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ON THE COVER



Without Being, 2003
64" x 25" x 3"

Archival Ink on Hand Cut Mylar

Imi Hwangbo's artwork is a series of constructed, three-dimensional drawings. These drawings are made with translucent mylar that is printed, handcut, and layered in such quantity that sculptural forms are created. The construction of these works is a labor intensive process with as many as 30 layers of mylar. The imagery is based on the decorative patterns and imagery from Korean wrappings cloths, called pojagi. Light is used as a medium in Hwangbo's work, allowing patterns to gain depth through the translucent layering of light and shadow. The cumulative effect is a visual experience that combines two and three dimensional modes of perception. Imi Hwangbo's Spire Series will be exhibited in November 2010 at Miller Block Gallery in Boston, these works can also be viewed www.millerblockgallery.com.

The question of whether Modern Portfolio Theory (MPT) is still valid and relevant keeps being asked. That questions arise is not new. There are at least four different issues which ought to cause one to pause: taxation, mental accounting, multiple goals and horizons and the possibility of a discontinuous capital market environment. Yet, paraphrasing the words of Winston Churchill ("Indeed, it has been said that democracy is the worst form of government except all those other forms that have been tried from time to time"), one might eventually conclude that MPT is the worst alternative except all others when it comes to seeking to formulate a strategic asset allocation.

The two most important issues related to taxation relate to the notion that taxes can upend the optimization process. A number of years ago, I framed them as "the cost of getting there" and "the cost of staying there." The key insight with respect to the first issue is that the cost of moving from the current portfolio to some optimal alternative devised on a pretax basis might simply be prohibitive. A portfolio which might look less optimal to the pretax observer might simply prove superior if it requires the realization of fewer capital gains. Similarly, the cost of staying there simply observes that one of the key assumptions of the traditional MPT approach is that one's portfolio is continuously rebalanced to the optimal mix. This must involve the realization of capital gains in a world where the slope of the capital market line is positive. At some point, is it possible that some other mix might require lower ongoing rebalancing costs?

The taxation problem is compounded by asset location issues. Differing locations, with different tax circumstances, provide the opportunity to gain material tax-efficiency. Several authors, for instance, have convincingly argued that tax-efficient assets might be held in taxable locations, while tax-inefficient assets are more naturally "at home" in tax-exempt or tax-deferred pockets. This leaves open the question of dynamic asset location, which might suggest that the investor who believes in the value of periodic "portfolio tilting" might consider an otherwise sub-optimal asset location: it might allow him or her to conduct this tactical tilting in the tax-exempt or tax-deferred pocket and thus avoid the drag that the activity is likely to create, whether the tilt proved successful or not.

Yet, in the end, the cautious investor would note that tax-efficiency is not inconsistent with Modern Portfolio Theory. In fact, though it traditionally operates in a single period mode, with a terminal utility assumption, it does so because it ostensibly assumes transaction costs away. In this context, it is simple to view taxes as one of the transaction costs that is assumed away. Once one recognizes that fact, it then becomes relatively easy to modify the traditional framework: one only needs to move from a single- to a multi-period optimization and to incorporate the potential for multiple locations to make the traditional mean-variance model suitable to

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a taxable investor. One issue does remain and may need to be addressed separately: path dependency! Most current multi-period models still assume that each period earns the expected return for each asset rather than some randomly generated return consistent with each asset's expected return and volatility. The optimal portfolio is thus not fully optimal in that it does not allow itself to benefit from a technique such as systematic tax loss harvesting, at the asset allocation level.

Mental accounting constitutes another important challenge. Fundamentally, it revolves around the findings of behavioral finance and what we have often discussed under the header of "decision risk." Decision risk is defined here as the risk of changing horses in mid-race. Decision risk arises when one's portfolio results differ materially from expectations. It can appear as a result of an investor having selected a portfolio that was too risky when markets produce unusually, but not abnormally, low returns; it can also occur, though this may be less frequent when investors turn greedy and overrule their rationally derived strategic asset allocation in a misguided effort to capture the upside of markets which they see at work at some point in time. This is totally consistent with the predictions of behavioral finance which would point to the disutility of losses versus the utility of gains, limited framing, hindsight biases and regrets as the most likely causes of these patterns. Additionally, personal preferences such as asset class or strategy prejudices may also be at work.

In short, mental accounting causes three important issues to come to the fore. The first and most classical relates to the fact that individual investors often are not sharp forecasters and that they tend to be unable to accept that errors will happen. The second is due to the fundamental difference between performance and investment horizons; the former reflects the time frame over which performance is judged, while the latter is driven by the duration of the needs. Yet, individuals often will make decisions based on a performance rather than their investment horizon. This, plus the evolving nature of their needs over time casts a pall on the use of a terminal utility in the MPT framework to gauge which point of the efficient frontier is really optimal. Finally, individuals also have the ability to learn over time, and this is important as entrepreneurs will tend to manage the profit and loss of their business subject to balance sheet constraints, while an investor is really managing a balance sheet subject to income constraints.

