

**“What is the neutral interest rate level?**

**Is it worthwhile searching for it from a market perspective?”**

**Bjørn Roger Wilhelmsen**

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# The neutral rate – a crucial concept in monetary theory

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- A benchmark for monetary policy

Interest rates below neutral stimulate the economy

Interest rates above neutral restrict the economy

- **Definitions:**

- M.Woodford (2003): *“The real rate that would prevail under perfectly flexible prices”*
- A.Greenspan (1993): *“The real funds rate may be said to be neutral when it is at a level that, if maintained, would keep the economy at its production potential over time.”*

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## ...but a very difficult concept in practice

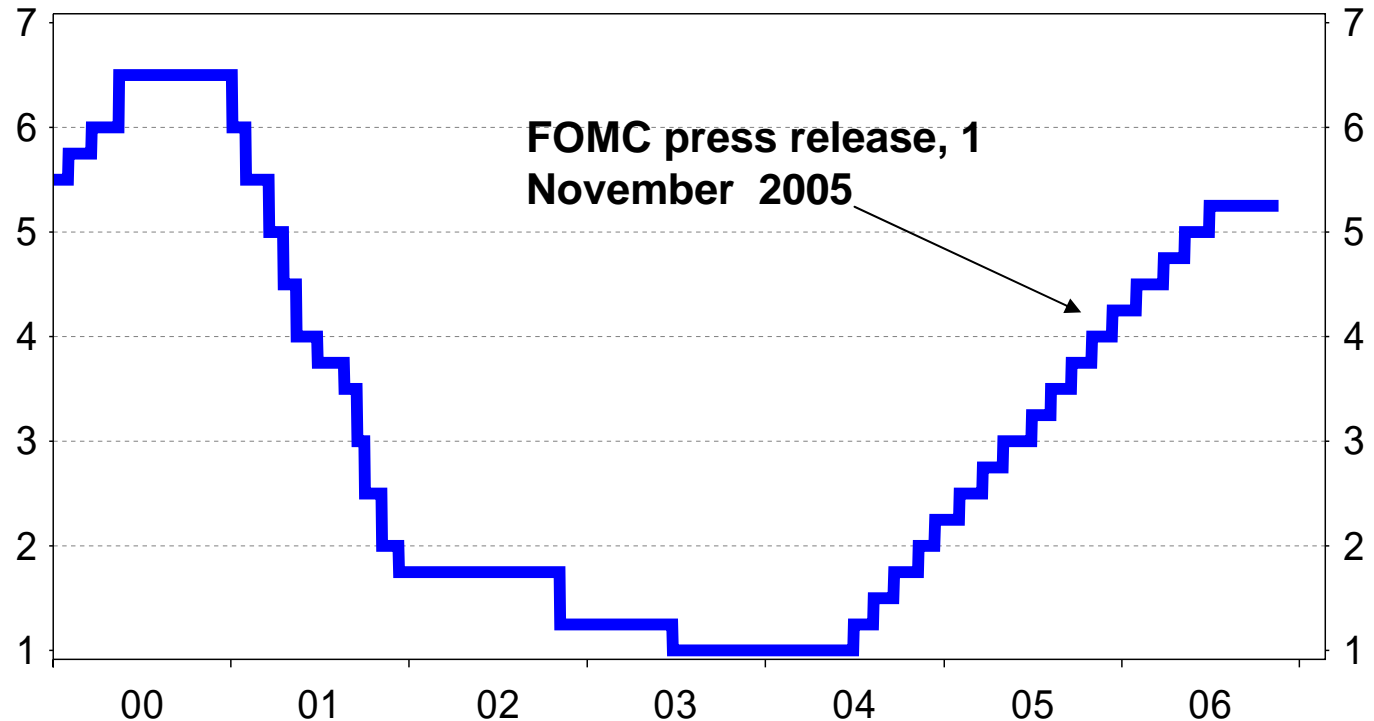
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- **The neutral rate:**

