Learning from the Past to Invest for the Future

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Everyone Wants to Get Rich

- Excluded from this Talk, Traditional Road to Riches: Real Estate
  - Has anyone heard of Bob Hope?
  - Everyone has heard of Donald Trump
  - My anecdote about a former NU grad student
- Why?
  - Tax deductibility, but more important LEVERAGE
  - You can borrow a much bigger % on RE than stocks

Stocks, Bonds, and Related Issues

- How Stock and Bond Prices are Related
  - PDV of Future Earnings Requires a Discount Rate
  - Thus Bonds directly enter the Stock Equation
  - Effects of inflation should be different, but are they?

Learning from History

- 1926-2004, Alternation of Booms and Busts
  - One guarantee: you can't extrapolate the last 20 years to the next 20 years
- Learning from Macro (Econ 201 and 311)
  - WHY bond yields fell and stock prices rose after 1982
  - 1982-2004 in perspective of longer history since 1926

Going Beyond Stocks vs. Bonds

- Which Stocks?
  - Index Funds vs. trying to outguess the market
  - What do you know that others don't?
    - Insider trading, Martha Stewart
    - What access do you have to Wall St. Analysts?
  - Efficient Markets Hypothesis
- U. S. Only vs. Global
  - Role of Exchange Rates
  - Diversification

Basic Theme

- Can you do better than “buy-and-hold” a S&P 500 Index Fund?
- Most Important Exception: Market Timing (Macro Fundamentals)
  - My credentials
  - When exiting stocks, hold bonds or “cash”?
- U. S. vs. Foreign, Large cap vs. small cap

Macro Fundamentals

- Productivity growth
  - Standard of Living
  - Short run driver of profits
- Inflation
  - High inflation raises nominal bond yields
  - High inflation depresses stock P/E ratios
- Business Cycle (we' ll use Unempl Rate)

Bonds are Alternatives to Stock

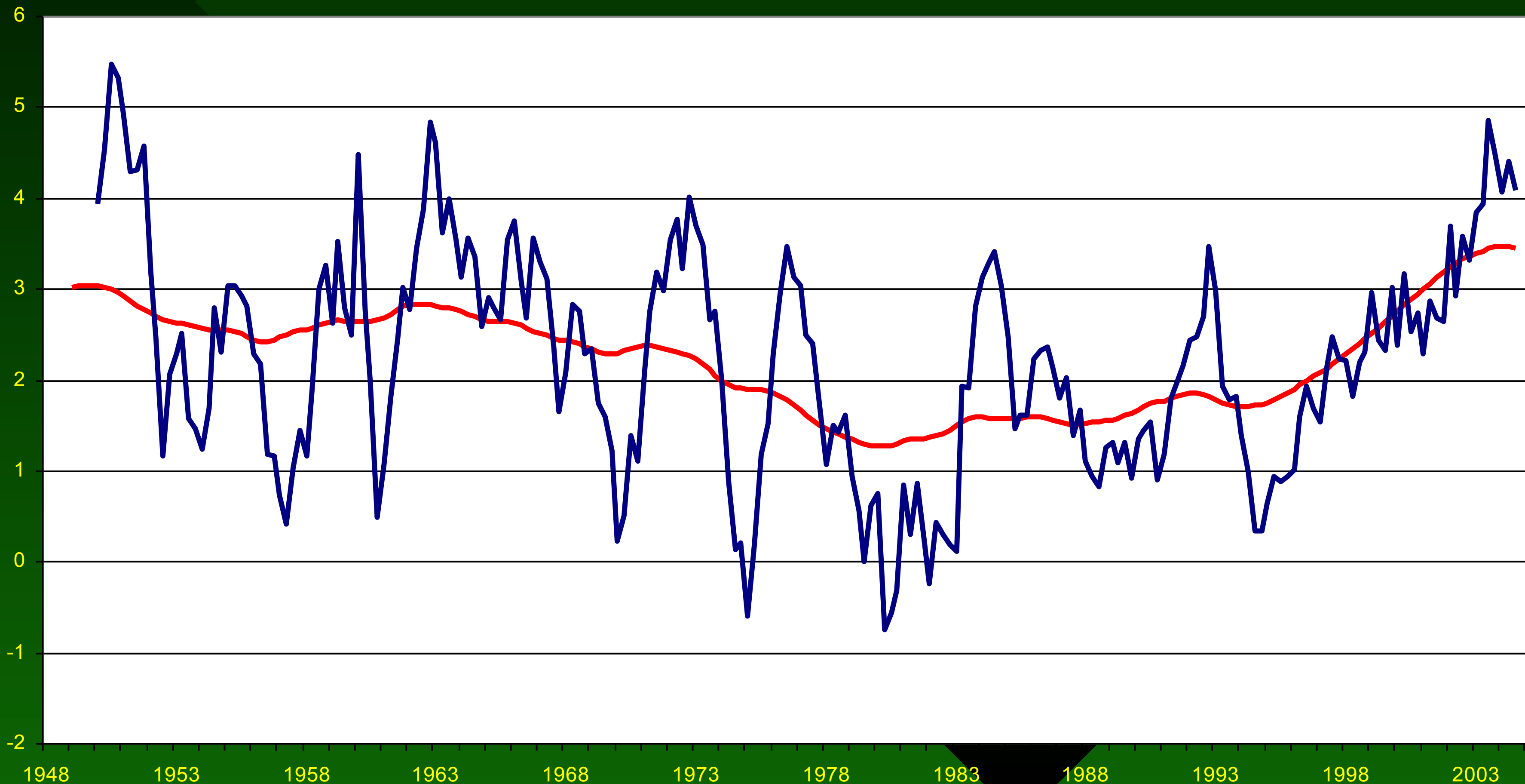
- Bond prices move inversely to rates (coupon fixed in dollars)
- When rates fall, the interest rate is augmented by capital gains
- Bond market hates inflation: rates rise and prices fall
- Bond market loves high unemployment because it predicts lower inflation

