

# **Practical monetary policy: Why has the Riksbank's policy-rate path been so high, and why did this not prevent the recovery?**

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## **Outline and conclusions**

- MP frameworks in Sweden and the US similar
  - Published forecasts of the FOMC and the Riksbank
  - June/July 2010 situation similar for Fed, Riksbank:  
Inflation forecast too low, unemployment forecast too high
  - Riksbank's policy tightening: Arguments for rejected
  - Fed's policy easing: Arguments against not convincing
  - Riksbank's tightening wrong; Fed's easing right
  - June/July 2011: Sweden better/US worse than expected
  - Ex post: Better outcome in June/July 2011 if more  
expansionary policy in 2010
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## Outline and conclusions

- Why is Riksbank policy-rate path so high?
  - Upward bias: Forecast for foreign policy rates, measures of resource utilization
  - Why did high policy rate path not prevent Swedish recovery?
  - Policy-rate path not credible: Actual long interest rates and financial conditions much easier
  - “Practical Monetary Policy: Examples from Sweden and the United States,” *BPEA*, Fall 2011.
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## Broader conclusions

- Great benefits of simple and transparent policy framework
  - Fed’s dual mandate, Riksbank’s flexible inflation targeting
  - Forecast targeting: choose policy instruments as to best stabilize forecast of inflation and unemployment
  - Published forecasts allows external scrutiny
  - Best w/ one inflation measure and one RU measure (gap between unemployment and long-run sustainable rate) as target variables
  - Do not confuse measures of RU as an indicator of inflationary pressure and as a target variable
  - Distinguish ex ante and ex post evaluation
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## Monetary-policy frameworks of Fed and Riksbank similar



- Federal Reserve Act: Promote stable prices and maximum employment
  - Riksbank Act: Maintain price stability  
Government Bill: As an authority under the Riksdag, the Riksbank shall, without prejudice to the price-stability objective, support the general economic policy with the aim to achieve sustainable growth and high employment
  - Highest *sustainable* employment
  - Forecast targeting: Choose policy instruments so as to best stabilize inflation forecast around target and unemployment forecast around an estimated long-run sustainable rate
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## Monetary-policy framework of Fed and Riksbank similar



- Stabilizing employment around long-run sustainable path implies stabilizing unemployment around an estimated long-run sustainable rate (possibly corrected with labor-force participation gap)
  - Other measures of resource utilization?
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# Monetary-policy framework of Fed and Riksbank similar



- Gap = Actual level – Potential level (LR sustainable level)
  - Employment gap = Labor-market participation gap – Unemployment gap
  - Worked-hours gap = Employment gap + Average-worked-hours gap
  - Output gap depends on the Worked-hours gap, the TFP gap, and the Capital gap (see Svensson, “Gaps,” for details)
  - Compared to other measures of RU, unemployment advantage:
    - More related to household welfare and to Government Bill
    - Smaller measurement errors, less severe estimation problems
    - Better known and understood among general public
    - More open and transparent discussion, simplifies accountability
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## Monetary-policy framework



- Some confusion about RU as
    - indicator of inflationary pressures
    - target variable
  - Target: Long-run sustainable unemployment rate (rational-expectations steady-state equilibrium unemployment rate)
  - Inflation-pressure indicator: Short-run NAIRU, ...,
  - Stabilizing unemployment gap to short-run NAIRU implies ”inflation smoothing”
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## ”Inflation smoothing”

Simple backward-looking Phillips curve

$$\pi_t - \pi^* = \alpha(\pi_{t-1} - \pi^*) - \beta u_t + z_t \quad (1)$$

Short-run NAIRU:  $\pi_t = \pi_{t-1}$

$$\bar{u}_t \equiv [z_t - (1 - \alpha)(\pi_{t-1} - \pi^*)] / \beta \quad (2)$$

Combine (1) and (2)

$$\pi_t - \pi_{t-1} = -\beta(u_t - \bar{u}_t) \quad (3)$$

Holds by definition (tautology)

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## ”Inflation smoothing”

Loss function w/ short-run NAIRU

$$L_t = (\pi_t - \pi^*)^2 + \lambda(u_t - \bar{u}_t)^2 \quad (4)$$

Combine (3) and (4)

$$L_t = (\pi_t - \pi^*)^2 + (\lambda / \beta^2)(\pi_t - \pi_{t-1})^2 \quad (5)$$

Instead:

$$L_t = (\pi_t - \pi^*)^2 + \lambda(u_t - u^*)^2 \quad (6)$$

where  $u^*$  is the long-run sustainable unemployment rate

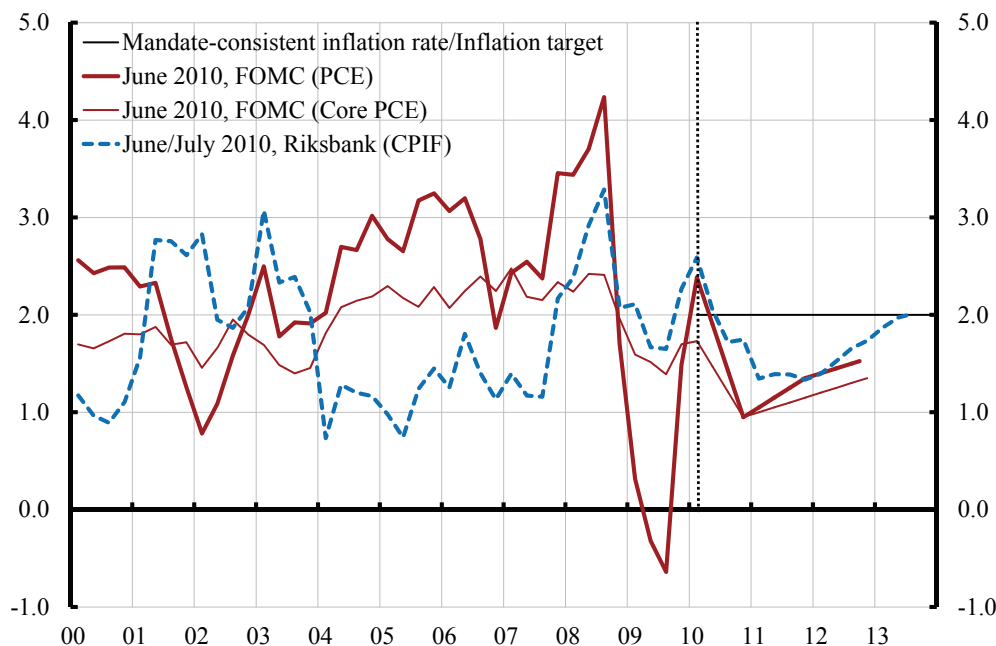
See Blanchard and Gali (2010) and  
Svensson “Unemployment gaps”

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# June/July 2010

## Inflation forecasts too low in both US and Sweden

Percent

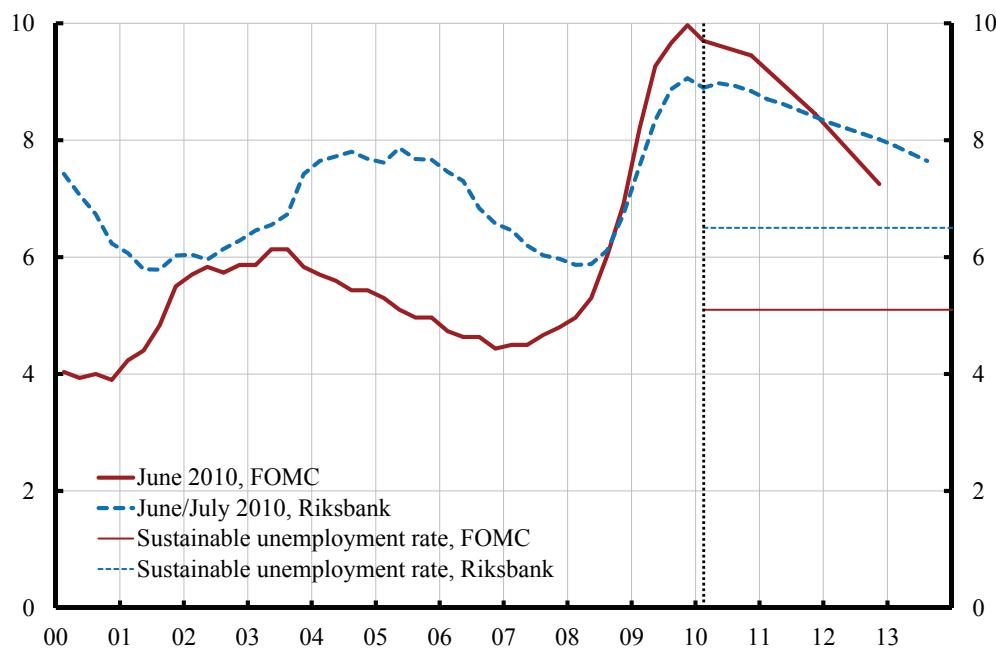


Sources: The Bureau of Economic Analysis, the FOMC, the Riksbank, and Statistics Sweden

# June/July 2010

## Unemployment forecasts too high

Percent



Sources: The Bureau of Labor Statistics, the FOMC, the Riksbank, and Statistics Sweden

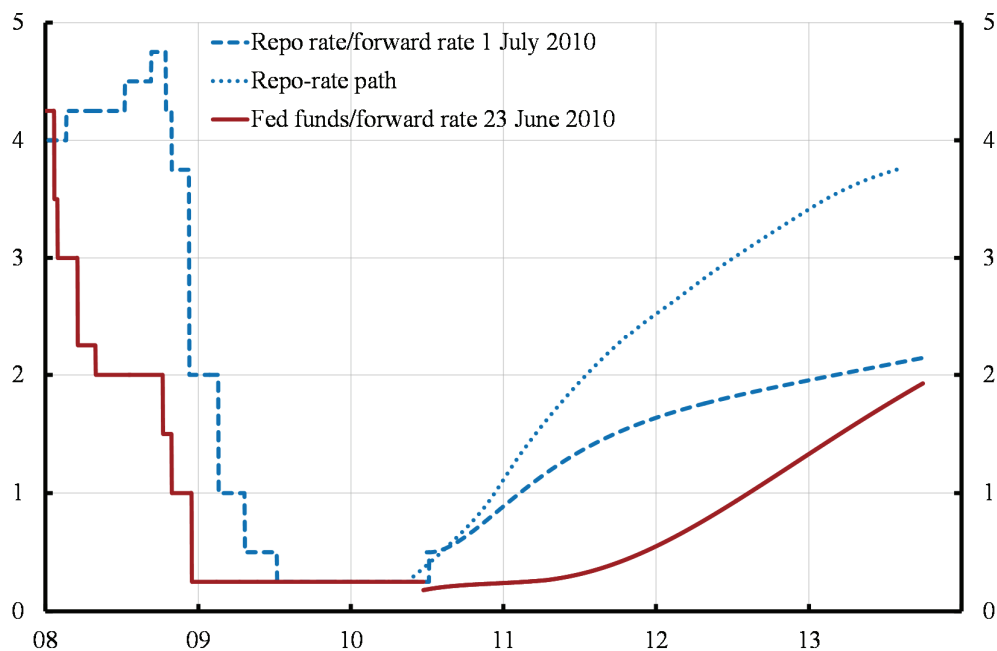
## Similar forecasts, different policies

