Long-Run Prospects for Real Interest Rates

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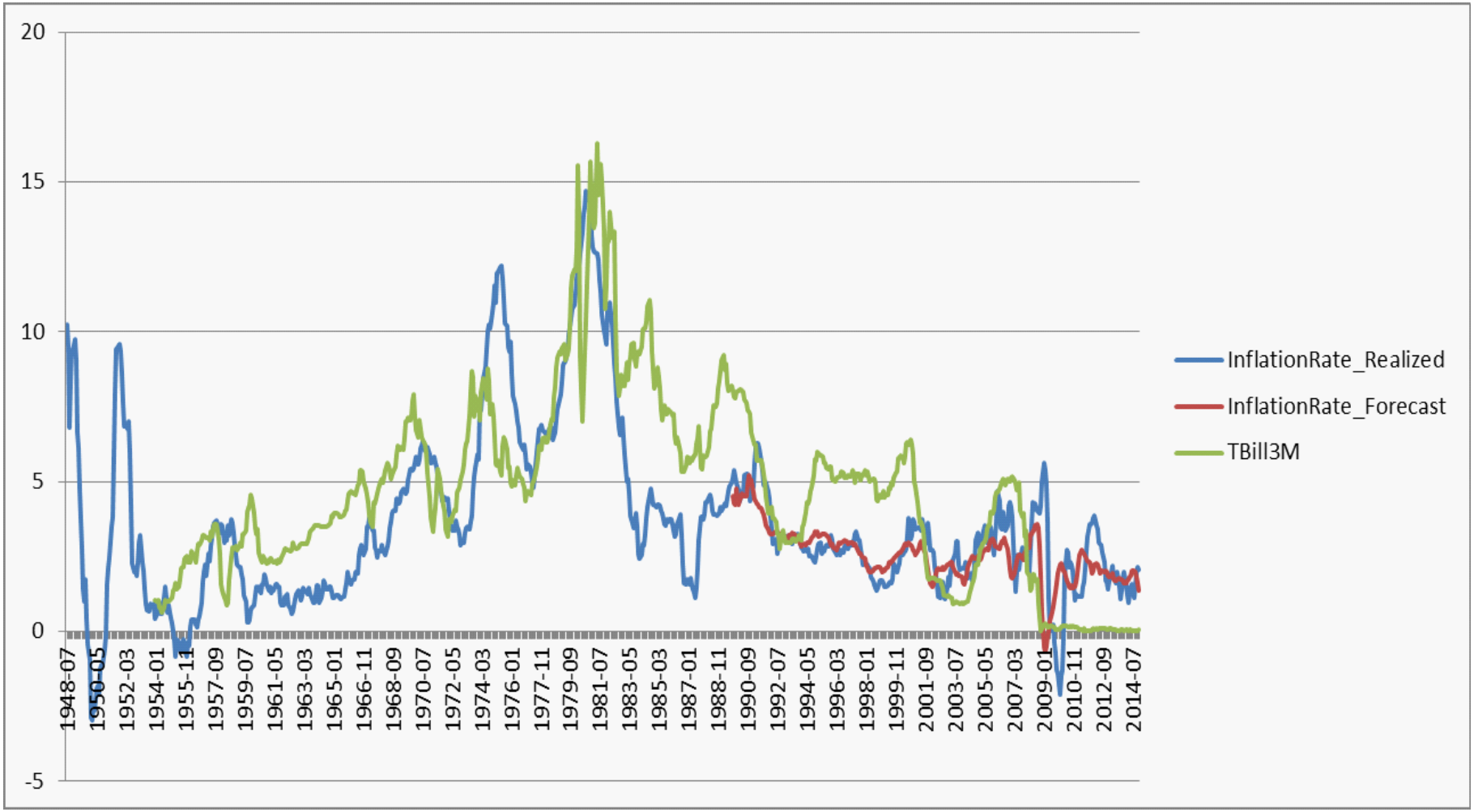
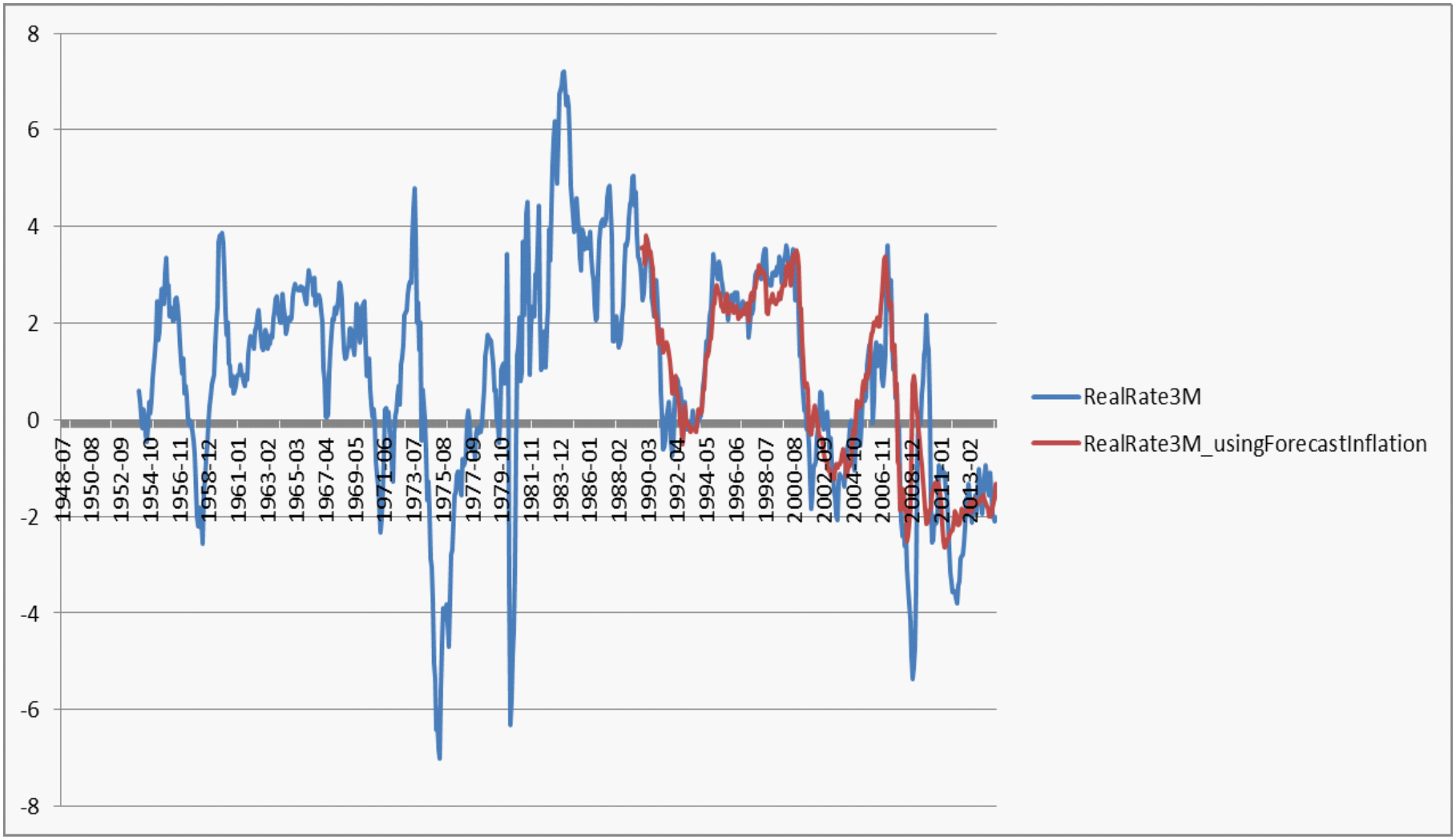
Which Real Interest Rate?

