

Why the Conventional Wisdom on Risk is Foolish

The conventional wisdom in finance defines “risk” as *the uncertainty of future investment outcomes*. In the popular book and staple of business school courses, *A Random Walk Down Wall Street*, Princeton professor Burton G. Malkiel argues that movements in asset prices are purely *random*. Malkiel recommends therefore, that investors should diversify and employ a passive “buy-and-hold” strategy since one cannot gain an advantage over the market.¹



The Wise Fool. Stańczyk by Jan Matejko - 1862

In other words, according to the best minds in conventional finance theory, investing is comparable to gambling, which is the act of betting on an uncertain outcome. There is an obvious problem with this conventional wisdom, however. If investing is determined by random price movements, *why should investors embrace passive buy-and-hold strategies at all?* A buy-and-hold strategy would be analogous to gambling one’s lifestyle on the whimsical ways of the market without any protection against losses. Investors who were “all in” with the stock market in 2008 lost a combined \$7 trillion in assets due to the “randomness” of the stock market.² Does Wall Street expect investors to be so foolish to continue investing without proper risk control? Do you think there is more to risk management than diversification? Do you think that Wall Street’s “buy-and-hold” mantra supported by its expectation of mean reversion in the long run is not an excuse for short term inertia? In this paper, we challenge the conventional wisdom on risk and offer what we believe is a smarter, safer way to manage risk to help protect the lifestyles that investors have worked so hard to earn.

How Traditional Investment Managers Control Risk (and Why It Doesn’t Work)

Traditional buy-and-hold investment advisors manage risk in client portfolios primarily through asset diversification. These advisors learned through conventional wisdom of Modern Portfolio Theory (MPT) that investors can reduce risk in their investment portfolios by holding multiple “uncorrelated” asset classes. While this argument may be valid to some extent, it is only half of the complete risk story. What investment managers often fail to acknowledge and divulge to their clients is that *correlations among asset classes increase in severe down markets*. In other words,

“A buy-and-hold strategy would be analogous to gambling one’s lifestyle on the whimsical ways of the market without any protection against losses.”



when you want the correlations to be negative in order to protect one’s assets is exactly when they start to break down. Exhibit 1 illustrates the percentage increase in correlations between asset classes in recent bear markets.

Exhibit 1: Correlations Increase in Down Markets Making Diversification Ineffective

Percentage Change in Correlations of Asset Classes in Recent Bear Markets

Asset Class Correlations	2000-2002 Bear Market	2008 Bear Market
S&P 500 to MSCI EAFE International	+24.6%	+16.9%
S&P 500 to S&P Mid Cap	+19.4%	+9.3%
S&P 500 to Russell 2000 Small Cap	-5.0%	+10.0%
S&P Mid Cap to Russell 2000 Small Cap	-0.7%	+1.1%
S&P Mid Cap to MSCI EAFE International	+27.9%	+32.7%
Russell 2000 Small Cap to MSCI EAFE Intl	+14.8%	+34.4%

Source: Baker Avenue Asset Management

Fool Me Once, Shame on You; Fool Me Twice, Shame on Me

With the aftermath of 2008, investment advisors have had the unpleasant task of downsizing financial plans on which their clients budgeted their lifestyles on. Planning a fancy vacation to Europe? Forget it. Leaving a legacy for the children? Not likely. Facing a harsh new economic reality, clients were forced to slash their spending budgets to accept a significantly lower standard of living. This happened not once, but twice, over the past decade for investors. **The traditional views and methods to manage risk have failed to adequately protect investors over the past decade and will likely fail yet again in the next financial crisis.**

A Smarter Way to View Risk

Most investment advisors have failed to protect their clients over the past decade because of poorly conceived notions of risk built on the pillars of conventional wisdom in finance. Rather than find ways to actively reduce risk in client portfolios when times are difficult, most advisors offer little advice but to counsel their clients to hang on tight with expectations of mean reversion *in the long run*. But what the “long run” means for an investor in their 30’s versus an investor in their 50’s is vastly different. The 50 year old approaching retirement may not have the luxury of sitting on losses for years while a 30 year old investor’s longer time horizon may afford that.

