Comments on Hamilton and Wu's The Effectiveness of Alternative Monetary Policy Tools in a Zero Lower Bound Environment

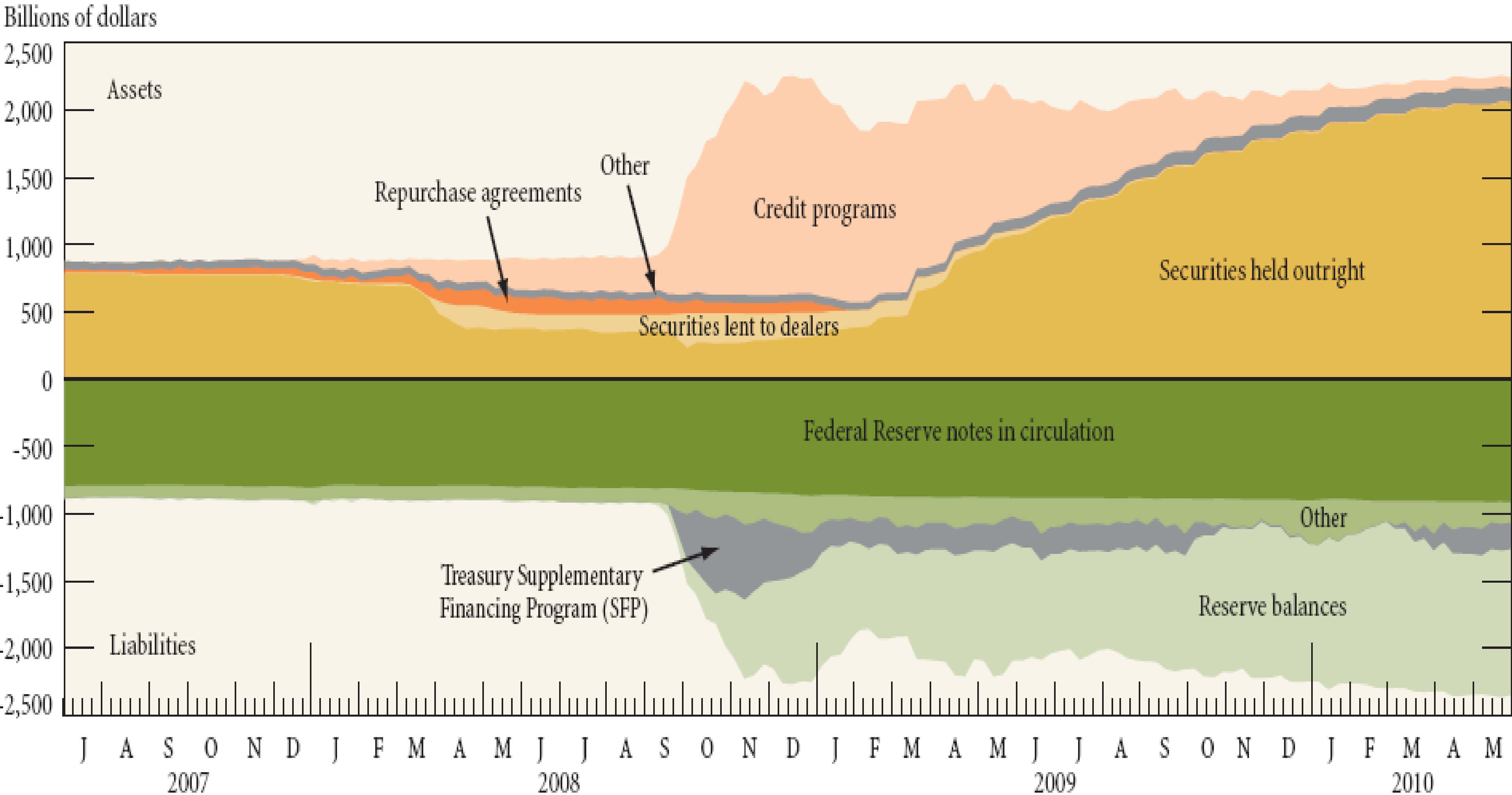
October 15-16, 2010

James McAndrews
Federal Reserve Bank of New York

James Hamilton and Catherine Wu's paper provides a useful measure of the size of possible effects of asset purchases by the Fed from the perspective of a "portfolio balance" model of how these asset purchases have effects on long-term interest rates.

