LISTEN UP

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\[ E(R_i) = R_f + B_i (E(R_m) - R_f) \]
William F. Sharpe’s seminal work at the Foster School in the 1960s forever clarified the relationship between risk and return in capital markets, and later earned him the Nobel Prize in Economics.

William Sharpe thought he was onto something big. No, he knew it. The freshly minted assistant professor of finance at the Foster School—known as the UW College of Business Administration when he arrived in 1961—had devoted his first years in Seattle to a paper introducing the Capital Asset Pricing Model. On its face, the CAPM was an elegant equation to calculate a security’s expected return. But in its essence, it held the lynchpin of modern investing theory and practice, a luminous primer on the relationship between risk and reward.

If only his editors could see it. Certain of a grand slam off his first swing of the bat, Sharpe submitted the paper to his field’s preeminent journal, anticipating quick congratulations. Instead, his paper was rejected. Not just once, but twice. It was only on his third try (and third reviewer) that he secured a place in the publication. And even then, his theory hardly set the finance world ablaze, at least at first.

“When I finally published the paper, I was expecting to receive a flood of calls and correspondence. But they didn’t come,” Sharpe recalls today. “It was really disappointing. I thought, man, this is almost certainly the best paper I’m ever going to write, and nobody cares.”

The disinterest was only temporary. It took a few years for scholars to appreciate the CAPM, and a few more to reach the mainstream of investment advisors. And it took a quarter century for the Nobel Prize committee to recognize what has become a cornerstone of financial economics.

Age of financial enlightenment

Economics had hooked Sharpe from his first semester at UCLA. But his introductory course in investments held no such love-at-first-sight. “There was no underlying theory, no defining principles, no notion of diversification or consideration of risk,” he says. “It was all rules of thumb and how to make a buck.”

That didn’t sit well with a curious young microeconomist. And when he later sought a doctoral dissertation topic, a UCLA finance professor named Fred Weston introduced Sharpe to the work of Harry Markowitz. In the 1950s, Markowitz had fused economics and finance to introduce the radical notion of portfolio investing—diversifying across a broad assortment of stocks and bonds to remove the risk that is particular to any one security.
Sharpe was enthralled. During graduate school at UCLA he joined Markowitz, then at the RAND Corporation, and expanded upon the breakthroughs of his unofficial dissertation advisor. Sharpe first applied computer programming and mathematics to cast portfolio theory as an investment strategy. And then he addressed the function of risk on the setting of market prices by those investors, each trying to make money on the market.

The Rainier factor
Sharpe’s introduction to Seattle came one crystalline spring day while on assignment for RAND. As he took in the trim flotillas of sailboats breezing across the waters of Lakes Washington and Union, the lifelong sailor was sold.

“It seemed like an ideal place,” Sharpe says. “I went back to my graduate advisor and asked if he could get me a job at the University of Washington.”

He did find some time on the water, with the UW Sailing Club. But first and foremost, Sharpe was here to work. He got right to it, first converting his doctoral work implementing portfolio theory into a paper in Management Science.

And then he began writing his defining contribution to financial economics. He worked alone on the paper, but regularly bounced ideas off of faculty neighbors at the Foster School and the Economics Department, including professors Yoram Barzel, Bruce Johnson, Walter Oi, R. Haney Scott and, especially, George Brabb.

By 1962, Sharpe had a draft of “Capital Asset Prices: a Theory of Market Equilibrium Under Conditions of Risk,” and presented it at several universities to a generally positive reception. But few could have predicted what the CAPM would become.

The model, simplified
As published—finally—in the Journal of Finance in 1964, Sharpe’s paper sparked a dramatic progression from the dark ages of investing.

He started with Markowitz. Specifically, what would happen if everyone did as Markowitz advised—that is, invested in wide-ranging portfolios to diversify away the risks attached to individual securities? How would we price those securities efficiently, given the ever-present risk of just being in the market?

To address the question, Sharpe cast the spotlight on systematic risk—the exposure of a firm to macroeconomic conditions. His measure of this risk is called “beta.” And what he assumed was that the prices of firms with higher betas tend to move more than the market overall; lower-beta firm prices move less.

The CAPM demonstrates that expected returns should be related to systematic risk, which cannot be removed.

“The first big practical message is that diversifying a portfolio in market proportions is a sensible and efficient strategy for the average investor,” Sharpe says. “And the second is, yes Virginia, there is a reward, in the form of higher expected returns, for bearing the risk of doing badly in bad times.”

Applicable theory
By the late 1960s, the CAPM had caught on, sparking an entire literature on the topics of risk measurement and asset pricing that continues today.

“Sharpe’s work is the bedrock of finance,” says Rocky Higgins, an emeritus professor of finance who joined the Foster School during Sharpe’s tenure. “It is the start of a great many discussions about corporate and investment finance. We like to think that we’ve advanced, and in many ways we have. But the Capital Asset Pricing Model is still the point from which you might contemplate making advances.”

For his own part, Sharpe authored several subsequent papers while at Foster testing the empirical merits of his theory, including a 1966 mutual fund performance analysis that confirmed the CAPM in practice.