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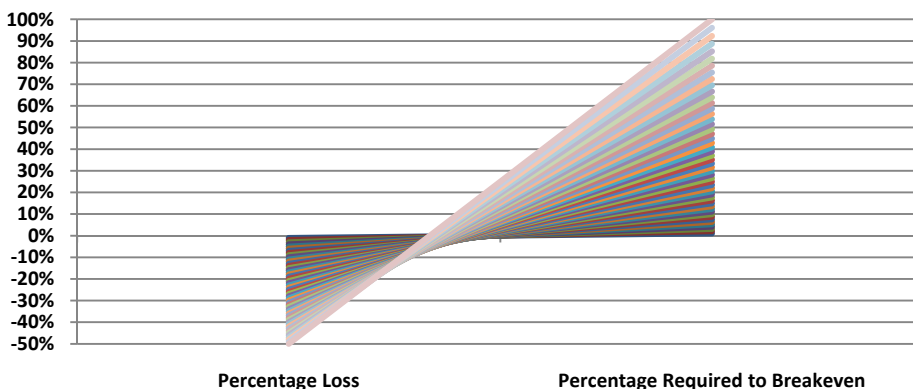
Risk is not relative, it is absolute. Most investment managers tie investment success to relative performance. If they are able to outperform an index in a down market by losing *relatively* less money, they do not lose their jobs. The problem with this industry tradition is that it alters the manager’s behavior. The manager begins to think in relative terms rather than absolute terms when it comes to analyzing the merits of an investment. Very few managers embrace cash as an asset class even in down markets due to fear of missing their benchmark so they stay fully invested all the time. As such, the manager starts to focus on relative returns to a benchmark, rather than think in absolute terms of not losing money for their investors.

In 2008, the S&P 500 index lost 37% of its value.³ Investment managers that benchmarked themselves against the index considered the year a success if they lost 30%. To the individual investor however, a 30% loss may mean the potential loss of a lifestyle. The stock market often punishes investors with more volatility than they care to tolerate. When investors face losses of 30% or greater, the most common reaction is to liquidate their portfolios and stay on the sidelines in cash. These same investors who cashed out often do not participate in the rebounds due to lingering doubts about the market and as a result “lock in” severe losses. The problem is that a portfolio that suffers severe losses needs to generate much higher returns to break even. As Exhibit 2 illustrates, the amount needed to recover from a loss accelerates exponentially. A 10% loss requires an 11% gain to breakeven, but a 50% loss requires a 100% gain to breakeven. Investment managers need to change the way they think from managing *relative risk* to managing *absolute risk* to protect investors against irrecoverable losses.

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Exhibit 2: The Importance of Downside Protection

The Law of Percentages Against the Investor





Investors need to manage risk actively, not passively. Traditional methods of investing deal with risk on a passive basis and usually occur only at the initial implementation of a portfolio through basic asset diversification. Besides periodic rebalancing, there is limited action to deal with risk on a proactive basis. This is especially true in severe down markets. However, as many investors have painfully learned over the last decade, markets are dynamic, not static. Why then, should static methods be used to manage the dynamic forces of risk? When market risk is elevated, investors need to take action to reduce their exposure to risky assets in their portfolios or otherwise they may be subject to significant and permanent losses.

Risk management is not about timing. The argument most often heard from proponents of conventional investment wisdom is that you cannot time the market; therefore investors should always stay *fully invested*. They often argue that the stock market tends to produce the bulk of its gains in just a few powerful sessions. If investors miss those days, the portfolio's returns are likely to disappoint. However, to focus on just the consequences of missing the best days in the market is shortsighted. In order to experience the best days in the market, investors often have to experience the *worst days first* since these days also tend to be concentrated in just a few sessions and often precede the rebounds. Unfortunately, most investors do not get to enjoy the recoveries as most tend to sell in the worst days of the market and sit in cash while the market recovers. Over the past decade, a portfolio fully invested in stocks during all but the worst 20 days of the market gained 215% versus 15% from a traditional buy-and-hold strategy.⁴ Since the best days and the worst days of the market tend to balance each other out during volatile periods, a strategy that moves to cash in periods of high market risk has a high probability of producing long-term returns that are competitive to those of the market, but with much less risk. Risk management is not about timing, but rather it has to do with the detection of periods when market risk is high and acting defensively to protect against it.

