

Special Report Part 2 of 2

Dr. Harry Markowitz  
The Father of Modern Portfolio Theory  
and the Insight of Behavioral Finance

SKYVIEW  
INVESTMENT ADVISORS LLC



A Special Interview with Dr. Harry Markowitz, Nobel Laureate in Economics  
Part 2: The Revolution of Behavioral Finance



# Dr. Harry M. Markowitz

## Nobel Laureate

In this special interview, Steve Turi and Andy Melnick sat down with SkyView's esteemed advisor Dr. Harry Markowitz to discuss his journey through providing the foundation for both modern portfolio theory and behavioral finance.

- Attended University of Chicago as an undergrad, studying philosophy and physics, then continued on to the Ph.D. program in Economics
- Published his seminal theory of portfolio allocation under uncertainty in 1952 in the Journal of Finance
- Received his Ph.D. from the University of Chicago with a thesis on the portfolio theory in 1955
- Published the critical line algorithm in a 1956 paper, with a subsequent 1959 book on portfolio allocation in 1959
- Won the Nobel Prize in Economics in 1990, while a professor of finance at Baruch College of the City University of New York
- Currently serves as Adjunct Professor of Finance at UC San Diego's Rady School of Management, while working on volume two of his four volume series titled Risk-Return Analysis: The Theory and Practice of Rational Investing, which builds on his 1959 work

**“I think therefore I am: cogito ergo sum. I am therefore I think.  
If I stopped working, *I wouldn't be me.*”**

**- Harry Markowitz**



Harry Receives the Nobel Prize - Image courtesy of Baruch College Alumni Magazine

**I**n 1990, Harry M. Markowitz won the Nobel Prize for his seminal theory of portfolio selection, which was developed in his early work as a graduate student at the University of Chicago. To find out more about the transition from Chicago Schoolboy to Nobel Laureate, Chief Investment Officer and longtime friend, Steve Turi, sat down with Harry to discuss his early academic interests, the ah-ha moment that led to a successful dissertation meeting with Milton Friedman, and the big schools of thought that he influenced over the years.



Harry Markowitz: I frequently tell this story, and I have told it to you, I don't know how many times, but thank you for asking.



Harry Markowitz recalling the ah-ha moment of modern portfolio theory.

**Harry Markowitz:** I was working at the RAND Corporation which has its main offices in Santa Monica. I had spent a month or some time at the Washington office of the RAND Corporation, and flying back, I flew to Chicago first, and then ... That was before O'Hare Airport? I remember landing at Midway, thinking I know this subject cold. Not even Milton Friedman is going to give me a hard time.

**Andy Melnick:** Wishful thinking, Right?

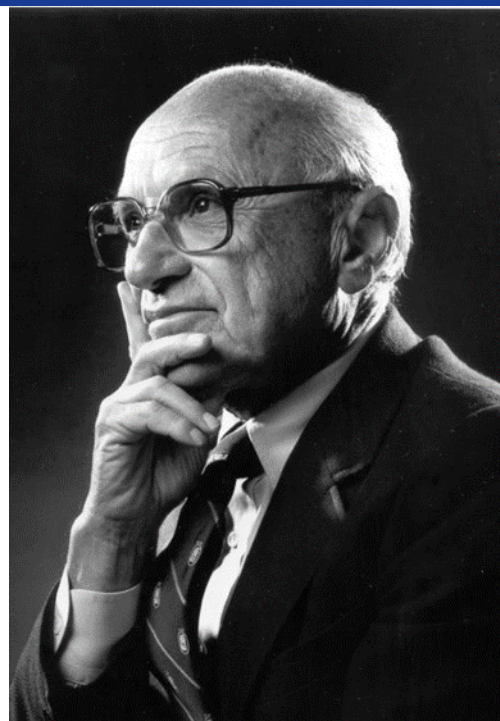
**Harry Markowitz:** The behavioral finance folks would refer to that as over-confidence. I was a smart-aleck young kid. Now that I have matured, I am a smart-aleck old man.

Anyway, about five minutes into my defense, Friedman says, "I have read your dissertation. I don't find any flaws in it, but this is not a dissertation in economics, and we can't give you a Ph.D. in economics for a dissertation that is not economics." About 10 or 20 minutes later, he says, "We have a problem. It is not economics. It is not mathematics. It is not business administration," and the head of my committee shakes his head, "It's not literature."

Steve Turi: You are sweating now?

**Harry Markowitz:** Oh, my palms, my palms are sweating. After an hour and a half, mostly ... at one point, Allen Wall said, “What is your dissertation about?”; and I gave him a five-minute rundown. He sent me out in the hall, and about five minutes later, Dr. Marschak comes out and says, “Congratulations, Dr. Markowitz.”

