Occam's Razor Redux: Establishing Reasonable Expectations for Financial Market Returns

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Preliminary Information

- The slides are made for Professor John M. Mulvey's talk on behalf of Mr. John C. Bogle, who could not deliver the originally scheduled on-line lecture at 2nd Four-University Rotating FinTech Conference in Seoul due to his recent health condition

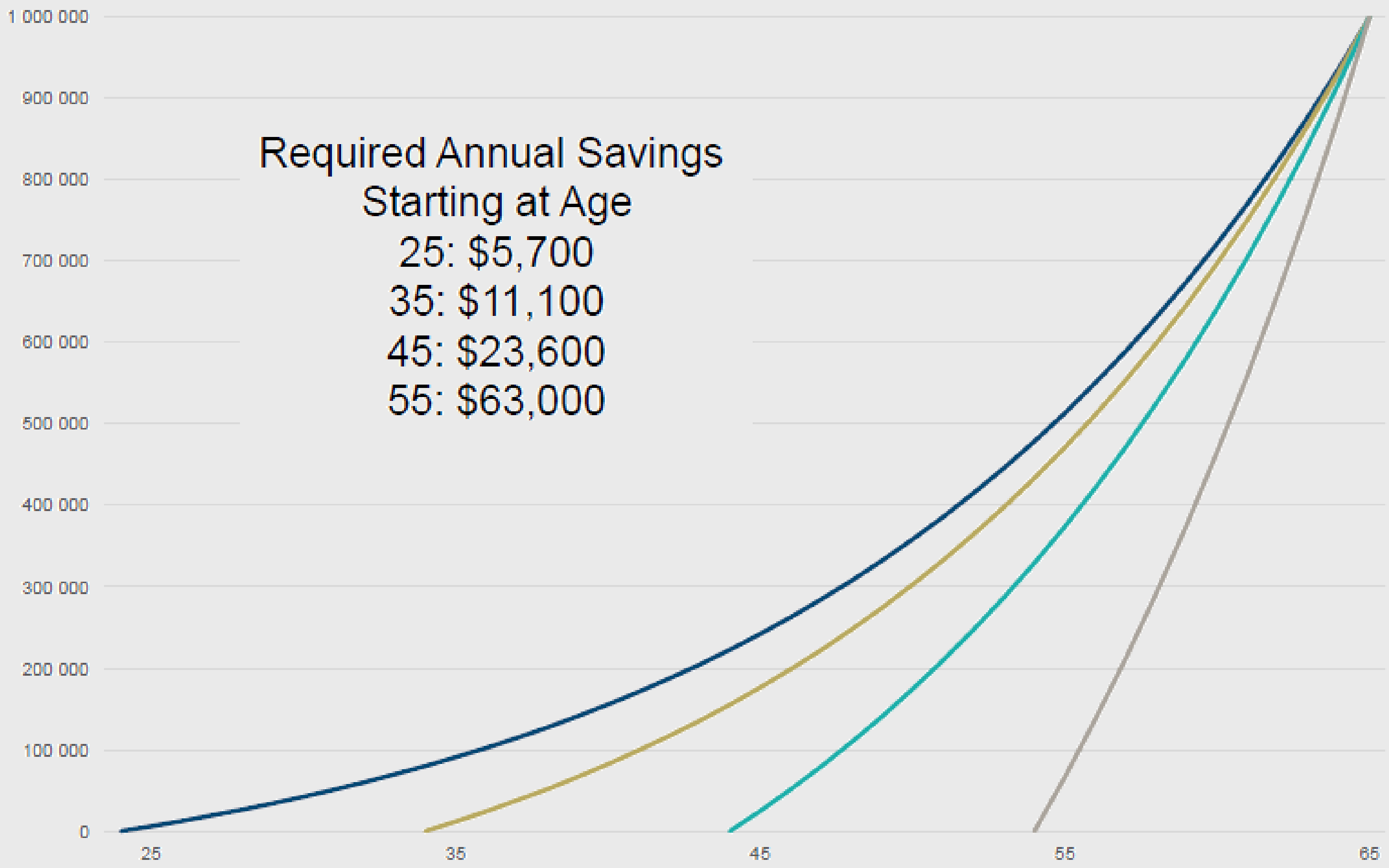
- The slides are based on Mr. Bogles' recent article "Occam's Razor Redux: Establishing Reasonable Expectations for Financial Market Returns" published at Journal of Portfolio Management and Mr. Bogle's talk in last year at 1st Four-University Rotating FinTech Conference in Princeton