An important implication arising from these mental accounting issues is that individuals rarely should move directly from their current to some optimal portfolio. Rather, they should "travel on the road to optimality" as they learn to deal

with the interactions between capital market realities and their own biases and preferences. This journey of dual discovery is an important element of long-term success and applies equally to transitional circumstances and to process issues. Moving too rapidly from the familiar, even if subject to potentially material theoretical improvements, to the less familiar carries a lot of opportunities for second guessing which work against what should be the primary goal of a strategic asset allocation formulation exercise: identifying a sustainable mix of assets or strategies susceptible to satisfy the needs of the investor over the long term.

Interestingly, this is not inconsistent with MPT principles. First, strategically, this behavior involves adding risk when times have been good, and pausing when they have been bad. Though this does create the occasional inefficiency, this is perfectly consistent with what behavioral finance would have predicted: individuals like option pay-off patterns. Note that this management of overall portfolio risk levels is very much akin to dynamic hedging and thus to the creation of some synthetic put on the portfolio. This could be achieved through buying insurance—if available and credible—and should thus be viewed as just another form of risk management. Traditional portfolio management is primarily concerned with the management of risk defined as return volatility, but individuals, in their wisdom, aware that they are subject to decision risk, incorporate this dimension in their process as well: they are managing downside risk!

The third major issue with MPT relates to the fact that individuals typically have multiple goals, multiple time horizons, and multiple risk profiles. Several authors have illustrated the challenge by pointing to the fact that individuals often seem to have multiple optimal portfolios. The proposed solution involved a four-step process which involved, first, identifying the financial goals of an individual or family; second, quantifying and prioritizing these goals; third, establishing specific asset or strategy eligibility or other constraints for each sub-portfolio, and finally, optimizing the composition of each sub-portfolio across the whole reconstituted portfolio. This approach had the benefit of providing a more easily grasped feedback loop for the individual, as he or she could more readily "associate" with the sub-portfolios meant to defease each goal. Thus, rather than bemoaning some observed return or risk statistic, he or she was able to see whether a goal was or was not achieved. In short, though there was a good chance that longer term, higher return, higher risk goals might appear to be missed in "bad" capital market times, there still were reasons to be happy that other, less risky and potentially more immediate goals had been met.

This process, known as goal-based allocation, remained

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under a cloud until recently. The principal issue was the idea that having multiple sub-portfolios, effectively one for each goal and risk profile, created some measure of inefficiency. The insight behind this criticism was based on the notion that some measure of diversification had to be lost across the multiple “buckets,” as there was only cursory attention paid to overall portfolio optimization. That this was often somewhat rebuked did not seem to satisfy, as it did make sense that the piecemeal approach to the problem did fail the test of a holistic solution. What may have been lost on those who criticized the approach, though, was the idea that a crucial element for any policy was to have long-term sustainability, through thick and thin, and that the feedback loop provided by the multiple buckets was an important factor promoting that sustainability.

Recent work by Das, Markowitz, Scheid and Statman and published in the *Journal of Quantitative and Financial Analysis* should put this criticism to rest. They studied the difference between what they called mean-variance theory (MVT) and mental accounting (MA), and the pedigree of the authors should ensure that they are viewed as the ultimate authorities on the matter, comprising as they do two of the industry’s thought leaders. They concluded that it was possible to integrate MVT and MA, observing first that individuals had a multiple portfolio structure to fit with their multiple goals. They redefined risk as the failure to reach some predetermined threshold return on each of the MA goals, and then set out to maximize expected return subject to a maximum allowable probability of missing certain threshold return levels. The equivalence which they found between the two approaches effectively has three important consequences. First, MA optimal portfolios are on the efficient frontier. Second, MA constraints simply map to some form of implied risk aversion. Finally, several optimal portfolios from a mental accounting standpoint may map into a single optimal portfolio. From a practical standpoint, one can conclude that the combination of the multiple goals, each with their own resulting portfolio characteristics, effectively amounts to some form of an implicit utility. It could be used to formulate a single portfolio, but it would not be more efficient than one which is made up of multiple sub-portfolios and it would deprive the investor of the opportunity to “bond” with his or her strategic asset allocation.

The last potential challenge to MPT arises from current capital market circumstances. Though by no means a forecast, it is conceivable that capital markets will not follow a truly continuous trend in the years ahead. This would happen if the current unsettled situation reflected a major global re-alignment or re-structuring rather than a difficult recovery from a

deeper than usual business cycle.

The issue is important to the extent that MPT—and most optimization software—relies on the assumption that the best predictor for any given year’s outcome is the mean of the series, subjected to some uncertainty best described by the series’ standard deviation. What if the future was in fact made up of more than one single period, with a significant discontinuity in-between? Regular readers of this Journal will remember the analogy which was used a couple of issues ago and related to the “world” as viewed by a Japanese investor in 1990. The average returns of bonds and equities over the previous 20 years had been 7% and 20%, respectively, which would have appeared generous, particularly for equities, but not totally unreasonable. The next 20-year average returns proved to be 5% and –4%, for bonds and equities, respectively. Note that the experience was not only substantially different from what some historical perspective might have suggested, but also at variance with the classical tenets of the capital market line which would predict that higher risk equities should be outperforming lower risk bonds!