- Cannot be observed
- There is no reliable way to estimate it
- It can change

# But policymakers cannot avoid having an opinion

Fed funds rate

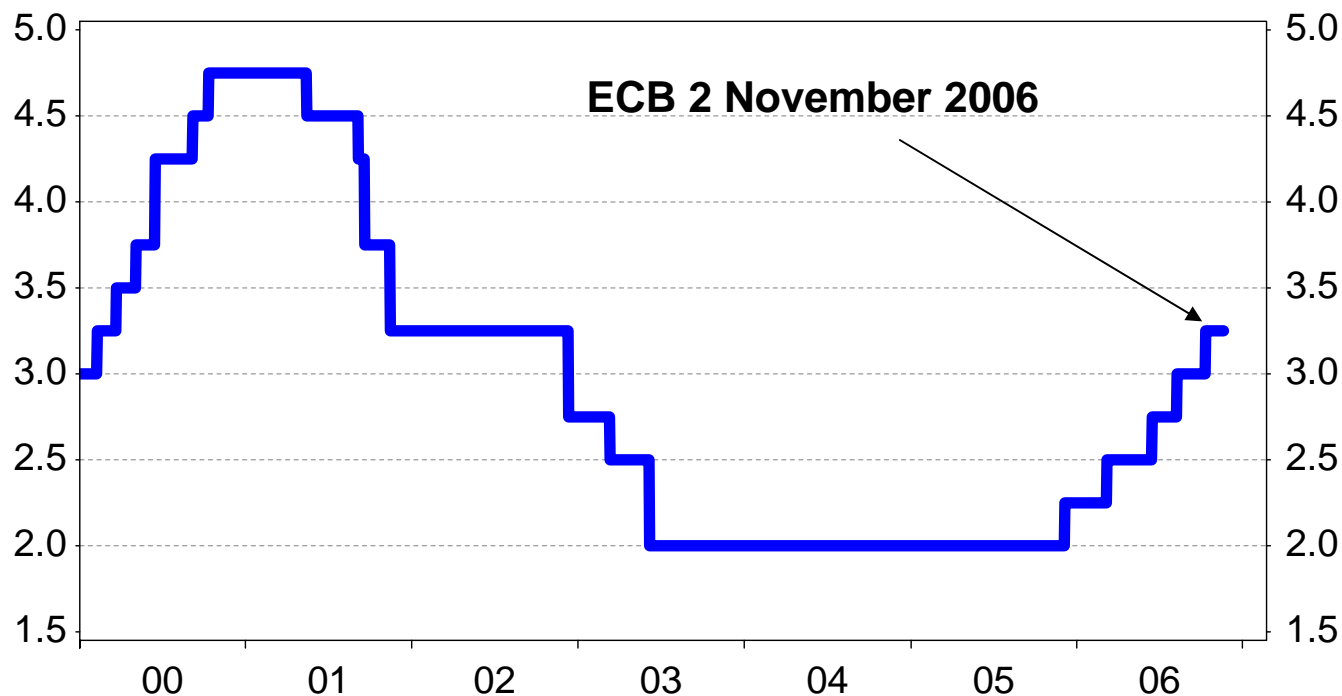


Source: EcoWin, First Securities

– ***“With underlying inflation expected to be contained, the Committee believes that policy accommodation can be removed at a pace that is likely to be measured”***

# Nor can the ECB

ECB minimum bid rate



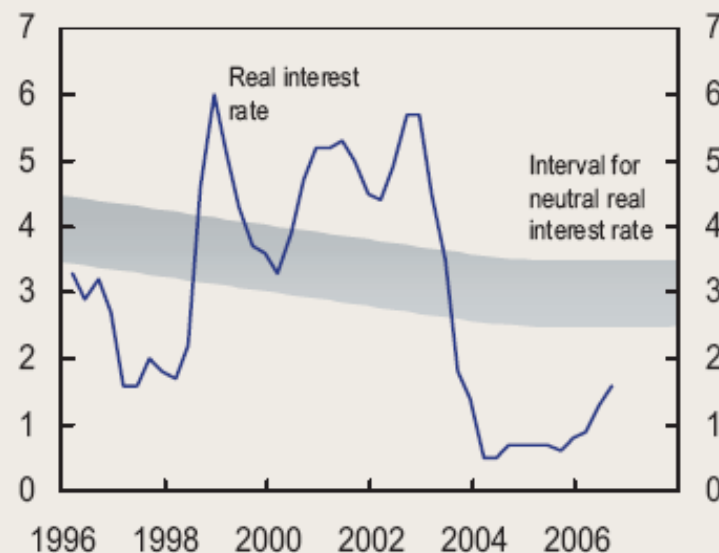
Source: EcoWin, First Securities

- ***“Our monetary policy continues to be accommodative”***
- ***“...warranted to further withdraw monetary accommodation”***

## Some Central Banks are even more explicit...

*“Estimations may indicate on an uncertain basis that **the neutral real interest rate for Norway is now in the lower end of the range 2.5% and 3.5%**” (Inflation Report 3/2006)*

**Chart 1.5** 3-month real interest rate<sup>1)</sup> and the neutral real interest rate in Norway. Per cent. Quarterly figures. 96 Q1 – 06 Q3

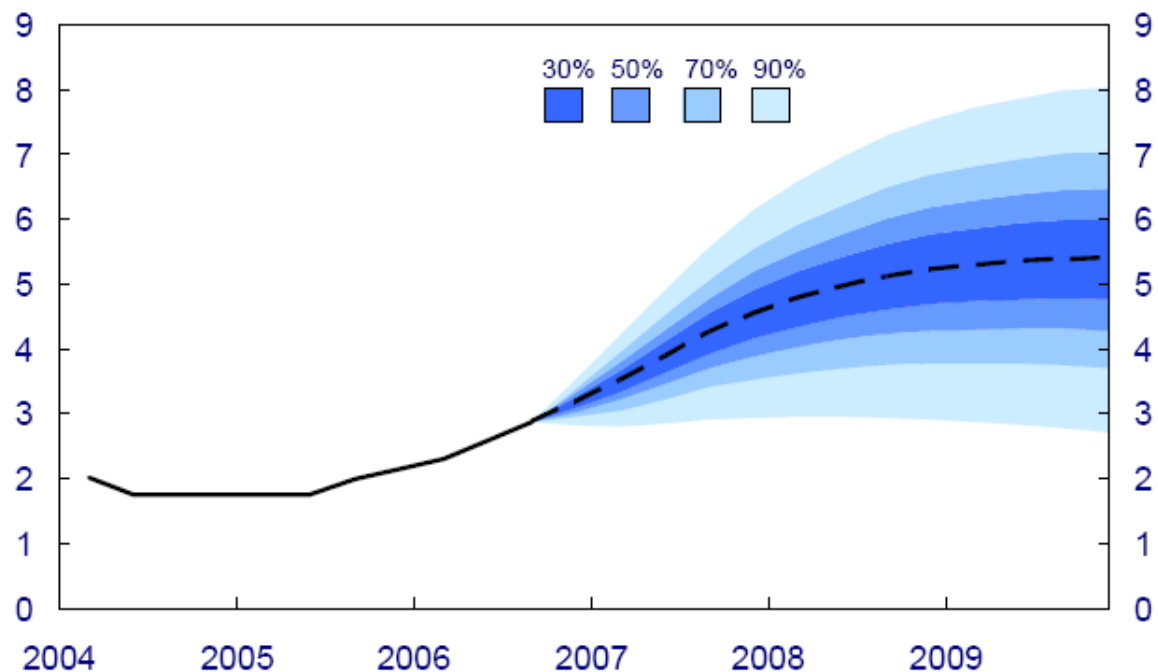


<sup>1)</sup>3-month money market rate deflated by the 12-quarter moving average (centred) of inflation measured by the CPI. Projections for the CPI from this Report form the basis for this estimate.