Inflation vs. Nominal and Real Long-term Treasury Rates

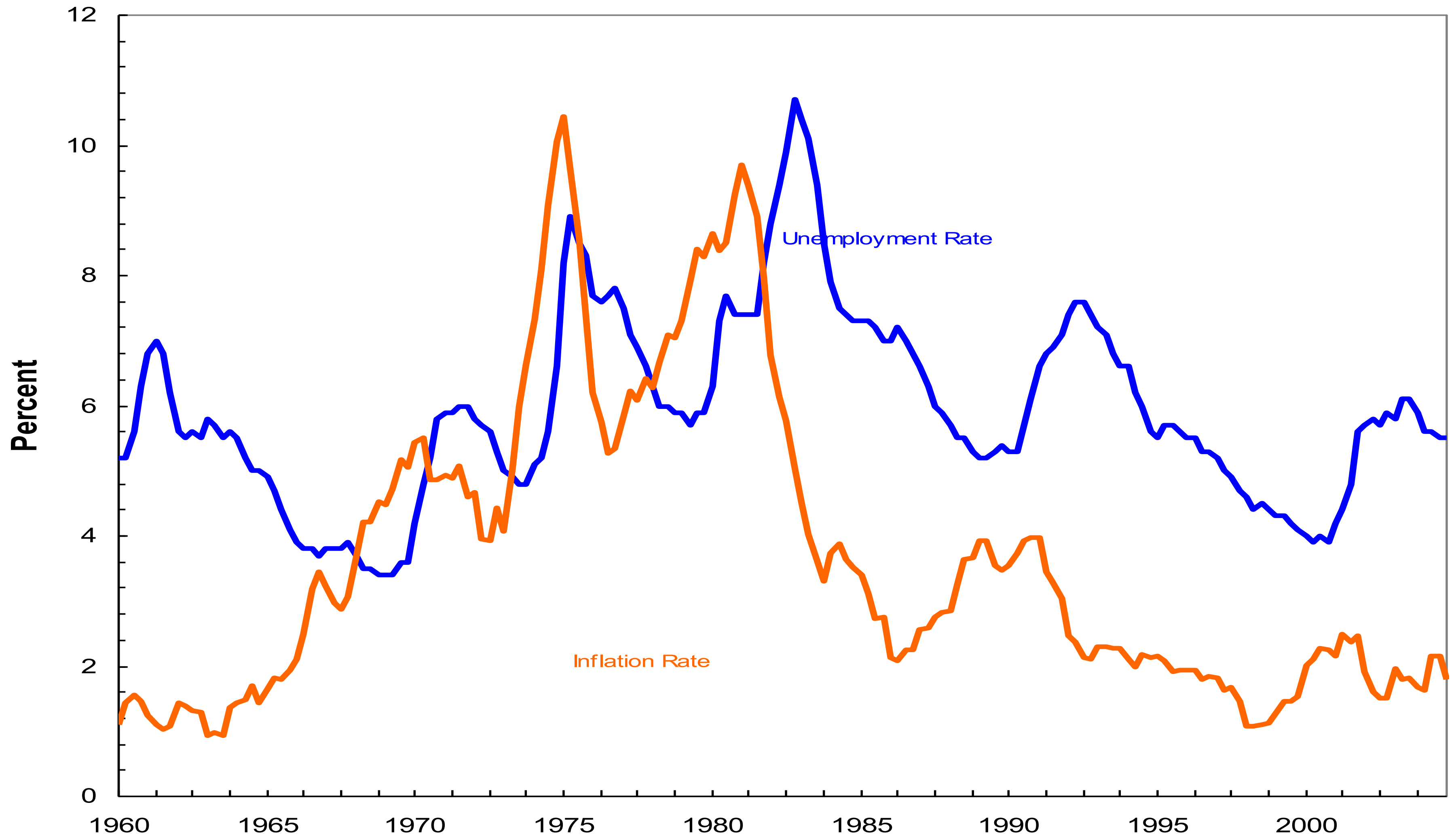
Stock Market vs. Bond Market

- Stock Market also shares inflation fixation
- But Stock Market also cares about