Risk is not a random phenomenon. According to research conducted by Nobel laureate Professor Robert F. Engle, the periods of greatest market volatility are in large part predictable. Contrary to conventional wisdom, Engle found that the market does not always act in a random fashion and that market sessions with particularly good or bad returns often tend to be clustered together.⁵ In his 2003 book, *Why Stock Markets Crash: Critical Events in Complex Financial Systems*, Didier Sornette writes that periods of successive and severe declines occur during "pockets of

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predictability.” In other words, market returns often show periods of dependence that cannot be explained by randomness. Take for example, the stock market crash on October 19, 1987 known as “Black Monday” when the Dow Jones Industrial Average fell 22.6% in one day. In the days before October 19th, there were three days of successive market losses of 2%, 3%, and 6%.⁶ In other words, there were four consecutive days of severe losses that resulted in a 30% decline in the market. Successive losses like these have occurred more regularly in declines than what theories of randomness would statistically suggest. When sequential returns reach a critical mass, they tend to exhibit the ability to predict future returns. In Exhibit 3, we highlight evidence of bad returns clustering together. The most recent evidence of “clustering” was between July 22 and August 8, 2011. The Dow Jones Industrial Average plummeted nearly 15% in just 12 trading days, an average loss of over 1.2% per day. This risk was not a random phenomenon. *Before* this steep decline occurred, market volatility as measured by the CBOE SPX Volatility Index (VIX) already had started to increase. Furthermore, our Baker Avenue Market Sentiment Indicator (BAMSI) also turned negative weeks before indicating a high risk market (more on this later).

“Successive losses like these have occurred more regularly in declines than what theories of randomness would statistically suggest.”

Exhibit 3: Periods of Severe Market Declines are Often Clustered Together

Historical Drawdown’s in the Dow Jones Industrial Average 1914-2011

Rank	Date	Duration in Days	Decline in Percent
1	10/1987	4	-30.7
2	7/1914	2	-28.8
3	10/1929	3	-23.6
4	10/2008	8	-22.9
5	7/1933	4	-18.6
6	3/1932	8	-18.5
7	11/1929	4	-16.6
8	11/1929	2	-16.6
9	7/2011	12	-15.0
10	8/1932	1	-14.8
11	12/1931	7	-14.3
12	9/1932	3	-13.9
13	9/1974	11	-13.3
14	6/1930	4	-12.9
15	9/1931	5	-12.4
16	8/1998	4	-12.4

Source: Didier Sornette / Baker Avenue Asset Management



Institutional risk is not the same as individual risk. Traditional risk theory assumes that the risk metrics of institutions (endowments, pension plans) should also be the same risk metrics used for individual portfolios and therefore the same methods of risk management should apply. However, it fails to address one very important element – the human element. Institutions don't have nightmares and don't try and sleep at night, individuals do have nightmares and often can't sleep under stress. Simply put, it ignores the human element of risk, or in other words *emotional risk*. Ironically, this is perhaps one of the most important components of the risk equation for the average investor. This type of risk is the elevated emotional volatility and stress that investors endure when they see their investment portfolios tumble in value. This may be in the form of sleepless nights or heated arguments with their partners when the stock market plummets. Worse yet, studies have shown that increased stress by investors over portfolio losses may also lead to physical illness. The conventional wisdom on risk is hazardous to the health of investors, not just their investment portfolios!

Investors who are emotionally stressed also tend to make the wrong decisions at the most critical moments. Very few individual investors have the emotional fortitude to suffer through big declines in the portfolio before seeing their portfolios rebound. Needless to say, investors endured many sleepless nights in 2008 and early 2009 before deciding finally to cash out at the bottom of the market. Data provided by the *Investment Company Institute* shows that investors in equity mutual funds sold nearly \$26 billion worth of equities at the bottom of the market in March 2009.⁷

Risk is pervasive. Despite the aftermath of the 2000-2002 and 2008 bear markets, most investment managers continue to argue that severe stock market drops are rare. Historical market returns suggest otherwise. If conventional wisdom on the randomness of the market is correct, we should expect that a graph of market returns will resemble a "normal curve". In a normal curve, we expect to see the tails of the normal distribution get thinner and thinner approaching zero. Yet, when we graph actual historical market returns, we do not see a thinning of tails. Instead, we see that the tails have bumps or remain fairly flat. These "fat tails" suggest that severe market drops occur more regularly and more severely than what conventional wisdom