- Short-term real interest rate
  - No inflation-indexed instrument exists
  - We must use nominal rate minus expected inflation
  - Expected inflation can be proxied by survey inflation forecasts or lagged one-year inflation
- Long-term real interest rate
  - In recent years, inflation-indexed bond yields are available
  - In earlier years, can use nominal yield minus expected long-term inflation
  - Expected long-term inflation can be proxied by zero (under gold standard) or lagged long-term inflation
- How are short-term and long-term rates related?
  - Long real rate incorporates market expectations of future short real rates
  - But it also reflects a risk premium (equivalently, it weights expected short rates more highly in bad scenarios than in good scenarios)
  - And may also reflect illiquidity premium, deflation put, etc.

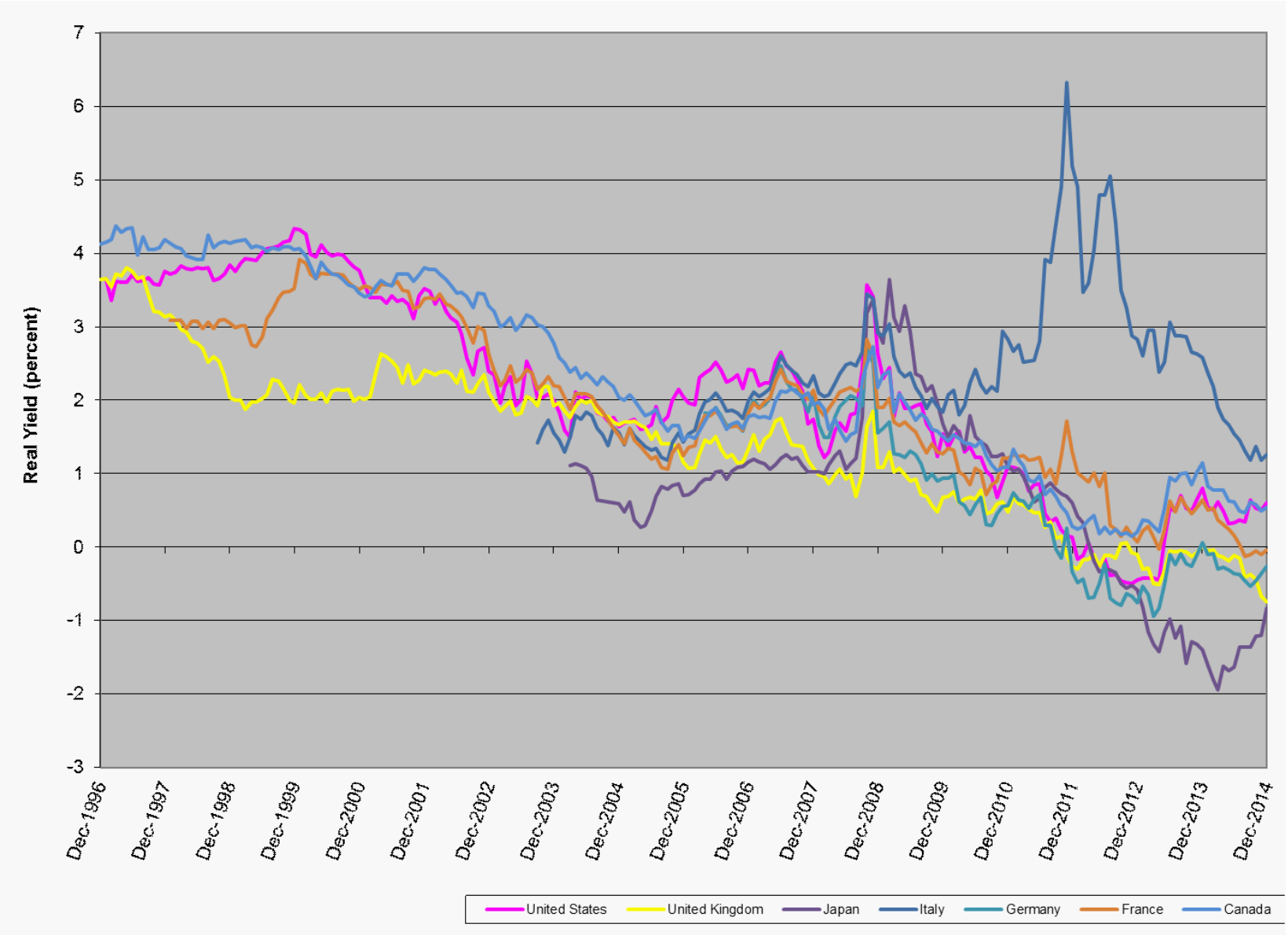
Postwar US Short Real Rate: Ingredients



Postwar US Short Real Rate

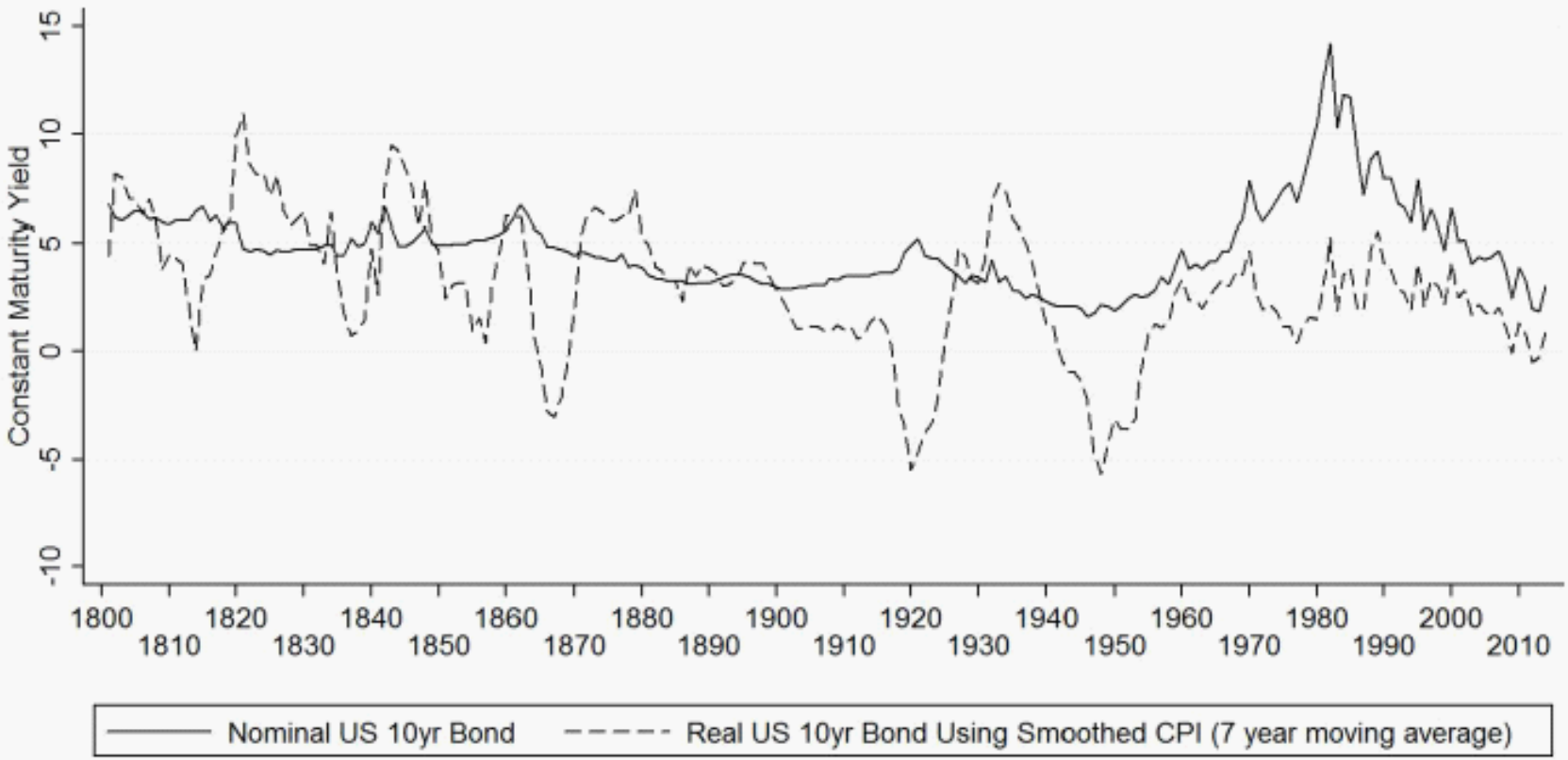


Recent History of Inflation-Indexed Bond Yields



Long History of US Nominal Bond Yields with Inflation Adjustment (from Eichengreen, NBER WP 20836, 2015)

