



BANK FOR INTERNATIONAL SETTLEMENTS

The macroeconomics of macroprudential policies

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Presentation at the Conference on 'Effective Macroprudential Instruments'

The University of Nottingham Centre for Finance, Credit and Macroeconomics (CFCM), the Money, Macro and Finance Research Group (MMF) and the Royal Economic Society (RES)

13–14 November 2014

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Views expressed are my own, not necessarily those of the BIS. Thanks to Sonja Fritz and Jhuvesh Sobrun for helping to prepare this presentation.



MACROPRUDENTIAL POLICIES AND THE BANK OF ENGLAND

- Bank of England became a central bank to carry out a macroprudential mandate (Allen, 2013)
- Not responsible for price stability – convertibility into gold restored in 1821
- Its task was to avoid financial crises and limit systemic fallout from any bank failures
- The word “macro-prudential” coined by a Bank of England official in 1979, surfacing in Basel Committee papers



INTRODUCTION

- How does a regulatory constraint affect macroeconomic flow variables – especially ex ante saving?
 - A market interest rate – not the central bank's policy rate
 - Exchange rate
- Implications for stocks – balance sheet variables
- Macroeconomic variables beyond the reach of macroeconomic policies



PLAN

- I. A regulatory constraint: impact on income and interest rates**
- II. A regulatory constraint: impact on the exchange rate**
- III. Macroprudential policies and the central bank's balance sheet**
- IV. The long-term interest rate**

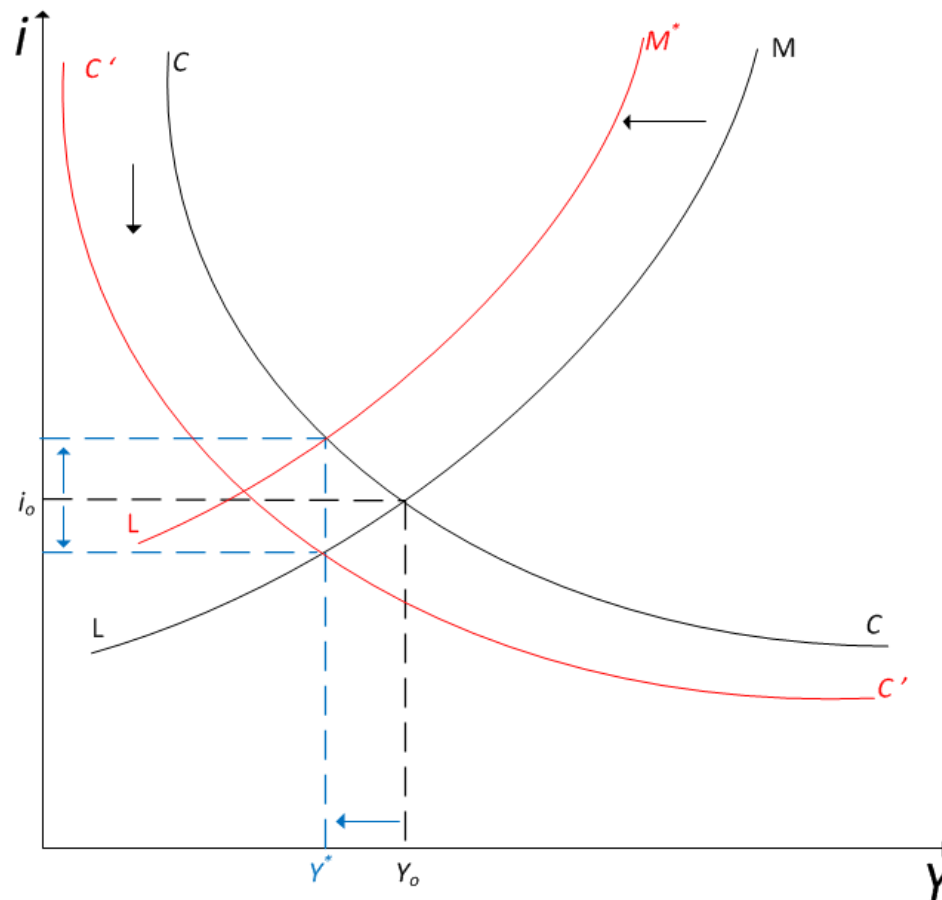


- Price level and inflation taken as given... monetary policy would respond to higher inflation, shifting LM curve
- Macroprudential measures to tighten bank lending conditions shift CC curve downwards and lowers the interest rate on bonds
- Monetary tightening increases the interest rate on bonds.