Source: Norges Bank

# ...reflecting transparency about the interest rate outlook

Sight deposit rate with fan chart.  
Quarterly figures



Source: Norges Bank

**Norges Bank must have an opinion about the end-point**

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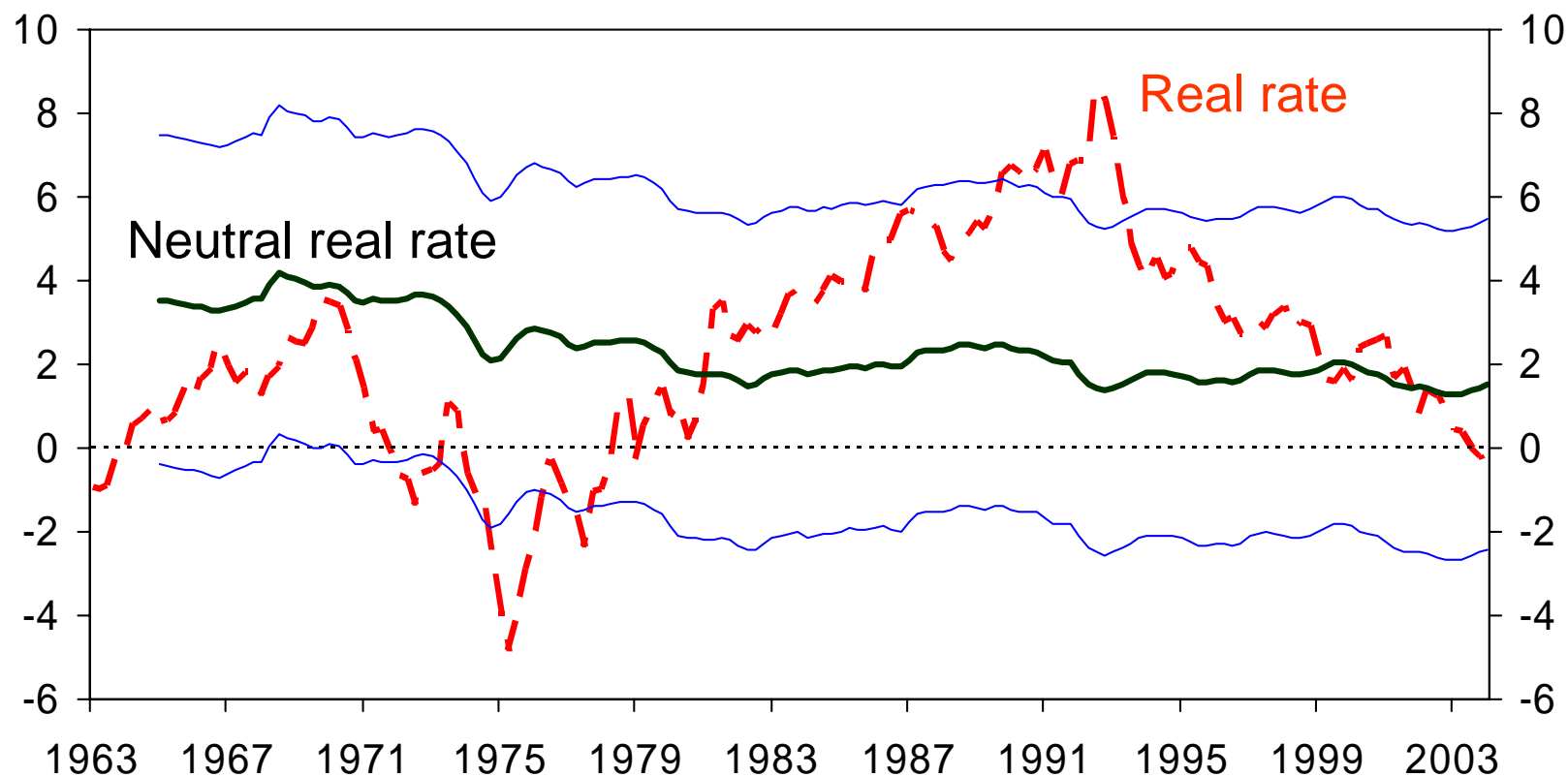
# What determines variations in the neutral real rate:

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- **Standard economic theory:**
  - Shifts in preferences
    - e.g saving
  - Growth rate of potential output
    - Matches the marginal return on capital
    - In equilibrium, equates the equilibrium interest rate
      - Balances saving and investments!
- **Empirical estimation results:**
  - Closely linked to the growth rate of potential output
  - Extremely wide uncertainty bands

# Significant uncertainty, estimates are not very reliable

Euro area neutral real estimate and +/- 2 st.dev.:



Source: Garnier and Wilhelmsen (2005), ECB working paper no 546

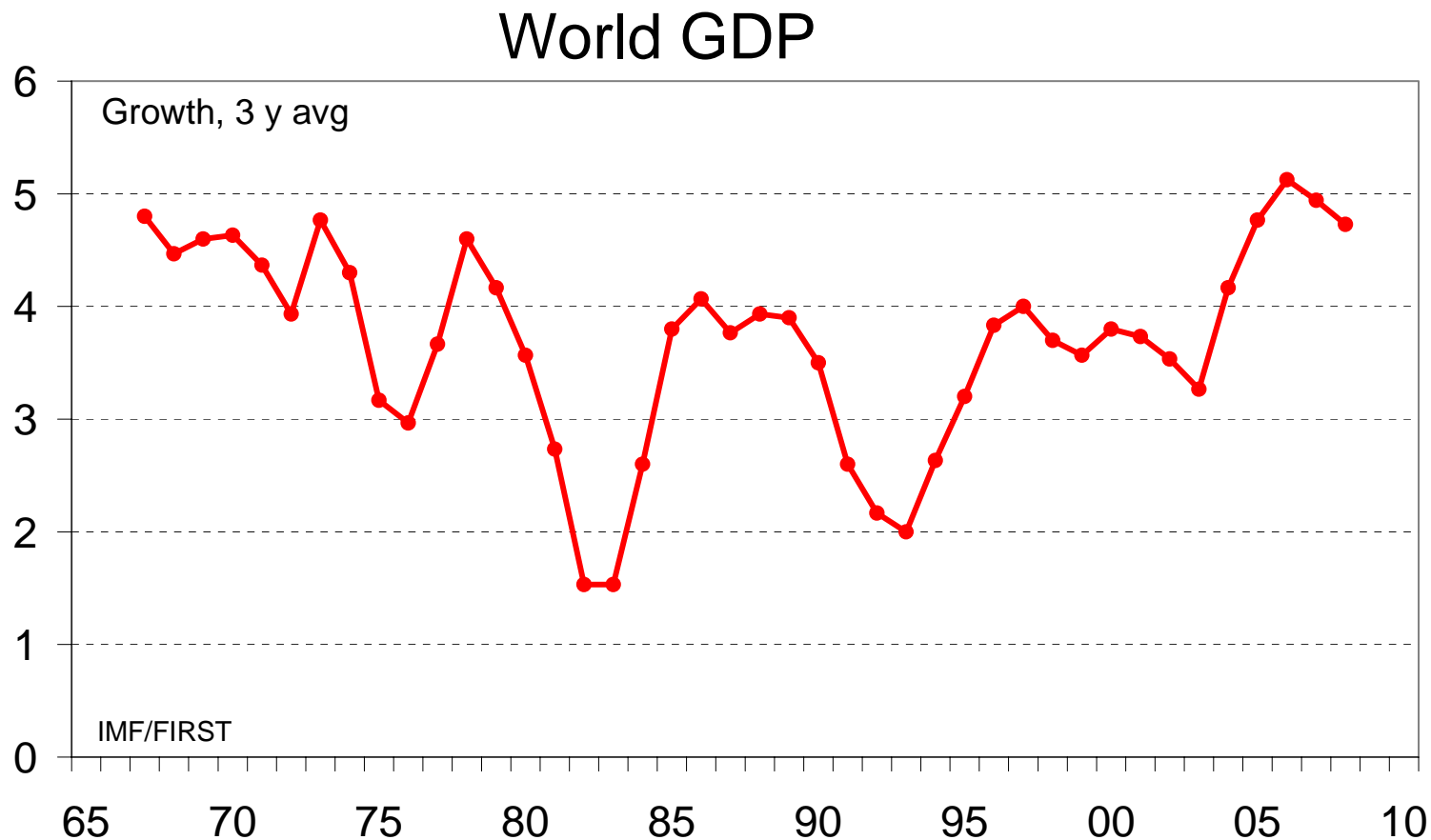
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# Searching for a global neutral real interest rate?