He also fielded increasing calls from firms seeking help implementing the wisdom of portfolio management and the CAPM. He consulted for Merrill Lynch in the late 1960s, and later Wells Fargo, Allstate, AT&T, Frank Russell and many others.

In 1968, his stature growing, Sharpe decided to return to the expansive academic environment of the Golden State, where he had spent most of his life. “I never really weaned myself from California,” he says.

He joined UC Irvine briefly, then settled in at Stanford in 1970 for a productive period of research and consulting. He founded his own investment consulting firm in 1986.

Nobel and back again
Early one October morning in 1990, Bill Sharpe was jolted awake by a phone call. A man with a Swedish accent announced that he had been awarded the Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, along with Harry Markowitz and Merton Miller. Sharpe has yet to find words that adequately describe his feelings upon receiving the ultimate professional honor.
“The Nobel Prize doesn’t change your life among your colleagues much at all, nor should it,” he says. “But it changes everything else.”

Invitations flooded in for celebratory lunches and lucrative speaking engagements for all manner of audience.

“It’s fun for a while,” Sharpe reports. “But eventually you find it’s more fun to go back to work.”

He returned to active duty at Stanford for many more years. Today he’s the STANCO 25 Professor of Finance, Emeritus. And as his personal and professional interests evolved into retirement economics, in 1996 Sharpe co-founded Financial Engines, provider of retirement investing support to employees of large corporations.

He continues to publish scholarly papers and books. And as he nears his ninth decade, the long-time technophile has become an active blogger (his site, RetirementIncomesScenarios.blogspot.com, is a compendium of his latest evangelical efforts in financial economics and computer programming, his twin passions since the nascent days of both).

**CAPM today**

About that asset pricing model he introduced to scholars and shareholders 50 years ago… Critics have probed it for flaws ever since. Scholars have scrambled to invent a better way to price securities in these days of Big Data.

Yet the CAPM is still in the text books, and it’s still used daily by corporate and institutional investment managers to plan and assess their portfolios.

Sharpe himself has long tinkered with the model and advocates a different computation of beta now.

“We’ve come a long way since the original Capital Asset Pricing Model,” he says. “But I believe the big messages are still worth paying attention to, if not following entirely. That is, you need to diversify. And if you want to make a reasonable assumption about the expected return of your investments over the long haul, you should be thinking about how badly it would do in bad times. These conclusions hold up.”

Of his scores of published works, did the CAPM paper really turn out to be his best?

“Oh, yes,” says Sharpe’s own toughest critic. “I’ve done other work that might earn an argument, but partly because it includes the essence of the 1964 paper. In terms of something novel and with lasting value, that’s my best.

“…though maybe I write better now.”

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**At the University of Washington Summer Finance Conference, August 10-12, the Foster School will honor William Sharpe on the 50th anniversary of his paper introducing the CAPM.**

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**SHARPE’S LIVING LABORATORY**

In keeping with the era’s zeitgeist, William Sharpe’s time on the Foster School faculty (1961-68) was radically experimental. “I’m a great believer that if you really want to learn a subject, you should teach it (which is probably not fair to students),” he says.

“I wanted to learn a lot so I taught a lot of courses.”

Among them were classes in microeconomics, finance, investing, computer science, statistics, and operations research. He also consulted organizations ranging from Boeing to IBM, McKinsey to Western Airlines.

In addition to his Nobel Prize-winning work on the Capital Asset Pricing Model, Sharpe published more than 20 papers during his Foster days. He also wrote two books—the first introducing the BASIC programming language and the second analyzing the economics of computers. His deep interest in programing led the push for the school’s first computer center (he claims the words “poorer center” were among his daughter’s first).

“My time at the UW was fabulous,” Sharpe says. Rocky Higgins, an emeritus professor of finance whose tenure overlapped with Sharpe’s, says the impact of his scholarly explorations left a deep and positive impression on the school. “Bill was a supportive and enthusiastic colleague,” Higgins says. “He did a lot to create an atmosphere of collegiality and supporting unconventional thinking that lasted many years after he left.”

“A lot of people who Bill mentored or worked with have gone on to impressive careers in finance,” adds Nancy Jacob (BA 1967), Sharpe’s undergraduate research assistant who later became dean of the Foster School (1981-88) before running two investment firms of her own. “His impact on people is probably as important as his path-breaking research.”

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**SHARPE INVESTOR**

William Sharpe’s tips for investing, adapted from his 2007 book “Investors and Markets”

**Diversify** — Really diversify. Buy a percentage of everything that’s out there, stocks and bonds as a start.

**Economize** — Keep costs down. Investing in low-cost index funds can deliver 20 percent more income than actively managed funds over your entire retirement.

**Personalize** — Every investor is different, with different preferences, different levels of risk tolerance, facing different situations and different stages of life. Invest in the way that suits you, not the herd.

**Contextualize** — Remember that a share price is the result of many smart investors trying to figure out what it’s worth. Don’t expect to get something for nothing by following some hair-brained scheme that somebody is pushing on you.

As for Sharpe’s personal strategy? “I don’t tell people how I invest,” he says. “But let’s just say I have really good friends at Vanguard.”