Graph 1

Bernanke-Blinder Diagram



Balance sheet effects

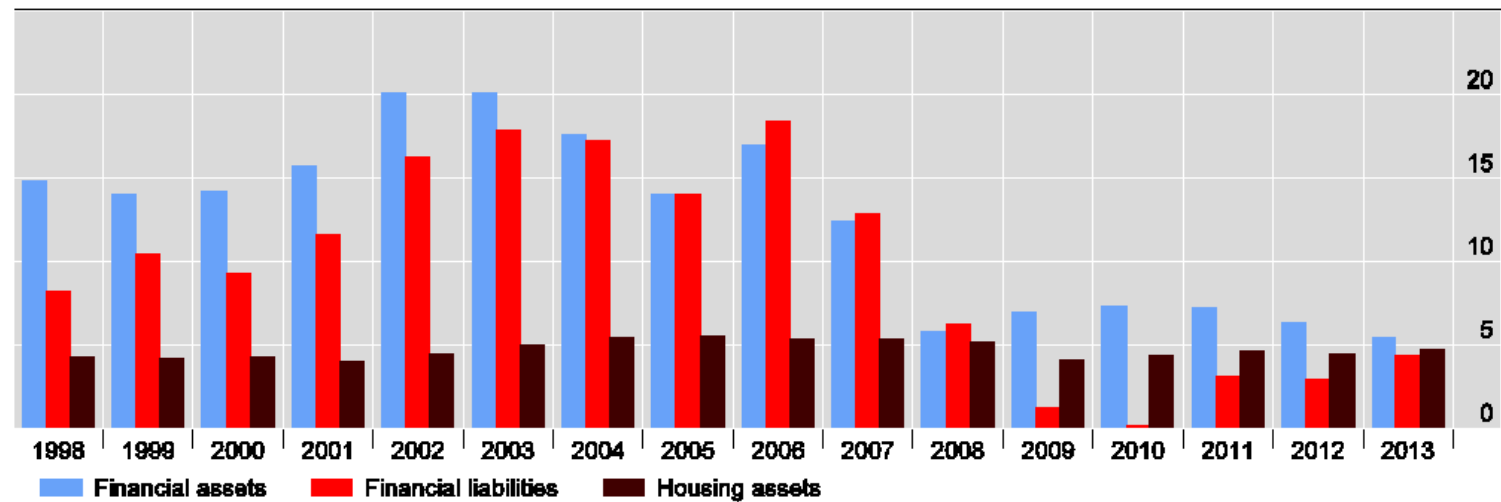
-  asset prices eases borrowing constraints
- Housing market creates strong “systemic connection” between aggregate financial assets and financial liabilities of the household sector? Do models analyse this?