For the remainder of my discussion, I'll review the way that asset purchases can have effects.

Assets and Liabilities of the Federal Reserve System



Source: Federal Reserve Statistical Release H.4.1, "Factors Affecting Reserve Balances."

Wallace (1981) established an irrelevance theorem for central bank purchases that points out that given a fixed fiscal policy, the expectation of the government's tax policies will undo the effects of central bank asset purchases.

It is possible to break this result in a number of ways.

1. Ricardian equivalence doesn't hold.
2. Perfect arbitrage does not take place.
3. Miller-Modigliani does not hold.
4. Money has "nonpecuniary" demand so that open market interventions affect the current nominal short-term interest rate and expectations about future short rates.

1. Ricardian equivalence doesn’t hold.

Bagwell and Bernheim *JPE* 1998

2. Perfect arbitrage does not take place.

Vayanos and Vila (2009), Curdia and Woodford (2010) have this feature.

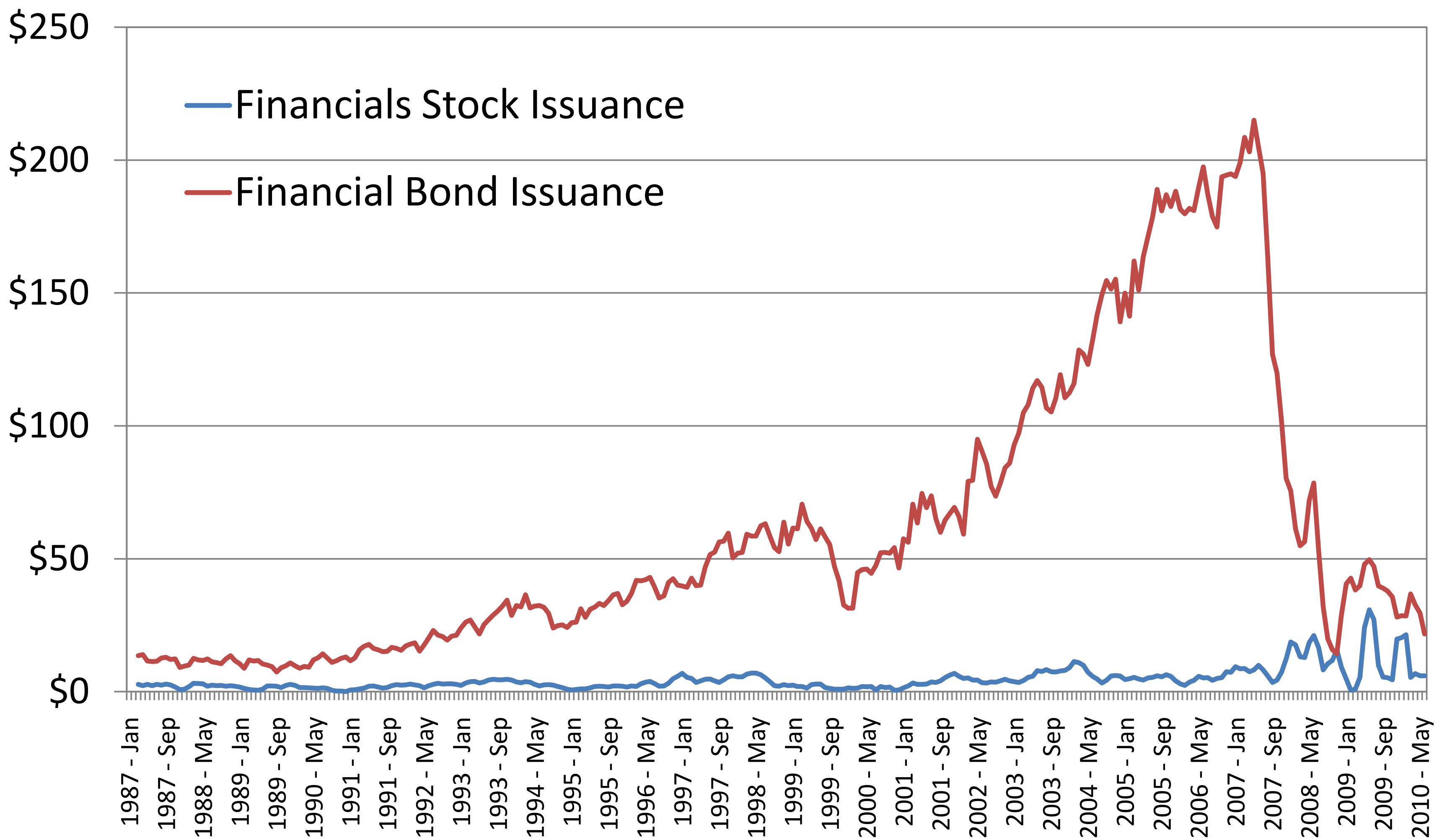
Both have *limited participation* as a key to their approaches.