  - Fast productivity growth, raises profits esp. in the short run
  - Good business conditions, can use unemployment rate as indicator
  - Low volatility of business cycles

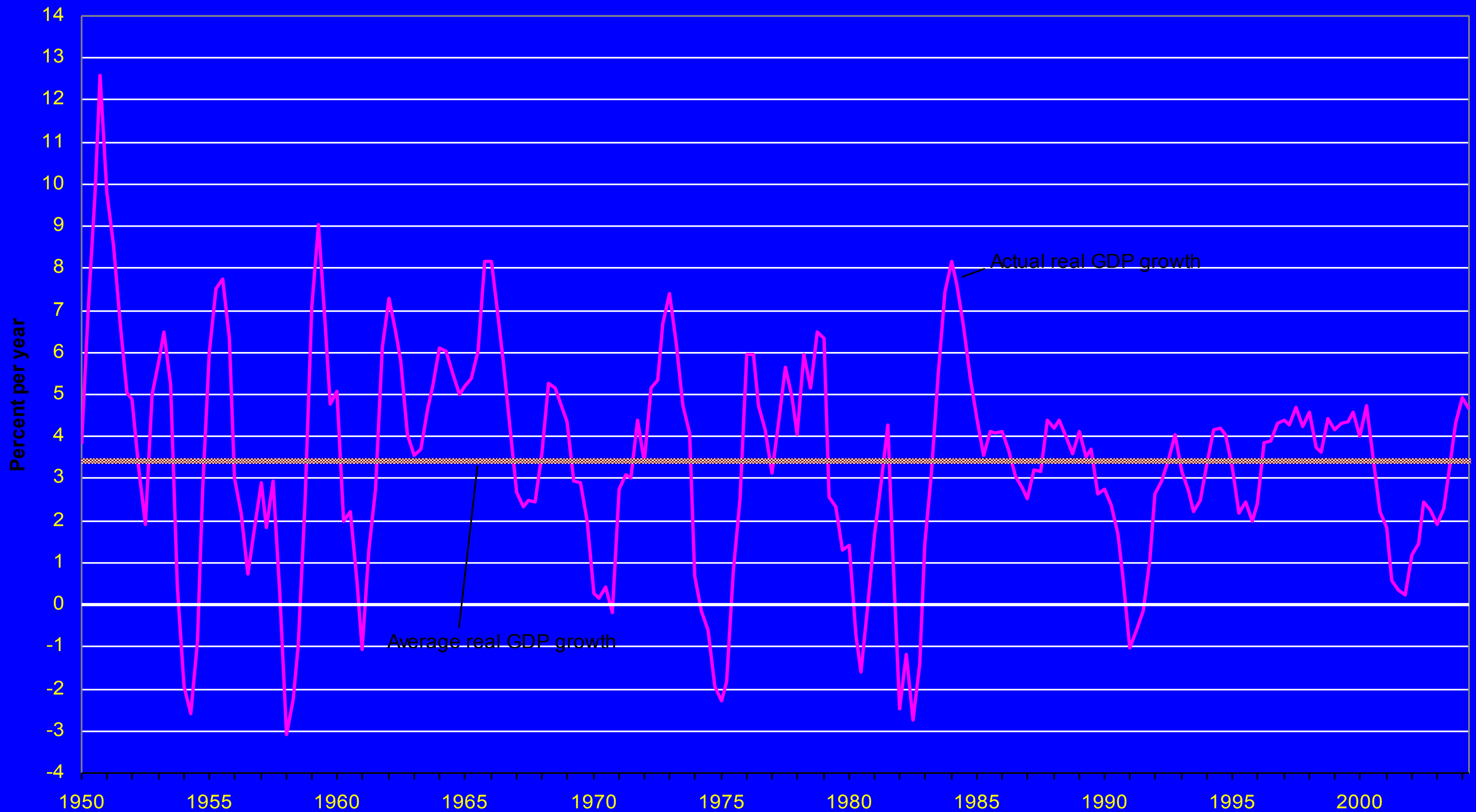
Productivity Growth: Actual vs. Trend since 1948



