#### James Bullard

President and CEO
Federal Reserve Bank of St. Louis

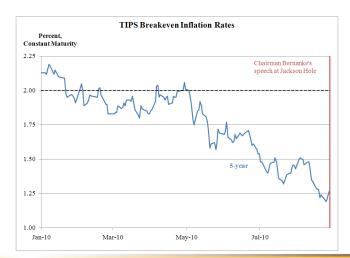
26 March 2011 Asset Prices, Credit and Macroeconomic Policies Marseille, France

Any opinions expressed here are mine and do not necessarily reflect those of other Federal Open Market Committeee participants.

#### THE STATE OF PLAY

- Worldwide economic recovery continues.
- During the recovery process, economies are susceptible to further negative shocks.
- Negative shocks can dampen inflation expectations.
- How to combate this possibility when policy rates are already near zero?
  - Some of the material in this talk is based on my paper, "Seven Faces
    of 'the Peril'", which appeared in the September-October 2010 issue
    of the Federal Reserve Bank of St. Louis Review.

### MARKET-BASED U.S. INFLATION EXPECTATIONS



#### CURRENT U.S. MONETARY POLICY

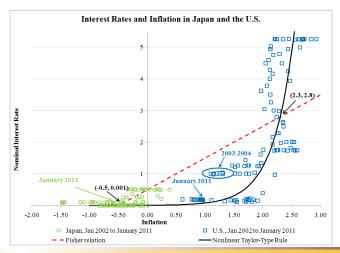
- Near-zero policy rate.
- Large quantitative easing program.
- "Extended period" language for near-zero policy rate.
- Conventional wisdom reaction to a negative shock: *lengthen the "extended period."*
- Could this send the U.S. (and Europe) to a liquidity trap?

THE STATE OF PLAY

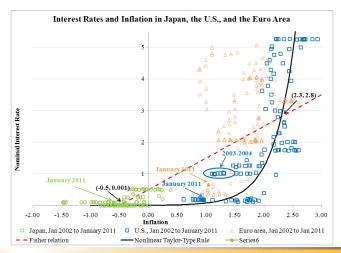
#### BENHABIB, SCHMITT-GROHE, AND URIBE

- Consider a model with three generic features:
  - A Fisher relation.
  - A monetary authority which follows a Taylor-type policy rule.
  - The zero lower bound on nominal interest rates.
- Models with these features possess an unintended steady state.
  - The unintended steady state is characterized by:
    - Short-term nominal interest rates at or near zero.
    - Inflation consistently below target.

# BENHABIB, SCHMITT-GROHE, AND URIBE

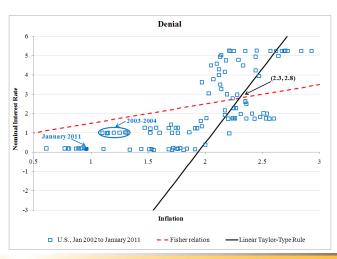


# BENHABIB, SCHMITT-GROHE, AND URIBE



#### REACTIONS

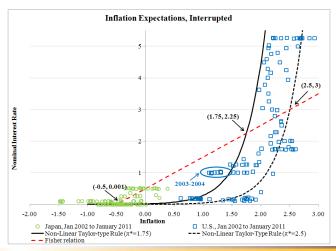
- Macroeconomists and policymakers are generally very fragmented on this issue.
- The following is a list of views, some formal, some informal.

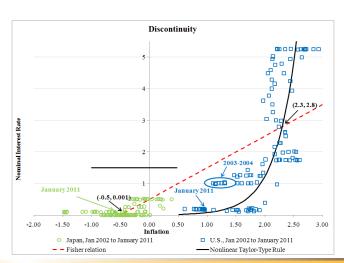


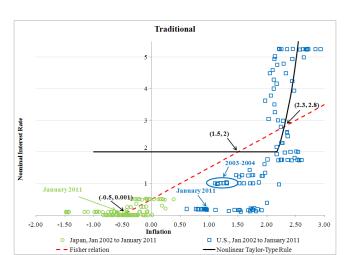
#### LEARNABILITY

- Eusepi (2007, *JME*).
- Global analysis.
- Targeted equilibrium can be the sole learnable long-run outcome.
  - The Taylor-type rule has to respond only to past inflation.
- But many other possibilities exist.
- Cold comfort—a form of denial?
- Evans-Guse-Honkapohja (2008, *EER*): intended steady state locally but not globally stable under learning.