Vayanos and Vila (2009) provide a <u>theoretical basis for the portfolio balance effect</u>: Habitat constrained investors create segmentation across yields of different tenors of securities, that are partially arbitraged away by risk averse arbitrageurs. Shocks to arbitrageurs' wealth or risk aversion can then influence rates at different tenors.

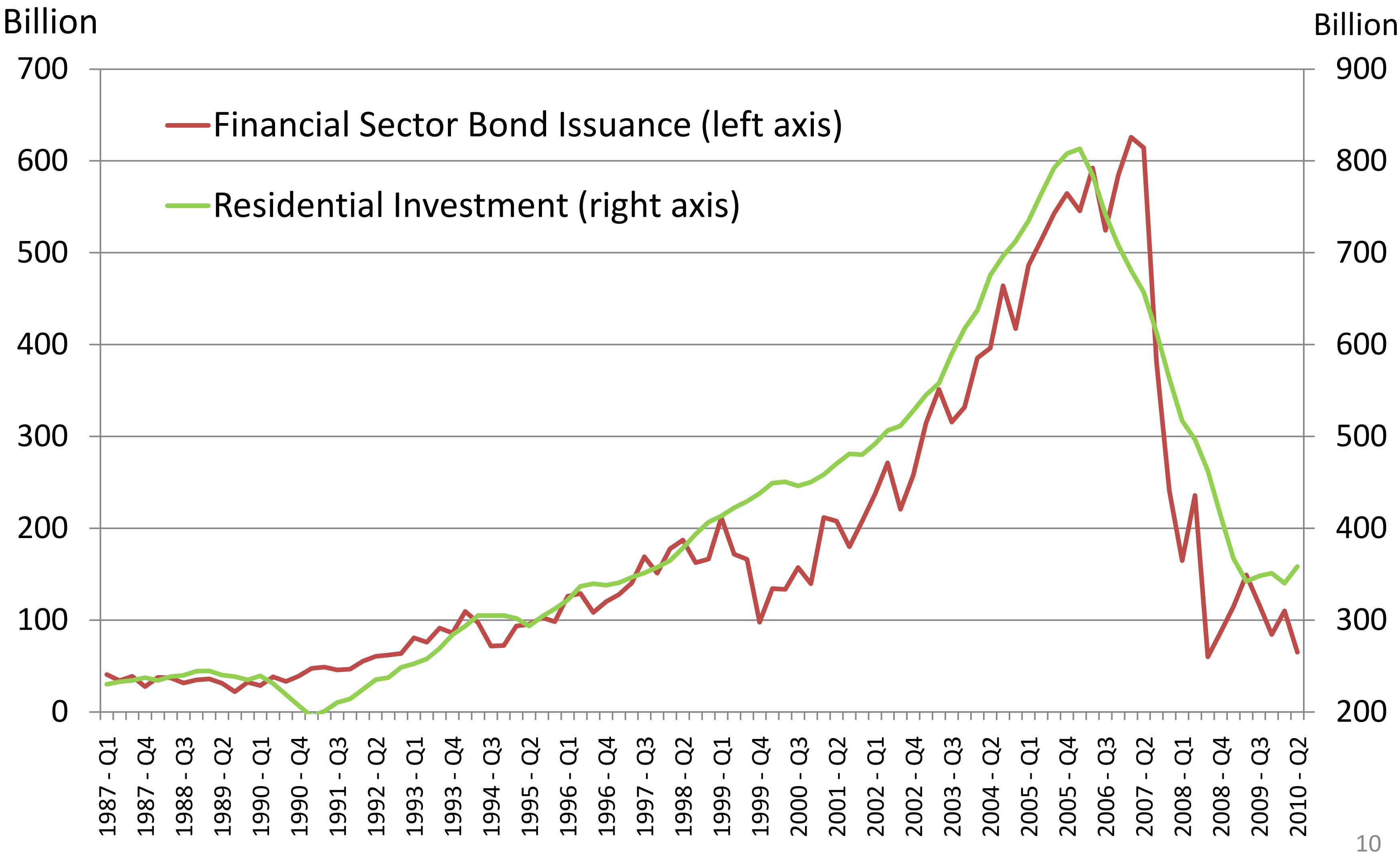
3. Miller-Modigliani doesn't hold

Risk Appetite: Adrian and Shin (2009) model time-varying risk aversion by arbitrageurs, induced by budget constraints. Policies that impact funding constraints, equilibrium volatility, or the distribution of wealth can affect risk aversion and market functioning. The model can be "closed" in a number of ways, in particular, by having Miller-Modigliani violated. Bernanke Gertler (1995) provided one approach, but other approaches are possible.

Bond Issuance by financial sector has gone through pronounced boom-bust cycle



Financial sector bond issuance closely tied to residential investment



4. Money has “nonpecuniary” demand so that open market interventions affect the current nominal short-term interest rate and expectations about future short rates.

Eggertsson and Woodford : 2009 the nonpecuniary demand for money gives the central bank control over short-term nominal rates through variation in the size of its asset holdings.

Guidance on future short-term rates influences expectations. If, for example, asset purchases are costly to reverse, then asset purchases signal lower future short rates.

Bernanke, in his 2003 speech in Japan suggests a form of this:

“to strengthen the effects of fiscal policy, it would be helpful to break the link between expansionary fiscal actions today and increases in the taxes that people expect to pay tomorrow.