I saw Friedman for some other reason [later on]. He was eventually in the Bay Area, and I was down in Southern California, but there was some kind of boondoggle that we were both consultants to or something. I asked him whether he was serious. I reminded him of the episode, no big deal in his life. I asked him, “Were you serious?” He said, “Harry, of course not, you know that we never flunk anybody at that stage.”



Milton Friedman—Image Courtesy of Libertarian Party of Maryland

**Steve Turi:** What an amazing story.

**Harry Markowitz:** Yeah.

Steve Turi: Harry, 1952 was a very important year for you, and not just for Portfolio Theory but also Behavioral Finance.

## Harry Markowitz:

I wrote three ..., or jointly authored, three articles which are still remembered. One is “Portfolio Selection,” which became Portfolio Theory. I didn’t call it Modern Portfolio Theory, but since I am going on 88, I am delighted that I am still... It will always be MPT. Then there was an article called “The Utility of Wealth.” This became behavioral finance. For example, if you look at the Kahneman ... you know Kahneman and Tversky?

At first, I didn’t realize that there was a causal relationship. I knew that I had preceded them in some sense, but he said that he and Amos Tversky had this phenomena that they couldn’t quite explain. He said, “Tversky called my attention to an article by Harry Markowitz who later got a Nobel Prize for something else, and it showed that there was this phenomena.”

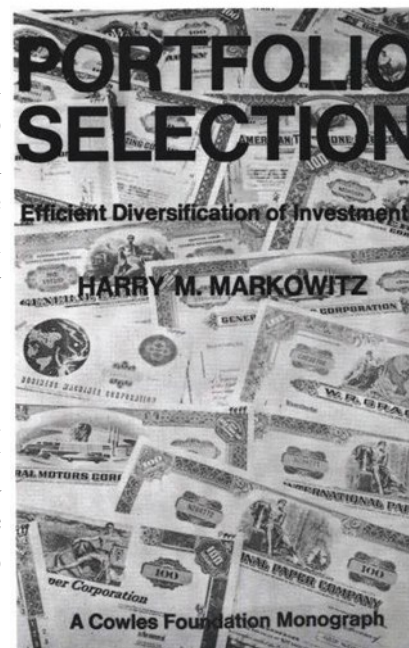


Image Courtesy of Yale University Press

There was a paper by Friedman and Savage, two of my idols, but just because somebody is your idol, you read carefully, but you don’t necessarily [accept it]. They were trying to explain the simultaneous existence of gambling and insurance by a population of people that are all following expected utility. This was, late ‘40s, probably 1948, something like that. I took Friedman’s class in microeconomics, but he assigned, for optional reading, the article by Friedman and Savage.

They had a utility function that looked like a two-humped camel going uphill. It was concave, convex, concave. People over here are risk averse, and people here will gamble. If you take this two-humped camel going uphill and put a plank on it, there is a double-tangency.

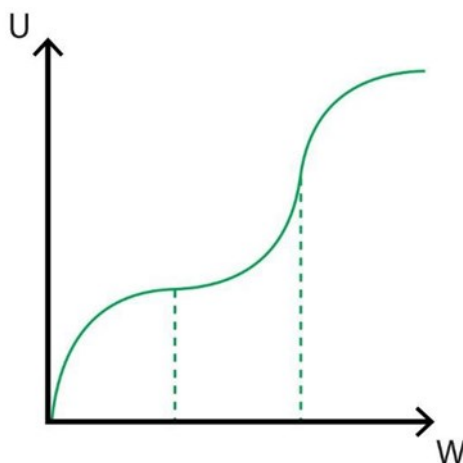


Image: Friedman and Savage Utility Function (1948) - Policonomics

Below the lower tangency, you are poor. Above the upper tangency, you are rich, and then there is in-between. Now, using the apparatus that they had explained, you could show as an immediate consequence that if you had two people that were halfway between these double tangencies, so they are real middle- class, [the optimal bet] is one where you flip a coin, and one becomes poor, and one becomes rich, which you do not see. [In this world] people below the lower tangency do not buy lottery tickets.

**Harry Markowitz:** The only point on their curve which sort of made sense was an inflection point where, to your left, down, you are concave, and you insure against losses, and going up, you are convex and then concave again, eventually, so you will buy a lottery ticket. I call that not current wealth, but customary wealth because if you had a recent windfall gain, you move into the convex part, and you become a little bit more devil-may-care, and if you had a recent windfall loss, you go into the concave part and you become more cautious. Amos Tversky explained to Danny Kahneman that there is this paper by Markowitz where it is the change in the wealth, not wealth that was [groundbreaking for behavioral finance].

This argument between the rational versus behavioral, I am on both sides. I am the father of portfolio theory and the grandfather of behavioral finance. In fact, Herb Shefrin has a three-volume handbook on behavioral finance, and volume three the first reading in there is “On the Utility of Wealth.”

