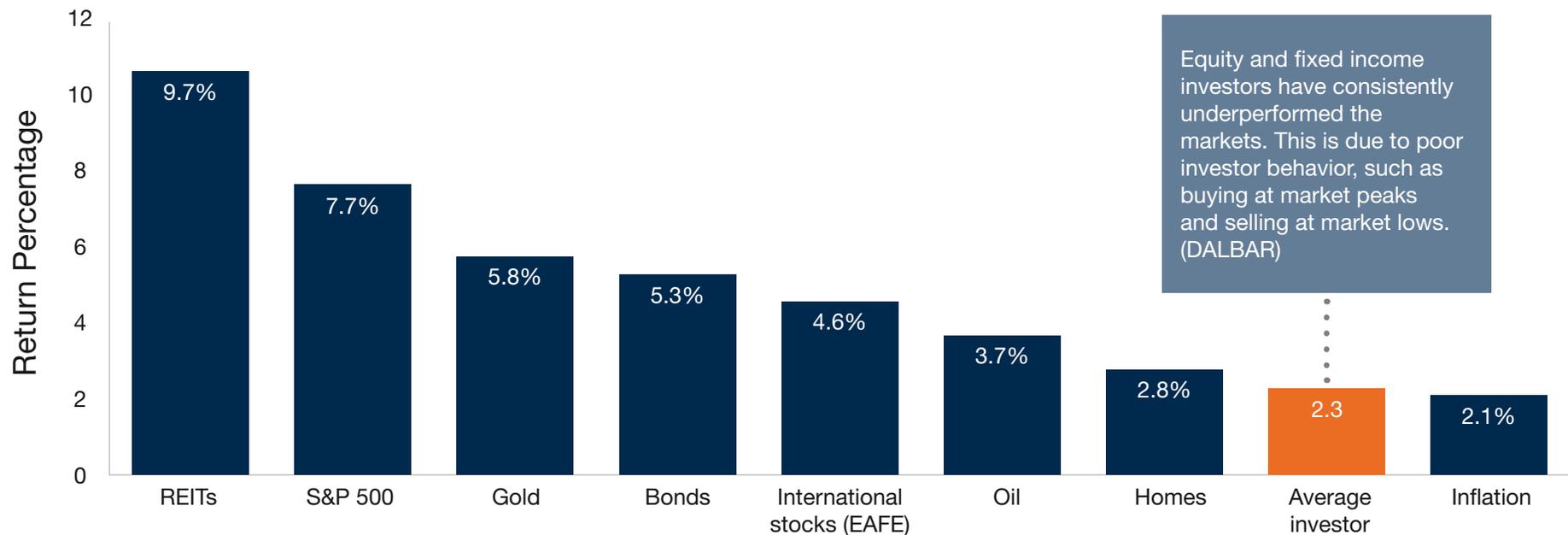


The Behavioral Effect on Investor Returns

20-Year Annualized Returns (1997–2016)



Source: DALBAR QAIB 2017

Past performance is no guarantee of future results. The indices used are as follows: **REITs**: FTSE NAREIT Equity REIT TR USD Index, **S&P 500**: S&P 500 TR USD Index (see definition below), **Gold**: LBMA Gold Price PM USD, **Bonds**: Bloomberg Barclays US Aggregate Bond TR USD Index, **International Stocks (EAFE)**: MSCI EAFE GR USD Index (see definition below), **Oil**: West Texas Crude Oil Intermediate (Price Return), US Energy Information Administration, **Homes**: National Association of Realtors Annual US Housing Existing Single-Family Sales (Median Sale Prices), **Average investor**: DALBAR (long definition): Average asset allocation investor return is based on an analysis by Dalbar, Inc., which utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. Returns are annualized (and total return where applicable) and represent the 20-year period ending Dec. 31, 2016, to match Dalbar's most recent analysis. **Inflation**: US Bureau of Labor Statistics Consumer Price Index (All Urban SA 1982-1984 Base). The indices listed above are unmanaged indices. An investment cannot be made directly in an index. There are special risks of investing in REITs, such as lack of liquidity and potential adverse and economic regulatory changes. Commodities can be extremely volatile investments. International investing presents certain risks not associated with investing solely in the United States. This chart is for illustrative purposes only and is not intended to predict or depict the return of any one investment.