The accumulation of household debt and assets in the United Kingdom

As a percentage of gross disposable income

Graph 2

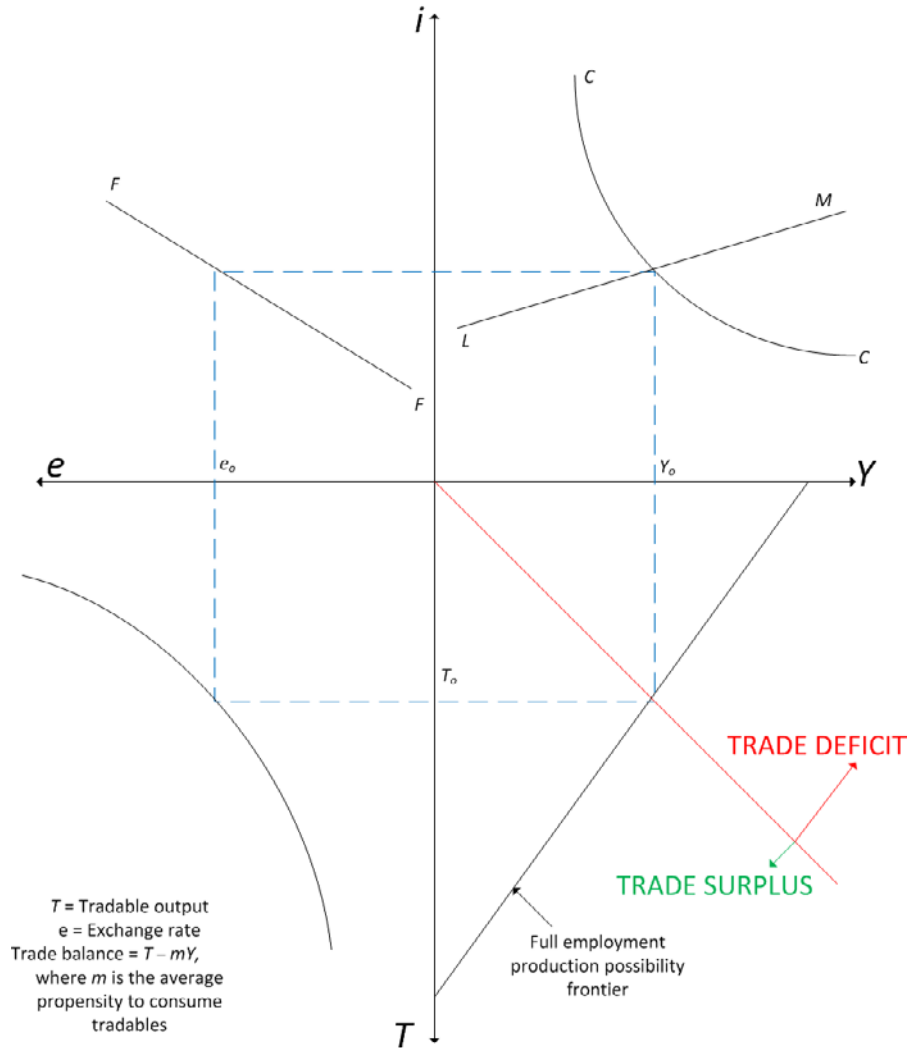


Source: ONS from Nickell (2004).



Graph 3

The exchange rate and the trade balance



- As CC shifts onwards (ie banks more willing to lend) in an open economy the interest rate on bonds rises less.
- Exchange rate appreciates
- The output of tradables falls, output of non-tradables has to rise to maintain full employment and a trade deficit is created ...and external vulnerabilities increase.



The exchange rate and financial stability

- Even sterilised, foreign exchange intervention stimulates bank credit expansion (Garcia, 2011). BB's bank lending channel.
- Credit boom + Overvalued currencies = Crisis (Gourinchas and Obstfeld, 2011)
- Macroprudential tightening counters this dynamic



Rules on currency mismatches to make monetary policy effective

- What if domestic borrowers go abroad?
Policy becomes less effective and exchange rate driven up
- Need to tighten rules on currency mismatches
or foreign borrowing