- Inflation forecast too low, unemployment forecast too high:  
Easier policy better
- FOMC:
  - Maintained the 0 to 0.25 range for the fed funds rate
  - Communicated possible future easing in Aug and Oct
  - Launched QE2 in Nov
- The Riksbank:
  - Started a series of rapid rate increases

## June/July 2010

### Policy-rate expectations and path

Percent



## Arguments for the Riksbank's tightening

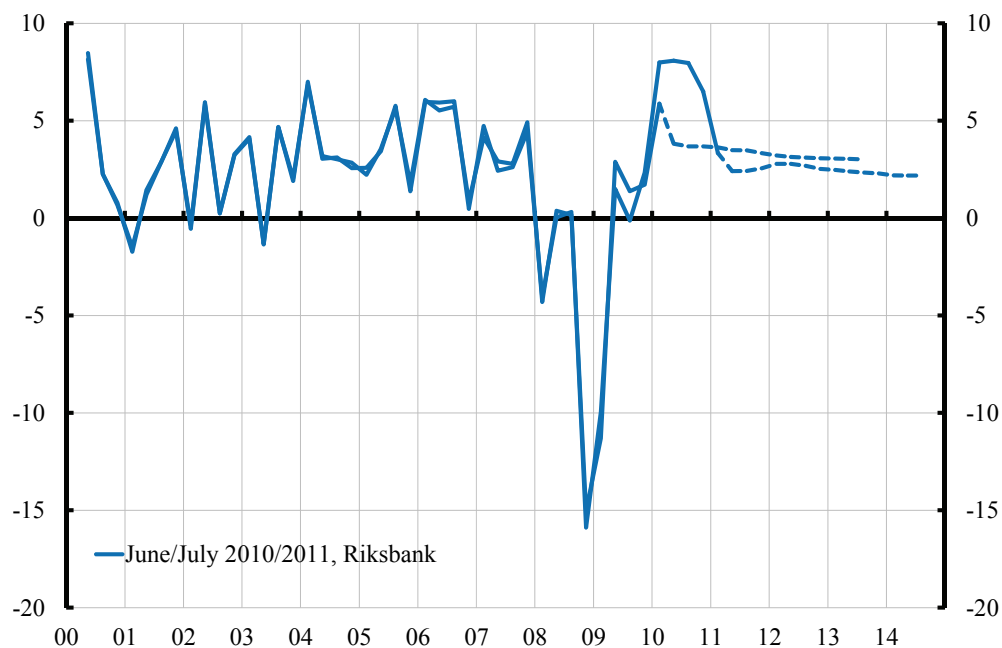
- The growth-stabilization argument
- The revision argument
- Concerns about household debt and housing prices
- The normalization argument