Add in the Unemployment Rate



Reduced Volatility of Business Cycles



Summary of Macro Lessons

- Stock Market Likes
  - Fast Productivity Growth (helps profits)
  - Low Inflation
  - Good Business Conditions (low unemployment)
  - Absence of business-cycle volatility

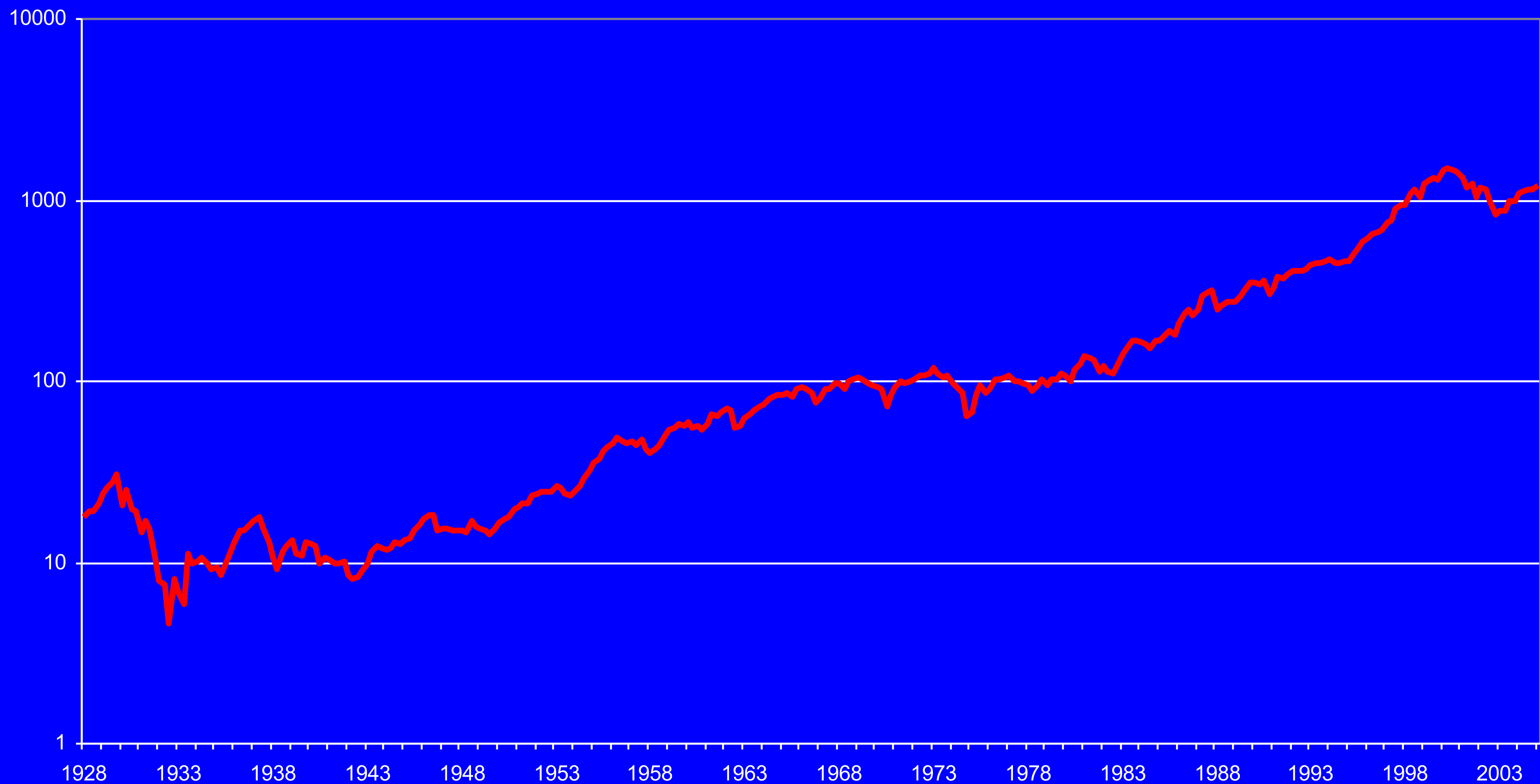
Predicting in Retrospect: When Should the Stock Market Have Done Well?

