Volatility is your Enemy

Speaker: Andrew Bennett – EBX

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Question :

Investment volatility – Friend or Foe?

Answer : Both

Why are we here today?

Objective of retirees is to maintain a particular standard of living for a period of time.

Or

“more” for “longer”

Investment *STRATEGY*

not

TACTICAL investment.

What's the difference between the two?

- STRATEGY – Long term overarching goal must be achieved to have success.

- TACTICAL – Short term, an individual case not so important, but must get more right than wrong.

Military Example – WWII when USA joined the war

STRATEGIC: The Allies decided to defeat Germany first, and come back later to address the Japanese. Portfolio construction is strategic.

TACTICAL: Movement of troops on the battlefield; deciding which troops landed on which beach in Normandy. Dynamic Asset Allocation is tactical.

What is “volatility” and why do we care?

Volatility is financial risk, and describes the uncertainty of getting an outcome that is different from your expectation when you need to sell your investment.

You might get more or less, and you don’t know which – it’s the “less” outcome that does the damage.

John C Bogle

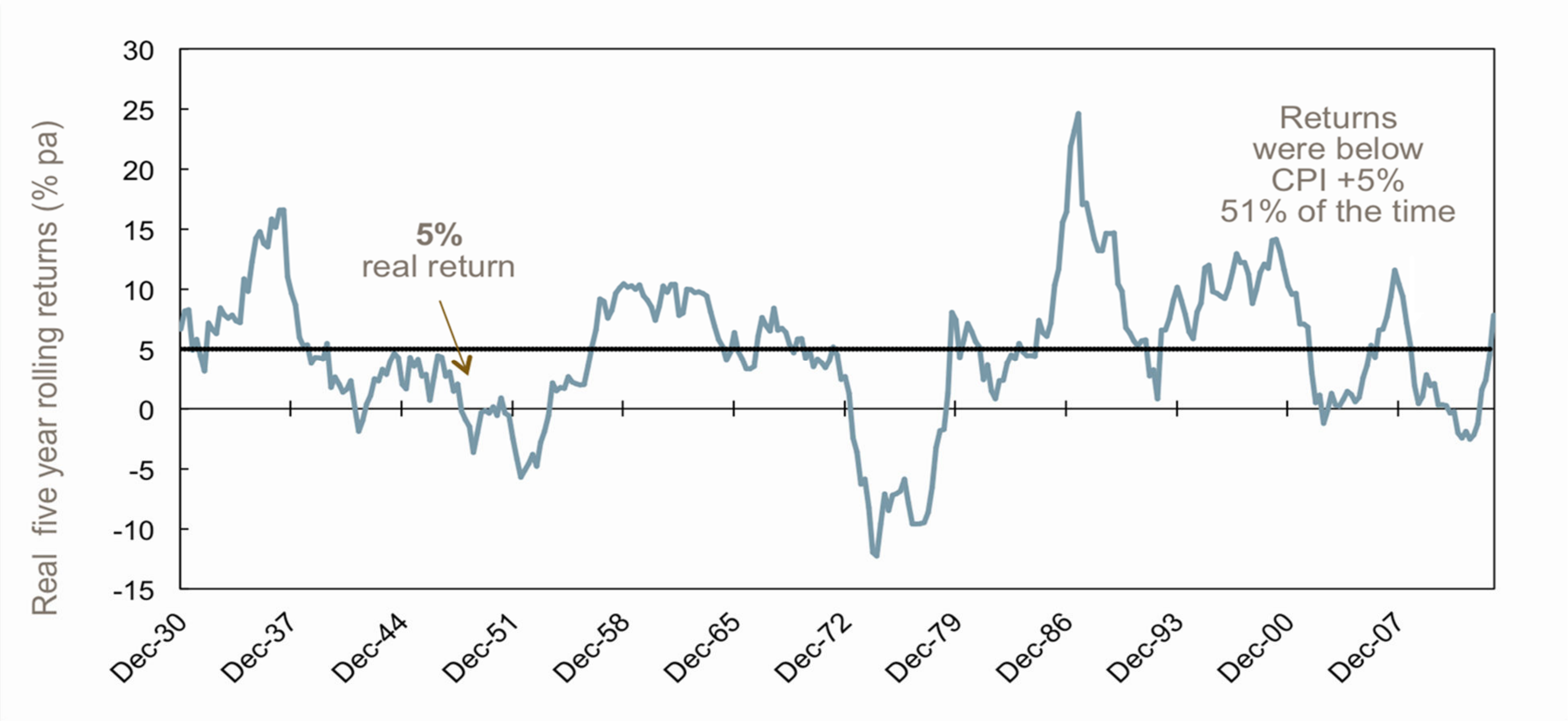
Founder of the Vanguard Group, phrased it quite succintly in 2001 commenting that : “We must base our asset allocation not on the probabilities of choosing the right allocation but on the consequences of choosing the wrong allocation”