## GDP growth stabilization?

### "Strong development"

June/July 2010 and July 2011, Annualized quarterly growth, percent

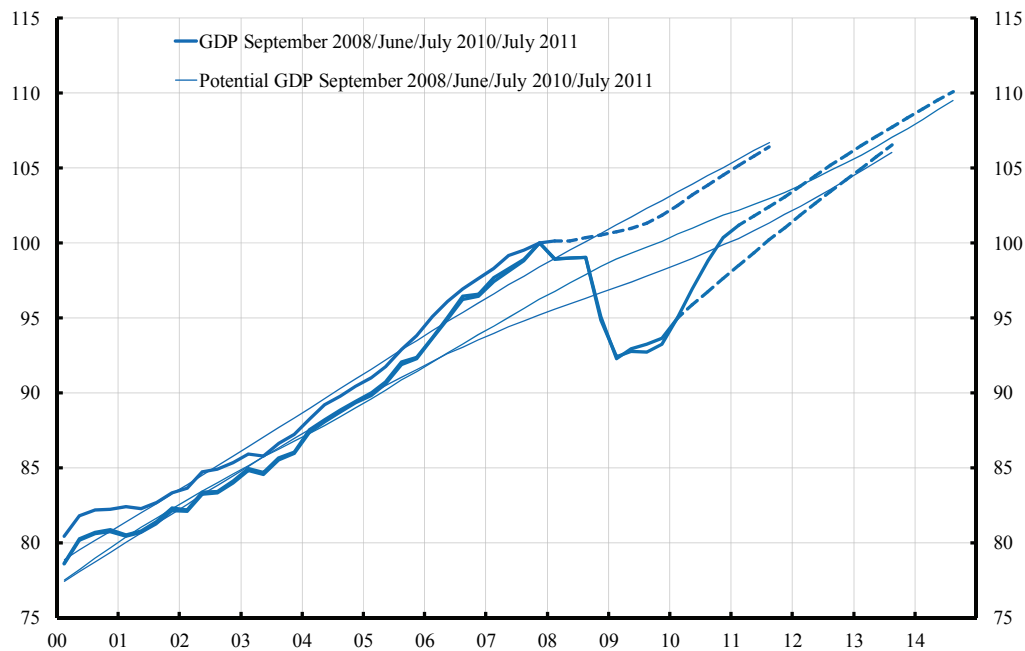




# Different impression: Output and potential output

September 2008, June/July 2010, July 2011

Index, 2007q4 = 100



Sources: The Riksbank and Statistics Sweden

## Revision argument



- If the outlook is better, tighten policy
- Assumes policy was optimal to start with (and not corner solution, ZLB)
- Policy is never perfect, always some error
- Error added to error: Random walk!
- Level check necessary

## The normalization argument

- Low levels of interest rates would lead to (unspecified) financial imbalances and threats to financial stability
  - Inspired by “risk-taking channel” and ideas about misallocation of investment
  - Like having an additional term  $(i_t - \bar{i})^2$  in the loss function
- 

## The normalization argument

But:

- No evidence that low interest rates lead to more leverage or risk-taking in Sweden
  - Four commercial banks, no shadow-banking sector
  - Higher Swedish interest rates, more foreign borrowing by banks, more currency imbalance, higher risk (!)
  - Even if more risk-taking: What is optimal level? Literature on risk-taking channel (Adrian-Shin, Diamond-Rajan): Confusion between nominal policy rate and real interest rate
  - Monetary policy can only achieve temporary deviations of actual short real rate from neutral real rate (overall level of real rates). The latter independent of MP
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# Concerns about household debt and housing prices?



- Mortgages a threat to financial stability?
  - No, no credit losses
    - Full recourse, thorough credit reviews, household repayment capacity high (two working household members, unemployment insurance)
    - Very small losses even during the crisis in the early 90s
  - Riksbank report, Claussen-Jonsson-Lagerwall
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# Use policy rate to affect household debt and housing prices?



- Household debt and housing prices threat to macro economy?
    - High savings ratio and low leverage (debt 1/3 of assets, equity 2/3)
    - Housing prices consistent with fundamentals (high demand, little construction, no construction boom) (Englund, CJL)
    - Simulations show deleveraging and fall in consumption in Sweden can be neutralized by more expansionary monetary policy - July 2010 mins
    - High debt/disp. income sustainable (currently 1.7)
    - Example: Mortgage rate 7%, after tax  $i=5\%$ , nom. disp. inc. growth  $g=4\%$
    - Net debt service/disp. inc. =  $(i-g) \times 1.7 = 1.7\%$
    - Debt ratio not sufficient statistic
    - Asset side of balance sheet matter a lot
    - For macroeconomic effects, average household matter
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## When use the policy rate?

- Three conditions (Kohn, 2006, 2008)
    - Need to identify bubbles/unsustainable developments in a timely fashion
    - Policy-rate adjustment must have some desired effects
    - Some improvement in future economic performance
  - Rarely fulfilled in practice
  - More efficient, available instruments than policy rate:  
Loan-to-value ceilings, amortization floors, property taxes, deduction limitations, etc.
  - Policy rate small effect on housing prices (CJL, AWG)
  - Monetary policy last line of defense, not first
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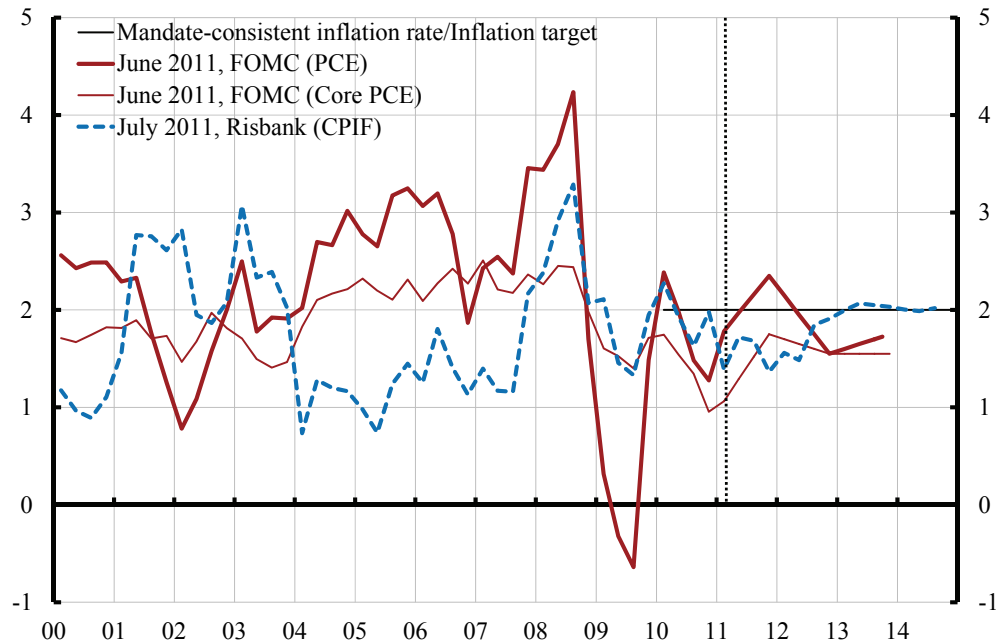
## Arguments against Fed's easing