- Bogle, J. C. & Nolan, M. W. (2015) "Occam's Razor Redux: Establishing Reasonable Expectations for Financial Market Returns," *Journal of Portfolio Management*, 42(1), 119-134

- Made by Dr. Yongjae Lee at Seoul National University (yongjae.lee@snu.ac.kr)

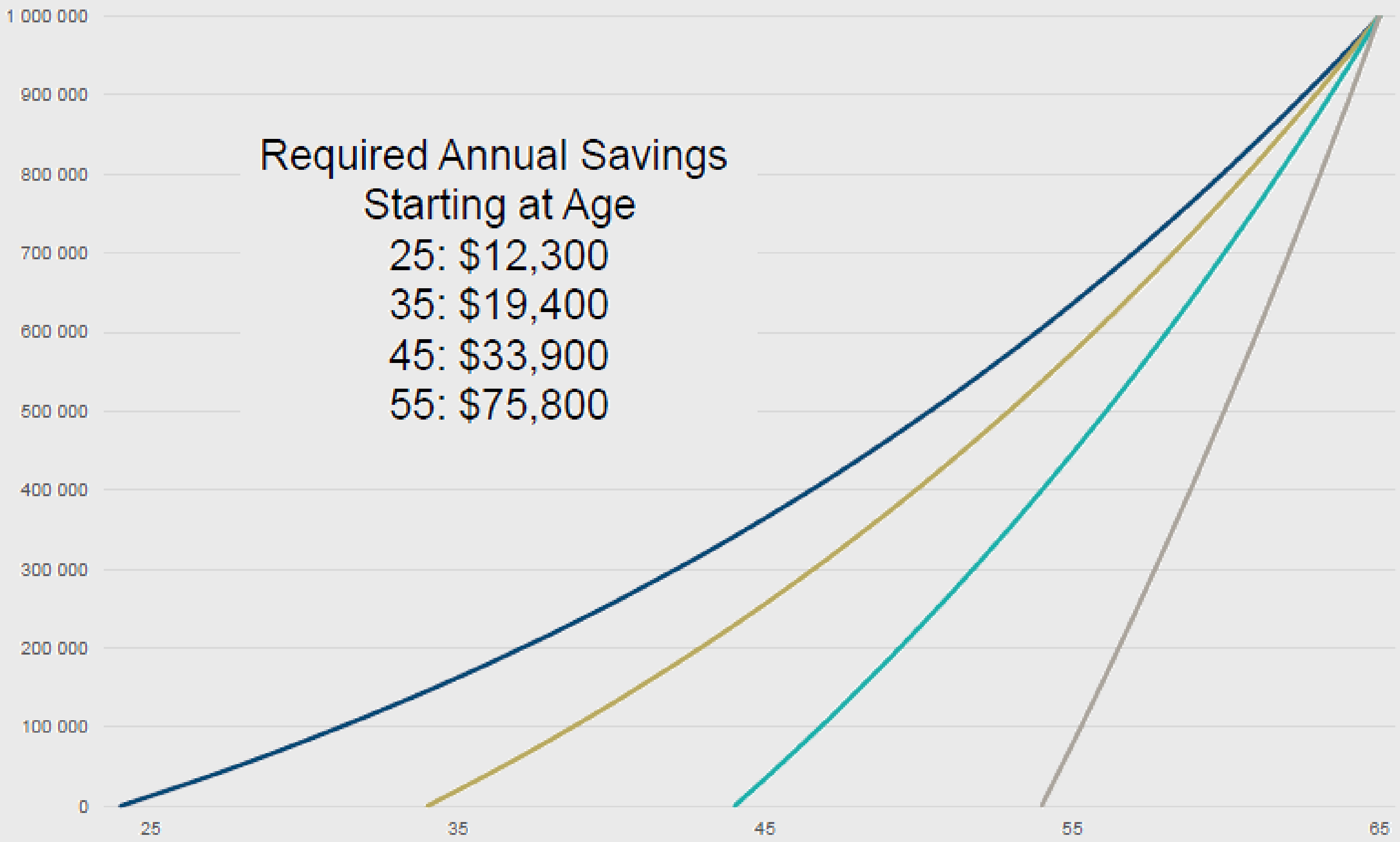
Retirement Saving: Time is Your Friend

- The longer you wait to start saving for retirement, the steeper the hill you climb
  - **Annual Savings Requirement to Reach $1 million by Age 65 (6% annual return)**



