Flexible inflation targeting and the interest-rate path

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Flexible inflation targeting

- Stabilize inflation around the inflation target
- Stabilize resource utilization
- Loss function

$$L_t = (\pi_t - \pi^*)^2 + \lambda(y_t - \bar{y}_t)^2$$

Strict inflation targeting (λ=0)

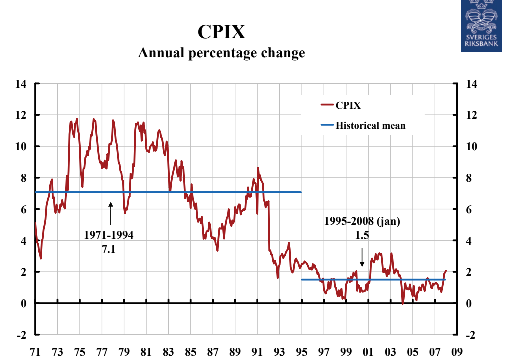
- Only stabilize inflation around the inflation target
- Large interest-rate adjustments up and down
- Large fluctuations in resource utilization, output and employment
- Only pedagogical simplification
- All inflation-targeting central banks conduct flexible inflation targeting

Flexible inflation targeting (λ>0)

- Weight on stabilizing resource utilization may increase over time
- New regime
  - Establish credibility
  - Larger weight on stabilizing inflation
- Established regime with credibility
  - Larger weight on stabilizing resource utilization

Warning

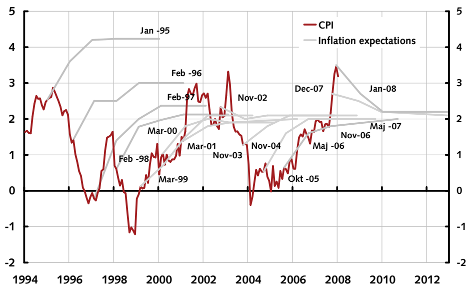
- Too much weight on stabilizing resource utilization can threaten credibility
- Monetary policy cannot affect average resource utilization, only stabilize it around the given average level
- Monetary policy target for average resource utilization: Makes no sense
- Monetary policy target for inflation: Makes a lot of sense



Source: Statistics Sweden and the Riksbank

Inflation expectations by money-market agents

Percent



Sources: Statistics Sweden and Prospera Research AB

Forecasts

- Inflation and resource utilisation react with a significant lag to monetary-policy measures
- “Long and variable lags” (Friedman)
- The Riksbank’s interest-rate decision is based on forecasts for inflation and resource utilization 1-3 years ahead

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Transmission mechanism

- Prices, inflation, inflation expectations sticky
- Instrument rate, inflation expectations
  => Short real interest rate
- Expected future short real interest rates
  => Future output
- Expected future inflation and output (gap)
  => Future inflation
- Ramses, an open-economy DSGE model

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Expectations of the entire repo rate path is what matters

- The repo rate over the next few weeks has little significance for future inflation and resource utilisation
- Expectations of the entire repo rate is what matters, not the repo rate the next few weeks
- “Management of expectations” (Woodford)

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Flexible inflation targeting

- Choose the interest-rate path so that the resulting forecast for inflation and resource utilisation “looks good”
- “Looking good:”
  - Inflation approximately 2% and resource utilisation normal 2-3 years ahead, or
  - Inflation approaching target and resource utilisation approaching normal level at appropriate pace
- “Well-balanced” monetary policy
- “Forecast targeting”

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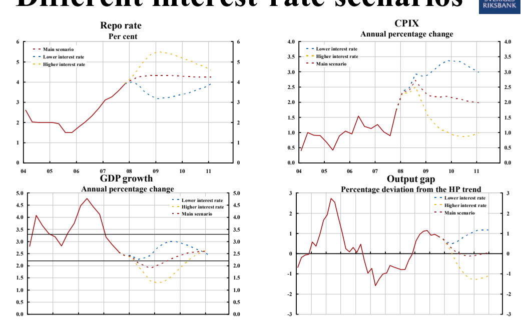
Different interest-rate scenarios



Natural trinity

- Forecasts for interest rate, inflation and resource utilization form a natural trinity
- Interest-rate forecast (assumption) necessary for forecast of inflation and resource utilization
- All central banks that stabilize inflation have interest-rate paths in their materials preparing the decision (also when the paths are not published)

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Conclusion: Choose and publish an interest- rate path

- Monetary policy works through expectations of the interest-rate path
- The entire interest-rate path matters, not the repo rate over the next few weeks
- Riksbank conclusion:
  - Explicitly discuss and choose main interest-rate path (otherwise incomplete decision-making process)
  - Publish interest-rate path (otherwise hiding most important information)

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Riksbank not the first (but No. 3)

- Reserve Bank of New Zealand from 1997
- Arguments in favor from several researchers
- Norges Bank from Spring 2005
- Riksbank from February 2007
- Sedlabanki Islands from March 2007
- Czech National Bank from 2008
- Next?

