Why Add Dynamic Allocations and Dynamic Strategies to Portfolios?

By Michael Dieschbourg, CIMA®

The Difficulties of Traditional Asset Allocation

Setting a traditional asset allocation policy historically has been a static process. The markets’ volatility over the past 12+ years has made many consultants and investors realize that the markets do not behave normally and that the tools the investment industry has been built upon need to evolve.

Most financial advisors and consultants experienced a bull market in stocks and bonds in the 1980s and 1990s. A 60/40 stock and bond asset allocation made everyone look smart. The industry was primarily using tools based on modern portfolio theory (MPT) (Markowitz 1952), a Nobel Memorial Prize-winning theory that has failed to evolve and has proven to be less than optimal. MPT is based on the normal distribution of returns and defines risk as standard deviation because Markowitz wanted to keep it a simple, two-dimensional model.

He made two primary assumptions: 1) market returns are predictable and 2) equities outperform bonds. This led to a static allocation that would have volatility (his measure of risk) but would generate adequate returns. The past decade has highlighted the fallacy of those assumptions.

The investment world has evolved and the stresses of the markets have shown the flaws in MPT. The challenge consultants face today is to integrate evolving dynamic and alternative strategies into investors’ portfolios. The traditional 60/40 asset allocation has not held up. During the recent financial crisis, PerTrac (www.pertrac.com) shows that a 60-percent S&P/40-percent time (see figure 1). In other words, the consultant and the client felt pain most of the time.

In times of stress, it is difficult to get a client to make a timely dynamic decision, but no decision is still a decision—that results in the market driving asset allocation, not the investor. We define “dynamic” as the ability to navigate toward a long-term objective by making decisions based on changing inputs. Dynamics are critical in the study of physics, engineering, sociology, psychology, computer science, and mathematics. Understanding that markets are dynamic is critical to the management of investments according to a client’s objectives. The critical common elements are the ability to make multiple adjustments based on changing data and the relationship to the objective. Markets are fluid and dynamic, not static and normal.

Moreover, volatility is the wrong measure of risk; investors are more

Barclay’s aggregate portfolio was down 31.64 percent from October 2007 to February 2009. The drawdown took 16 months and the recovery took an additional 22 months—more than three years to get back to even. Correlations of equities from around the globe have moved closer to 1.0. Investors’ slow and fearful response to the market’s volatility, combined with following naïve rebalancing approaches to flawed portfolios, has made it difficult to respond to the changing direction of the markets and take advantage of market dislocation. Behavioral finance prospect theory research shows that investors feel the pain of loss three to four times more than an equal gain, and they feel the pain longer (Tversky and Kahneman 1992). This impacts the abilities of consultants and clients to make timely decisions. For the past 12.5 years, the daily equity market values were negative 46 percent of the time, flat 1 percent of the time, and positive 53 percent of the

FIGURE 1: INTELLIGENT INVESTING IN EQUITY MARKETS

Capital Markets Reality Check
Since Inception, For the 12-Year 6-Month Period January 2000–June 2012

-15% -10% -5% 0% 5% 10% 15%
S&P 500 TR Daily Return

Positive Daily Return
53%

Flat Daily Return
1%

Negative Daily Return

Best Daily Return +11.58% 10/13/2008
Worst Daily Return -9.03% 10/15/2008

Return range sorted lowest to highest

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focused on capital preservation, and drawdown is the correct measure of risk for capital preservation. Benjamin Graham (1934) said, “The essence of investment management is the management of risks, not the management of returns.” Back then risk was defined as loss of principal.

The Value of Adding Dynamic Strategies to Your Consulting Business

Prospect theory focuses on value, including dynamic asset allocation and dynamic investment strategies in clients’ portfolios that can add value. These dynamic strategies can minimize drawdowns, the length of drawdowns, and the time it takes to recover from drawdowns and increase returns. These approaches focus on managing the risks of drawdowns and seeking additional returns that can be compounded to increase the probability of reaching liability objectives. Aligning asset allocation and investment strategies this way results in what prospect theory identifies as the “framing effect.” Investors frame their investment decision process by first seeking to prevent a loss, second desiring to make a profit, and, a distant third, maximizing the profit.