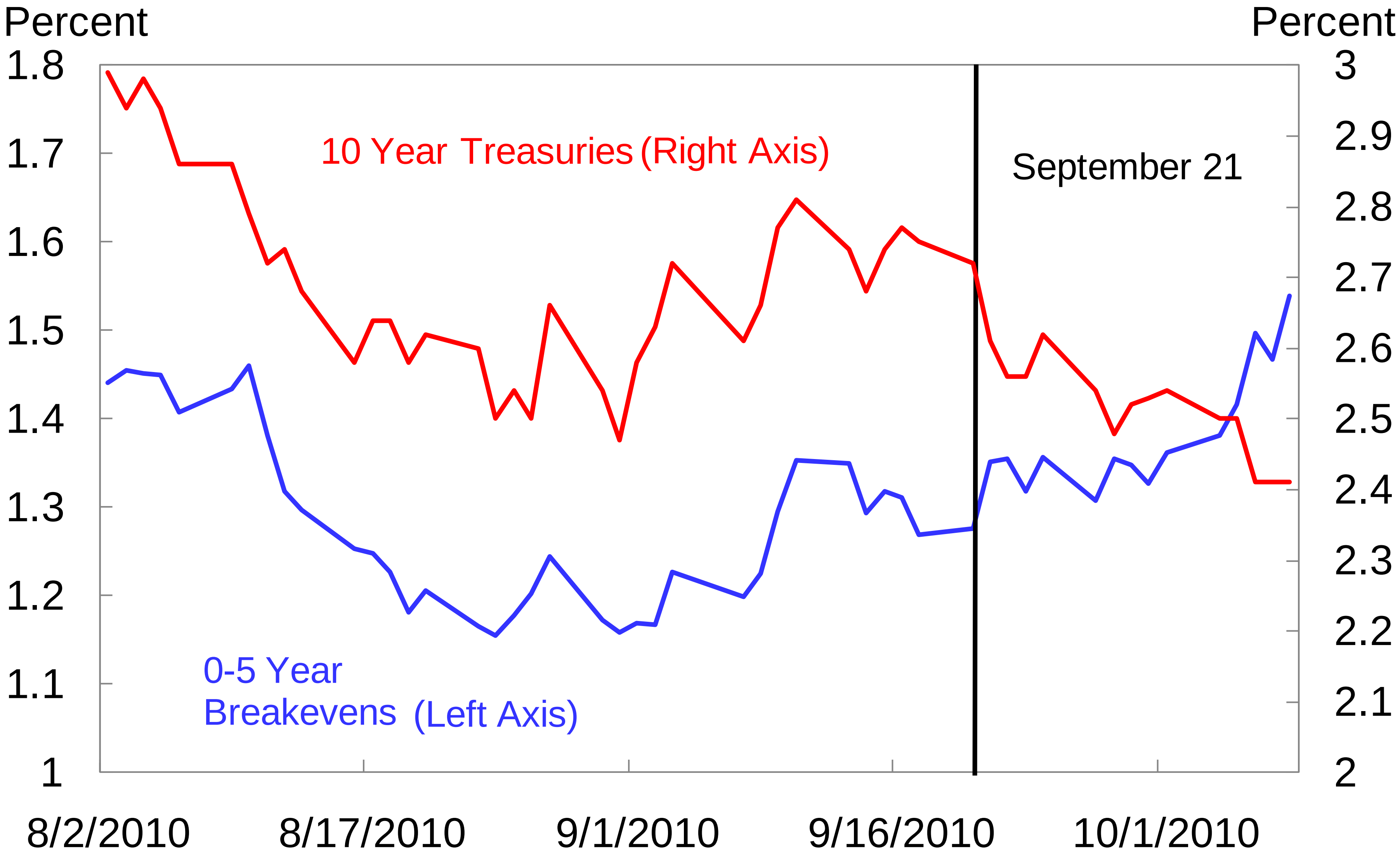
My thesis here is that cooperation between the monetary and fiscal authorities in Japan could help solve the problems that each policymaker faces on its own. Consider for example a tax cut for households and businesses that is explicitly coupled with incremental BOJ purchases of government debt--so that the tax cut is in effect financed by money creation. Moreover, assume that the Bank of Japan has made a commitment, by announcing a price-level target, to reflate the economy, so that much or all of the increase in the money stock is viewed as permanent.

Under this plan, the BOJ's balance sheet is protected by the bond conversion program, and the government's concerns about its outstanding stock of debt are mitigated because increases in its debt are purchased by the BOJ rather than sold to the private sector. Moreover, consumers and businesses should be willing to spend rather than save the bulk of their tax cut: They have extra cash on hand, but--because the BOJ purchased government debt in the amount of the tax cut--no current or future debt service burden has been created to imply increased future taxes…Of course, one can never get something for nothing; from a public finance perspective, increased monetization of government debt simply amounts to replacing other forms of taxes with an inflation tax.”

An assumption that Bernanke uses in his analysis is that it is costly to enforce (lump sum) taxes, so that the government optimally chooses to replacing taxes with an inflation tax, but many other ways may be operative (Eggertsson 2006).

Given the different ways that central bank asset purchases could have real effects, what should we expect from a possible new round of asset purchases?

Recent Increase in Breakevens



Source: Federal Reserve Board