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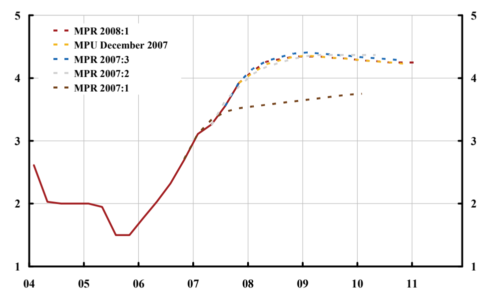
Repo-rate forecasts from Feb 2007 onwards

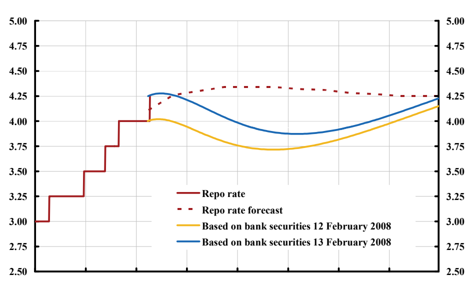
Per cent, quarterly average



Source: The Riksbank

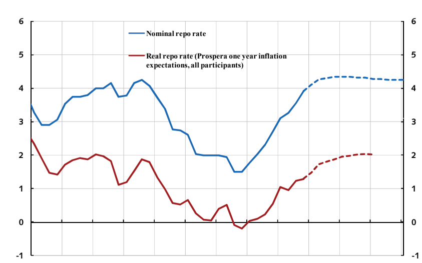
Repo-rate forecast and market expectations February 12 and 12, 2008

Per cent



Source: The Riksbank

Nominal and real repo rates



Forecasts are uncertain

- Probability distribution
  - Mean
  - Uncertainty interval
- Dependeds on available information
- Revised when new information is received
- “Forecast, not a promise!”

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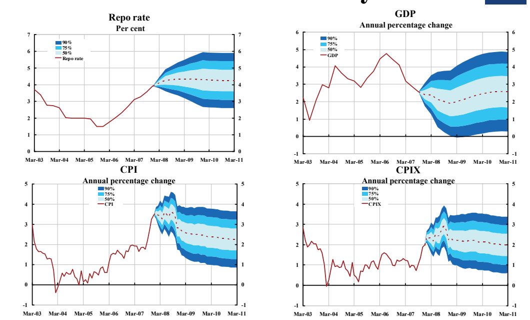
Mean value with uncertainty interval



Sources: Statistics Sweden and the Riksbank

Forecast targeting: Handling new information

- New information relevant only if it changes the forecast for inflation or resource utilisation *for an unchanged interest rate path*
- “Filter new information through the forecast”
- New info shifts forecasts for inflation and resource utilisation up (down) with unchanged interest rate path
- Shift interest-rate path up (down)

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Forecast targeting: Handling new information

- Forecast in February 2007: Well-balanced monetary policy given information then
- New info up to June 2007:
  - Higher wage agreements
  - Lower productivity
  - More expansionary fiscal policy
- Shifted forecasts for inflation and resource utilisation up for unchanged interest-rate path
- Shift interest rate path up: Interest-rate path in June 2007 above high-wage scenario in February 2007

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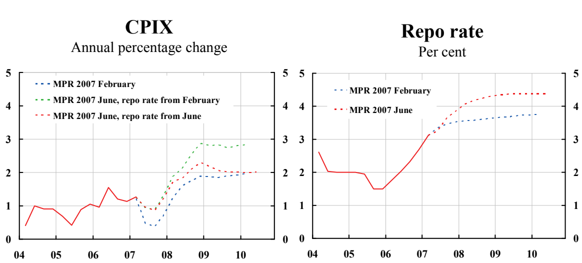

Note. Broken lines refer to the Riksbank’s forecasts Sources: Statistics Sweden and the Riksbank 23

