Monetary Policy in Norway

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Outline

- What?
- Why?
- How?
What?
Monetary policy in Norway

Policy objective:
- Low and stable inflation
  Close to 2.5 per cent over time
- A flexible inflation targeting regime
- Stabilise inflation in the medium term
  - The horizon will depend on disturbances to which the economy is exposed and the effects on prospects for the path for inflation and the real economy.

Policy decision:
- Every sixth week
- Press conference and written document explaining the assessments
  - Also when the rate is not changed
Economic analysis:
- Monetary Policy Report
  - Three per year
  - Forecasts of inflation, output gap, the key interest rate (!), the exchange rate, unemployment, etc

Decision-making process:
- “Autocratically-collegial” committee (Blinder, 2009)
  - 2 Internals (Governor and Dep. Governor) + 5 externals (part-time)
- No minutes or voting record
- But: The written document explaining the decision has some elements of “minutes”
- Speeches by the internal members
Monetary Policy Report

1. Forecasts with fan charts

2. Alternative scenarios

3. “Delta accounting”
   - Reasons for changing the interest rate path
Baseline scenarios in MPR 3/09

Key policy rate

Output gap

Inflation (CPI)

Underlying inflation (CPIXE)

Sources: Statistics Norway and Norges Bank
Alternative scenarios in MPR 3/09

30% 50% 70% 90%

- Higher demand growth
- Baseline scenario
- Lower price and cost inflation

Key policy rate

Source: Norges Bank
Baseline scenarios in MPR 2/09 and MPR 3/09

Key policy rate

Output gap

Inflation (CPI)

Underlying inflation (CPIXE)

Sources: Statistics Norway and Norges Bank
Factors behind changes in the interest rate path
Since MPR 2/09. Accumulated contribution. Percentage points

Source: Norges Bank
"When facts change, we change our minds"
Why?
Monetary policy as "management of expectations"

“Central banks generally control only the overnight interest rate, an interest rate that is relevant to virtually no economically interesting transactions.” (Blinder, 1998)

"For not only do expectations about policy matter, but (...) very little else matters” (Woodford, 2005)
Everyone talks about the future in one way or another

Bank of England, Inflation Report, February 2008:
“Under market interest rates, the central projection for inflation was a little above the target in the medium term, while under constant interest rates, it was below the target.”

Claude Trichet, June 5, 2008:
“….the possibility is not excluded that, …, we could decide to move our rates by a small amount in our next meeting in order to secure the solid anchoring of inflation expectations…."

Claude Trichet, June 25, 2008:
“I didn't say that we would envisage a series of increases. I didn't say that.”
Changes in Norges Bank’s interest rate assumptions.
Key policy rate. Monthly average of daily observations. 2001 - 2010

Markets’ interest rate expectations … with comments

Our own interest rate forecasts

Constant interest rates
Effects of publishing interest rate forecast

- More stable inflation and output?
  - To early to conclude

- Reaction pattern better understood by the market?
  - Test: Market interest rates should adjust when economic news occur, and not when we announce the policy decision
Average absolute change in short term interest rates after policy announcements
Average absolute change in short term interest rates after policy announcements

Financial crisis
Experiences with publishing the interest rate forecast

- More precise communication than verbal deliberations
  - But not a giant step in transparency

- Conditionality well understood by market participants
  - It’s a forecast – not a promise

- Less monetary policy surprises
  - (If we adjust for the financial crisis)

- Makes the internal process more focused
  - Each piece in the forecasting process has measurable interest rate implications
How?
Norges Bank’s criteria for a good interest rate path:

1. Stabilising inflation close to the target in the medium term.

2. A reasonable balance between the path for inflation and the path for capacity utilisation.

3. Gradualism and consistency

4. Robustness and cross-checks
Implementing the criteria: A model-based approach
Why model the interest rate path?

- Ensure consistency
- Focus the discussions
- Document the use of judgement
Norges Bank’s suite of models