- Inflation and the anchoring of inflation expectations
  - Effects of unconventional policy measures
  - Effects of low policy rates on financial stability and allocation of investment (confusion in literature!)
  - The amount of slack in the economy (unemployment gap to long-run sustainable rate, not SR NAIRU)
  - Effects on emerging markets
  - Fed balance-sheet risks
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# June/July 2011

## Inflation forecast higher but still too low

Percent

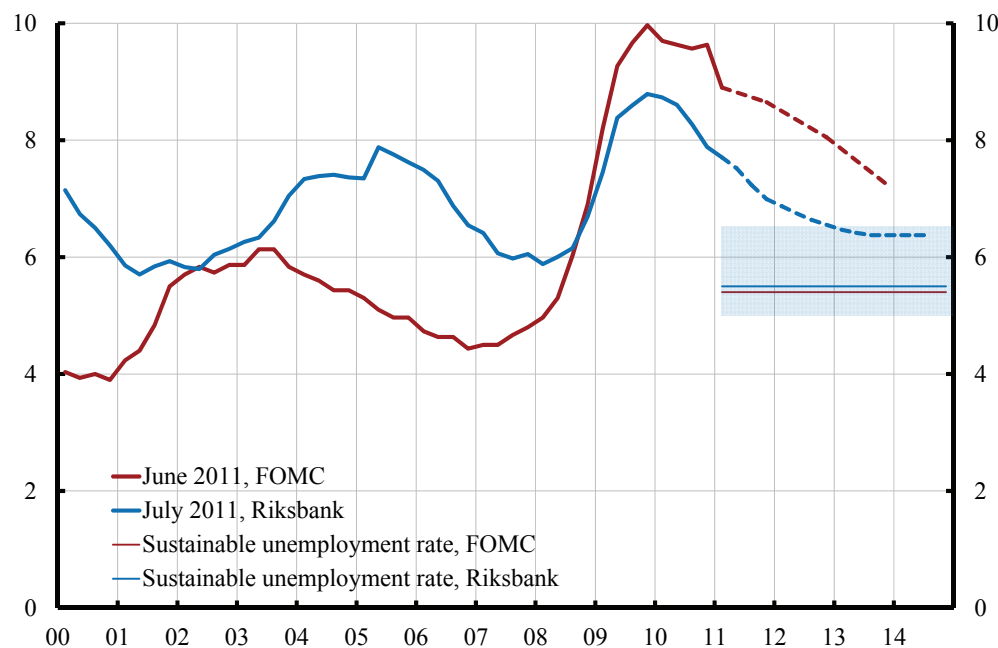


Sources: The Bureau of Economic Analysis, the FOMC, the Riksbank, and Statistics Sweden

# June/July 2011

## Unemployment forecasts lower for Sweden but still too high

Percent

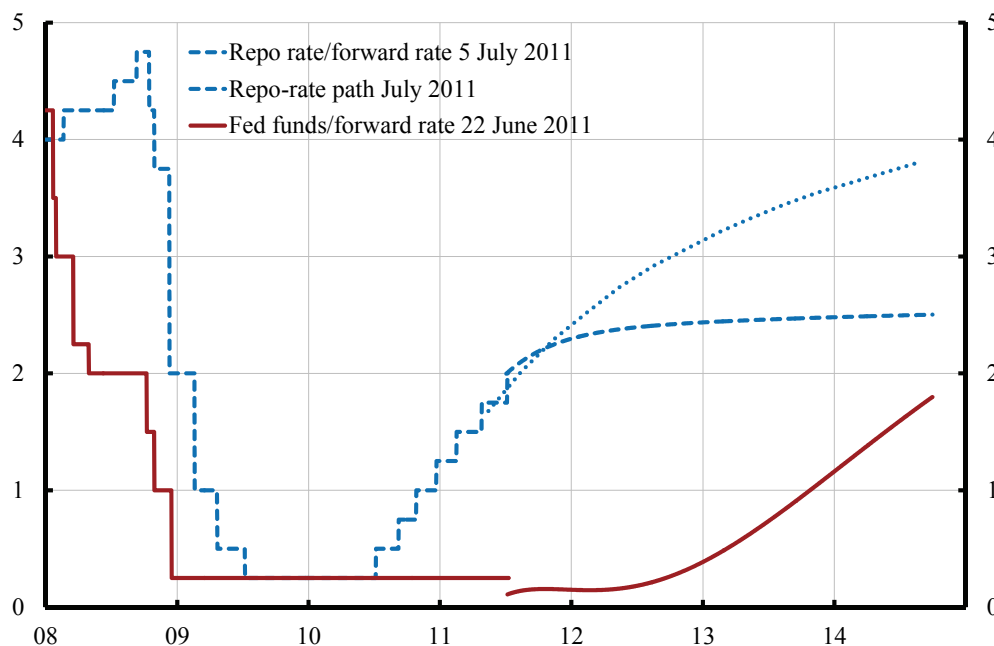


Sources: The Bureau of Labor Statistics, the FOMC, the Riksbank, and Statistics Sweden

