

Consider a Systematic Investment to Balance the Emotion in a Portfolio

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Our past experiences create behavioral biases that drive our decision making, perhaps more than we are aware, or more than we would like. This may be of minimal consequence if these biases lead us to purchase one type of toothpaste over another, but what if these biases influence our decision making when it comes to investing?

Extreme and often irrational behavior in asset pricing has been noted historically, with high prices observable during euphoric asset price bubbles and sharp price declines accompanying panic selling. Yet the study of emotions in investing, or behavioral finance, is relatively new.¹ The field of behavioral finance has shown that emotions and past experience do play a role in our investment decisions. Important to note is that all investors, even professional money managers, are subject to emotional decision making and subconscious biases. Being aware of this and constructing mitigating safeguards is critical for both professional money management and individual investing.

In this brief, we offer three suggestions to help investors reduce emotionalism when investing. One of these suggestions is to diversify according to investment style by including a systematic, non-emotional based investment strategy as part of an overall portfolio. We will make the case that for those investors who are comfortable with the risks, managed futures may be a compelling way to do so.

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¹ Behavioral finance research pioneered by Amos Tversky and Daniel Kahneman

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DISPLAY 1

The Emotions of Investing Simplified



Source: Morgan Stanley Investment Management.

The display is provided for illustrative purposes only and is not meant to depict the performance of a particular investment or strategy.

Display 1 is a simple illustration of the stages of behavioral emotion that researchers have identified and defined. Many of us can relate to having experienced one or more of these feelings after making a purchase—of something from a car to an individual stock. Reading through the definitions of a few commonly used terms in behavioral finance may strike a familiar chord.

- **ANCHORING** means we are strongly attached to previous values or initial purchase values. Thus, we tend to underestimate interim news events that could have affected the current market price. This may lead to holding on to an investment that is below its initial purchase value, hoping for a price rebound before selling.
- **DISPOSITION EFFECT** suggests that we have a hard time disposing of assets and tend to realize gains more quickly than we cut losses. We don't want to sell a position that is currently losing money, believing we will sell when the price moves higher. If the asset price does begin to rebound off of lows, we may sell too quickly, leaving additional potential gains unrealized.
- **HERDING BEHAVIOR** describes our tendency to rush to join the actions of a larger group, buying in a rising market (or selling in a declining market), without any reason other than greed or fear.
- **OVERREACTION AND AVAILABILITY BIAS** means we tend to overreact to recent news—because of events we have experienced personally or that in some way grip our emotions—and lose historical perspective. Decisions generated by this bias are often short-lived. After 2008, many investors vowed never again to return to equity investing because the experience was so fresh in their minds. This short-term perspective is not balanced by the longer-term historical returns that have been generated by the equity markets.
- **PROSPECT THEORY** involves a few ideas. First, the theory suggests that individuals perceive gains and losses differently. Earning \$100 and then losing \$20, finishing with \$80, feels worse than simply earning \$80. Second, it suggests that individuals prefer certainty and will prefer the 100% probability of earning \$100 over the 80% probability of earning \$140, which is accompanied by a

20% probability of earning \$0. On a related note, investors tend to be more interested in their relative returns than their absolute returns. This comparison can lead to disappointment. And third, the theory suggests that people make irrational decisions when faced with low probability events, and this may lead to an underestimation of the actual risk. An example might be the purchasing of penny stocks as an investment strategy.

Economists have demonstrated statistically what we may feel intuitively. It turns out we may not be as rational in our investment decisions as we believe we are. It is clear that any or all of the biases we've described may affect our investing behavior and our development of long-term financial plans. So what can we do to control our emotions when making long-term financial decisions? Here are some actions to consider:

First, the best weapons against emotional decision-making are facts and historical perspective. An investor should have a basic understanding of the history of financial markets and an appreciation for the application of probability and statistical analysis.

