



## Is Modern Portfolio Theory Dead?

### MPT Principles Valid After 5 Decades

By Vern Sumnicht, CFP®

In 1959, Harry Markowitz published *Portfolio Selection*,<sup>1</sup> 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.”<sup>2</sup>

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 became known as the Mean-Variance Optimization model (MVO).

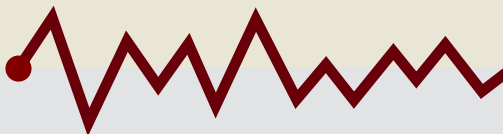
Perhaps because Markowitz received the Nobel Prize, the Mean-Variance Optimization model became the industry standard for portfolio construction, despite the unresolved problems and the significant advancement in computer technology over the last 50 years.

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., noted, “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.”<sup>3</sup>

### MVO May Be Flawed, but MPT Is Not Obsolete

While many advisers 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 This may be what leads them to the erroneous opinion that MPT itself is obsolete.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:



### MPT Was Never Alive

By Pete Swisher, CFP®, CPC

Our industry’s use of Modern Portfolio Theory (MPT) has been overly dogmatic for years, during which the mantra of portfolio building was “more Alpha with less Beta.” Study the math—this is circular logic leading inevitably to mean reversion, since the mean is its mathematical center. And in a down market, Mean Variance Optimization (MVO), the algorithm used to run allocation software, suffers because it relies heavily on correlations, and as my “Post Modern Portfolio Theory”<sup>1</sup> co-author, Greg Kasten, likes to say, “Nothing goes up in a down market except correlations.”

MPT was created not as an asset allocation tool but as a model for global market equilibrium, yet our industry has enshrined it because it produces cool charts, automates the investment process and makes for cozy, long-term shelf-space deals.

Yet MPT actually works pretty well as an asset allocation tool when the Mean Variance Optimizer is thoughtfully constrained. Post Modern Portfolio Theory (PMPT) and downside risk optimization do a better job, but the absolute return and risk differences are small. The simple fact is that risk and diversification are almost entirely tied up in one simple question: How much fixed income? No stomach for risk? Don’t buy stocks, real estate or commodities. Pure fixed income is, and always has been, a perfectly sensible asset allocation.

It just doesn’t sell during bull markets, and delivers dramatically less benefit over the (really long, apparently) long haul.

### A Race of Lemmings

The fact is that we are a race of lemmings, chasing one another up the mountain in the good times and crashing together off the edge of the cliff in the bad, afraid of being left behind. In good times you can’t persuade a prospective client who’s short on retirement cash to take the obvious approach for reducing risk—stick with fixed income and guaranteed products and make do with less. In bad times you can’t persuade many not to sell their \$100 asset, whose fair value turns out to be more like \$80, for \$50 or less. So we planners turn out to be



- **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 of investors worldwide and availability of information, 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.
- **Long-term:** Investing should be for the long term. Time averages out short-term volatility and allows investors to experience the longer-term uptrend of the market.
- **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 a portfolio's systematic 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

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 advisers can understand these new applications of MPT's principles and learn practical approaches to implementing them.

For example, 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 research from behavioral finance logic. We know investors are actually happy with unexpected gains and

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lemmings, too, recommending roughly the same things because it's so hard to overcome our own (and our clients') skepticism of outlier philosophies that we tend not to adopt them, and that's generally a good thing. We almost certainly do a better job than our clients would do without us, but "I only lost you 27 percent instead of 30 percent," is not a message anyone is applauding.

### The Truth of Investing

The truth of investing is simple and unsexy. There are three major asset types—equity, debt and real estate (and perhaps commodities), and derivatives thereof. The safest is debt, so it generally pays the least.

If a client can't say "no" to selling his or her stocks for 50 cents on the dollar

during a crash, he or she should buy no stocks. If a client can't afford to wait 5 or 10 years before having to cash in assets to live off, he or she needs to have more fixed income assets to live off.

In late 2007 and early 2008, when the best thing to do, in hindsight, was to move to 100 percent cash, I would never have recommended anything of the sort other than to the most risk-averse clients, and even then I would have discussed a 20 percent equity stake. Now that moving to cash has turned out to be the winner, I still would recommend nothing of the sort, though for different reasons. MPT is at most a bit player in the sort of interactive discussion it takes to explore these issues and set the proper investment policy, and always has been.

### Is MPT Dead?

So is MPT dead? Is a simple, strategic decision to diversify one's life savings among equity, fixed and real assets, rebalancing or tactically realigning periodically, dead? No. It's just not what anyone wants to hear today. They want to hear that it's someone's fault and that someone else has had the silver bullet all along.