# June/July 2011

Fed continued its expansive policy. The Riksbank continued to raise the repo rate

Percent



Sources: Reuters EcoWin and the Riksbank

## Why is the Riksbank's policy rate so high?



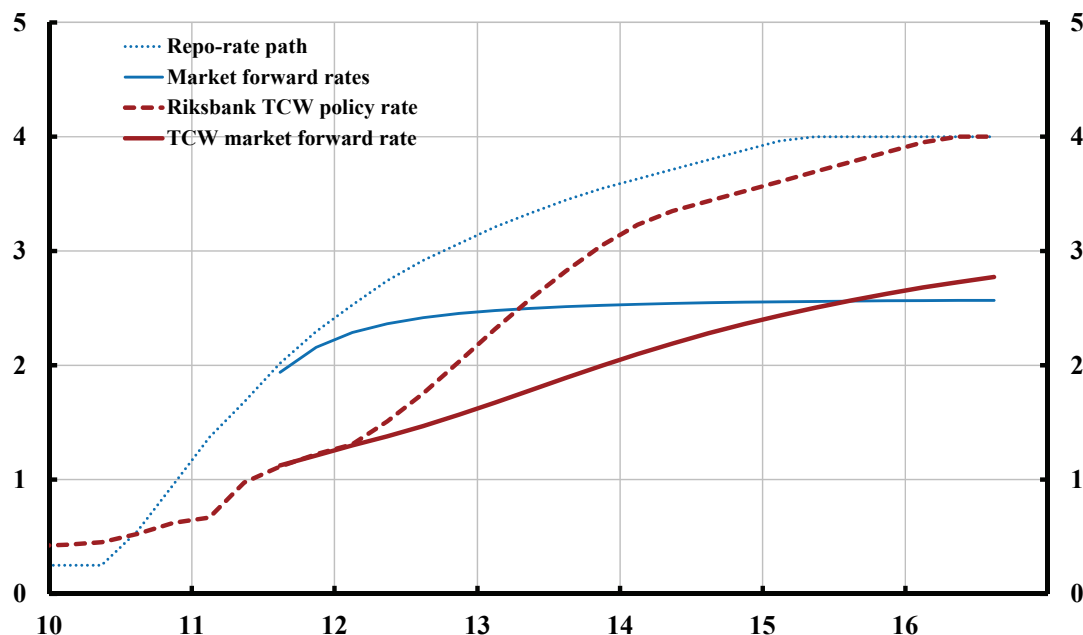
Two possible sources of upward bias:

- Too high forecast for foreign policy rates.
- Overestimation of the long-run sustainable unemployment rate and underestimation of potential output