DISPLAY 2**Correlations of Asset Classes 1/2000 – 11/2017**

| | EQUITIES | BONDS | HEDGE FUND | BTOP50 | SYSTEMATIC MF | DISCRETIONARY MF |
|------------------|----------|-------|------------|--------|---------------|------------------|
| EQUITIES | 1.00 | | | | | |
| BONDS | -0.09 | 1.00 | | | | |
| HEDGE FUND | 0.76 | 0.00 | 1.00 | | | |
| BTOP50 | -0.17 | 0.26 | 0.04 | 1.00 | | |
| SYSTEMATIC MF | -0.17 | 0.26 | 0.08 | 0.93 | 1.00 | |
| DISCRETIONARY MF | 0.04 | -0.03 | 0.16 | 0.37 | 0.40 | 1.00 |

The indexes are provided for illustrative purposes only and are not meant to depict the performance of a specific investment. **Past performance is no guarantee of future results.** See page 5 for index definitions.

Source: PerTrac. Data from January 2000 – November 2017. Equities represented by S&P 500 Total Return Index. Bonds represented by Bloomberg Barclays Aggregate Bond Index. Hedge Funds represented by HFRI Fund Weighted Composite Index. BTOP50 represented by Barclay BTOP50 Index. Systematic MF represented by Barclay Systematic Traders Index. Discretionary MF represented by Barclay Discretionary Traders Index

Second, individuals should seek assistance. A professional financial advisor can bring both perspective and discipline to the investment decision-making process. The development of a long-term investment plan and a focus on long-term goals can help us weather the volatility that is inevitable with investing. When tempted to make an emotionally-driven decision, historical facts, statistical analysis, sage counsel and an established plan may help an investor stay the course.

Third, investors should be aware that even professional money managers are also subject to behavioral biases. It is likely that 100% of a typical investor's portfolio, although diversified across asset classes and markets, is invested in discretionary strategies that are themselves exposed to behavioral biases. Given this, investors may wish to consider investing in a non-discretionary strategy—a strategy that is less, if at all, exposed to behavioral biases.

Managed futures is an example of such a strategy. Managed futures is an investment strategy in which the majority of money managers (Commodity Trading Advisors or CTAs) trade long and short according to proprietary quantitative models. They employ a systematic strategy in which there is little to no human interaction

and thus very limited emotional bias. CTA managers trade only in the world's futures, futures options and forward markets but in a broad array of sectors, including agriculture, precious metals, industrial metals, foreign exchange, interest rates, equity indices and energy. The structure and liquidity of the futures markets has allowed for the development of trading models that can benefit from price increases or decreases. The models harbor no bias in positioning and will generally suggest long or short exposure to markets based on price trend signals. While it is true that humans created these trading models, which one could argue introduces some behavioral bias, the fact is that the models are scientifically tested and developed to minimize any potential impact of emotion.

Of course, no model is perfect and past price performance is no guarantee of future results. The behavioral biases that impact investor decisions may also impact the underlying markets in which managed futures strategies invest. In fact, the over- or under-reaction of a price move is often what trend following CTAs have been able to capitalize on in the past. Nevertheless, we believe that even this brief, high-level description of managed futures makes the case for seeking exposure to a style of

investing that is different from (and would be complementary to) stocks and bonds that are traded in a discretionary style.

To further develop this thought, we compared correlations among managed futures indices, both systematic and discretionary, equity and bond indices, and hedge fund indices. As a reminder, a correlation coefficient is a measure of the similarity of movement between two data points. It can range between -1.00 and +1.00. From an investment diversification standpoint, the goal is to combine investments with lower correlations when constructing a portfolio for the long term.

Reviewing monthly returns between January 1990 and November 2017 (*Display 2*), we can see that managed futures have shown diversification benefits relative to stocks and bonds. But, to the point of this paper, we also observe low correlation between types of CTAs—quantitatively driven systematic CTAs and discretionary CTAs, as shown by the blue square in *Display 2*. This underscores our premise that style diversification is a worthwhile pursuit. Additionally, as depicted by the blue circle in *Display 2*, we observe a low correlation of 0.04 between CTAs and hedge funds, whose strategies are primarily discretionary.

Note in this simple analysis, we do not discuss performance of the individual investments; Rather, we show correlations in order to focus on the interaction amongst the strategies, which is at the core of a robust long-term investment strategy. The search for investments with low correlation to one another is important because of what Modern Portfolio Theory tells us: a portfolio composed of “non-correlated” strategies has historically generated enhanced risk-adjusted returns over the long run relative to a non-diversified portfolio.² This point has been made repeatedly in financial writings, and so we will leave that discussion to other authors.

