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 Unemployment 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

Figure 3. Actual vs. Trend Growth in Output per Hour
Add in the Unemployment Rate
Reduced Volatility of Business Cycles

Percent per year


Actual real GDP growth

Average real GDP growth
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

\[ EI = 100 \times \ln\left(\frac{P(t)}{P(t-3)}\right)/3 \]

Adjust both bonds and stocks by same inflation measure
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