People say, “How can you be on both sides?” There are two different questions. One is the positive theory of how people act, and the other is a normative theory, how people should act. In 1952, when I wrote “Portfolio Selection,” I said, I will propose mean variance both as a positive theory and as a normative recommendation. By 1959, I wasn’t offering it as a positive theory. A good friend of mine, who is a behavioral economist, Meir Statman, said, “Now, you had these two intellectual children, and you give all your time to one. Why do you do portfolio theory, and not behavioral finance?” I told him, I said, “That is how I make my living, with Portfolio Theory.”

**Steve Turi:** Oh, that’s fascinating. Two groundbreaking works, and there was a third.



Harry Markowitz—Image Courtesy of US San Diego News

“This argument between the rational versus behavioral, I am on both sides. I am the father of portfolio theory and the grandfather of behavioral finance.”



Steve Turi: It was a very important year.

**Harry Markowitz:** Yeah, it was my miracle year. I got three- fifths. I got three out of five I didn't get a special relativity or general ... Einstein, 1905 was his miracle year where he had these five fantastic contributions. Special Theory of Relativity and then... that is what quantum mechanics came from, that.

**Andy Melnick:** That is what he won the Nobel Prize for too.

**Harry Markowitz:** Yeah, but he didn't win it for relativity because it was too controversial, but he won it for something else. I should say that I am not comparing myself with Einstein. That is something else, again. I am a human, plugging along.

**Steve Turi:** With all the technology today, I remember, when we first started working together, we had those PCs with green screens, and we thought that we could do a lot of computational work, but today you can do that on a watch. With all the analytical tools and capabilities, is it more difficult to add value, is the market more efficient in general?

**Harry Markowitz:** That is an empirical question. I am a theoretician. This is my unofficial opinion. As you know, Portfolio Theory is a mathematical technique whereby, if you pick a universe of investable assets, like, for example, you decide that you want to make portfolios of hedge funds. For this universe of investable, which may be asset classes rather than individual securities, you have to provide expected return estimates for each of the securities or whatever it is, in the universe. You have to provide variances or standard deviations, volatility estimates. You have to provide either covariance or correlation estimates or the equivalent, so you could have a factor model, which implies that, and in addition to that, you have constraints. Any kind of linear equality or inequality constraints, the sum of these securities must be less than or equal to that, and so on. My bit of mathematics takes your estimates about your universe, and your constraints, and it turns out a frontier.



“Well over 50% of institutional investors, if this is an okay sample, use Portfolio Theory, and they are managing literally trillions, tens of trillions, of dollars. That’s not bad for a four-eyed economist.”

## Harry Markowitz:

Okay. Now, times change. People say, “We now have new asset classes.” Wonderful. Tell us your asset classes. We have hedge funds and things like that. Convertible arb, I used to be a convertible arb guy. I just did the convertible bonds, long the bonds and short the stock. In the 70’s and 80’s, it was a lot easier game. Now there are so many people in the industry that they have to use leverage to get any kind of expected return.

You didn’t use leverage then, so times change. You are supposed to ... These estimates that you provide, these aren’t supposed to be backward-looking. They are supposed to be forward-looking. Now, of course, you look back to see, historically, how have big caps, small caps, EFA or emerging markets done, but then you are supposed to think, well, what’s different now. Times have changed, so what doesn’t change is that you are worried about risk and return on the portfolio as a whole.

There is a story going around, which is half true. I can’t remember his name, but a newscaster with really great, beautiful, big, deep-toned voice. He said, “Let me tell you the rest of the story.” “In 1952, Harry was at the RAND Corporation, was offered bonds versus stocks, a TIAA versus CREF, of just bonds versus stocks”, and he tells the story that he thought, if I am 100% in stocks and it goes down, I will feel like an idiot, and if I am 100% in bonds and it goes up, I will feel like an idiot, so essentially I minimized maximum regret. I did 50/50. He said, “Even Harry Markowitz doesn’t use Portfolio Theory.” That was 1952. A lot of things have happened since 1952. There is a body of experience of using this piece of math that has been built up; literally, there are trillions of dollars managed using, with the aid of, Portfolio Theory.

The 2013 survey by the Bank of New York Mellon, BNY Mellon, confirmed results of an earlier survey by Bank of New York, before it was Bank of New York Mellon, BNY Mellon, said that the vast majority of institutions ... they surveyed 100 or something ... surveyed use Portfolio Theory regularly, and most of the rest, a few of the rest, do it, periodically. Well over 50% of institutional investors, if this is an okay sample, use Portfolio Theory, and they are managing literally trillions, tens of trillions, of dollars. That’s not bad for a four-eyed economist.

## Interview with Dr. Harry Markowitz



Harry Markowitz with SkyView's Andy Melnick and Steve Turi

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*This interview is not intended to be investment advice and the questions and comments are solely the opinions of those involved*