Retirement Saving: Time is Your Friend

- Lower returns require higher annual savings
  - **Annual Savings Requirement to Reach $1 million by Age 65 (3% annual return)**



Occam’s Razor Redux

- Occam’s Razor
  - The simplest solution to a problem is the solution most likely to be correct

- John Maynard Keynes
  - “It is dangerous to apply to the future inductive arguments based on past experience, unless we can distinguish the broad reasons for what the past was” (Keynes, 1936)

Bogle Sources of Return Model for Stocks

- Bogle's sources of stock returns
  - Enterprise
    - actual business results of corporations
  - Speculation
    - ephemeral, emotional response of investors seeking to anticipate how other investors will react to particular events

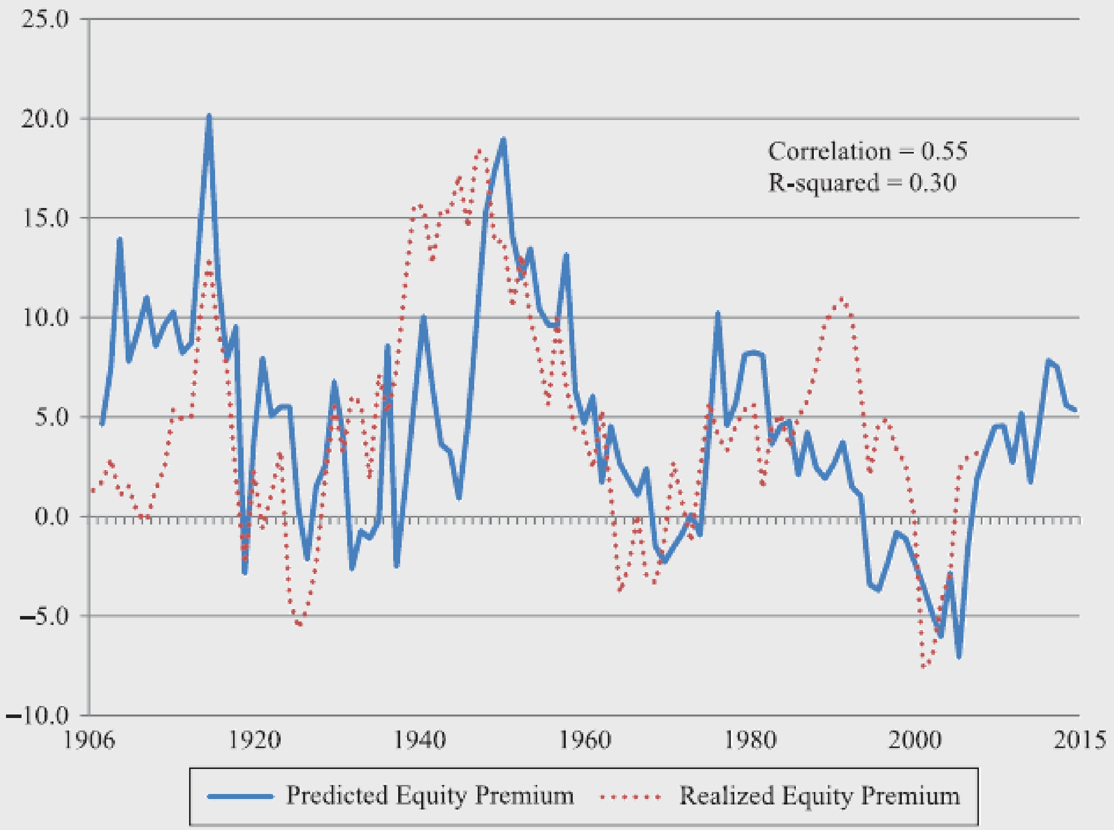
- Simple Formula
  - $\boldsymbol{R_t} \quad = \quad \boldsymbol{D_0} \quad + \quad \boldsymbol{G_t} \quad + \quad \boldsymbol{\Delta P/E_t}$
  - Future Market Returns = Dividend Yield + Earnings Growth +/- Change in P/E Ratio

