find Annualized Rate of Return

Annualized return is then calculated. This is the single rate that can be compounded for each year to produce the same effect as the varying monthly rates.

Since the period in our example is only one year, the annualized investor return is the same as the total investor return.

The formula used to calculate annualized return is:

Annualized Return =
[% Return ^(1/# of years)]-1

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Source example: "Quantitative Analysis of Investor Behavior, 2020," DALBAR, Inc. www.dalbar.com

Applicable Disclosures Examples:

Equity benchmark performance and systematic equity investing examples are represented by the Standard & Poor's 500 Composite Index, an unmanaged index of 500 common stocks generally considered representative of the U.S. stock market. 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.

Bond benchmark performance are represented by the BloombergBarclays Aggregate Bond Index, an unmanaged index of bonds generally considered representative of the bond market. 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.

Average stock investor, average bond investor and average asset allocation investor performance results are based on a DALBAR study, "Quantitative Analysis of Investor Behavior (QAIB), 2020." DALBAR is an independent financial research firm. Using monthly fund data supplied by the Investment Company Institute, 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, 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 the period.