- 1950s, early 1960s
  - Fast productivity growth, low inflation and unemployment albeit lots of business cycle volatility
  - Memory of Great Depression Fades
- The awful 1970s and early 1980s
- Transition from the awful 1970s-80s to the wonderful 1990s
  - From high to low inflation and unemployment, productivity revival, lower cycle volatility

First we'll look at S&P 500 Stock Market Index

- Since 1926
- Log Scale
- Slope shows growth rate
- Notice eras
- Let's not calculate rates of return yet, not adjusted for dividends or inflation

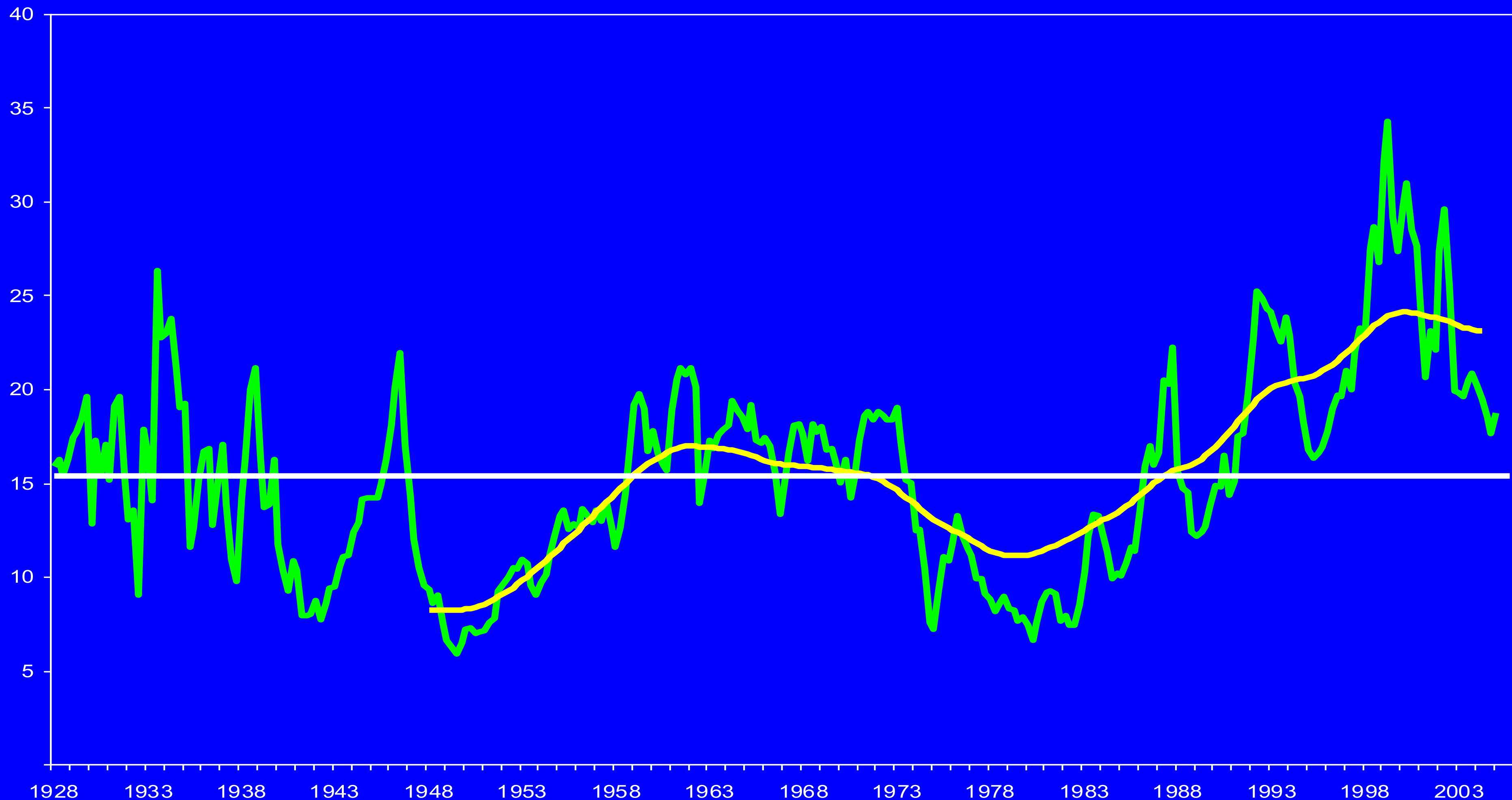
S&P 500, 1928-2005



Valuation of the Stock Market: Depends on Profits and thus P/E