A model simulation for an open economy

- 5 percentage point reduction in loan-to-value ratio

↓ Household debt by 7.6%

↓ Real GDP by 0.7%

- 100 basis point rise in policy rate

↓ Household debt by 0.5%

↓ Real GDP by 0.4%

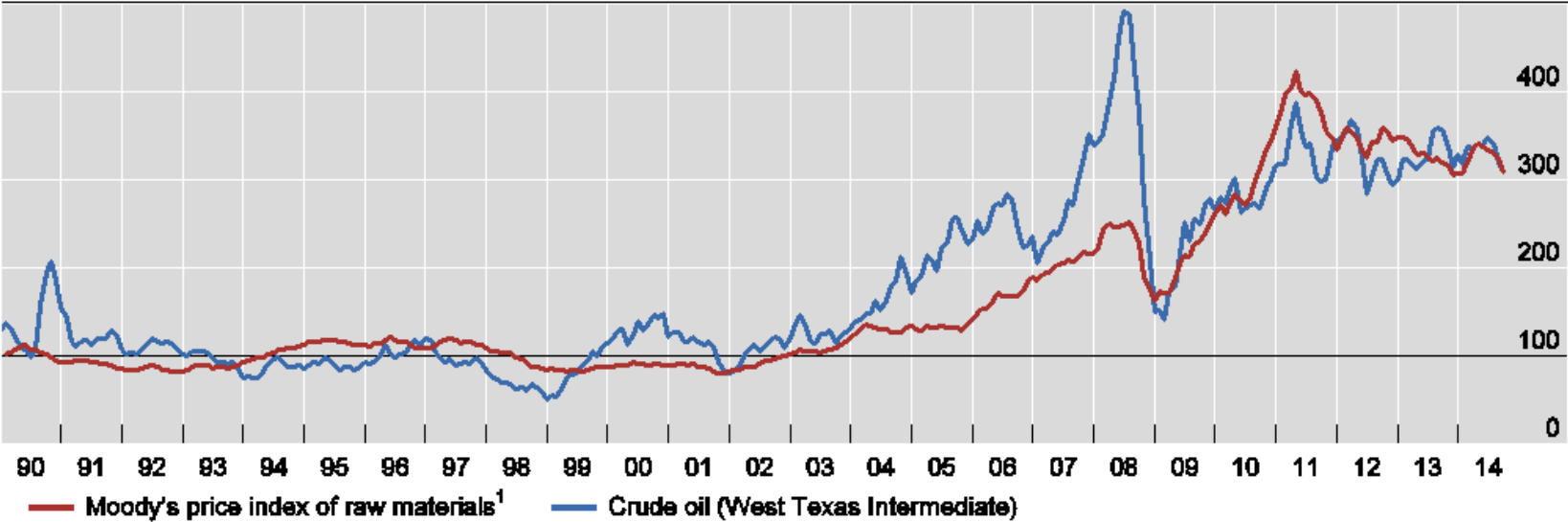
(Source: Alpanda et al (2014))



Real commodity prices

Deflated by the US core CPI; 1990-99 = 100

Graph 4



¹ Made up of 15 commodities (cocoa, coffee, copper, cotton, hides, hogs, lead, maize, rubber, silk, silver, steel scrap, sugar, wheat and wool) weighted by the level of production or consumption in the United States.

Sources: Bloomberg; [Datastream](#).