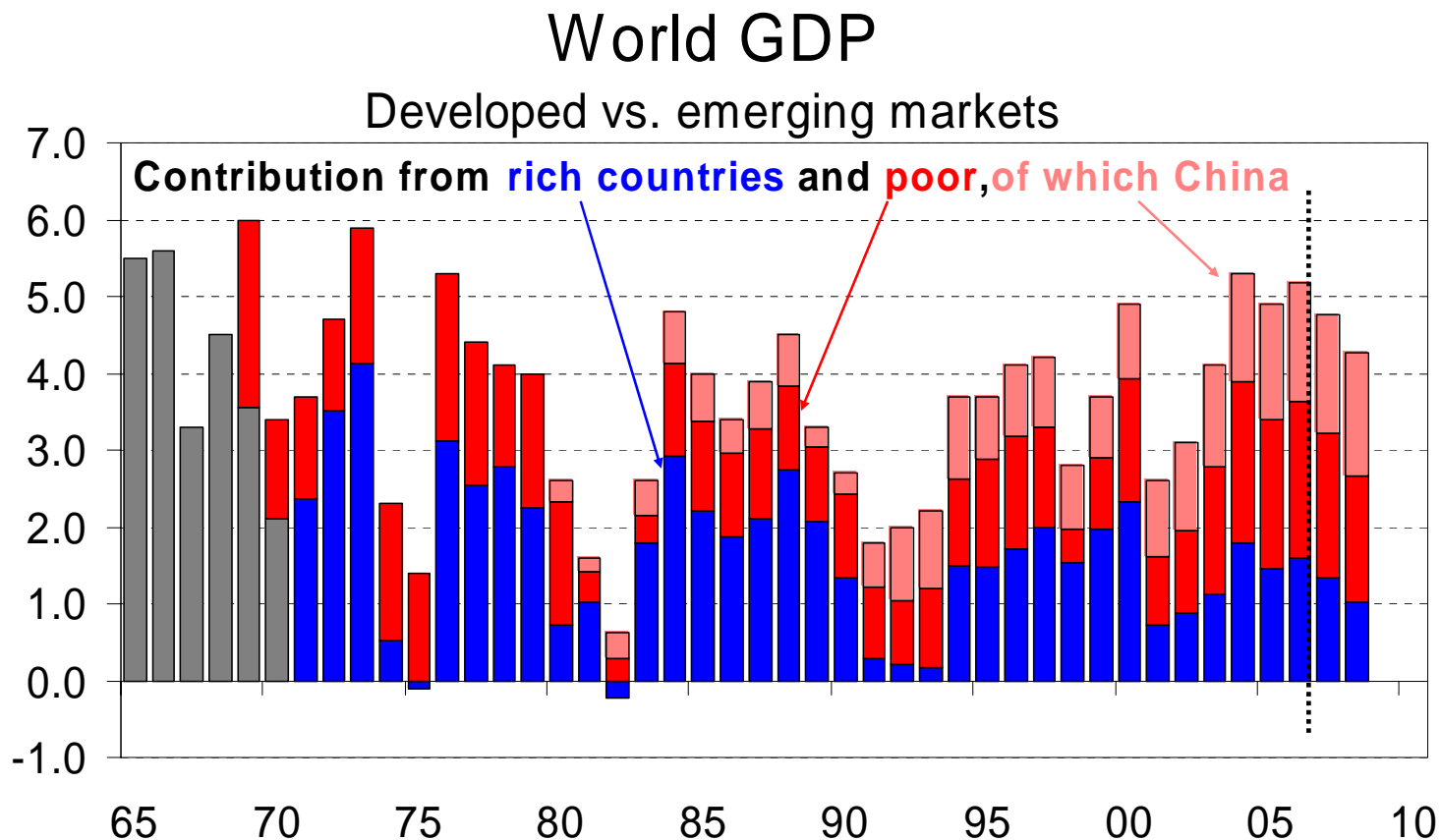
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- **Empirical work is based on closed-economy models**
- **Free movements of capital between countries**
  - Possible to finance domestic investments without creating more domestic saving
  - Country-specific neutral real interest rate also determined by global growth potential
    - Small open economies in particular

# Global growth has been increasing...



# ...at least partly due to higher growth potential



Why higher growth potential?