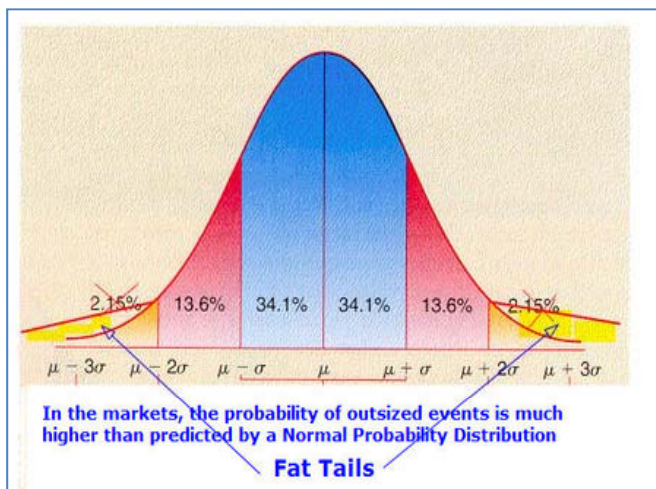
"Investors who are emotionally stressed also tend to make the wrong decisions at the most critical moments."



would suggest. This fact is important for investors because it highlights the importance of active risk management to protect against recurring destructive market losses.

Exhibit 4: Severe Market Declines Occur More Regularly Than What Randomness Suggests

Sample Leptokurtic Curve of the Stock Market



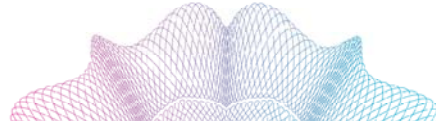
Source: www.randomactsof Kurtosis

A Smarter Way to Manage Risk

Now that we have outlined a smarter way to view risk, let’s discuss a smarter, safer way for investors to manage risk. Let’s step back from the stock market and take the airline industry as an example. Air traffic controllers give pilots permission to take-off or land depending on the riskiness of the weather conditions. Airline companies have rules against flying in unsafe weather conditions because they know that when weather conditions are harsh, there is an increased risk of accidents and increased potential for loss of lives. It is no surprise therefore, that airlines often cancel flights when they deem the weather is too hazardous to fly.

Investing should be no different. When market conditions are too risky, investors should avoid investing capital, keeping the plane on the ground because the risk of severe losses is too great. However, what the industry tells you is to stay fully invested *all the time*. How would you feel if the captain got on the speaker and said, “Yes, we’ve been told it’s going to get choppy and there is a slight chance we might crash...but we are going to take off anyway - so buckle up!!”?

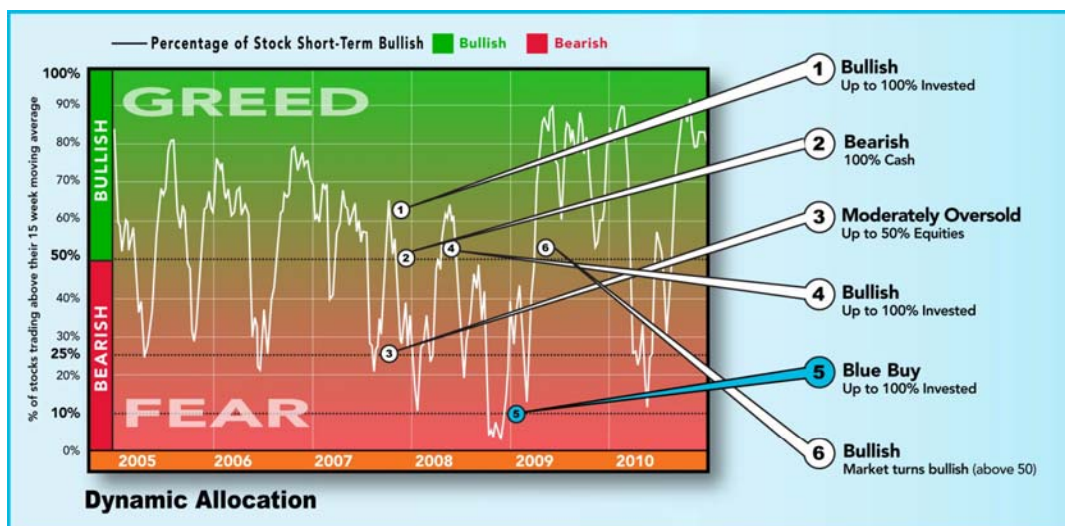
“When market conditions are too risky, investors should avoid investing capital, keeping the plane on the ground because the risk of severe losses is too great.”