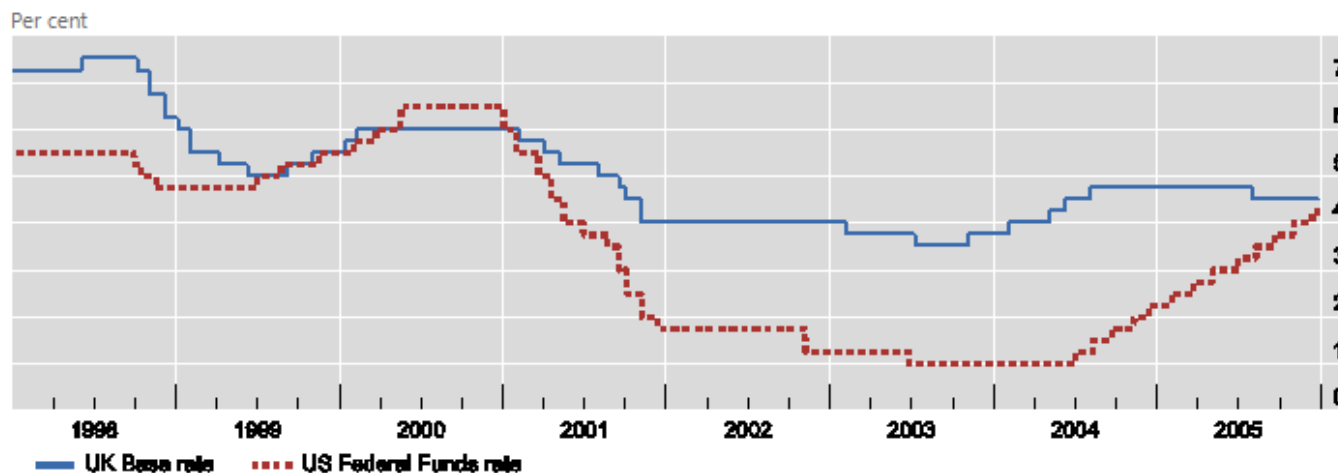


Wider implications of the exchange rate

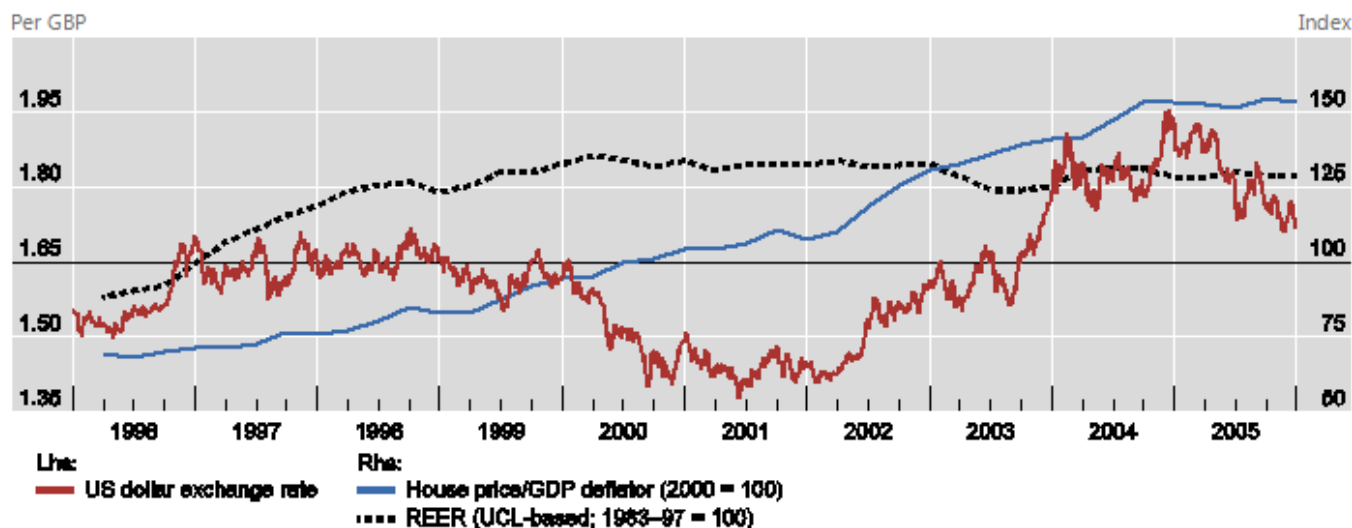
- Commodity prices drive exchange rates (Kohlscheen, 2014)
- Borrowers with foreign currency debt
 - Banks lend more to local borrowers whose balance sheet is improved by currency appreciation (Bruno and Shin, 2014)
- Higher domestic rates attract increased capital flows into short-term debt paper
- Higher external debt from prolonged current account deficit.



UK Bank rate and US Federal Funds rate



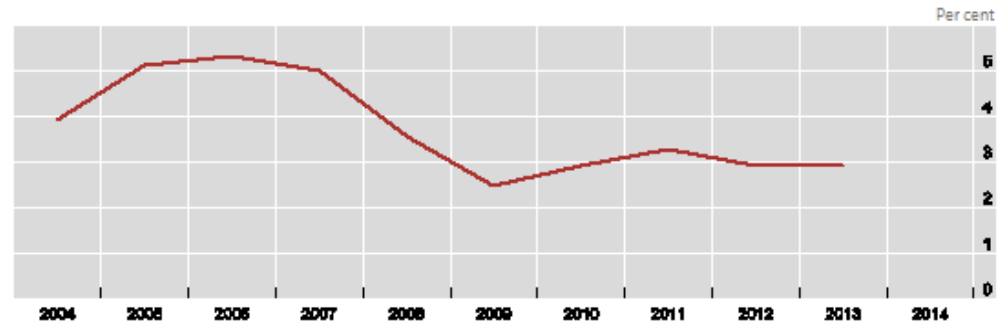
UK house prices and exchange rate



Sources: Datastream; National data.