More efficient use of labour and capital due to globalization

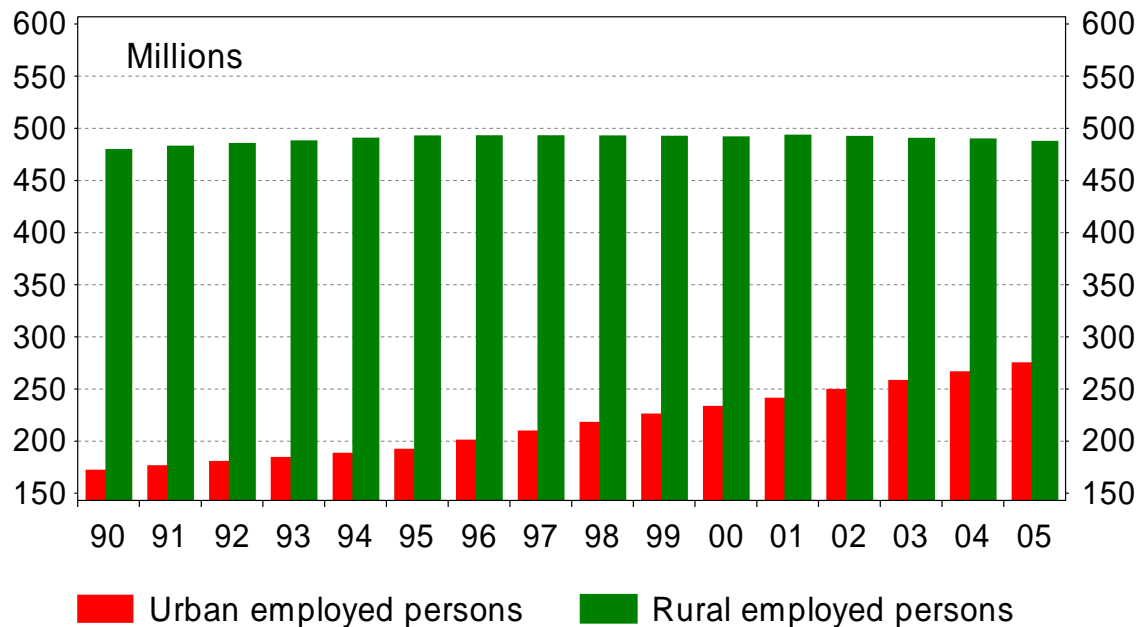
# Huge supply of labour in the emerging world

- ...has made capital relatively scarce
- ...implies very high rates of fixed investment for years
- ...marginal return on capital has risen

➤ **The global equilibrium real interest rate must increase to balance the demand and supply for capital**

(Morgan Stanley, BIS, The Economist)

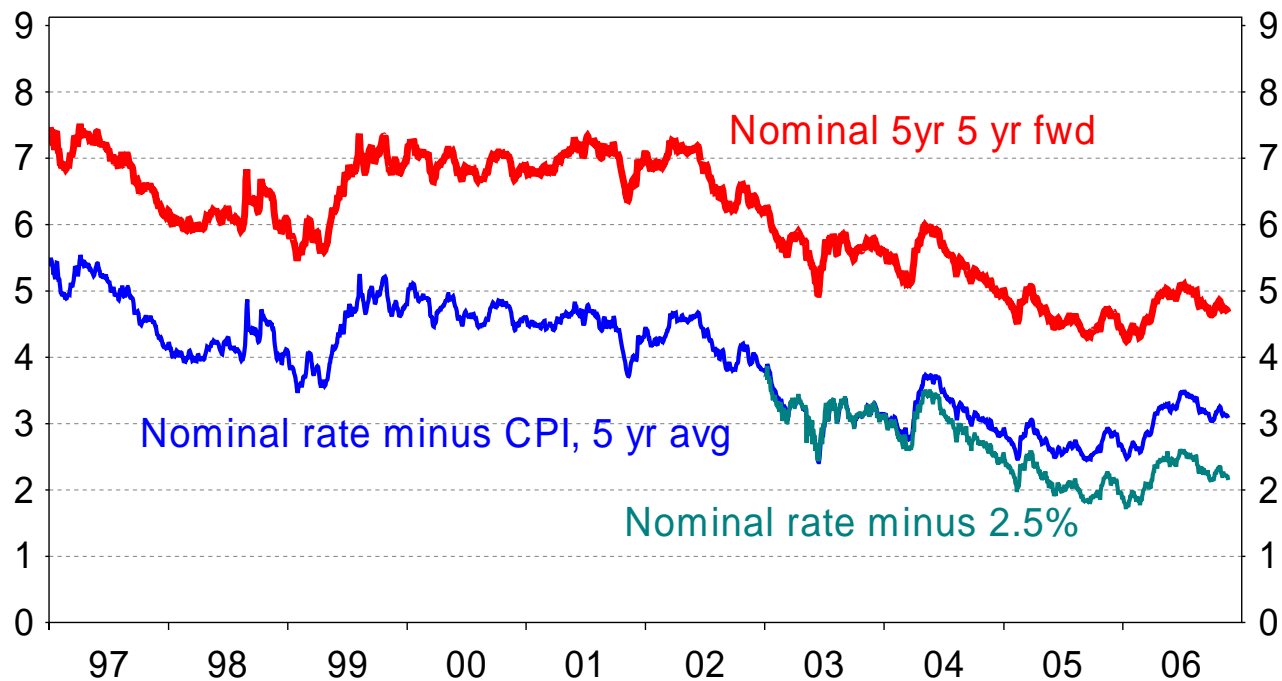
## China, Employment, rural vs. urban areas