Resource utilisation

- Important variable in flexible inflation targeting
- Can be measured in several ways
- Output gap $(y_t - \bar{y}_t)$:
  Actual output less “potential” output
- Theoretical and empirical difficulties in estimating and forecasting: Uncertainty in measures
- More research urgent

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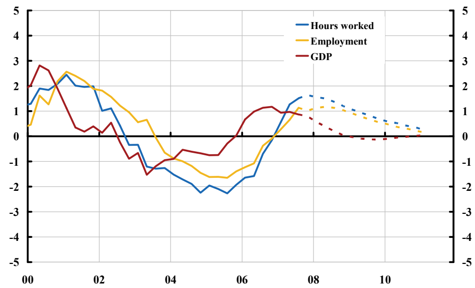
Measures of resource utilization

Deviation from HP trend, per cent



Sources: Statistics Sweden and the Riksbank

Flexible inflation targeting and the interest-rate path: Summary

1. Flexible inflation targeting: Choose an interest-rate path so the forecast for inflation and resource utilization looks good
2. Expectations of the entire interest-rate path matters, not the repo rate over the nest few weeks
3. Discussion, selection and publication of the interest-rate path is the only right thing to do

- New information relevant only if affecting the forecast
- Strong reasons for more research on measures of resource utilisation

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Extra slides

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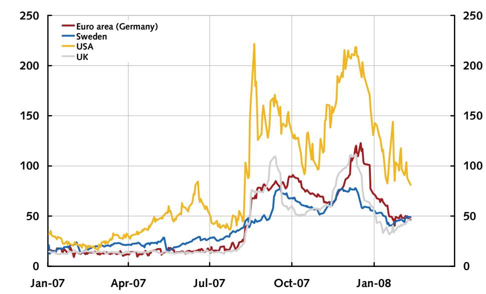
Continued financial turmoil

The difference between interbank rates and government bond rates, basis points

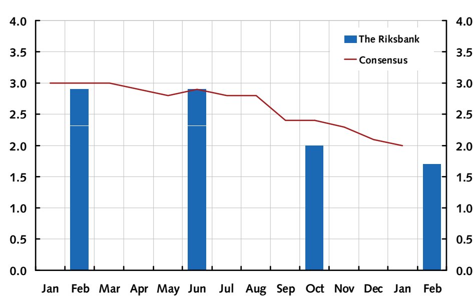


Note. Refers to the difference between 3-month interbank rates and 3-month treasury bills.

Source: The Riksbank

Weak GDP growth in the United States in 2008

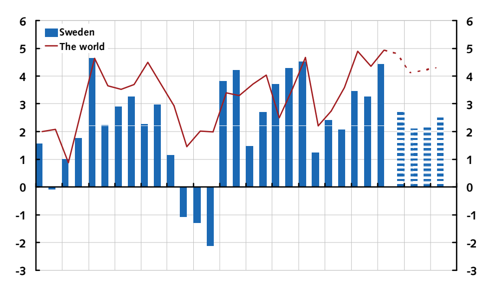
Consensus and the Riksbank's forecasts for GDP growth in the United States in 2008 on different occasions



Sources: Consensus Economics Inc. and the Riksbank

Good growth in the world as a whole

GDP in the world and Sweden, annual percentage change

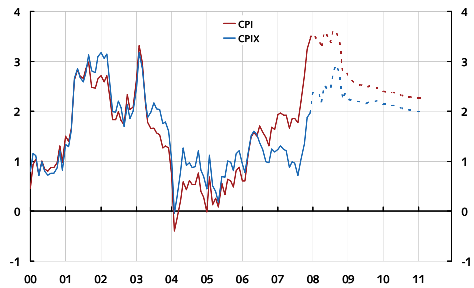


Note. Calendar-adjusted data.

Sources: IMF, Statistics Sweden and the Riksbank

Inflation exceeds the target

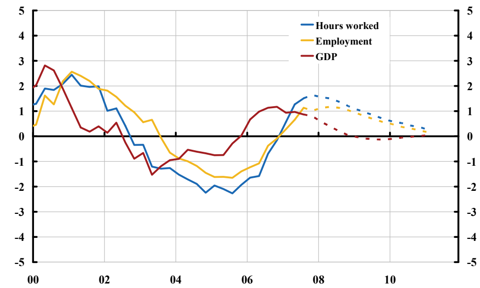
Annual percentage change



Sources: Statistics Sweden and the Riksbank

Real economy strong

Deviation from HP trend, per cent



Sources: Statistics Sweden and the Riksbank