The **S&P 500 Index** is widely regarded as the best single gauge of large-cap domestic equities. Created in 1957, this world-renowned index includes 500 of the top companies in leading industries of the U.S. economy. It captures approximately 80-percent coverage of available market capitalization of the U.S. stock market. The S&P 500 is a part of a series of S&P Dow Jones U.S. equity indices and is part of the S&P Composite 1500 Index..

The **MSCI EAFE GR USD Index (Europe, Australasia, Far East)** is a free float-adjusted market capitalization index that is designed to measure the equity performance of 22 developed markets, excluding the U.S. and Canada. The MSCI EAFE Index is commonly used as a benchmark for equities representing the developed world outside of North America.

The Behavioral Effect on Investor Returns – Why This Matters to You

This illustration shows the annual returns for six major asset classes for the 20-year period ending Dec. 31, 2016. It also includes the annual rate of consumer inflation over the last 20 years and the general rate of appreciation in residential home values measured by existing home sales.

The orange bar shows the annual return of the average mutual fund investor (using a blend of both stock and bond mutual funds according to the DALBAR Quantitative Analysis of Investor Behavior survey). What is the reason it is lower than everything except inflation? It is investor behavior, caused by decisions of selling and buying and when to get in and out of investments.

DALBAR, a leading research company, used data from the Investment Company Institute to compare mutual fund investor behavior with an appropriate set of benchmarks. Covering the period from Jan. 1, 1997, to Dec. 31, 2016, the study utilizes the net of aggregate mutual fund sales, redemptions and exchanges each month as a measure of investor behavior. This method of calculation captures realized and unrealized capital gains, dividends, interest, trading costs, sales charges, fees, expenses and any other costs. These behaviors are then used to simulate the “average investor.” Based on this behavior, the analysis calculates the “average investor return” on an annualized basis. This chart illustrates an “average investor” as an investor who is in an “asset allocation portfolio” of both equities and bonds. The goal of this DALBAR study is to educate investors and the advisors who advise them on the importance of behavior in determining the outcome of any investment strategy.

Mutual fund firms often tout the results of “buy-and-hold investors” and use market indices to illustrate their points. For example, this chart shows what true 20-year buy-and-hold stock and bond index fund investors would have earned on an annualized basis since 1997: Long-term (20-year) stock investors would have returned greater than 7 percent per year, while bond investors would have earned greater than 5 percent annually. However, investors are impatient and often jump in and out of the market, diminishing their returns. Other DALBAR data showed that investors simply do not have the patience to stay invested for more than a few years.¹

For several years, DALBAR has analyzed when investors get in and out of the market to see how their decisions compare to the wise investing adage to buy low and sell high. They found that it's easy to be right when the market is steadily rising, but during turbulent times, investors need guidance.

The principles of behavioral finance help explain why investors often make buy and sell decisions that contradict best investment practice. In order to correct the behavior, advisors and others need to understand that investors suffer from:

- **Loss aversion:** expecting high returns with low risk.
- **Narrow framing:** making decisions without considering all implications.
- **Anchoring:** relating to familiar experiences, even when inappropriate.
- **Mental accounting:** taking undue risk in one area and avoiding rational risk in others.
- **Diversification:** Seeking to reduce risk by simply using different sources, giving no thought to how such sources interact.
- **Herding:** copying the behavior of others, even in the face of unfavorable outcomes.
- **Regret:** treating errors of commission more seriously than errors of omission.
- **Media response:** reacting to news without reasonable examination.
- **Optimism:** believing that good things happen to “me” and bad things happen to “others.”

The bottom line: Long-term investment results are heavily dependent on investor behavior. Strong mutual fund selection has shown to be typically beneficial.

However, long-term investors who hold on to their investments have been generally more successful than those who try to time the market.

Past performance is not an indicator of future results. The indices listed above are unmanaged indices. An investment cannot be made directly in an index.

Neither asset allocation nor diversification assures a profit or protects against a loss in declining markets.

Investments are subject to market risks including the potential loss of principal invested.

Additional comment on the performance of REITs and gold: Remember that any discussion of the past returns of equity REITs should always be accompanied by mentioning the often extreme volatility and cyclicity of REITs. There are special risks of investing in REITs, such as lack of liquidity and potential adverse and economic regulatory changes. In addition, investors should be aware that there is no assurance that gold will maintain its long-term value in terms of purchasing power in the future. Precious metals, like all investments, carry capital risk and can be highly volatile. Precious metals may appreciate, depreciate or stay the same, depending on a variety of factors.

¹Source: DALBAR QAIB 2017