This thought piece is not intended to be a comprehensive analysis of the performance behavior of managed futures, but to point out that systematically-oriented managed futures have demonstrated an ability to perform very differently from other types of strategies that are often included in a portfolio. In other words, it is important to diversify by trading style as well as by market. Indeed, our numbers suggest that investing in a quantitative managed futures strategy may mitigate the impact of behavioral biases on a portfolio that includes investments in discretionary strategies.

Risk Considerations

Managed futures investments should be considered as part of a diversified investment portfolio. Morgan Stanley Investment Management considers managed futures investments suitable solely for the risk capital portion of such a portfolio. If a managed futures fund does not perform in a manner that has a low correlation to the performance of traditional financial markets or does not perform successfully, investors will obtain no diversification benefits by investing in such fund, and there is no guarantee that a managed futures investment will provide such benefits.

- Investments in futures, forwards, and options on futures and forwards trading is speculative and volatile and an investor could lose all or a substantial part of his or her investment. Key risks to consider when investing in managed futures strategies include the following: Strategies generally employ substantial leverage in their trading which accentuates the trading profit and trading loss;

- Strategies may trade on non-U.S. exchanges and in the over-the-counter market which may not be subject to regulation by the Commodity Futures Trading Commission;
- Liquidity is restricted; there may be no secondary market for units in managed futures strategies and such units may be subject to restrictions on transfer;
- Fees and expenses can be substantial and will reduce trading profits and investment returns;
- Trading advisors may receive quarterly incentive fees, without regard to the overall performance of any of the funds; and
- Profits earned by managed futures funds will be taxable to an investor even though distributions will not be paid to investors.

Diversification does not eliminate the risk of loss.

² Dorag Peleg. “Fundamentals in Financial Theory.” MIT Press. March 2014

INDEX DESCRIPTIONS

HFRI Fund Weighted Composite Index – The HFRI Fund Weighted Composite Index is a global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net of all fees performance in US Dollar and have a minimum of \$50 Million under management or a twelve (12) month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

While the HFRI Indices are frequently used, they have limitations (some of which are typical of other widely used indices). These limitations include survivorship bias (the returns of the indices may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indices, and the index may omit funds, the inclusion of which might significantly affect the performance shown). The HFRI Indices are based on information self-reported by hedge fund managers that decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indices may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways. Index performance is not illustrative of fund performance. HFRI indices are presented net of fees as reported by the hedge fund managers.

It is not possible to invest directly in an index. All indices are unmanaged and their returns generally do not include sales charges or fees, which would lower performance.

S&P 500 Total Return Index – The S&P 500 Total Return Index is an index that consists of 500 stocks chosen for market size, liquidity and industry group representation. The S&P Index is a market value weighted index with each stock's weight proportionate to its market value. The S&P Index is one of the most widely used benchmarks of U.S. equity performance. The performance of the S&P Index does not account for any management fees, incentive compensation, commissions or other expenses that would be incurred pursuing such strategy. Total return provides investors with a price-plus-gross cash dividend return. Gross cash dividends are applied on the ex-date of the dividend.

Bloomberg Barclays Aggregate Bond Index – The Barclays Aggregate Bond Index covers the U.S. dollar-denominated, investment-grade, fixed-rate, taxable bond market of SEC-registered securities. The index includes bonds from the Treasury, Government-Related, Corporate, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS sectors.

Barclay BTOP50 Index – The BTOP50 Index seeks to replicate the overall composition of the managed futures industry with regard to trading style and overall market exposure. The BTOP50 Index employs a top-down approach in selecting its constituents. The largest investable trading advisor programs, as measured by assets under management, are selected for inclusion in the BTOP50 Index. In each calendar year the selected trading advisors represent, in aggregate, no less than 50% of the investable assets of the Barclay CTA Universe.

Barclay Systematic Traders Index – An equal weighted composite of managed programs whose approach is at least 95% systematic.

Barclay Discretionary Traders Index – An equal weighted composite of managed programs whose approach is at least 65% discretionary or judgmental.

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