This is an important distinction to understand when adding dynamic investments and alternatives to a traditional asset allocation. Most industry experience and training came from using the old models and mantras based on MPT such as efficient market theory, random walk down Wall Street, normal distribution, etc. Many university professors and major business journals still preach stocks for the long run. Indeed, academics now are saying the long run is 100 years, and most clients do not have a 100-year time horizon. Let’s look at the facts for the past 12.5 years. If you had been invested in the S&P 500 Total Return (TR) index, what would your returns be if you followed a buy-and-hold strategy, if you missed the 40 best days or missed the 40 worst days (see table 1)? Table 1 also compares the growth of $1 million in each scenario.

The math shows that losing less (i.e., missing the 40 worst days) is more important than missing the best days and/or a buy-and-hold strategy. Understanding the math of losing is critical to appreciate the benefit of adding dynamic strategies and dynamic asset allocation (see table 2). If you lose 20 percent in one year, you need to make 25 percent the next year to be even. If you also have a liability or spending policy (and for this example we used 8 percent), you need to earn 35.45 percent in one year to stay even and meet liabilities.

Based on this analysis, it is understandable that some practitioners would seek to overcome these higher hurdles by increasing static allocations to riskier assets. The defense for this approach is that in periods following major financial crises, the reward-to-risk ratio for some asset classes increases dramatically. In other words, these practitioners are posing this question: Based on an assumption of normal returns in the market, what is the likelihood that we are going to have another 100-year flood immediately following the one we had last year? They are answering this question by increasing the allocation to higher-risk assets. However, to do so ignores some noteworthy cautions from both empirical observations and experts on this theory. As identified by Taleb (2007), the failure of Long Term Capital in the late 1990s points to the potential capital destruction caused by the belief that the markets must return to some normal price distribution. Similarly, the recent failure of MF Global also appears to have been partly caused by this fallacy. The fact that the markets don’t always behave in a well-mannered fashion would have not surprised either Mandelbrot, who said, “Extreme price swings are the norm in financial markets—not aberrations,” or Fama, who said, “large changes … happened two thousand times more often than expected” (Mandelbrot and Hudson 2004).

The Evolution of Dynamic Solutions

The value of dynamic asset allocation was advanced in detail in Barrett et al. (2011). One of the key points made in the article

### TABLE 1: CAN MARKETS BE SUCCESSFULLY NAVIGATED? S&P 500 TOTAL RETURN ANNUAL COMPOUND RETURNS, JANUARY 2000 TO JUNE 2012

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Compound Annual Return</th>
<th>Growth of $1 Million</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy-and-Hold</td>
<td>+1.33%</td>
<td>$1,163,788</td>
</tr>
<tr>
<td>Missing the 40 Best Days</td>
<td>-14.38%</td>
<td>$167,737</td>
</tr>
<tr>
<td>Missing the 40 Worst Days</td>
<td>+21.12%</td>
<td>$9,057,244</td>
</tr>
</tbody>
</table>

### TABLE 2: THE MATH OF LOSING MONEY

<table>
<thead>
<tr>
<th>If you lose ...</th>
<th>You must gain this % to get back to even ...</th>
<th>You must gain this % to reach 8% annual ROA over:</th>
</tr>
</thead>
<tbody>
<tr>
<td>-10%</td>
<td>11.1%</td>
<td>20.40%</td>
</tr>
<tr>
<td>-20%</td>
<td>25.0%</td>
<td>35.45%</td>
</tr>
<tr>
<td>-30%</td>
<td>42.9%</td>
<td>54.80%</td>
</tr>
<tr>
<td>-40%</td>
<td>66.7%</td>
<td>80.60%</td>
</tr>
<tr>
<td>-50%</td>
<td>100.0%</td>
<td>116.72</td>
</tr>
<tr>
<td>-60%</td>
<td>150.0%</td>
<td>170.89%</td>
</tr>
<tr>
<td>-70%</td>
<td>233.3%</td>
<td>261.19%</td>
</tr>
<tr>
<td>-80%</td>
<td>400.0%</td>
<td>441.79%</td>
</tr>
</tbody>
</table>

Note: S&P 500 TR 2008 return ~37%. Source: Standardandpoors.com

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was the value added of dynamic asset allocation. The San Bernardino County Employees Retirement Association (SBCERA) implemented an “informed rebalancing program” in July 2006; later in the article Barrett et al. (2011) referred to it as an “intelligent rebalancing program” based on Muralidhar (2011). This leads to the observation that following a static allocation is not “smart” if investing in a dynamic market.

