Innovations in Finance

Conventional Wisdom circa 1950

"Once you attain competency, diversification is undesirable. One or two, or at most three or four, securities should be bought. Competent investors will never be satisfied beating the averages by a few small percentage points."

Gerald M. Loeb, *The Battle for Investment Survival*, 1935

Analyze securities one by one. Focus on picking winners. Concentrate holdings to maximize returns.

Broad diversification is considered undesirable.

Diversification and Portfolio Risk

Harry Markowitz
Nobel Prize in Economics, 1990

Diversification reduces risk.

Assets evaluated not by individual characteristics but by their effect on a portfolio. An optimal portfolio can be constructed to maximize return for a given standard deviation.

The Role of Stocks

James Tobin
Nobel Prize in Economics, 1981

Separation Theorem:
1. Form portfolio of risky assets.
2. Temper risk by lending and borrowing.

Shifts focus from security selection to portfolio structure.

"Liquidity Preference as Behavior Toward Risk," *Review of Economic Studies,* February 1958.

Investments and Capital Structure

Merton Miller and Franco Modigliani
Nobel Prizes in Economics,
1990 and 1985

Theorem relating corporate finance to returns.

A firm's value is unrelated to its dividend policy.

Dividend policy is an unreliable guide for stock selection.

Single-Factor Asset Pricing Risk/Return Model

William Sharpe
Nobel Prize in Economics, 1990

Capital Asset Pricing Model: Theoretical model defines risk as volatility relative to market.

A stock's cost of capital (the investor's expected return) is proportional to the stock's risk relative to the entire stock universe.

Theoretical model for evaluating the risk and expected return of securities and portfolios.

Behavior of Securities Prices

Paul Samuelson, MIT
Nobel Prize in Economics, 1970

Market prices are the best estimates of value.

Price changes follow random patterns. Future share prices are unpredictable.

"Proof That Properly Anticipated Prices Fluctuate Randomly," *Industrial Management Review*, Spring 1965.

Efficient Markets Hypothesis

Eugene F. Fama

Extensive research on stock price patterns.

Develops Efficient Markets Hypothesis, which asserts that prices reflect values and information accurately and quickly. It is difficult if not impossible to capture returns in excess of market returns without taking greater than market levels of risk.

Investors cannot identify superior stocks using fundamental information or price patterns.

First Major Study of Manager Performance

Michael Jensen, 1965
A.G. Becker Corporation, 1968

First studies of mutual funds (Jensen) and of institutional plans (A.G. Becker Corp.) indicate active managers underperform indices.

Becker Corp. gives rise to consulting industry with creation of "Green Book" performance tables comparing results to benchmarks.

The Birth of Index Funds

John McQuown,
Wells Fargo Bank, 1971;
Rex Sinquefield,
American National Bank, 1973

Banks develop the first passive S&P 500 Index funds.

Options Pricing Model

Fischer Black, Robert Merton, and Myron Scholes
Nobel Prize in Economics, 1997

The development of the Options Pricing Model allows new ways to segment, quantify, and manage risk.

The model spurs the development of a market for alternative investments.

A Major Plan First Commits to Indexing

New York Telephone Company invests $40 million in an S&P 500 Index fund.

The first major plan to index.

Helps launch the era of indexed investing.

"Fund spokesmen are quick to point out you can't buy the market averages. It's time the public could."

Burton G. Malkiel, *A Random Walk Down Wall Street*, 1973 ed.

Database of Securities Prices since 1926

Roger Ibbotson and
Rex Sinquefield,
Stocks, Bonds, Bills, and Inflation

An extensive returns database for multiple asset classes is first developed and will become one of the most widely used investment databases.

The first extensive, empirical basis for making asset allocation decisions changes the way investors build portfolios.

The Size Effect

Rolf Banz

Analyzed NYSE stocks,
1926-1975.

Finds that, in the long term, small companies have higher expected returns than large companies and behave differently.

Variable Maturity Strategy Implemented

Eugene F. Fama

With no prediction of interest rates, Eugene Fama develops a method of shifting maturities that identifies optimal positions on the fixed income yield curve.

"The Information in the Term Structure," *Journal of Financial Economics* 13, no. 4 (December 1984): 509-28.

Nobel Prize Recognizes Modern Finance

Economists who shaped the way we invest are recognized, emphasizing the role of science in finance.

William Sharpe for the Capital Asset Pricing Model.

Harry Markowitz for portfolio theory.

Merton Miller for work on the effect of firms' capital structure and dividend policy on their prices.

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