Higher volatility = Higher risk = Higher return

Getting more return because of volatility → Sequencing Risk.

Challenges for investors

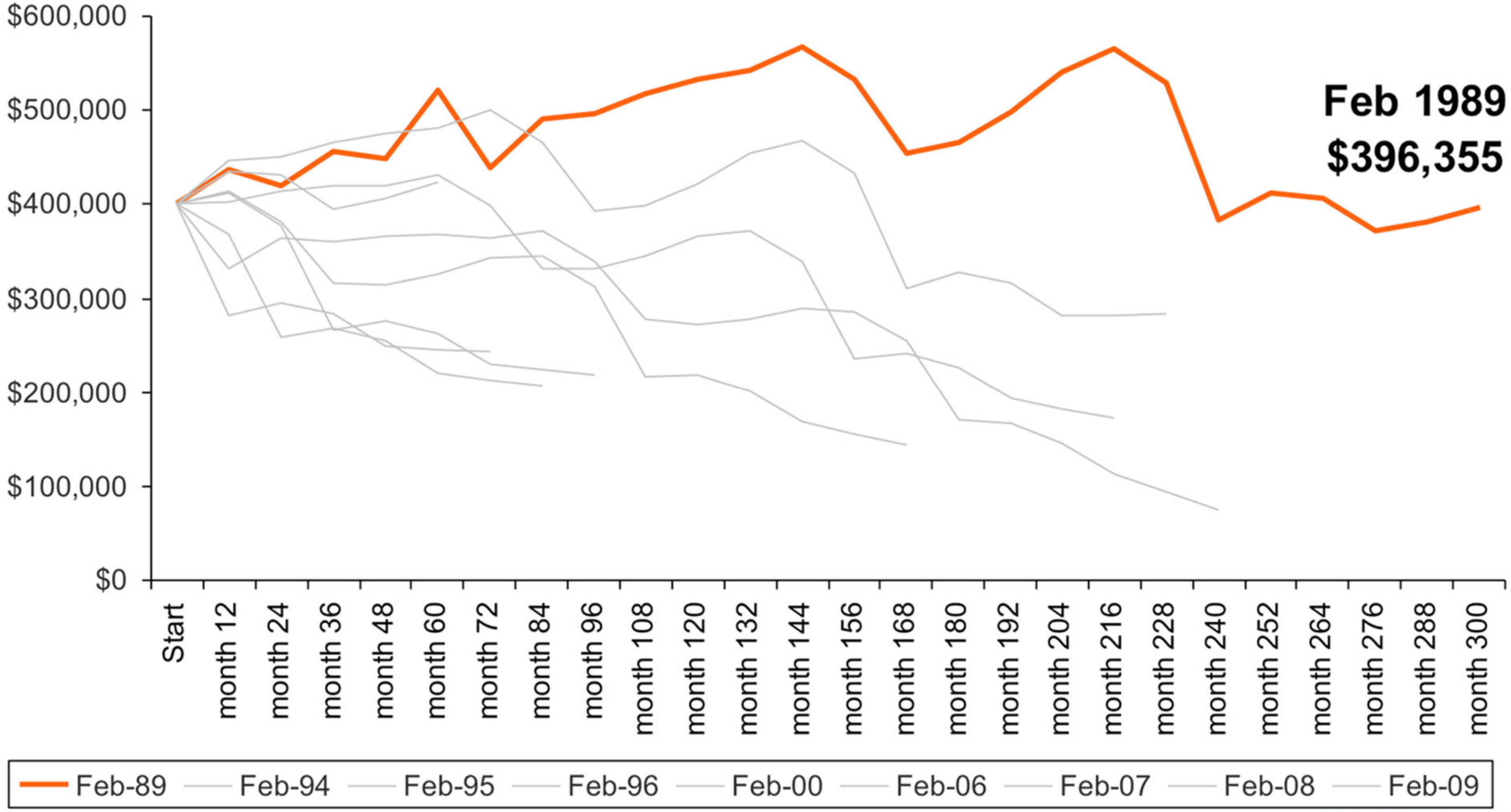
Traditional diversified funds don't always deliver