Culver Academies, winner of the Institutional Investor’s 2010 Small Endowment of the Year Award, came to the same conclusion. John Buxton, Head of Schools, framed the dynamic issue this way: “The issue is not the percentage of alternative investments but the selection of managers who manage risk creatively and successfully in a volatile marketplace and the strategic placement of those managers in a dynamic portfolio model” (http://www.scagrp.com/CRC/Connex_Chronicle. pdf). Culver’s consultant, Brian A. Hunter from SCAG, described his role as “building portfolios as reliable as commercial airplanes using the science of reliability.” He defined reliability as investments with durable, uncorrelated downside and stretching mean time between failures across all portfolio components (asset classes/strategies) to ensure that correlations among investments are stable over time, especially during “turbulence.” Anyone who flies knows how the risk of an airplane failing can be unsettling; avoiding risk in a portfolio would be comforting and productive for clients (see figure 2).

Understanding Market Cycles
Consultants and clients need a disciplined process for investing in three distinct major market cycles: bull, range-bound, and bear. This is a different approach than MPT, which assumes the markets are normal. Over the past 100+ years (1900–2006) “the Bear markets were actually Range-Bound markets and happened ½ the time” (Katsenelson 2007, 5). That statement is true if one uses the definition of a secular range-bound market, which is defined as a long-lasting market condition of five or more years. Others define bear markets as a loss of at least 20 percent in two or three months. Market history, figure 1, and the recent market events between 2008 and 2012 highlight the increased risk of loss in bear, bull, and range-bound markets, no matter how you define them.

In each market cycle, answering the following three questions will help with navigating the market and making logical asset allocation decisions:
1. Are we in a correction within a cyclical bull, range-bound, or bear market?
2. Are we in a cyclical inflection point to a range-bound market?
3. Are we at the end of a cyclical bull, range-bound, or bear market?

Understanding these market cycles leads to making intelligent asset allocation decisions in different market cycles.

Focusing on the Real Objective
This brings up an important point: What are clients’ real objectives? Are clients focused on how well their investments do compared to the markets or are clients focused on what they want investment returns to do for them? For example, a majority of pension benefits are paid out of the return on assets rather than contributions; therefore the real objective of a pension fund is consistency of positive returns.
that build assets, not minimizing standard deviation (Center for Retirement Research at Boston College, http://crr.bc.edu).

Most clients create investment objectives to service a liability. It could be a high-net-worth (HNW) client looking for a certain dollar amount to spend annually, a foundation or endowment that has a spending policy, or a pension plan with return on assets set by the actuary. Market objectives do not help clients reach their real objectives if the market is down. Can a foundation, endowment, or pension plan stop paying on the pension benefit or honoring a spending policy, or can a HNW individual stop paying for retirement or college expenses because the market went down?

When you compare liability objectives to market objectives, the reality of compounding is driven home. Compounding returns is a very powerful ally in the battle for reaching and fulfilling liability objectives. Benjamin Franklin said it best: “Compound interest is the eighth wonder of the world.” Albert Einstein agreed with him.

In the past 12 years, 2000–2011, the S&P TR has annualized at 0.55 percent while the liability objective has annualized at 8 percent (see table 3). The difference in cumulative returns is staggering; S&P TR cumulative return is 6.5 percent vs. the liability cumulative return of 151.82 percent. In dollars, if you started with $1 million in the S&P TR you would end up with slightly more than what you started with, $1,068,038. In the 8-percent liability example you end up with $2,518,170 (see table 3).

When estimating or forecasting inputs to asset allocation models using MPT, spending policies, and actuarial assumptions, only positive numbers are used. The equity markets are not always positive or normal. They have been negative four out of the past 12 years, with a drawdown of more than 50 percent and a loss of 37 percent in 2008 and 22.1 percent in 2002. The market has underperformed the 8-percent liability goal seven of the past 12 years or 58 percent of the time. If you are managing your assets to the market benchmark instead of your liability objective, you are effectively taking long-term beta risk on the markets that do not match your liability objective. The recent financial crisis brought that point home.