- P/E went above historical averages in 1990s
- Plotted against actual P/E: A "Kalman" Trend
- What reasons could explain this
  - Less risk, less business cycle volatility
  - More years spent in prosperity, less in recession (than 1930s)
  - Reasons to think inflation conquered
- Buy Low, Sell High!

P/E Ratio Since 1928, range from 5 to 35



Look More Closely at Alternatives to Stocks

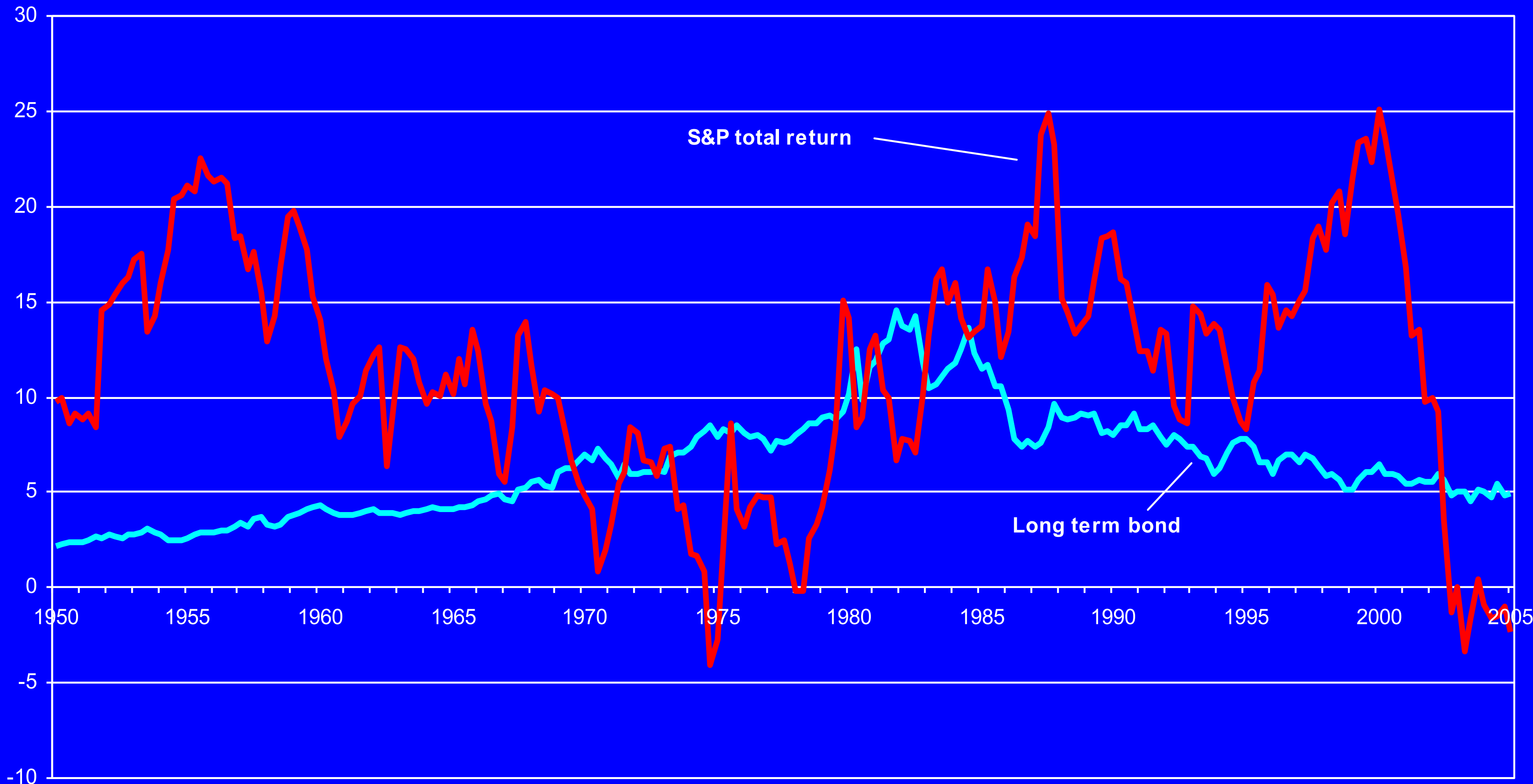
- Bonds:
  - Government bonds: long vs. short, yield curve
  - Corporate bonds: riskiness curve, high-quality vs. junk
- Returns: we'll look first at nominal, then real
- Remember: capital gains and losses on long-term bonds, not on short-term