Source: EcoWin, First Securities

# The Norges Bank hypothesis

Norway 5 yr 5 yr forward, nominal vs. real rate

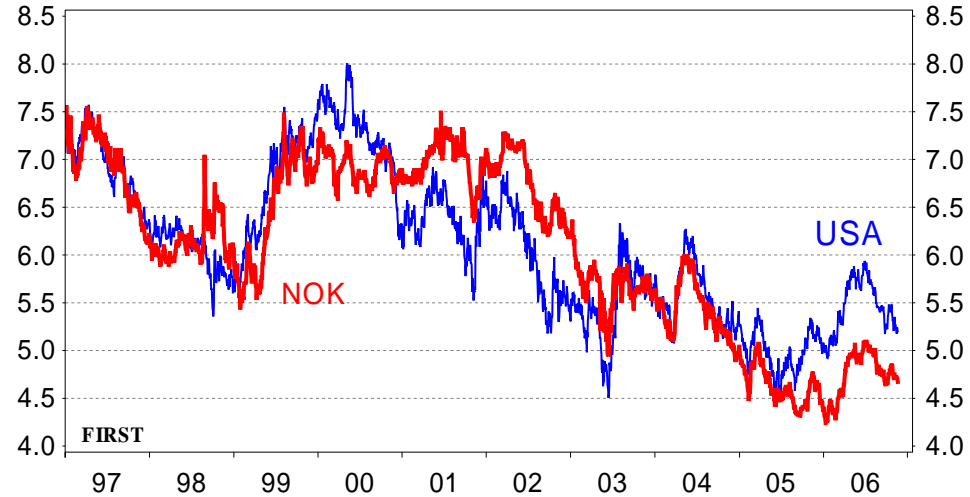


Source: EcoWin, First Securities

**Norges Bank hypothesis: The neutral real rate has declined, as reflected by the fall in the 5 yr 5 yr forward**

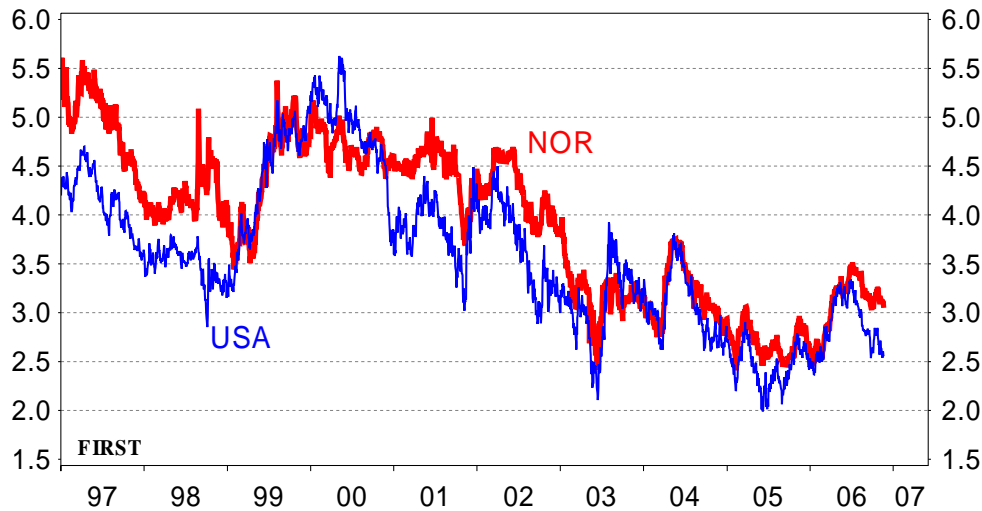
# But, this only reflects developments in the US?

Interest rates, 5 y FRA, 5 y fwd, swaps



Source: EcoWin, First Securities

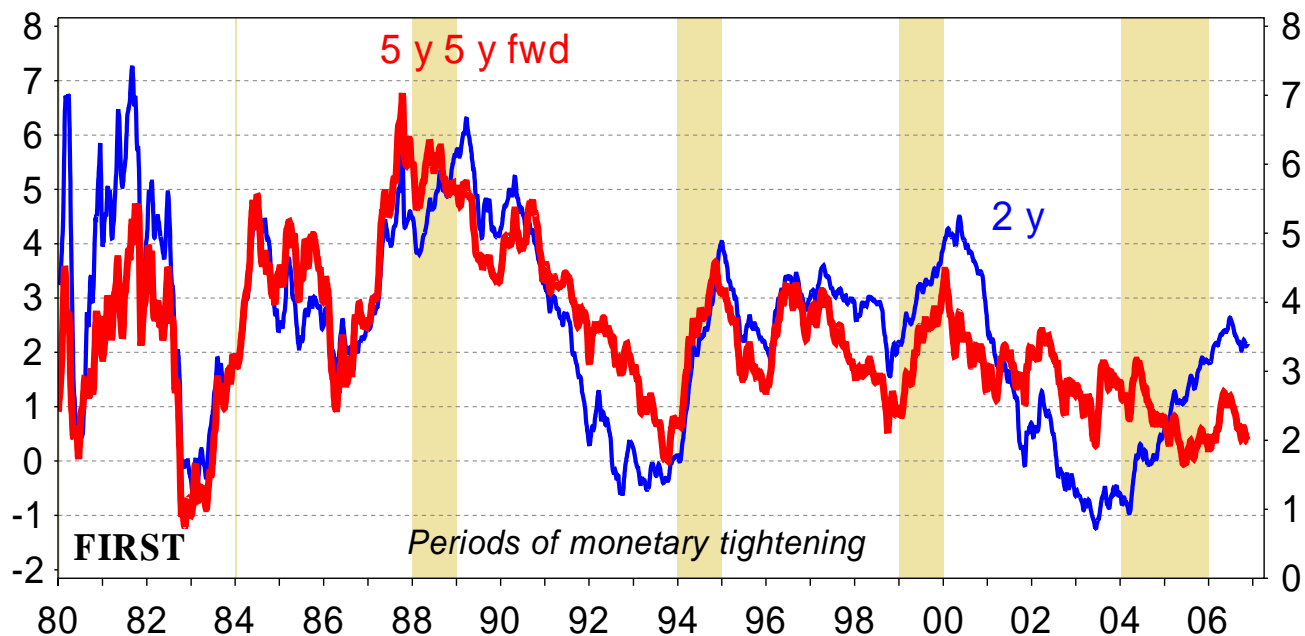
Real rate 5 y 5 y fwd swaps (5 y avg CPI)