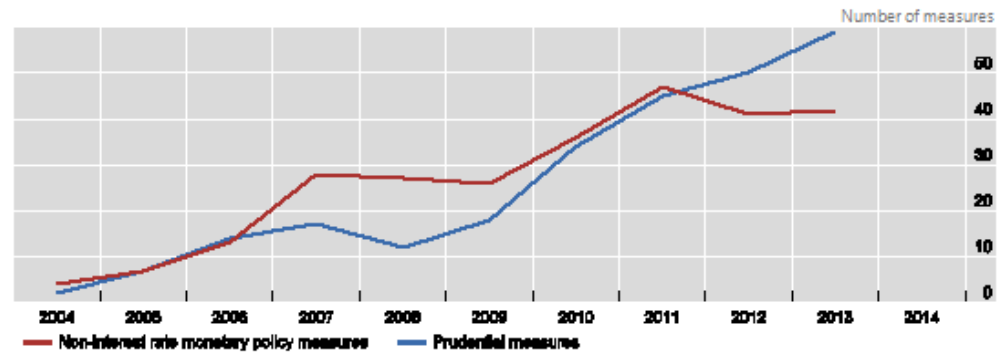
A. The policy rate cycle¹



B. Real effective exchange rate¹



C. Macroprudential policy cycles²



¹ Simple average of policy rates for 12 Asia-Pacific economies. ² Cumulative sum of tightening actions (+1) and loosening actions (-1) taken by 12 Asian-Pacific economies.

Sources: Bruno, Shim and Shin (2014; panels A and C); national data.



THE BALANCE SHEET OF THE CENTRAL BANK (CB)

- CB liabilities are assets for the banking system
- Heavy reliance on reserve requirements in EMEs as forex intervention increases CB assets
- Liquidity regulations mean larger CB balance sheets

Exit from huge CB balance sheets a big challenge
(Turner, 2014)



The long-term interest rate

- Changes in LT rates more correlated internationally than ST rates
- International investors, not the local central bank, shape the long-term rate
- Developments **outside** US influence also yields on the US Treasuries

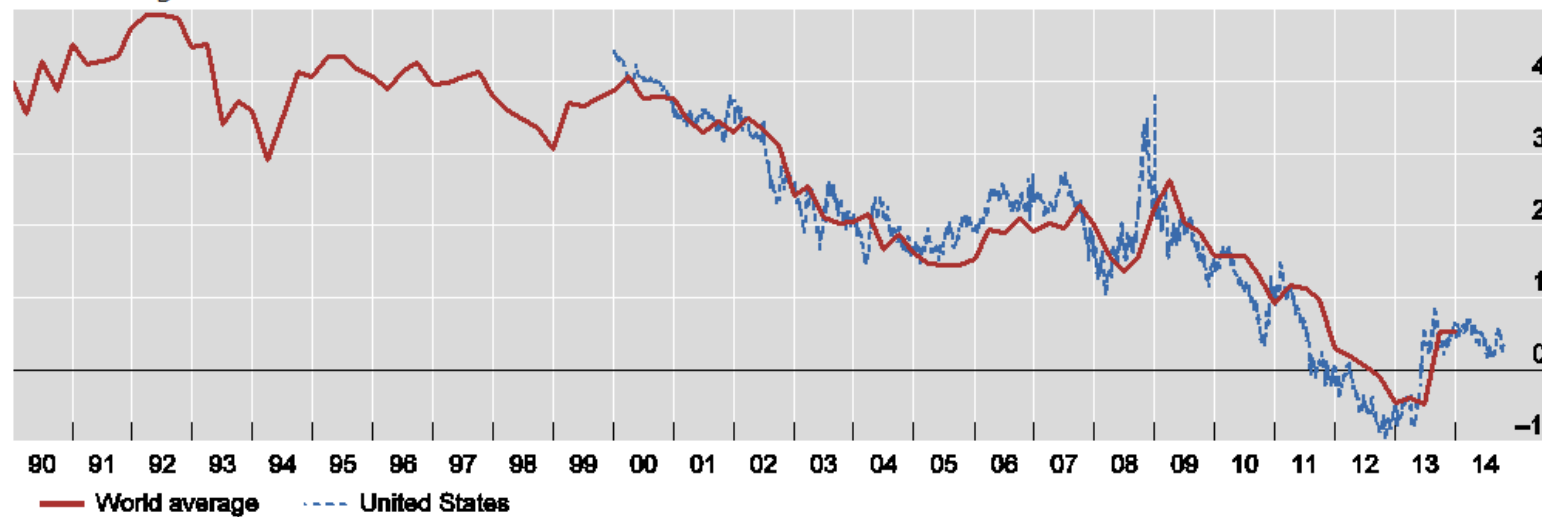


Long-term interest rates

In per cent

Graph 7

A. Real long-term interest rate



Sources: King and Low (©February 2014); Bloomberg; national data; BIS calculations.