Bogle Sources of Return Model for Stocks

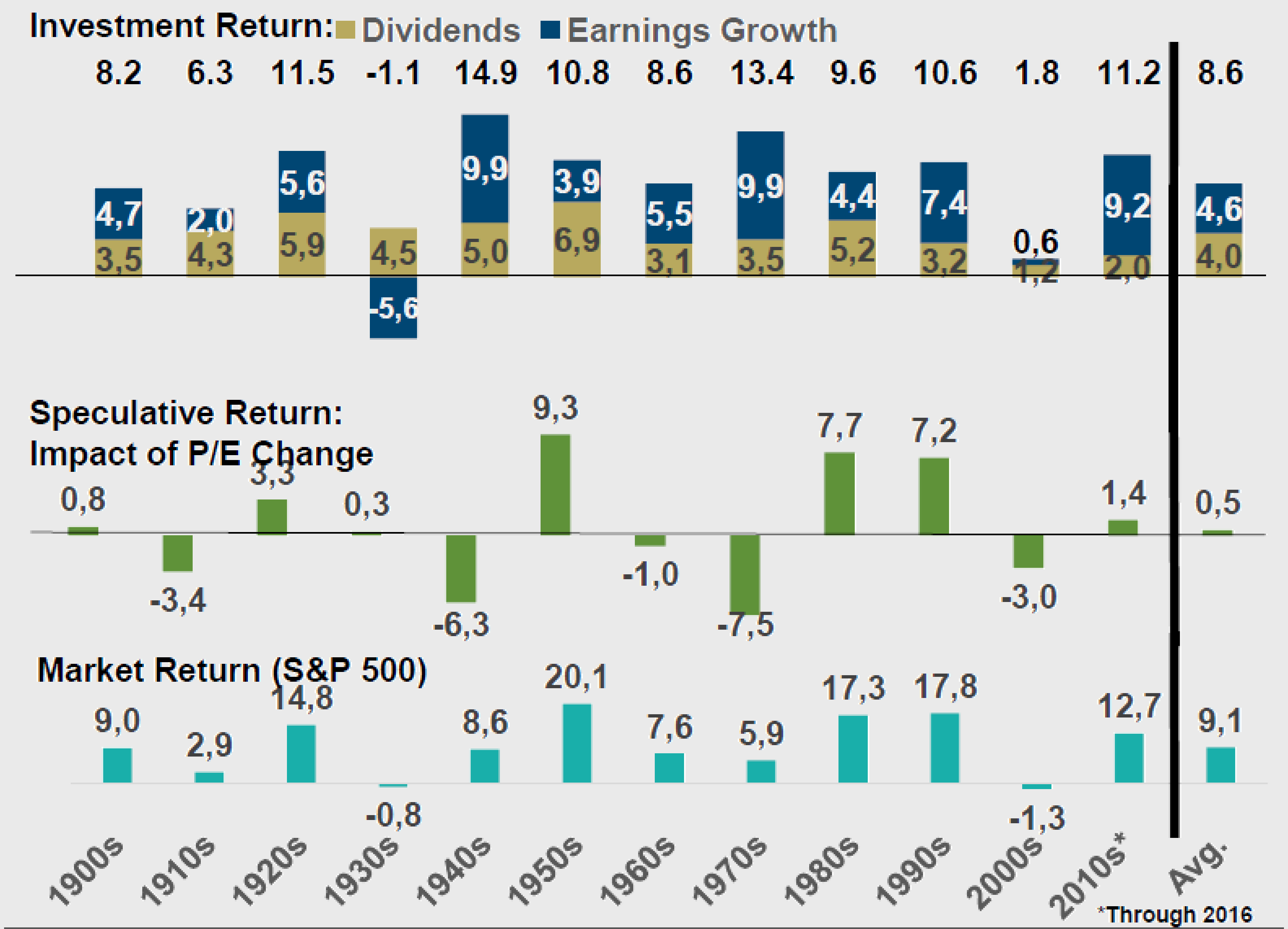
- What about the equity premium?