Investors who want at least to consider that a discontinuous future is a possibility find themselves unable to use MPT and require different approaches. Two immediately come to mind. The first involves the use of simulated scenario analyses. This chiefly requires the use of a range of possible outcomes, each associated with a full set of capital market assumptions and with some form of probability distribution across the various scenarios. There are at least two ways of proceeding from that point forward: one could imagine selecting the best portfolio for each scenario and doing some form of probability-weighted averaging across these various alternatives. Another, possibly a bit more sophisticated, would involve selecting the portfolio that is deemed to perform “best” across all scenarios, “best” being defined here as either producing the least downside risk, the narrowest dispersion of returns or the best probability weighted average returns, for instance. It would not be complete without evaluating the current portfolio across all scenarios to prioritize the changes that might be most immediately required. The second involves the use of a variant on the goal-based theme, with two possible approaches: vary goals based on time horizon or vary goals based on some concept of a sense of urgency. When focused on the former, one could create multiple declining balance portfolios, constructed to defeat the given goal over the given horizon, possibly differentiating in the risk profile of each sub-portfolio according to the time left to the end of the horizon. When the latter, a similar approach is feasible: one would immunize the needs which

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are viewed as absolute and “non-negotiable” and return to a more classically defined “policy” for the balance.

Note that either approach is not inconsistent with MPT, but does admittedly represent a modest variant on the well-rehearsed theme. Scenario analyses are complex as they mean that one does not have one, but several assumption sets. Yet, they recognize the crucial importance of a system. Goal-based analyses mean that one considers different probabilities of failure and recognizes that the important element is not whether one is right or wrong, but whether the consequences of being wrong are bearable, very much in the line of Pascal’s famous Wager. That this creates a formal differentiation between short- and long-term issues simply recognizes how an individual thinks. In either case, though, one sees a need for consistency and clarity, which comes about with a model which offers clarity of architecture, clarity of assumptions and clarity of expectations.

In short, MPT still represents a useful framework within which the specific situation of individual investors can be analyzed provided one allows oneself the freedom and flexibility to make any reasonable modification that reflects a well-understood limitation of the classical framework.



Our Winter 2010 issue of *The Journal of Wealth Management* starts with two articles focused on one of the most important issues facing an individual investor or a wealthy family: hiring advisors. First, Maria Elena Lagomasino focuses on the issue of fiduciary standards, drawing a significant difference between fiduciary and suitability standards; while the former really center on the interest of the client, the latter, on which many regulatory norms are set, simply amount to sales standards. Then, Elizabeth Mathieu, Philip Strassler, and Natasha Pearl address the key challenges facing a family and its office when a new advisor is needed, in any capacity, offering a general framework to guide a family and its office in addressing any situation in which a search for a “great” advisor—one who is right for the family and for its family office—is required.

Our next four articles fall under the general category of investment policy issues, though from quite different perspectives. The first, by Andrew Kumiega, Mathew Lech and Ben

Van Vliet, sets out to improve asset allocation models for illiquid investments, focusing on hedge funds, reviewing the standard hedge fund structure, and then modifying it utilizing a side pocket. Then, Guntur Anjana Raju and Harip Rasulsab Khanapuri, noting that the wealthy West have shifted their focus on emerging markets and in particular Asia, study the extent to which individual stock markets in Asia are integrated with U.S. and other markets in the region. Then, Hsin-Yuan Chang, Dwan-Fang Sheu and Shang-Yu Chen use a multi-criteria decision making technique to establish quantitative and qualitative criteria and design a framework for evaluating the performance of individual investment policies. Finally, Clifford Quisenberry, Jr. and Benjamin Griffith note that many of the larger emerging markets behave increasingly like developed markets and provide an introduction to these smaller emerging—or “frontier”—markets, examining how they are defined and the characteristics that differentiate them from the standard emerging markets.

We then turn to two articles which are more directly focused on the hedge fund world. First, Thomas Heidorn, Dieter Kaiser, and Andre Voinea empirically investigate the risk and performance of three types of alternative beta products over the January 2002 to September 2009 time period and conclude that investable hedge fund indices are true alternative beta products with high correlations and beta to non-investable hedge fund indices. Then, Martin Wiethuechter analyzes the contribution of hedge funds to crises and instability in global markets and suggest that loose regulations and opportunistic abuse of leverage instruments lead to market failure.

Our final article, by Jarkko Peltomäki, focuses on the Research Affiliates Index (RAFI) methodology and, more specifically, their nonlinear exposure to their benchmark factors and concludes that there is some evidence for outperformance of the RAFI methodology, though portfolios following the strategy may exhibit some spurious market timing characteristics which can be explained as an omitted variable bias in the analysis.

Jean L.P. Brunel
Editor