# The Riksbank's policy rate forecast and market forward rates, July 2011



Percent

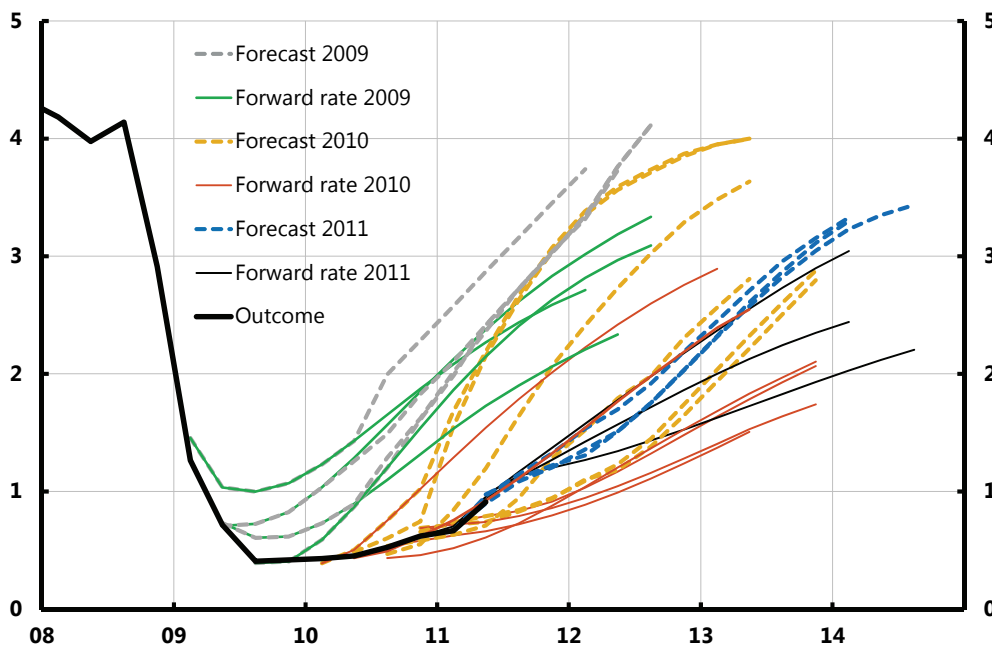


Sources: Reuters EcoWin, the Riksbank, and own calculations

# TCW-weighted foreign policy rates, Riksbank forecasts and implied forward rates



Percent

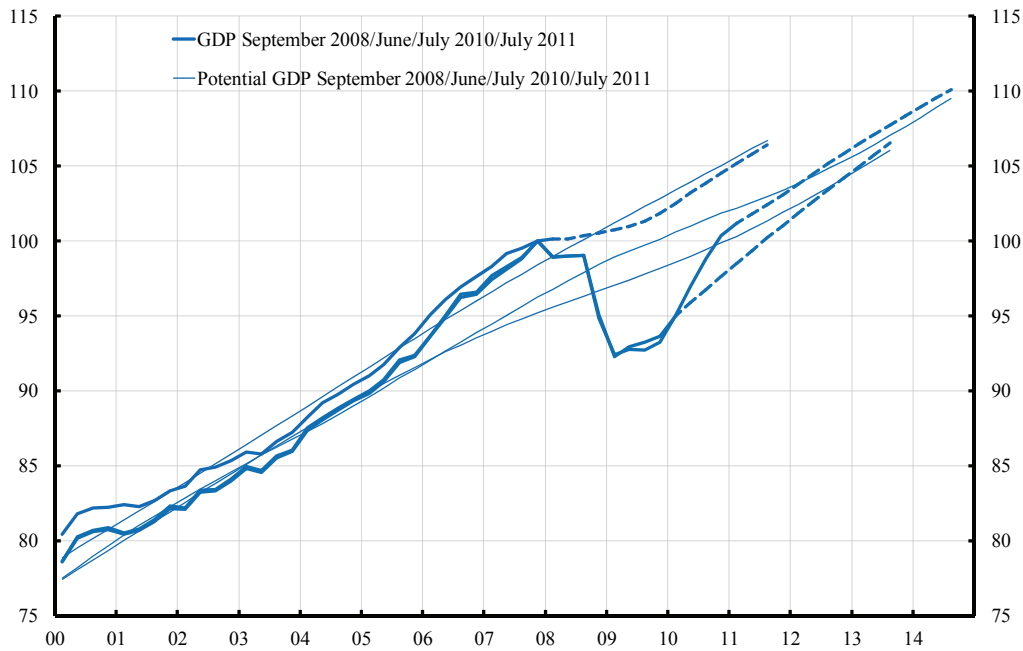


Sources: Reuters EcoWin and the Riksbank

# Why so high Riksbank policy-rate path?

## Unreliable and too low estimate of potential output

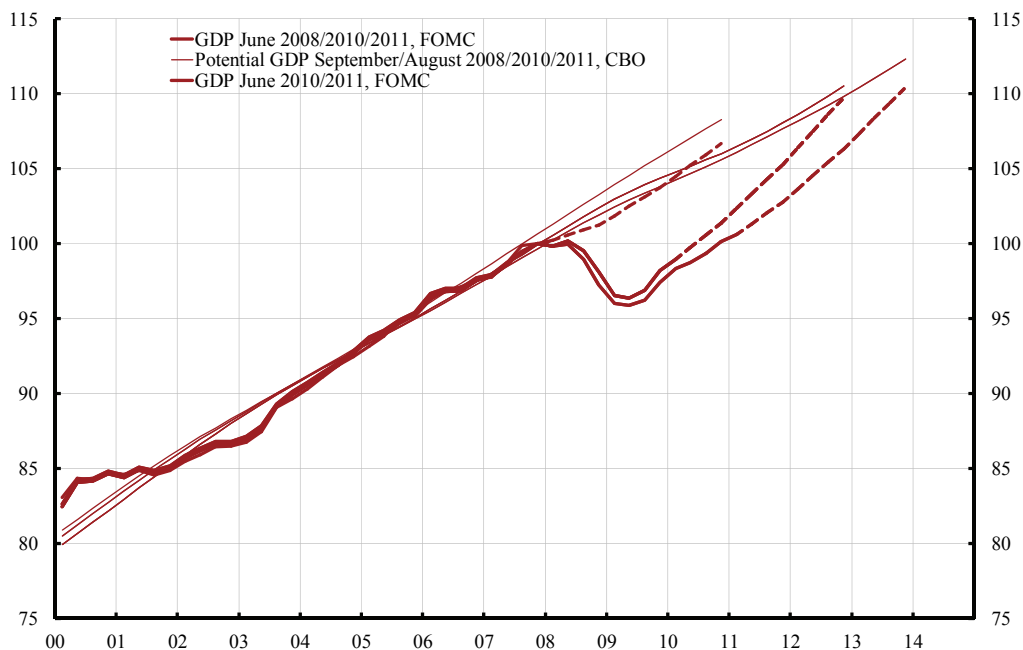
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# CBO potential output, FOMC output