Incorporating Dynamic Asset Allocation and Dynamic Investment Strategies into Investment Process

Consultants need to understand the impact of these dynamic strategies on traditional MPT-based models. The best option is to acquire post-MPT (PMPT) models that focus on modeling and measuring what the clients are really focused on: minimizing loss of capital, time to recovery, liability objectives, and probability of reaching their objective. Sortino (2010) points out that the investment industry is slowly evolving and beginning to develop PMPT scientific approaches to managing risk. He discusses why he supports the modified Sortino ratio, upside potential ratio, and his “desired target return” philosophy as substantial improvements to the traditional portfolio construction process.

New models need the ability to handle alternative investment strategies, dynamic asset allocation, and dynamic investment strategies. These programs need to be based on daily information to see when and why strategies and asset allocation policies succeeded or failed. If that is not an option, then existing investment processes and tools need to be modified to incorporate the dynamic strategies to fulfill the consultants’ obligation to act in the best interest of the client.

The Starting Point

Consulting practice needs to evolve with the demands and expectations of clients and the changing markets. The move to lower-risk and higher-reward consulting solutions is evolving from traditional report-based consulting to collaborative decision-making consulting or variations of discretionary consulting, which would include fiduciary, outsourced chief investment officer, portfolio management, or dynamic options.

Ways to include collaborative, dynamic, and discretionary services into a consulting practice include the following:

- Revise the investment policy statement to develop a dynamic investment program for clients. Begin with identification of a proper governance framework that identifies each of the parties or agents involved with the plan and what their roles are. Barrett et al. (2011) highlights several good examples of how the SBCERA had to adopt clearly articulated responsibilities to develop a governance framework to include dynamic decision making.
- Define the real objective and time horizon for the client. Model assets and liabilities to determine the best strategic...
allocation to help meet current and future liabilities.

- Focus on client-driven liability-based objectives as the primary objectives, minimize market index objectives, and make them secondary objectives.
- Hire managers whose returns and risk profiles match the clients’ liability objectives. This means moving away from style boxes and focusing on re-defining risk management as minimizing drawdowns.
- Expand investment policy to determine the best strategic allocation ranges to help minimize loss of capital and future contribution risks; this means allowing asset allocation and strategies to dynamically move to other asset classes or cash to protect the portfolio.
- Create an opportunistic allocation of 0–10 percent to take advantage of market dislocations and create a decision process for quick approval for allocation.
- Incorporate downside protection by utilizing dynamic asset allocation, dynamic rebalancing, and dynamic investment strategies that can make moves determined by market and economic conditions, within a portion of the portfolio not subject to ongoing board-meeting approvals.
- Change performance reporting to focus on liability management, measuring drawdown depth, length of time to recovery, time to reach clients’ liability, and other risk-management factors not relative to market returns.
- Allow consultants, staff, and money managers a degree of discretion to allow them to capitalize on market events in a timely manner.
- Update models. Vince (2009) gives the mathematical reasons why MPT failed and the programming code to his model that incorporates drawdowns, profit maximization, and dealing with leverage. Vince’s model is just one of many tools that use real-world risk metrics and has evolved past MPT to help investors navigate the markets.

Rethinking Traditional and Alternative Asset Managers

Evestment Alliance-Casey Quirk (2012) shows that alternative asset strategies are growing into core asset strategies across all traditional equity and fixed buckets and are not just being used as a small percentage of a portfolio (see figure 4). The reasoning is straightforward; with correlations going to 1.0 in times of stress, most traditional managers went off the cliff in 2008 because they could not become defensive without violating their traditional style boxes. Alternative and dynamic strategies could allow decisions to protect the portfolio and navigate through turbulent markets.

Impact on the Asset Allocation Process

When implementing a dynamic asset allocation approach, advisors need to consider the following changes in the way they handle asset allocation:

- Identify adaptive asset allocation options; define asset classes by functional alpha/beta not by market-based style boxes. Utilizing a functionally based core-satellite approach increases the probability of reaching clients’ objectives and further defines the process to achieve goals.
- Functional investments are described by their risk and return characteristics, not by a style box. Examples include dynamic and alternative strategies that have different risk, return, and correlations than the traditional style-box strategies. They also could be classified as alpha and beta exposures, equity and fixed-income diversifiers, tail-risk hedging, inflation/deflation hedges, return enhancers, return diversifiers, or risk diversifiers. CAIA Association (2009) goes into more detail on this subject.
- Redefine the core portfolio to minimize downside while developing upside capture, focusing on positive skew for more than just beta or market exposure. Usually the core consists of equity market exposures and other highly correlated asset classes. Current MPT tools based on return and risk expectations and allocation

FIGURE 4: THE GROWING USE OF ALTERNATIVES IN TRADITIONAL BUCKETS

Source: Evestment Alliance-Casey Quirk (2012)
percentage will need to be constrained as additional functional investments (including alternative and dynamic strategies) are added as necessary to reach the liability objective.