Returns are pre fees and taxes, zero alpha, periods to Dec 2013.
Source: MLC Investment Management, Global Financial Data. Static asset allocation includes Australian cash (5%) Australian bonds (25%) Australian shares (35%) unhedged global shares (17.5%) and hedged global shares (17.5%).

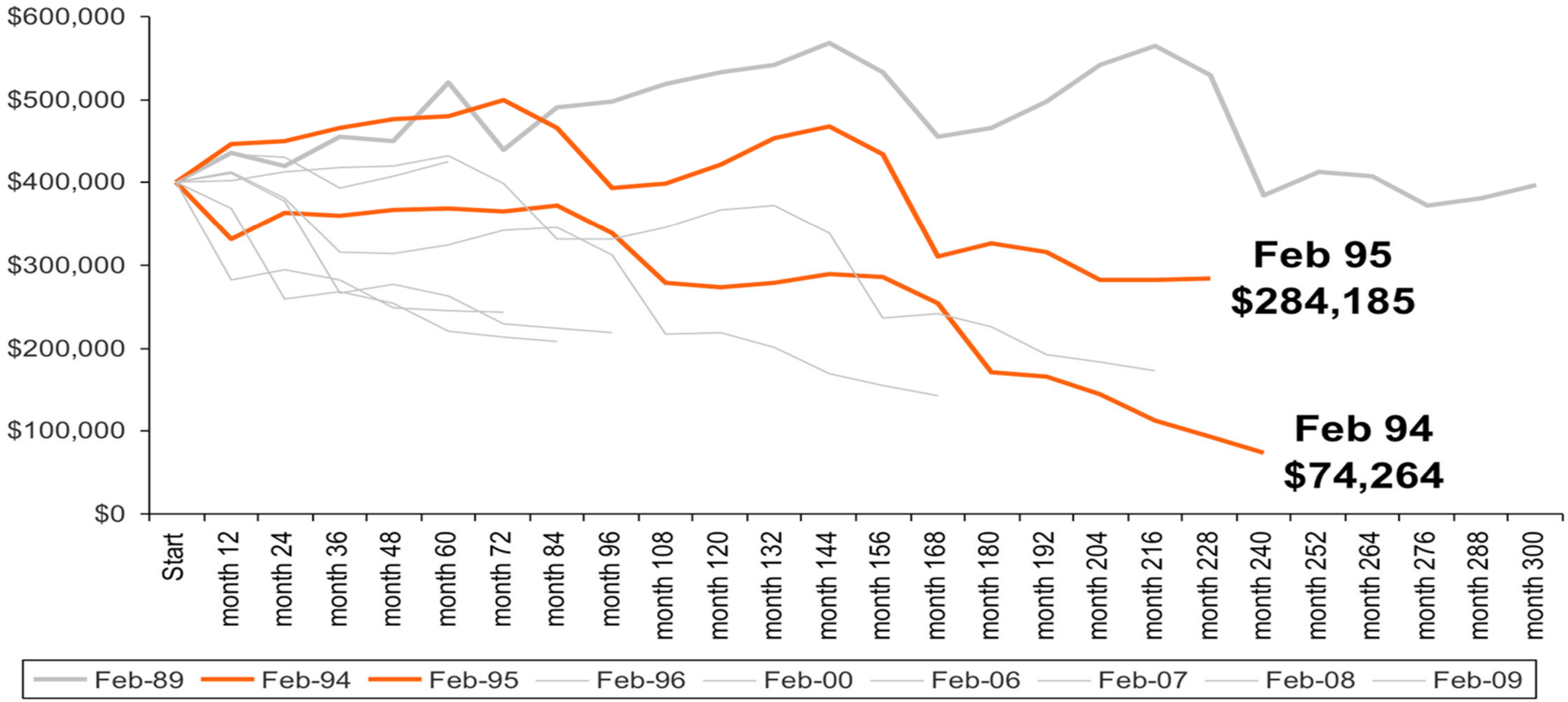
EndowmentBond EXCHANGE