Index, 2007q4 = 100



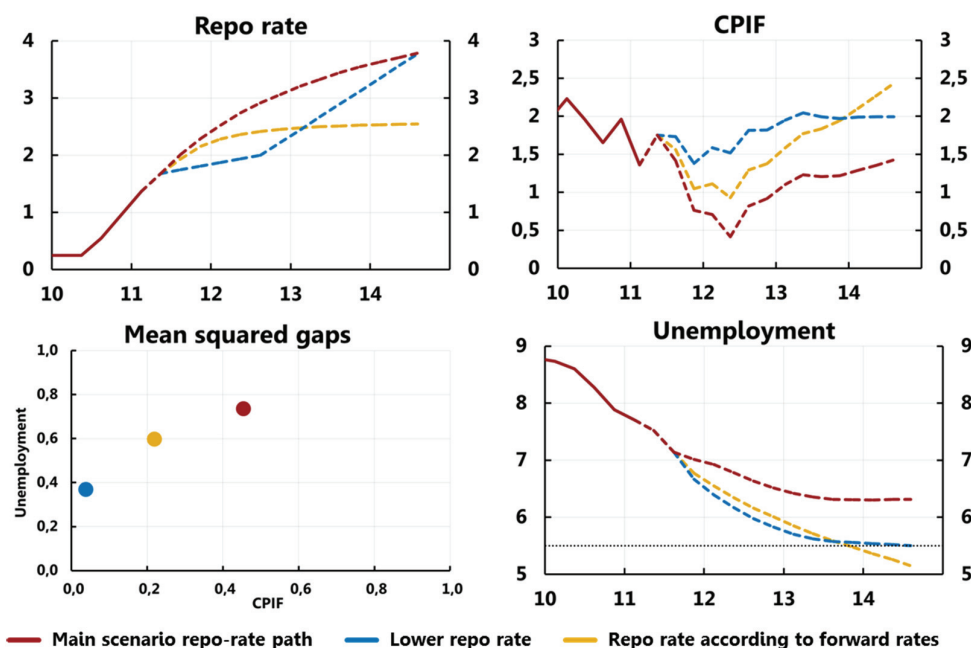
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# Monetary policy alternatives, July 2011

Foreign interest rates according to implied forward rates.

Long-run sustainable unemployment rate 5.5 percent.



Sources: The Riksbank, Statistics Sweden, and own calculations

## Given better-than-expected outcome, was Riksbank tightening right?

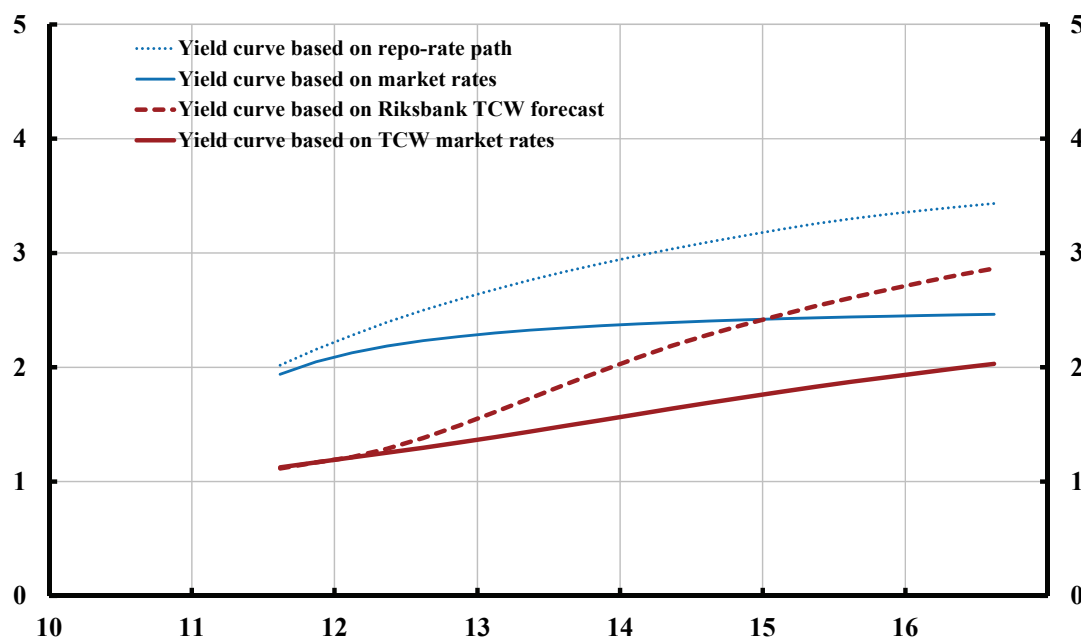


- Distinguish ex ante and ex post evaluation
- Since in July 2011 inflation and inflation forecast still too low, and unemployment and unemployment forecast still too high, easier policy from June/July 2010 had been better

# Why was Swedish outcome better than expected?

Actual vs. intended financial conditions, July 2011

Percent



Sources: Reuters Ecowin, the Riksbank, and own calculations

# Why was Swedish outcome better than expected?

- Riksbank suggestion: Higher-than expected aggregate demand, higher productivity
- New: Actual financial conditions much more expansionary than intended
- From Feb 2010 to July 2011, 5-year rate 85 b.p. below level consistent w/ credible policy-rate path
- Cf. US QE: 10-year rate 50 b.p. lower. Fed funds equivalent 200 b.p. (factor 4)
- Sweden: Factor 2 to 3: Policy-rate equivalent 175 to 250 b.p.
- Should matter a lot!

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