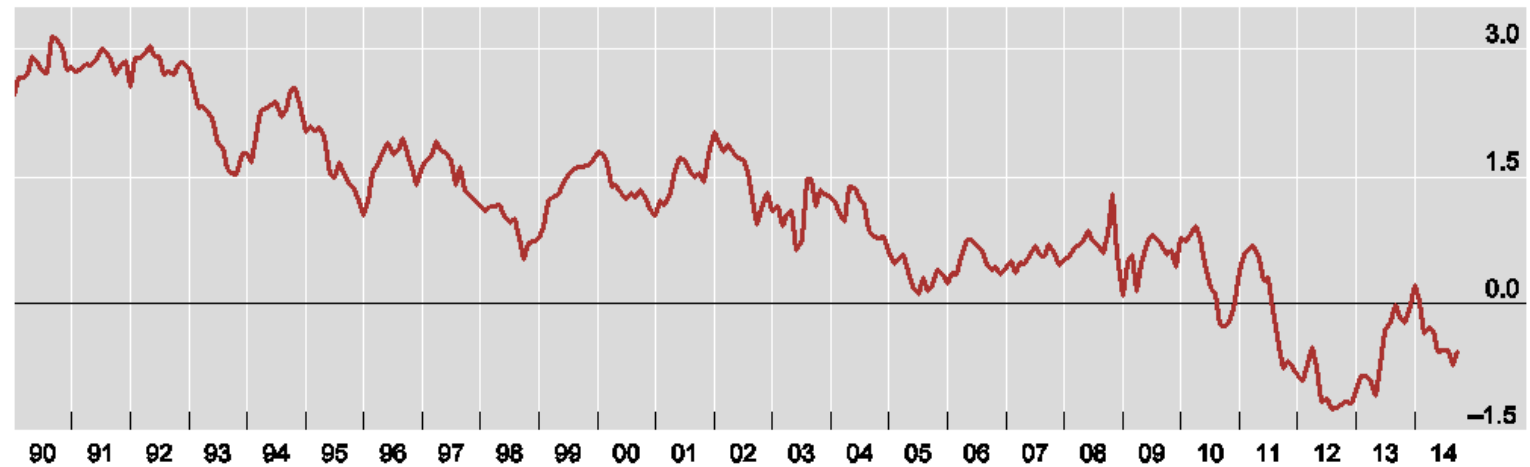


Long-term interest rates

In per cent

Graph 7

B. Term premium in 10-year US Treasuries¹



¹ Sum of inflation and real yield risk premia in the 10-year US Treasury yield. These are calculated using the BIS term structure model.

Sources: King and Low (©February 2014); Bloomberg; national data; BIS calculations.



Fundamental importance of LT rate for financial stability

- Discount rate to value expected earnings of all long-lived assets.
- Benchmark for financial intermediaries (eg pension funds) which hold assets to meet future long-term liabilities.
- Yield curve defines reward from maturity transformation – as near-term yield curve flattens (up to 2 years), banks and others may extend maturity mismatches in a search for yield.

Collateral practices reinforce such effects.



CONCLUSION

- Market-determined interest rates affected by regulatory measures
- In an open economy, capital flows and the exchange rate can react strongly.
Macroprudential measures allowed the Reserve Bank [of New Zealand] “to delay the tightening of interest rates, thereby reducing the incentive for any additional capital inflows into the New Zealand dollar.” – *Governor, RBNZ*
- Countries with flexible exchange rates cannot insulate themselves from low “world” long-term rates and large global liquidity.
...“domestic monetary policy does not penetrate all risk-taking channels and institutions.” – *Paul Tucker*
- Macroprudential policies sometimes respond to global macroeconomic variables beyond the reach of the local central bank.



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