Contrary to the beliefs of conventional wisdom on risk, periods of elevated market risk can be reliably identified. At Baker Avenue, we employ a tactical investment approach by analyzing the overall risk levels of the market to determine whether we are willing to commit capital to the market or remain on the sidelines in cash. We call this analysis our *Baker Avenue Market Sentiment Indicator (BAMSI)*. The BAMSI measures the overall bullishness or bearishness of the market on an index of over 4,000 stocks. When greater than 50% of stocks in the index are showing positive trends, it indicates a positive market sentiment, while less than 50% indicates a negative market sentiment. When our indicator is positive, it means market risk is low so we invest capital in the market for capital appreciation. When our indicator is negative, it means volatility and market risk is high, so we play defense by protecting capital with the ability to move 100% to cash (Exhibit 5).

Exhibit 5: Measuring Risk in the Stock Market

Baker Avenue Market Sentiment Indicator (BAMSI) 2004 - 2010



Source: Baker Avenue Asset Management

Many managers claim to monitor market risk by following economic and market developments, but few actually act by making material changes in portfolios to actively manage the risk. At Baker Avenue, we have a robust tool by which we can actively and materially defend a portfolio against risk. When it comes to managing risk, actions speak louder than words.

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In many ways, the BAMSI is analogous to an insurance policy for an investment portfolio and the lifestyle that investors worked so hard to earn. By having a mechanism to minimize losses in a portfolio, we are preserving capital for a better time to invest. Investors have insurance policies to protect against risk on their biggest assets including their homes, autos, boats, businesses, and so on. Why should investors not have an insurance policy to help protect against severe losses for an asset as important as their investment portfolios and nest eggs? As Exhibit 6 illustrates, when the BAMSI is negative it highlights periods of elevated market risk. In a negative market, the likelihood of drawdown's larger than 5% is over 7 times greater. Furthermore, the average of the worst weekly drawdowns that investors suffer through is 3 times greater in negative markets versus positive markets.

Exhibit 6: Market Risk Increases when the BAMSI is Negative

S&P 500 Weekly Drawdown's in Positive vs. Negative Market Sentiment 1987-2011

Market Sentiment (BAMSI)	Number of Drawdown's Greater than 5%	Worst Drawdown	Average of Worst Drawdown's
Positive	3	-7.5%	-6.1%
Negative	22	-19.2%	-18.1%

Source: Baker Avenue Asset Management. Prior to 1/1/2005 the data is back-tested using the same indicator as the BAMSI, which is used post 1/1/2005.

