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## Modern Portfolio Theory – Revisited



Many investment programs today – including both advisor-based and automated web-based investment advice services – simply follow a textbook application of Modern Portfolio Theory (MPT). Modern Portfolio Theory, for those of you not familiar with the concept, is based on the Nobel prize-winning work of Harry Markowitz, first published in 1959. It posits that the behavior of different types of investments (“asset classes”) can be characterized by inherent, fundamental, and stable summary performance statistics, i.e., the mean, the standard deviation, and the correlation coefficient. In this framework, investment risk and investment returns become relatively straightforward functions of statistical probabilities. Once

you have a statistical profile of how certain investments have performed in the past – or so the theory goes – it is a fairly straightforward matter mathematically to build a portfolio that minimizes investment risk (volatility) while maximizing investment returns.

### Lies, Damned Lies, and Statistics

This idea of using statistical data to build rational portfolios that will perform in largely predictable ways was a truly revolutionary idea in investing – especially given the context in which Markowitz was writing in 1959. As usual, however, there

were individuals who understood less about the idea than its creator and who elevated a fundamentally good concept into a divine law that required no additional thought or review. And therein lies the difficulty.



We have no fundamental beef with Markowitz's core insight that investment portfolios can be improved by an analysis of how their constituent parts are likely to perform in concert. That said, we also think that there are several important logical problems with how Modern Portfolio Theory has become embodied both in portfolio analysis software and modern investment practice. The first, and perhaps most important, is the observation that summary statistics for measured asset classes seem not only to be unstable, but also to evolve significantly over time. Or, as in the words so often repeated in investment literature: Past performance does not guarantee future results.

Second, if asset diversification – together with time – is the only risk management tool in the MPT universe, then there is no admittance of the concept of valuation, the idea that whole asset classes may be either underpriced or overpriced at a particular point in time. True, estimating valuation requires judgment in addition to data and analysis. Yet the mere dislike of admitting a measure of inexactitude into the equation does not justify the continued use of a seemingly exact methodology that nonetheless produces results that are erratic at best, and decidedly problematic at worst. As a result, we believe that tactical asset allocation – the attempt to judge whether asset classes are in fact well priced

compared to their long-term potential and the current the risk they embody – is a valuable, if necessarily imprecise, addition to portfolio analysis. In lay terms this means that it not enough to understand how a particular investment has performed, on average, over the past 30 or 50 years. What is required is to understand whether or not that particular asset, if purchased at today's prices, is likely (or not) to perform at least as well or better than its average over time. If so; wonderful. If not, then the investment's average performance is irrelevant.

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Despite advances in statistical analysis, investing continues to involve uncertainty and judgment precisely because the factors and behaviors involved are too complex and too dynamic to be represented completely satisfactorily by a statistical model. What's more, the outcome of the investment process affects

individuals in ways that have important non-financial as well as financial consequences. As a consequence, though we think that Modern Portfolio Theory has important and useful elements, we do not think that it alone is sufficient to ensure client-appropriate investment programs.

For example, hard-won experience has shown us that not all risk is equal in the mind and experience of investors. From a technical perspective, upside volatility is as much 'risk' as downside volatility – yet



there are few investors who will tell you that they experience unexpected gains in the same way that they experience unexpected losses. As a result, while some advisors will recommend a portfolio simply based on its 'average' expected MPT return, we believe that such an approach leaves the average investor open to significant harm. True, such a portfolio could potentially exhibit the 'average' behavior that portfolio statistics foretell. On the other hand, it could also exhibit behavior that reflects some more remote possibility, and particularly a downside possibility. The

question that both advisors and investors themselves need to truly understand and ask, therefore, is (1) what the behavior of such a portfolio is likely to be at the extremes and (2) whether or not the investor is truly prepared to deal with the personal and financial consequences of such an eventuality.

Statistical portfolio analysis was a wonderful invention. But it is no substitute for judgment or a considered appreciation for the risk potential that each investment situation embodies.



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