- Satellite portfolios should be analyzed for inclusion based on the desired value they add to the portfolio to reach the stated liability objective. How do satellite portfolios lower drawdowns, what are the correlations in time of stress, what are the asymmetrical return patterns, and what is the probability of reaching the liability objective?

**Dynamic Asset Allocation is Intelligent and Adaptive—Not Static**

Using dynamic asset allocation, investors’ allocations are fluid due to the changes in their liability status, fluctuating investment values, and market movements. This is a dynamic process.

A well-funded pension plan, for example, most likely has a different investment strategy than an underfunded plan. Asset allocations change based on the plan’s investment performance and the impact of this performance on the objective; a well-funded plan may reduce risk in the portfolio to protect the funded status, to reduce the liability, and to control the contributions from increasing if there is a market correction. The plan might adopt a dynamic asset allocation and/or liability-driven investment strategies or immunize the portfolio over time, sometimes referred to as a “glide path.” It is important to build into the clients’ investment policy statements the flexibility to adjust allocations to the funded status of their liabilities. Figure 5 highlights how portfolio allocations change for defined benefit plans based on two key objectives: contribution levels and funding status. Traditional standard deviation and return metrics have been replaced with risk of loss and contribution rate to show the impact on funding status.

**Conclusion**

Dynamic asset allocation and dynamic strategies de-risk portfolios because they allow the investor to navigate the market. Practitioners are paying attention to these topics because traditional market theory has not been matching market reality over the past dozen years. Consultants need to continue educating themselves about the innovative solutions that their clients need in order to succeed in these volatile markets. Tools, models, and investment strategies are available. Consulting businesses and client portfolios need to be constructed the same as airplanes—to minimize the mean time between failures. Failures will happen, but they can be minimized to increase the chances of arriving safely at the destination.

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**References**


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Underhill

2) well-diversified (present); to 3) well-

from 1) moderately-diversified (past); to

tribution predictability.

funding percentage and improved con-

plans, we are working toward a higher

plete. But, like many corporate pension

diversification process is nearly com-

dramatically improved and the initial

deal is yet to be done. The portfolio is

during the past two years, but a great

minded pension committee, we were

able to explore, learn about, and select

sense in the context of the pension plan

able to pursue. These investment opportu-

ferent points of the market cycle, but this also allows investors

an understanding of how different asset classes behave at dif-

cess

• Reduced pension contribution

• Improved funding percentage

• Portfolio diversification (to reduce risk

A variety of investment opportu-

pursue. These investment opportu-

ties are available for LDI programs to

utilization of LDI-based metrics with

our evolution will include the increased

respect to our investment portfolio and

utilization of LDI-based metrics with

respect to asset-liability management

diversified and more rigorous with

External staffing, and unique approval

timeliness, appropriate internal/

processes). If well-executed, however,

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the adoption of a formal dynamic asset

Katsenelson, Vitaly. 2007. Active Value Investing: 
Making Money in Range-Bound Markets. 
Hoboken, NJ: John Wiley & Sons, Inc.

Mandelbrot, Benoit B., and Richard L. Hudson. 
2004. The (Mis)Behavior of Markets: A Fractal 
View of Risk, Ruin and Reward. New York: 
Basic Books.

Markowitz, Harry. 1952. Portfolio Selection. 

to Portfolio Management: An Innovative 
Paradigm for Managing Risk. Great Falls, 
VA: Royal Fern Publishing.

Sortino, Frank 2010. The Sortino Framework for 
Constructing Portfolios: Focusing on Desired 
Target Return to Optimize Upside Potential 
Relative to Downside Risk. New York: 
Elsevier Inc.

Taleb, Nassim Nicholas. 2007. The Black Swan: 
The Impact of the Highly Improbable. New 
York: Random House.

Advances in Prospect Theory: Cumulative 
Representations of Uncertainty. Journal of 
Risk and Uncertainty 15, no. 4: 297–1323.

Vince, Ralph. 2009. The Leverage Space Trading 