Source: EcoWin, First Securities

# And what determines the 5 yr 5yr in the US?

USA - Real interest rates  
Nominal 5 yr 5 yr minus CPI 5 yr average



Source: EcoWin, First Securities

**One hypothesis: Monetary policy**

## Attention: Avoid confusing the concepts...

### Woodford:

$$r = r^{n\phi ytral} + r^{gap}$$

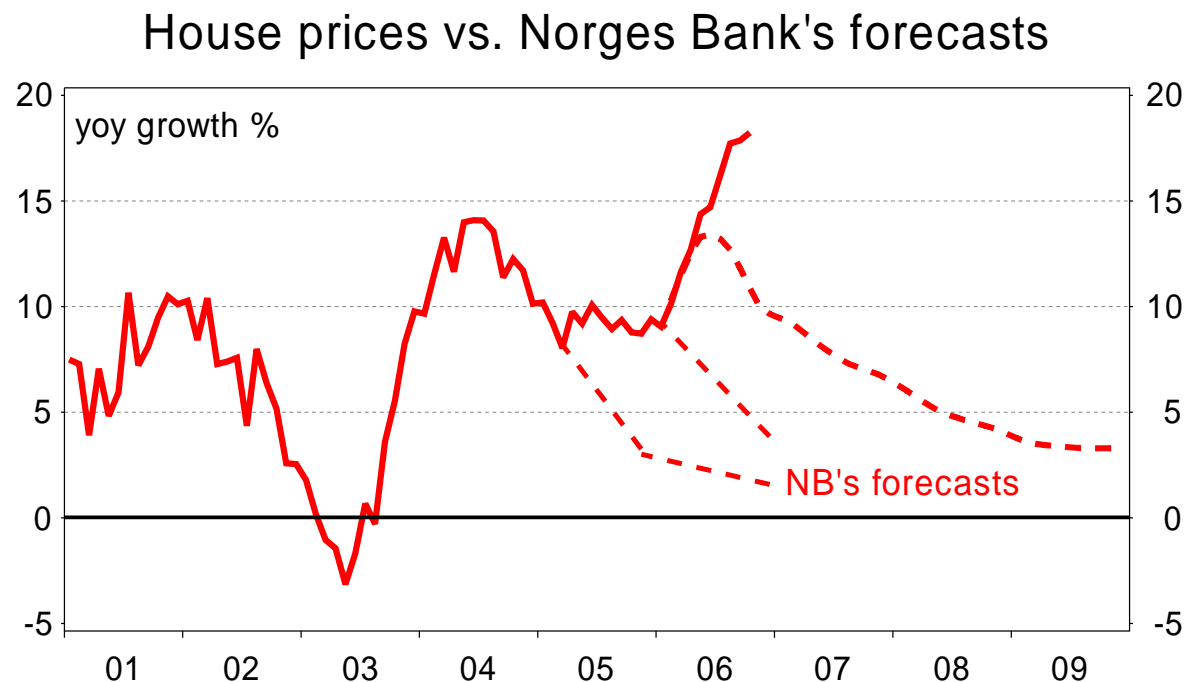
The real interest rate is the sum of:

- The neutral real interest rate
- The real interest rate gap (measure of the monetary policy stance)

Hence, a fall in the real interest rate can either be attributed to:

1. A fall in the neutral real interest rate
2. Or expansionary monetary policy (globally)

## An example of this dilemma:



Source: EcoWin, First Securities

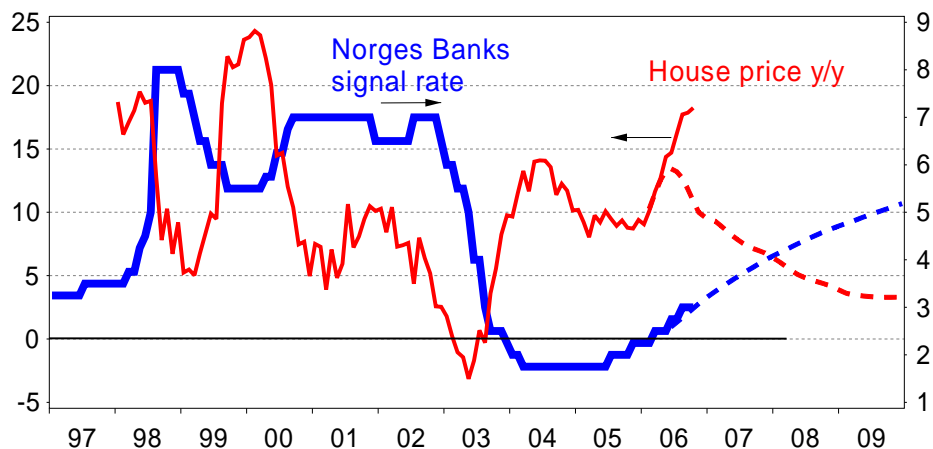
***“Analyses seem to indicate that the neutral real interest rate has fallen...***

***...resulting in a lasting change in the long-term relationship between house prices and house rents” (Financial Stability 1/2006)***

# An alternative hypothesis:

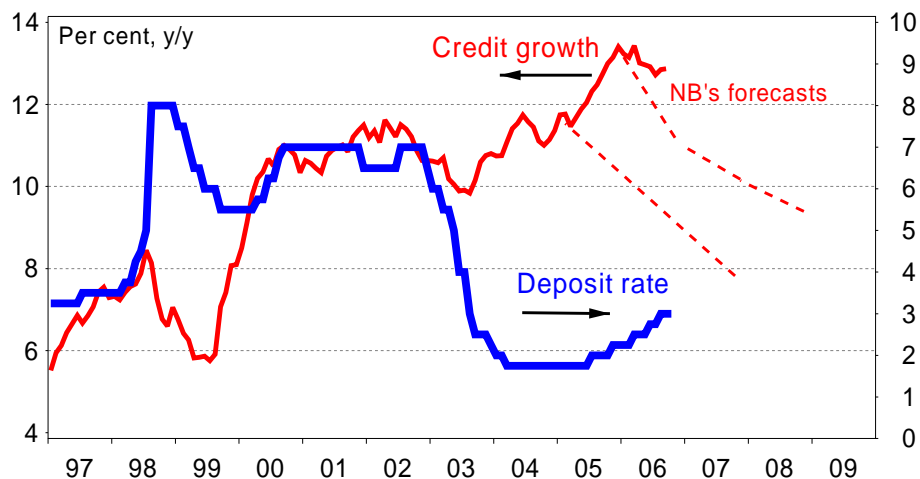
Monetary policy has been (too) stimulative?