Long-term (25-30 year) vs. Short-term interest rates

What are Total Returns?

- For bonds: interest rate plus/minus capital gains over holding period
  - Data not available on capital gains
- For stocks: dividend-price ratio ("dividend yield") plus capital gains
  - Not adjusted for taxes
  - Hence relevant for retirement funds

Long-term Bond Interest Rate vs. Total Return on Stocks



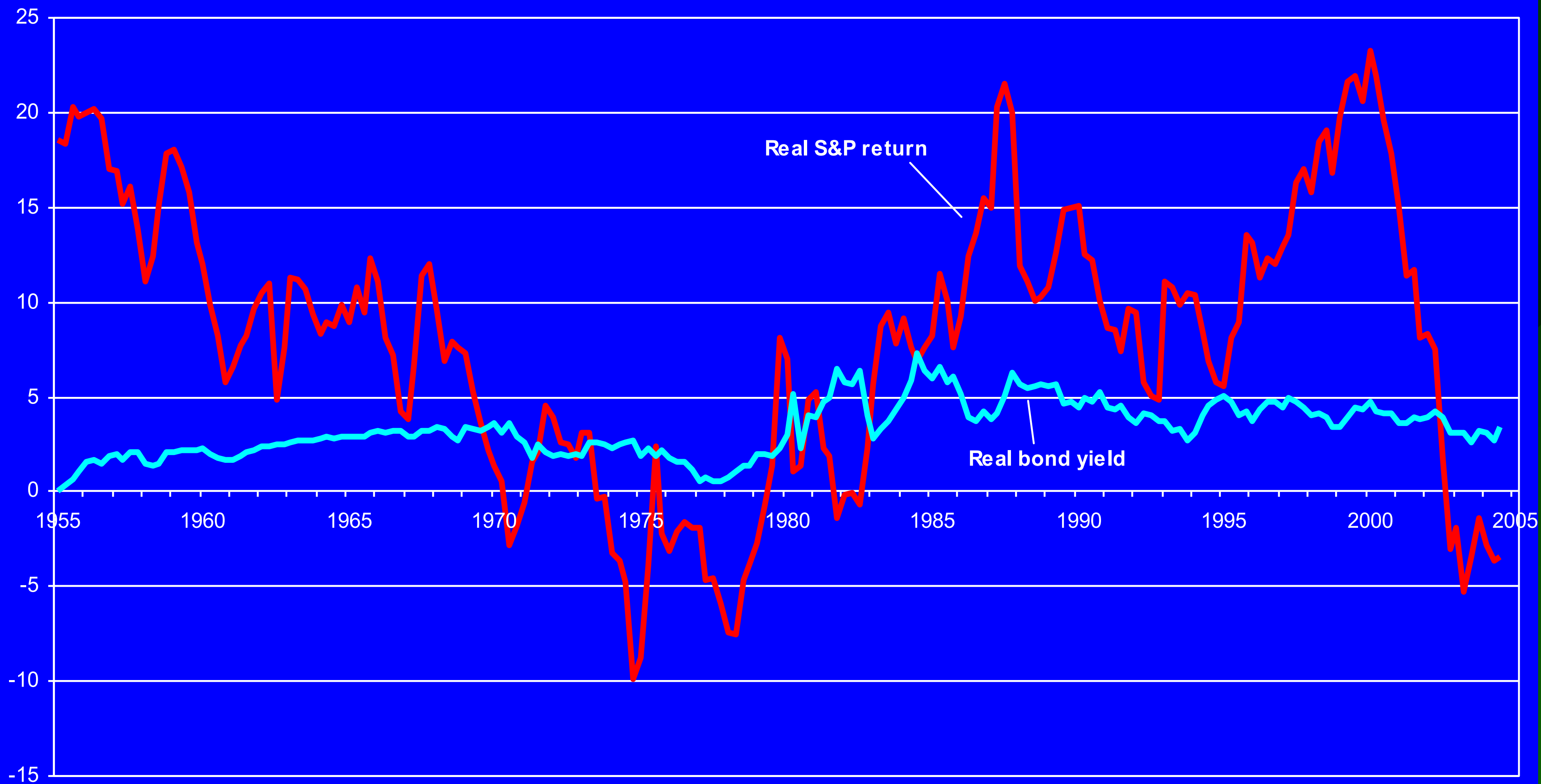
Need to Adjust for Inflation

- Use as measure of “Expected Inflation”:
  - Three year moving average of GDP deflator

$$EI = 100*LN(P(t)/P(t-3))/3$$

Adjust both bonds and stocks by same inflation measure

Real Returns on Stocks vs. Bonds, 1955-2005



Conclusions about Stocks vs. Bonds

- There are “bad” and “good” eras
- The best returns are in transition from bad to good, not just being in a good era alone
- It’s not enough to predict prosperity and low inflation

Implications of P/E Ratios

- Why Should P/E Ratio “Kalman Trend” have increased?
  - Permanent reduction of inflation
  - Permanent reduction of business cycle volatility
- But these are “one-time effects” – cannot continue

What about the "E" in P/E

- Corporate Earnings are at a peak as a % of GDP
- Thus the Best Guess is:
  - Earnings cannot grow faster than nominal GDP
  - Stock Prices cannot grow faster than nominal GDP
- Nominal GDP growth? (2% inflation + 3-3.5 percent real growth)
- Predicts future real stock returns of roughly 5 (3.5 real growth + 1.5 dividend yield)