AN AUSTRALIAN EXPERIENCE OF SEQUENCING RISK



Source: MLC Retirement Solutions.
Assumes a $400K initial investment in a balanced fund at age 65, and then annual pension of $30,000.

An Australian Experience of Sequencing Risk



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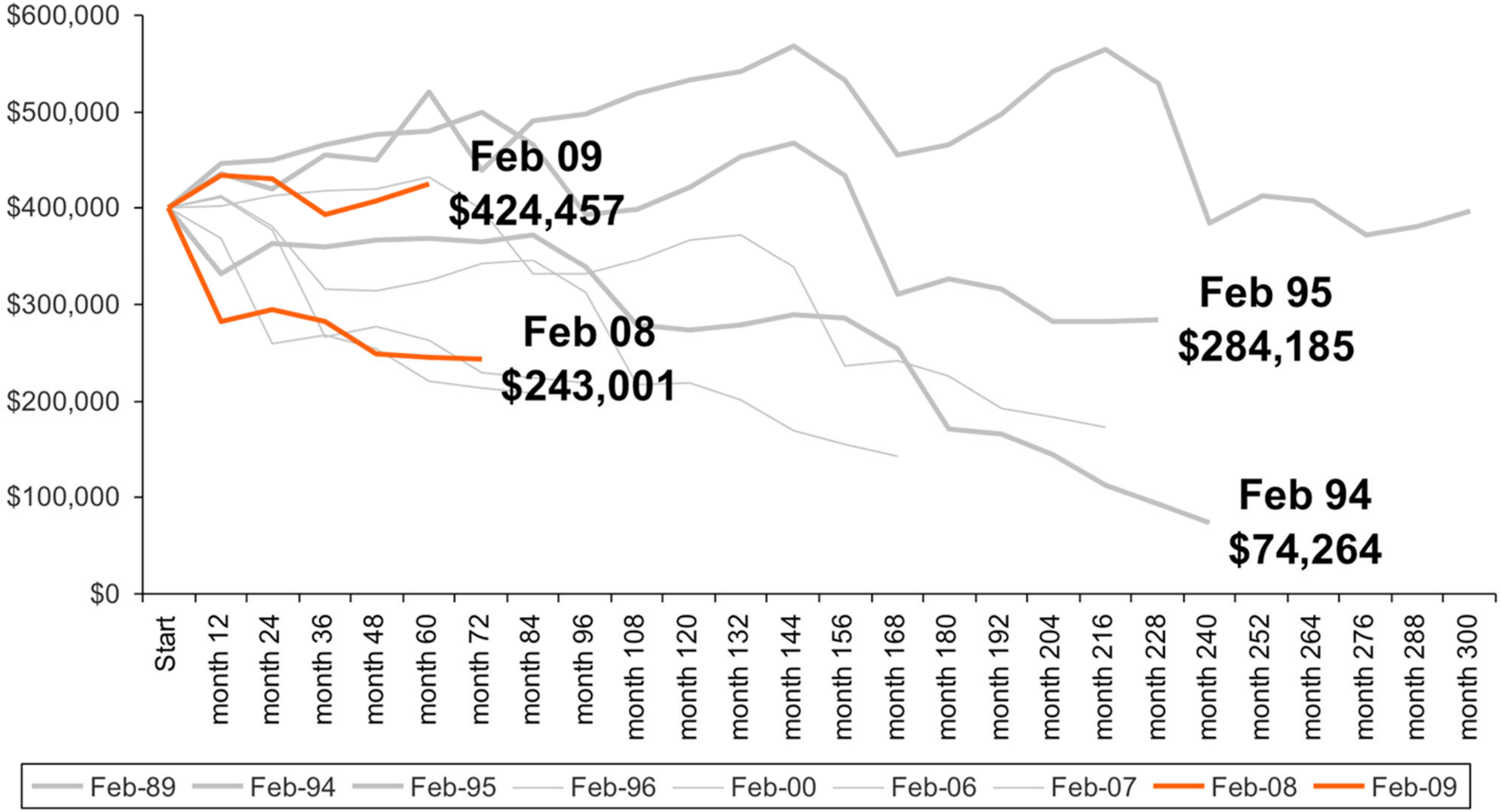
An Australian Experience Of Sequencing Risk