House prices and Norges Bank  
Price inflation y/y. Norges Bank's projections



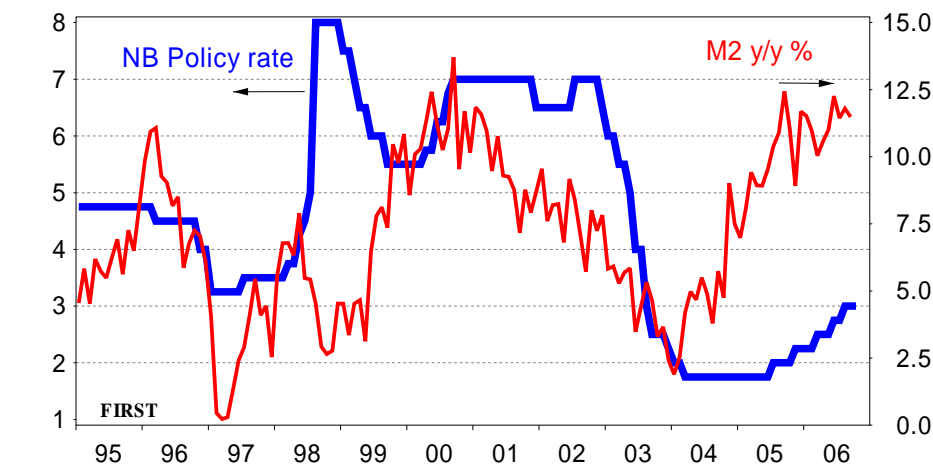
Source: EcoWin, First Securities

Norway, Household debt vs. Norges Bank



Source: EcoWin, First Securities

Norway - M2 and Norges Bank



Source: EcoWin, First Securities

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# Why has long-term rates been low? The liquidity argument

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**Mervyn King (2006), Governor of the Bank of England:**

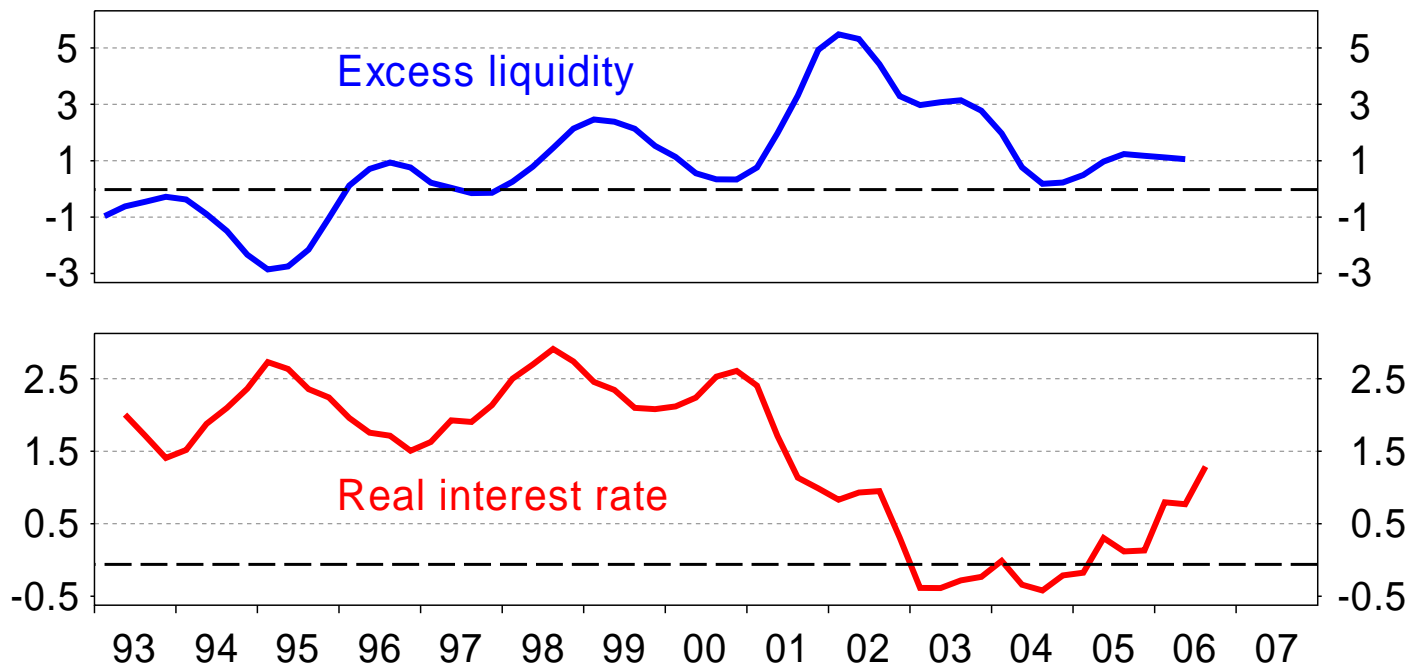
***“rapid growth of money – as central banks have kept official interest rates very low – has helped to push up asset prices as investors search for yield.”***

***Economist, 11 August 2005:***

***“ ... global liquidity has expanded at its fastest pace for three decades. If you flood the world with money, it has to go somewhere, and some of it has gone into bonds, resulting in lower yields.”***

# What now? Global excess liquidity is shrinking

G5 Excess liquidity vs. real interest rate  
Broad money growth minus nominal GDP growth



Source: EcoWin, First Securities

**The demand for bonds will moderate, pushing yields higher?**

## Conclusions:

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- **Neutral rate concept very important in theory...**
- **...but very difficult to identify in practice**
  
- **Monetary authorities have to take a stance...**
  
- **...but financial markets should not care too much?**
  - Extreme uncertainty
  - Analysing business cycle indicators far more important than structural factors

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- **Norges Banks arguments for a lower neutral real rate not very convincing**
  - **If anything, the neutral real rate might have risen**
    - Reflecting higher growth potential
  - **Lower longer-term real rates not necessarily a structural story**
    - Could reflect excess liquidity