Figure 1. Long-Run US Interest Rates



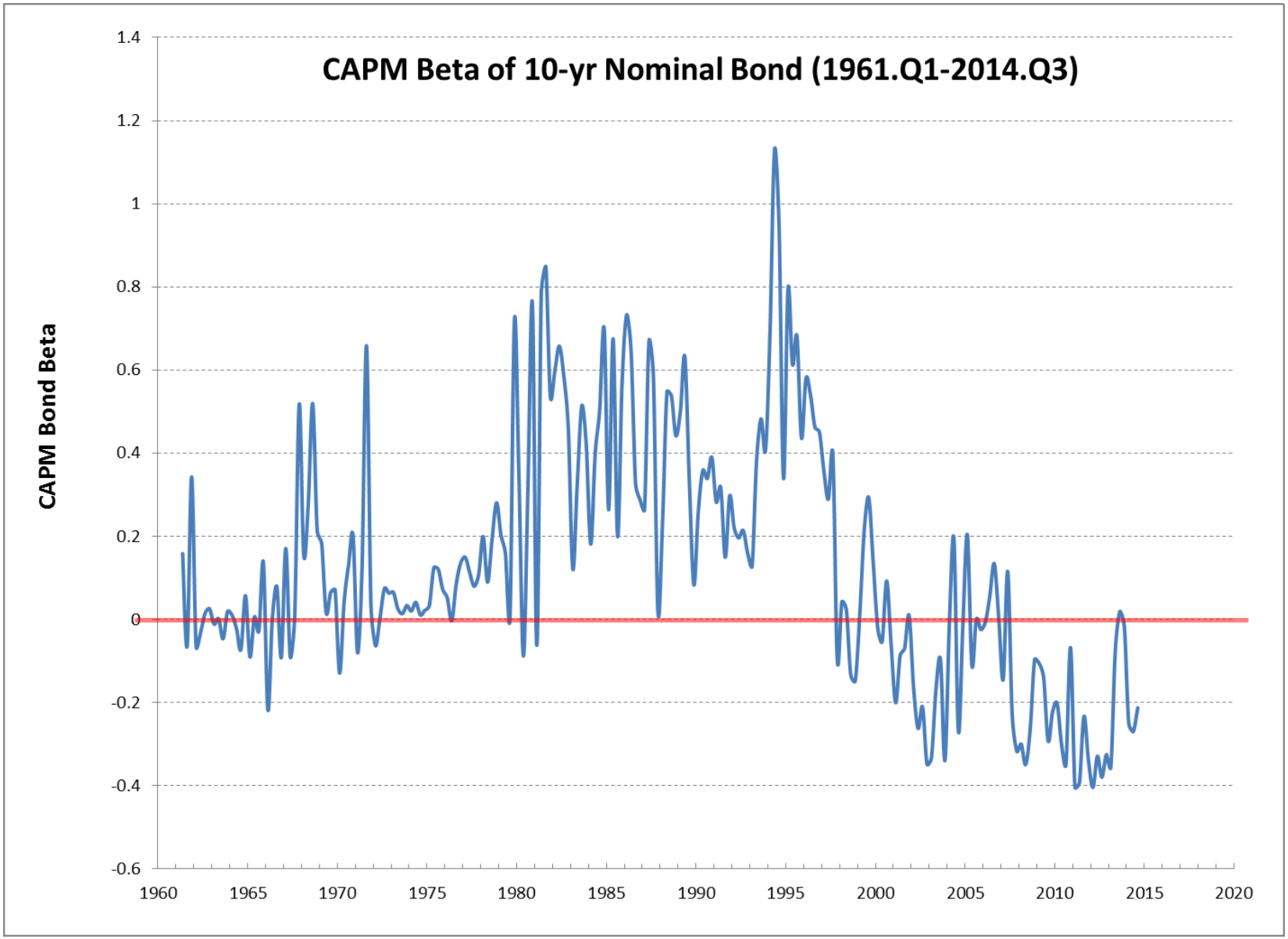
Basic Observations from Historical Data

- 1954-2014 average short real rate 1.0%, latest value -2.0%.
- 1997-2014 average TIPS yield 2.1%, latest value 0.6%.
- Short rates move with the business cycle but also show lower-frequency variation.
- TIPS yield (and foreign inflation-indexed bond yields, and nominal bond yields relative to lagged inflation) have declined steadily since the late 1990s.

What About the Long Bond Risk Premium?

- If there is no risk premium in TIPS, then 0.6% is the market's forecast of the average real short rate over the next decade (modified duration of 8.4 years in TIPS index).
- With a positive risk premium and illiquidity premium, the implied market forecast is even lower.
- However, there are good reasons to think the TIPS risk premium may be negative today.
  - Negative CAPM beta of nominal bonds, similar for TIPS (Campbell, Sunderam, and Viceira 2013).
  - Bonds do well when the economy enters a period of expected slow growth, so they insure investors against secular stagnation (Campbell 1986, Bansal and Yaron 2004).
  - Monetary policy no longer raises rates to kill inflation by creating recessions, it lowers rates to combat recessions (Campbell, Pflueger, and Viceira 2014).
- Negative TIPS risk premium and positive illiquidity premium may roughly cancel (Pflueger and Viceira 2013).

The CAPM Beta of Nominal Treasury Bonds



Why Might We Expect Persistently Low Short-Term Real Rates?

- Financial market data point towards persistently low short-term real rates.
- Why might it be reasonable to expect a low-rate era?
  - Rise in global savings driven by growth, demographics, and precautionary savings of emerging countries (Bernanke 2005).
  - Decline in global investment resulting from shortage of investment opportunities (Gordon 2012) or declining relative price of investment goods not offset by investment quantity increases (IMF 2014).
  - Portfolio shift towards safe assets since the 1990s.