Is asset allocation dead? Of course not. If you invest a single dollar, by definition you have an asset allocation because you have to invest in something. And what can you invest in? Equity, debt, real estate and derivatives thereof. That's all there is. They all lost money in 2008, and only government or insurance guarantees propped up

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become concerned after experiencing unexpected losses.

We also understand that 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.

We now know that the economy, investment markets, investor utility and

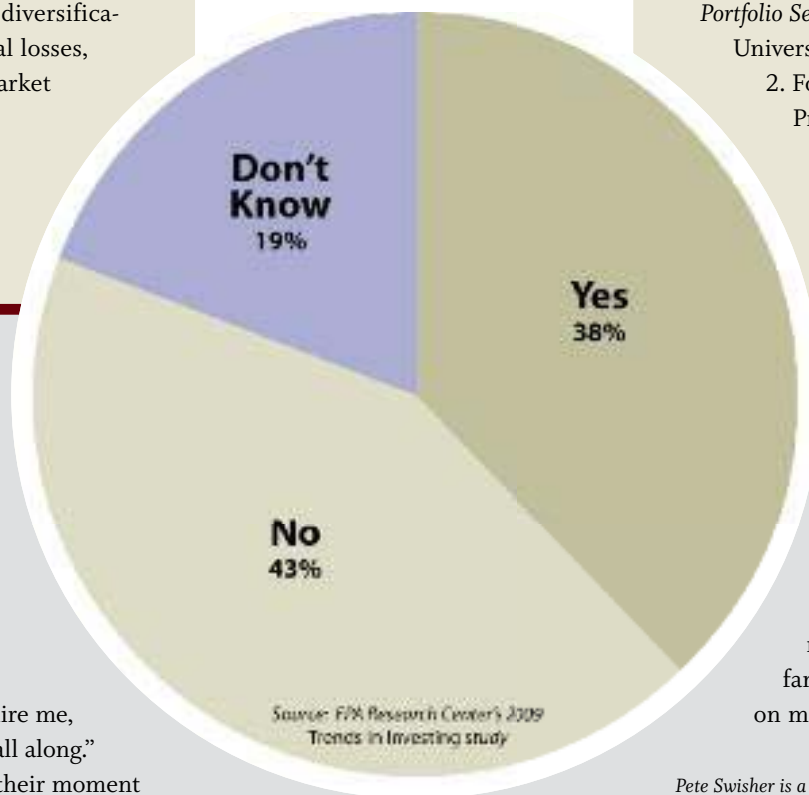
especially investment portfolios are all affected by more than three factors (risk, expected return and correlation). Therefore, asset allocation algorithms should consider relevant capital and economic factors when attempting to determine a portfolio's optimal asset allocation or rebalancing decisions. A few obvious examples of relevant factors would be interest rates, inflation, GDP, unemployment, money supply, etc.

Finally, lower-cost vehicles, such as

exchange-traded funds (ETFs), now offer investors a 2 percent to 4 percent lower total annual fee structure than managed mutual funds. These fee reductions come from lower management expenses, commissions and taxes; and the savings can significantly improve client returns over time. ■

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## Did Modern Portfolio Theory fail in 2008?



## Endnotes

1. Harry M. Markowitz, *Portfolio Selection*, Yale University Press, 1959.
2. For details of the 1990 Nobel Prize in economics and its three winners, go to [www.nobelprize.org](http://www.nobelprize.org).
3. Markowitz, *ibid*.

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even the cash assets—which, after all, are just a form of debt.

I think that what people mean by “MPT is dead” and “asset allocation is dead” is: “I’m not selling the same old thing that let you down, so hire me, buy my book, I knew better all along.”

A handful clearly deserve their moment of “I told you so,” but what let us all down was not MPT, PMPT or any other theory of investing—the markets simply did what they did, and precious few saw the bus about to run us all down (plenty of blame to go around but pointless to squabble over it now). If everyone had seen the bus coming instead of just the lucky few, the math of markets means that the bus would

simply have run everyone over sooner as they mass-scrampered to safety.

So give me the cheapest possible stocks, bonds, cash and real estate, prudently managed and rebalanced, perhaps dynamically tweaked a bit from time to time in response to changing conditions, and call

it what you want—MPT, PMPT, asset allocation, buy-and-hold, dynamic allocation, tactical allocation, market timing, rebalancing—I’ll take it. And right now, for myself and for the friends, family and clients who depend on me ... I’ll take stocks. ■

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## Endnote

1. Pete Swisher and Gregory W. Kasten, “Post Modern Portfolio Theory,” *Journal of Financial Planning* 18, 9 (September 2005).