EXHIBIT 8

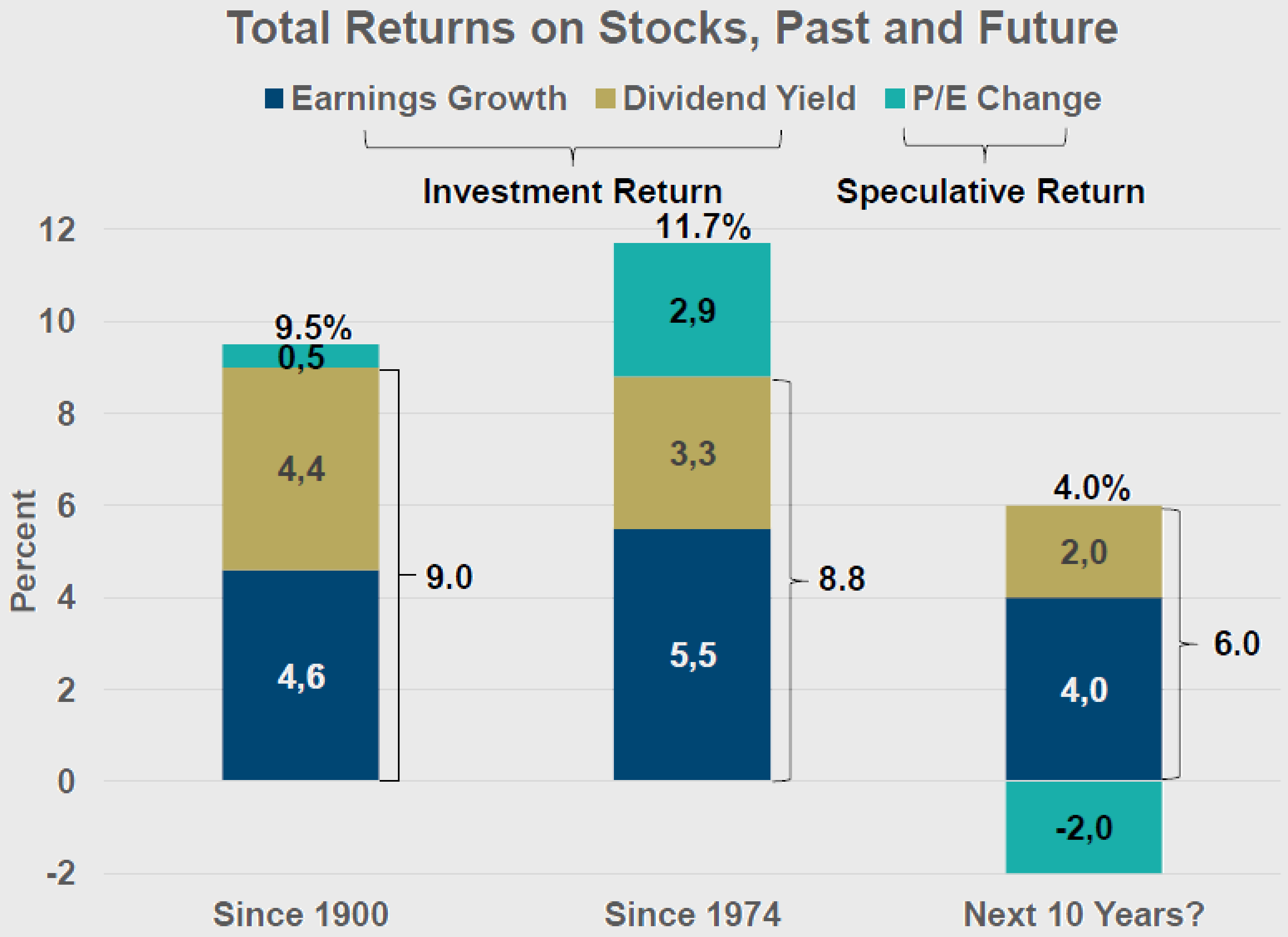
Rolling 10-Year Equity Premium: Predicted vs. Realized



Sources of Returns



What if the Good Times No Longer Roll?