# FOMC, 2003







#### FISCAL EXPANSION

- Benhabib, Schmitt-Grohe, Uribe (2002, *JPE*), Woodford (2003, *Interest and Prices*).
- Aggressive fiscal expansion to avoid a liquidity trap.
- Total government liabilities M + B promised to grow at a rate in excess of the nominal interest rate.
- This eliminates the liquidity trap as a steady state equilibrium.
- This approach is criticized by Atkeson, Chari, and Kehoe (2010, *QJE*): implementation through extreme government response.
- Impractical and dangerous in the wake of the European sovereign debt crisis.
  - Japanese fiscal expansion nearing a debt-GDP ratio of 200 percent.

#### DETERMINISTIC PATHS FOR THE POLICY RATE

- Schmitt-Grohe and Uribe (2010, NBER Working Paper #16514).
- Set a threshold for inflation below the target rate of inflation.
- If inflation falls below the threshold, abandon the Taylor-type policy rule.
- Instead, follow a deterministic path for the nominal interest rate.
- Involves raising policy rates independently of economic events.
- Avoids the fiscal expansion.

#### QUANTITATIVE EASING

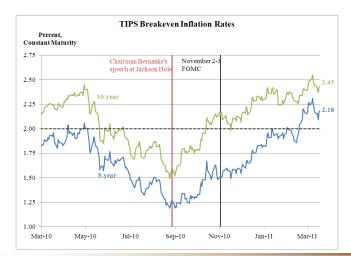
- Successful for the U.S. and the U.K.
- U.K. actual and expected inflation have remained higher.
- Threats to permanently "monetize more debt" are more credible than fiscal actions.
  - Reliably pushes inflation expectations higher.
- Can be made state contingent in an appropriate way.
- Japanese record shows that a temporary balance sheet expansion is not effective.

#### WHAT THE FOMC DID

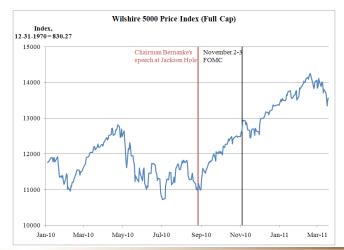
- The FOMC began slowing the run-off of the balance sheet in August 2010.
- Markets began pricing in additional action after the Chairman's Jackson Hole speech later in August.
- The decision on QE was made at the November FOMC meeting.
- Most effects were already priced into financial markets at that point.

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#### **EXPECTED INFLATION INCREASED**



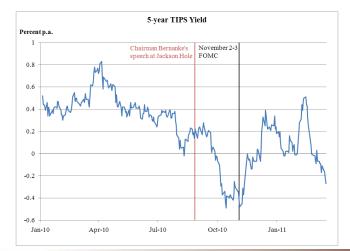
# **EQUITY PRICES INCREASED**



#### THE DOLLAR DEPRECIATED



QE2: WAS IT EFFECTIVE?



#### CLASSICAL MONETARY POLICY EASING

- These are the "classic" financial market effects one might observe when the Fed eases monetary policy in ordinary times (that is, in an interest rate targeting environment).
- Effects on the real economy would be expected to lag by six to twelve months.
  - Real effects are difficult to disentangle because other shocks hit the economy in the meantime.
  - This is a standard problem in the evaluation of monetary policy.

QE2: WAS IT EFFECTIVE? 000000



# Conclusions

- The U.S. was susceptible to negative shocks which could dampen inflation expectations.
- This could possibly push the economy into a liquidity trap.
- The conventional wisdom policy response to a negative shock is to promise a longer "extended period."
- This may work—but it may also encourage a liquidity trap outcome.
- A better policy response to a negative shock is to expand the QE program.