- Vs. real bond return of 3 to 4. Less risk in stocks the longer you hold them

Going Beyond a S&P Index Fund: How Would You Know

- Five year CUMULATIVE returns to now
  - S&P 500 -13.6%
- Size of company
  - Large blend -1.0%
  - Mid-cap blend + 7.2%
  - Small Value +16.3%

Opportunities by Industry?

- Again, S&P -13.6% five year return
- Industries?
  - Natural Resources +16.8
  - Financial +13.7
  - Health +3.7
  - Real Estate +21.0
  - Technology -19.8

Opportunities by Region?

- Again, S&P 500 -13.6%
- Other Regions
  - – Latin America +7.6
  - – Pacific/Asia ex-Japan +1.0
  - – Japan Stock -9.0
  - – Europe Stock +1.0

Types of Bond Funds

- Again, S&P 500 Index -13.6 cumulative
- Bond Funds
  - Long Government +9.8
  - High-yield (junk) +5.1
  - Emerging Markets bond +15.9
  - World Bond +7.9

Looking for Clues into the Future

- Causal Chain from Government Deficits to Foreign Deficits
  - Dollar is More Likely to go Down than Up
  - Interest Rates More Likely to go Up than Down
- Bad for Bond Returns
- Domestic Stocks Safer than Domestic Bonds

How to Play Decline in Dollar

- Depreciation of Dollar Raises Profits of U. S. Multinational Corps, Reduces Profits of European Multinationals
- European Growth may Slow
- European Bonds May be a Better Play on the Dollar
- Asian Growth: Asian Stock and Bond Funds

Last Thought: Your Favorite Industry

- The More You Know, the Less You Know
- My Sorry History of Knowing a Lot about Airlines
- Couldn't Forecast 9/11
- Didn't Forecast High Oil Prices
- Fortunately kept it to ~10% of Portfolio