- **Near term analysis**
- **Regional network**
- **Theoretical and empirical models**
- **Qualitative info and judgement**
- **Monetary policy**
NEMO (Norwegian Economy MOdel)

- A medium-sized DSGE-model of a small open economy

- New Keynesian
  - Nominal and real rigidities
  - Imperfect competition
    - Output is determined by demand

- Bayesian estimation method
  - Data + prior information/judgements

- Try to avoid an ever-increasing core model
  - “Research versions” with various extensions
    - e.g., housing sector and financial frictions
Deriving the interest rate path: Two approaches

- Simple interest rate rule

\[ r_t = \alpha r_{t-1} + (1-\alpha)[\beta_1(E_t\pi_{t+k} - \pi^*) + \beta_2 y_t + \beta_3 \Delta y_t] \]

- Optimal policy: Minimizing a loss function

\[ L = (\pi - \pi^*)^2 + \lambda y^2 + \delta(r - r_{-1})^2 \]
Simple rule

\[ r_t = \alpha r_{t-1} + (1-\alpha)[\beta_1(E_t\pi_{t+k} - \pi^*) + \beta_2 y_t + \beta_3 \Delta y_t] \]

- Approximate “optimal” policy through choices of coefficients
- But there will be deviations from the rule
  - Does not utilize all information optimally
  - How should we model deviations from the rule?
Optimal policy

- Maximum achievement of the objectives
  - Given the model

- Can analyse implications of alternative policy preferences

- Explicit about the time-inconsistency problem
  - Must make an assumption about commitment vs discretion
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MPR 3/09. Criteria 1 & 2

\[ L = (\pi - \pi^*)^2 + \lambda y^2 \]
Norges Bank’s criteria for a good interest rate path:

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Criteria 1, 2 & 3.

\[ L = (\pi - \pi^*)^2 + \lambda y^2 + \delta(r - r_{-1})^2 \]
Norges Bank’s criteria for a good interest rate path:

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4. Robustness and cross-checks
Robust monetary policy

- Optimal policy not very robust (?)

- Everyone is in favour of robust policy
  - But how can we provide it?

- "Reasonable" interest rate path
  - Loss function that also penalizes interest rate volatility

- Cross checks
  - Market expectations
  - Simple interest rate rules
Simple rules as cross-checks¹)

1) The calculations are based on Norges Bank's projections for the output gap, consumer prices adjusted for tax changes and excluding temporary changes in energy prices (CPIXE) and three-month money market rates. To ensure comparability with the key policy rate, the simple rules are adjusted for risk premiums in three-month money market rates.

Source: Norges Bank
Key policy rate and Taylor rule
Real time output gaps. Per cent. 2000 Q1 – 2009 Q3

Source: Norges Bank
The case for Taylor rules

- The simple Taylor rule robust across models (?)
  - Taylor and Williams (2008), Taylor (2009)

- Deviations from the Taylor rule may lead to financial imbalances?
    OECD Economics Department Working Papers, No. 597
Model-forecasts based on the Taylor rule

Key policy rate

Output gap

CPI-ATE

Nom. exch. rate
Simple rules as guidelines

- John Taylor:
  "Simple rules should be used as guidelines, not as mechanical formulas"

- Lars Svensson:
  “The proposal to use simple instrument rules as mere guidelines is incomplete and too vague to be operational”
How can we operationalize cross checks?

- Extended loss function:

\[ L = (\pi_t - \pi^*)^2 + \lambda y_t^2 + \gamma (r_t - r_{t-1})^2 + \kappa (r_t - r_t^T)^2 \]

\( r_t^T = \) Taylor rule

- True believer: \( \kappa = 0 \)
- True agnostic: \( \kappa \rightarrow \infty \)
- Doubtful believer: \( 0 < \kappa < \infty \)
Criterium 4: Robustness

\[ L = (\pi_t - \pi^*)^2 + \lambda y_t^2 + \gamma (r_t - r_{t-1})^2 + \kappa(r_t - r_t^T)^2 \]