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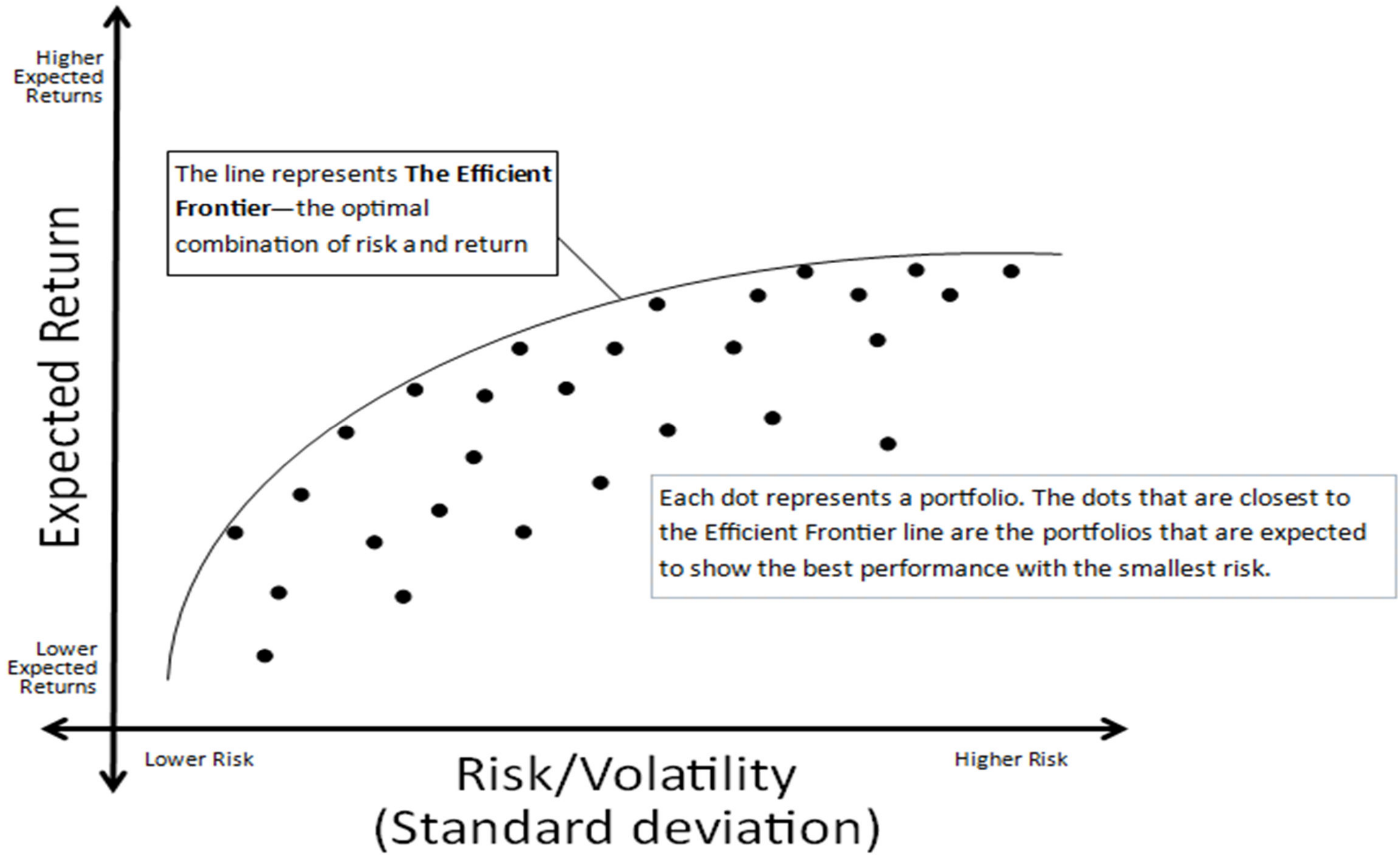
EVOLUTION OF MODERN PORTFOLIO THEORY

