

Principles of Modern Portfolio Theory Remain Valid After Five Decades

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In 1959, Harry Markowitz published *Portfolio Selection*ⁱ, which provided the foundation of Modern Portfolio Theory (MPT). This work eventually won Markowitz (along with Merton Miller and William Sharpe) a share of the 1990 Nobel Prize for research on theories of "Financial Economics."ⁱⁱ

To prove the principle of an "efficient frontier," one of the principles of MPT, Markowitz used an algorithm whose computation required three variables: expected return, standard deviation and correlation. That algorithm came to be known as the Mean-Variance Optimization model (MVO).

Perhaps because Markowitz received the Nobel Prize, the Mean-Variance Optimization model became the industry standard for portfolio construction, despite the unresolved problems and the significant advancement in computer technology over the last 50 years.

What is not well known is that the authors of MPT understood the limitations of their academic work for real life investment management. For example, Markowitz himself said that "downside semi-variance" would build better portfolios than standard deviation. But as one of his colleagues, William Sharpe Ph.D., notes, "In light of the formidable computational problems (powerful desktop or even mainframe computers were unavailable at that time) ... he based his analysis on the variance and standard deviation."ⁱⁱⁱ

While many advisors have come to equate the MVO model with MPT, they are now beginning to understand, especially from practical experience during this recession, that MVO is a flawed algorithm for determining a client's optimal portfolio allocation. This may be what leads them to the erroneous opinion that MPT itself is obsolete. Regardless of what it is that leads to this opinion, discounting the value of MPT's principles because of the way investors are applying these principles, would be akin to the proverbial phrase "throwing the baby out with the bathwater." Let me explain.

Some of the principles of portfolio management derived from the research of Miller, Markowitz, Sharpe and their colleagues include:

- **Investors are risk averse:** The only acceptable risk is that which is adequately compensated by potential portfolio returns.
- **Markets are efficient:** Because of large numbers, markets are, for the most part, fairly priced or efficient.
- **The portfolio:** Allocation of the portfolio, as a whole, is more important than individual security selection or market timing.
- **Investing should be for the long-term.**
- **Efficient Frontier:** Every level of risk has an optimal allocation of asset classes that will maximize returns. Conversely, for every level of return, there is an optimal allocation of asset classes that can be determined to minimize risk.
- **Diversification:** Diversifying investments among assets with low correlation to each other reduces portfolio risk.

All of these principles of MPT continue to be as valid today as the day they were first published. However, investors do need to learn practical approaches for applying MPT's principles in a more effective manner.

Post-MPT and Behavioral Finance Catapult Principles of MPT to a New Level of Effectiveness

It is interesting to note how principles of MPT continue to inspire academic research today. For example: Post-Modern Portfolio Theory and research in Behavioral Finance have pointed the way toward more effective applications of MPT's principles. If these applications can be implemented in a practical fashion, they can improve investment results and catapult MPT's principles to a new level of effectiveness.

Investors and their advisors can understand these applications of MPT's principles and learn practical approaches to implementing them. For example, now we understand that:

- Equating risk with standard deviation implies that clients are just as concerned with an investment's unexpected gains as they are with unexpected losses. This violates logic, when we know investors are much more concerned with unexpected losses.
- Investors can (and should) reduce their investment risk through diversification by allocating to asset classes that are truly different from each other (have low correlation). If the asset classes an investor is allocated among are too similar (highly

correlated) to each other (such as the traditional capitalization-style weighted asset classes of large/small capitalization growth/value, etc. – asset classes with correlation coefficients converging on one), the portfolio is not effectively reducing risk through diversification. In this case, diversification is not reducing potential losses, especially in a protracted market correction.

- The economy, investment markets, investor utility, and especially investment portfolios, are all affected by more than three factors: risk, expected return, and correlation. Therefore, asset allocation algorithms should consider relevant capital and economic factors when attempting to determine a portfolio's optimal asset allocation or re-balancing decisions. A few obvious examples of relevant factors would be: interest rates, inflation, GDP, unemployment, money supply, etc.
- Finally, lower-cost vehicles, like Exchange-Traded Funds (ETFs), now offer investors a 2% to 4% lower total annual fee structure than managed mutual funds. These fee reductions come from lower management expenses, commissions, and taxes; the savings can significantly improve client returns over time.

ⁱ Harry M. Markowitz, *Portfolio Selection*, (New Haven, CT: Yale University Press, 1959)

ⁱⁱ For details of the 1990 Nobel Prize in economics and its three winners, go to www.nobelprize.org

ⁱⁱⁱ Harry M. Markowitz, *Portfolio Selection*, (New Haven, CT: Yale University Press, 1959)

Vern Sumnicht has 25 years experience as a successful financial planner and has been recognized for four consecutive years by "Worth Magazine" as one of the Nation's Top Wealth Advisors. Vern and his team developed iSectors'® diversified ETF allocation portfolios. For more information about iSectors'® ETF allocation portfolios, visit www.iSectors.com, email Vern at vern@isectors.com or call 1-800-iSectors..