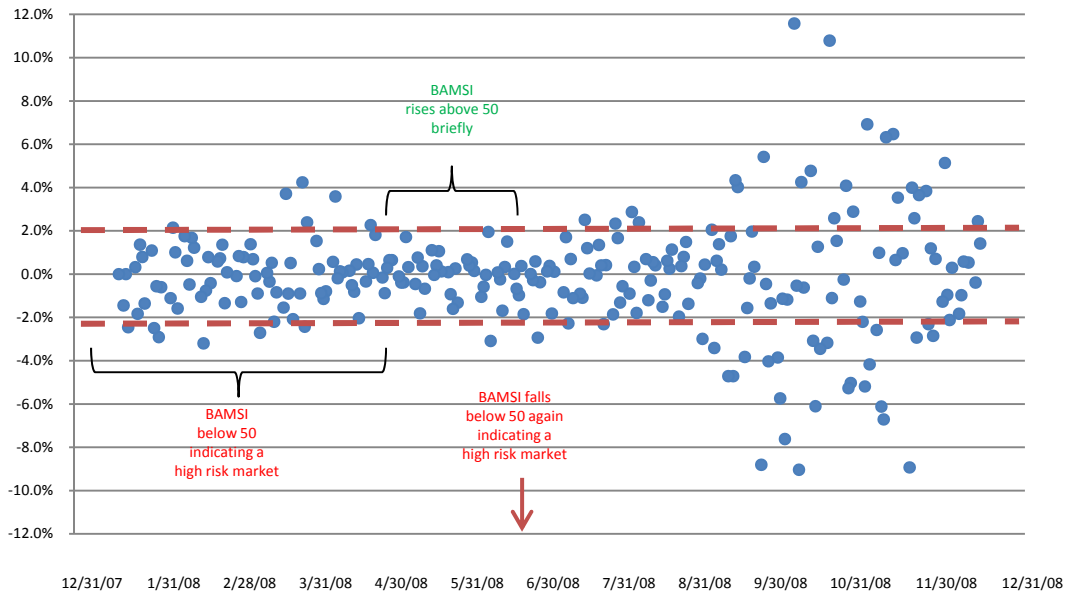
Another powerful illustration of how market risk increases when the BAMSI turns negative is shown by analyzing the plots of daily market returns. In Exhibit 7, we analyze the daily market returns of the S&P 500 in the 2008 bear market. In a market of low to normal market volatility (BAMSI >50), daily market returns are usually centered around plus or minus 2% as indicated by the red dashed lines. When the BAMSI is negative, volatility increases as clearly shown by the very wide dispersion of market returns greater than plus or minus 2%. In these type of volatile markets, there is a high probability of market losses due to the “domino effect” of stock liquidations. Individual investors who are concerned about market volatility may sell their stock holdings or redeem their mutual funds. This causes fund managers to forcibly liquidate portfolio holdings to raise cash to meet the redemptions. These liquidations may in turn trigger margin calls which further exacerbates the forced selling in the market. This is why we see the market usually fall faster than it rises. Therefore, these are the type of markets that investors are better off avoiding by moving to cash.

“Why should investors not have an insurance policy to help protect against severe losses for an asset as important as their investment portfolios and nest eggs?”



Exhibit 7: Market Volatility Increases when the BAMSI is Negative

Plots of Daily S&P 500 Market Returns 12/2007 - 12/2008



Source: Baker Avenue Asset Management

The performance of Baker Avenue’s tactical approach to actively manage risk has been very successful in difficult market environments. Baker Avenue’s ability to limit portfolio losses in the 2007-2008 bear market highlights the importance of risk mitigation and minimizing losses in down markets. During this period, Baker Avenue’s All Cap Core strategy maintained its value with less volatility than the overall market despite going through the worst bear market since the Great Depression. Since inception, Baker Avenue’s investment performance is even more compelling. On a cumulative basis, the All Cap Core has outperformed the S&P 500 with considerably less risk due to timely movements to cash.

Conclusion

The conventional wisdom on how to view and manage individual risk is foolish. The time is now for fresh thinking on the way to define and manage risk. For the individual investor, risk is not relative; it is absolute. It is also not simply a number; it is a concept, one that is unique to each individual’s lifestyle.

“During this period, Baker Avenue’s All Cap Core strategy maintained its value with less volatility than the overall market.”



Conclusion (cont'd)

Contrary to conventional wisdom, periods of high market risk can be identified and actions can be taken proactively to protect investors against severe market losses. Wall Street continues to peddle the failed traditional theories of investing and risk expecting investors are foolish enough to continue believing in them. However, billions of assets will continue to flow out of buy-and-hold funds and strategies. So, who's the fool now?

“Contrary to conventional wisdom, periods of high market risk can be identified and actions can be taken proactively to protect investors against severe market losses.”



- [¹] Malkiel, Burton G. *A Random Walk Down Wall Street*. Princeton, NJ: Princeton University Press, 1966
- [²] <http://www.nytimes.com/2009/01/01/business/economy/01markets.html>
- [³] Bloomberg Analytics
- [⁴] Hulbert, Mark. *Avoid Choppy Waters and Swim Just as Far* <http://www.nytimes.com/2008/11/02/business/02stra.html>
- [⁵] Engle, Robert. *ARCH Selected Readings*. New York, NY: Oxford University Press, 1995
- [⁶] Sornette, Didier. *Why Stock Markets Crash: Critical Events in Complex Financial Systems*. Princeton, NJ: Princeton University Press, 2003
- [⁷] Investment Company Institute http://www.ici.org/pdf/flows_data_2010.pdf

Disclosures:

The Baker Avenue Asset Management (“BAAM”) All Cap Core (“ACC”) Equity Composite is designed to generate a positive return over the medium to long term, with a focus on capital preservation. For comparison purposes, the composite is measured against the S&P 500. We believe the index that best replicates the market capitalization of securities we purchase for clients in the ACC are best represented by this index. The S&P 500 Index measures the performance of 500 leading companies in leading industries of the U.S. economy, which represents over 80% of the investable U.S. equity market. The index is presented as total return (reflect reinvestment of dividends, interest and other income) and is unmanaged, cannot be invested in directly and is never comprised of a cash allocation. BAAM may or may not trade in securities that are represented in this index. No representation is made that the performance or volatility of the ACC will track or otherwise reflect a particular index.

Past performance is not indicative of future results.

The minimum account size for inclusion in the composite is \$100,000. The U.S. Dollar is the currency used to express performance. Returns are presented net of a Model Advisory Fee and net of transaction costs. Returns are total return, i.e., they include the reinvestment of dividends, interest and other income. The composite includes both bundled-fee (wrap fee) and non-bundled fee portfolios. As a result, the returns presented are net of a model investment presented net of an annual fee of 1.5% applied monthly which represents the highest annual fee currently paid by a portfolio in this composite. For bundled accounts in the composite, this fee includes management fees, brokerage commissions, portfolio monitoring, consulting services and in some cases custodial services. The composite includes accounts that did not pay an advisory fee; since the completion of the first year, less than 2% of assets in the composite have been from non-fee paying accounts. BAAM may waive or reduce the management fee with respect to one or more clients or agree to apply a different management fee for a client. Full details of the fees charged are available in our ADV Part 2, available upon request.

The BAAM All Cap Core Equity Composite was created on January 1, 2005. The annual composite dispersion is an asset-weighted standard deviation calculated for the accounts in the composite the entire year. The composite consists of fully discretionary fee paying accounts that invest in all cap equities and cash. Portfolios are included after one full calendar quarter under management; terminated accounts (those no longer with the firm) are included through the last full calendar quarter prior to termination. Carve-outs are included in this composite from inception on January 1, 2005 until March 31, 2009. After March 31, 2009, only pure accounts were included in the composite. The portfolio accounting system automatically allocates 100% of the total cash to the carve-out. Results are based on fully discretionary accounts under management, including those accounts no longer with the firm. Additional information regarding policies for calculating and reporting returns and copies of prior verification reports are available upon request.

We may move to cash at times when the risk is not appropriate. However, there is significant dispersion between the performance of our composite and the index as the index is unmanaged and cannot move to 100% cash as we may do for our clients (and thus, this is reflected in our composite). For the time periods stated below, 1/1/05 through 6/30/11, the following time periods reflect when the Composite had a 100% cash allocation as a defensive component in the ACC. As a result, the negative performance of the S&P 500 is not reflected in our performance as we did not have the market exposure. Time periods are 27 days from 3/29/05 through 4/20/05, 49 days from 9/29/05 through 11/17/05, 27 days from 5/18/06 through 6/14/06, 30 days from 3/9/07 to 4/8/07, 23 days from 7/27/07 through 8/19/07, 62 days 11/8/07 to 1/10/08, 19 days from 6/19/08 through 7/09/08, 39 days from 2/20/09 through 4/1/09, 24 days from 5/20/10 through 6/13/10, 21 days from 7/13/10 through 8/3/10, 25 days from 8/26/10 through 9/20/10 and 16 days from 6/14/11 through 6/30/11. In total from 1/1/05 to 6/30/11 we were in 100% cash for 362 days.

Baker Avenue Asset Management, LP is an independent registered investment adviser. The firm maintains a complete list and description of composites and models, which are available upon request to info@bakerave.com.

Definition of Terms:

Blue Buy: Baker Avenue market sentiment indicator dips below 10

Market Drawdown: The peak-to-trough decline during a specific record period of an investment, fund or commodity. A drawdown is usually quoted as the percentage between the peak and the trough

Baker Avenue Asset Management
301 Battery Street
San Francisco, California 94111

San Francisco
415 986 1110

Boston
617 584 9784

Dallas
214 624 5226

New York
212 901 0636

Seattle
206 447 1474

Website
www.bakerave.com