1. **The Father : Harry Markowitz, 1952**

"It assumes that there is a portfolio which gives both the maximum expected return and minimum variance, and it commends this portfolio to investors"

Highest Return for a given level of Risk



2. **Professor Merton** : Can’t look at aggregated portfolios. Need to have individual tailored portfolios.

- Everyone is different.
- We don’t have the “long term”
- Sequencing risk does effect outcome – in retirement once it’s gone, it’s gone.
- Risk profile changes over time as the consequences of losses become more significant.

What are Endowment Bonds?

- Zero coupon bonds with $10,000 maturity value. (Only two payments), purchase price and the $10,000 certain outcome.
- Low Risk : Underlying collateral = State Government Bond or Wholesale bank deposits.
- Very long dated → up to 30 years.
- Hold to maturity Investments → Zero volatility

Sequencing Risk is Bad

One way to reduce Sequencing Risk is to reduce the total portfolio volatility by going from 100% equity to 60% equity and 40% Bond funds.

But this is not the most efficient way to do it and it also reduces the mean expected return. Importantly, It also relies on diversification to reduce total volatility.

Lets compare 3 Portfolios

Portfolio	Asset allocation	Expected return (p.a)	Volatility (standard deviation)
1	100% Equity	10%	15%
2	60% Equity/40% Bond ①	9.2%	9.79%
3	60% Equity/40% Endowment Bonds	9.2%	9.00%