Bogle Sources of Return Model for Bonds

- Bogle (1991)
  - "the fact of the matter is that there is a number worth knowing: the initial interest rate (to establish reasonable expectations for future returns on bonds)"

EXHIBIT 6

Initial Bond Yield and Subsequent 10-Year Return

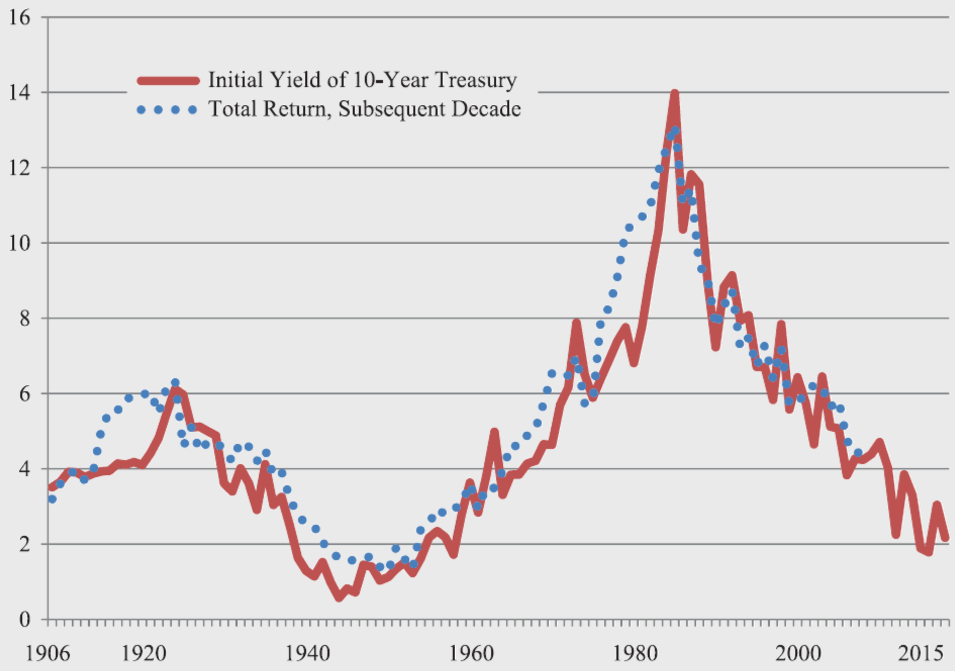
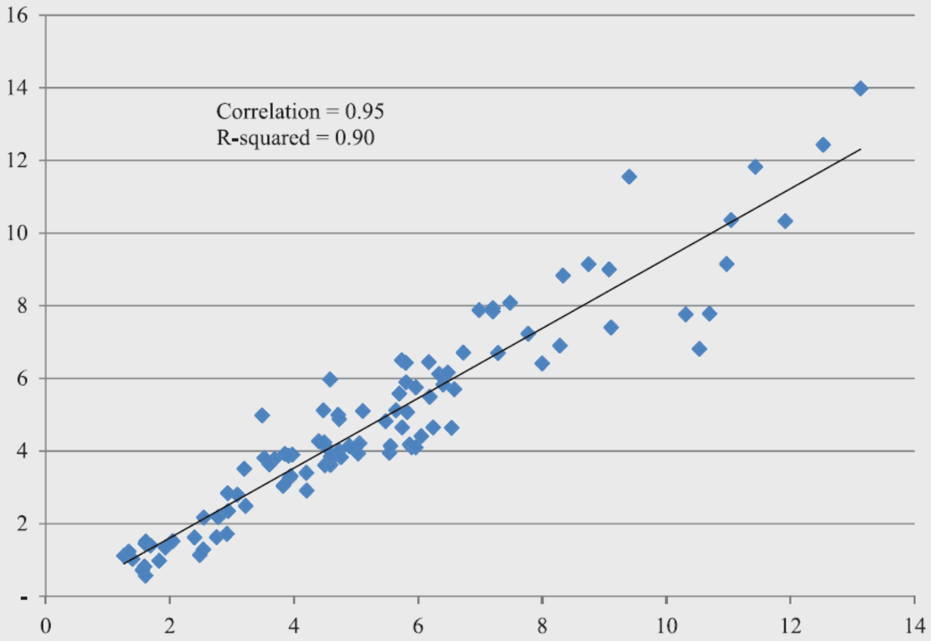


EXHIBIT 7

10-Year Treasury Return vs. Initial Yield 1915–2014



What if the Good Times No Longer Roll?