① Assumes Bond $ deposit returns are 5.00%

Two Choices

↑ Extra return of .79% pa for the same level of risk

OR

Same return for ↓ lower risk

Portfolio Variance + Correlation

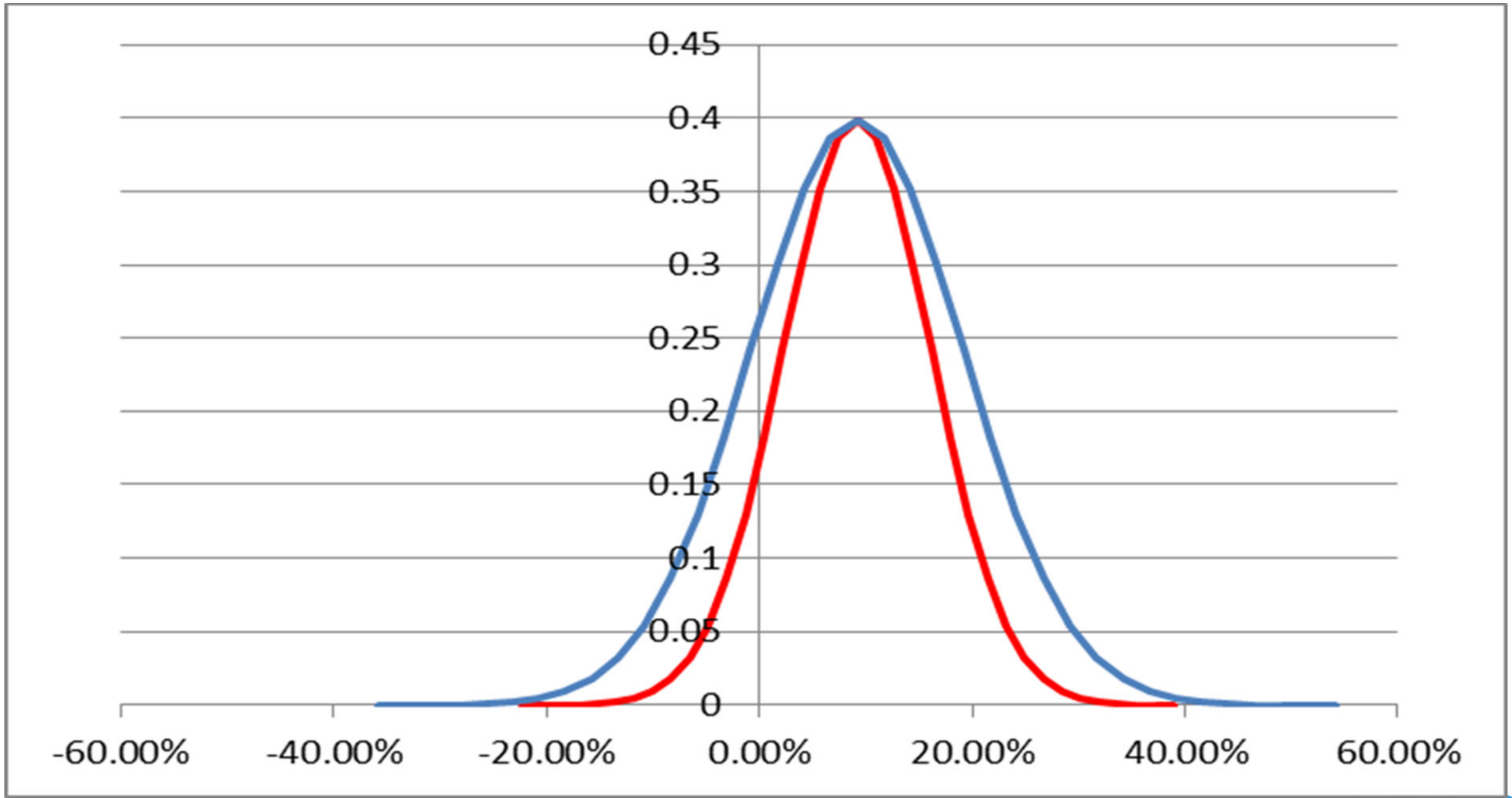
$$\sigma_P = \sqrt{W_A{}^2\sigma_A{}^2 + W_B{}^2\sigma_B{}^2 + 2\,\rho_{AB}\,W_A\,W_B\,\sigma_A\sigma_B}$$

Translates to:

Portfolio Risk = Proportionate share of each asset and the correlation between the assets.

In times of economic stress (eg GFC) correlations move to 1. This undoes diversification benefit, and makes Endowment Bonds even more superior.

Pictorial Representation



Barbell Asset Allocation

SENECA'S BARBELL

From Nassim Nicholas Taleb's book "Antifragile" – The inventor of the term "Black Swan"

- Combination of extremes; with avoidance of the middle

- Technically – A Bimodal strategy of two distinct and separate modes rather than an average single, central combined one.

- Very large corporate defined pension plans, have 80% Fixed Income, 20% hedge funds and private equity.

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