Monetary Policy

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Stockholm School of Economics, November 2009

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Monetary Policy: Outline

1. Modern monetary policy regimes:
   Mandate, independence, and accountability
2. Implementing monetary policy:
   The interest-rate path and its credibility
3. Evaluating flexible inflation targeting

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Modern Monetary Policy Regimes: Mandate, Independence, and Accountability

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Modern Monetary Policy Regimes

Three pillars:

1. Mandate
2. Independence
3. Accountability

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1. Mandate

- **Possible** objectives for monetary policy: What can monetary policy achieve?
  - Long run
    - **Nominal** variables (price level, inflation, exchange rates,…): Level and variability
    - **Real** variables (output, employment, unemployment, output gap, resource utilization,…):
      Not levels, only variability
    - Possible tradeoff between variability of real and nominal variables
    - Imperfect control

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1. Mandate

- **Possible** objectives for monetary policy: What can monetary policy achieve?
  - Short run
    - Nominal variables: Permanent impact
    - Real variables: Temporary impact
    - Lags: Variable, 1-2 years
    - Uncertainty:
      - Current state of the economy
      - Future effect on real and nominal variables of given monetary policy action
    - Forecasts!

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1. Mandate

- **Suitable** objectives for monetary policy: What should monetary policy try to achieve?
  - Nominal stability
    - "Price stability": Low and stable inflation
  - Costs of high inflation
    - High inflation variability → more uncertainty in economic decisions
    - Distortions (taxes, demand for financial services, transactions costs, …)
    - Arbitrary redistributions (owners vs. renters, borrowers vs. lenders, …)

1. Mandate

- **Suitable** objectives for monetary policy: What should monetary policy try to achieve?
  - Real stability
    - Stable resource utilization
  - "Flexible inflation targeting": Low and stable inflation as well as stable resource utilization
    - Reasonable compromise between stable inflation and stable resource utilization

Flexible inflation targeting

Characteristics:

1. Numerical inflation target
2. "Forecast targeting": Setting the interest rate (an interest-rate path) such that forecasts of inflation and resource utilization "look good"
3. A high degree of transparency and accountability

Numerical inflation target

- Target and index specified by government, parliament, or central bank
  - Government: NZ, Canada, UK, Australia, Norway
  - Central bank: Euro area, Sweden
- Pros and cons
  - Government/parliament commitment to inflation target
  - Target level and index not suitable as election issue
  - Index and level of target arguably a technical question

Numerical inflation target

- Target explicitness, level, and index vary across countries
  - Implicit target ("comfort zone") for (core) PCE deflator (Fed)
  - "Below but close to 2%" (ECB)
  - Point target (2%, 2.5%); point target w/ range (2%±1%); range (1-3%, 2-3% over the cycle)
  - Headline inflation (CPI, HICP, …); underlying (core) inflation (CPIF, CPIX, RPIX, UND1X, …)

2. Independence

- Avoids short-run interference by governments/parliaments: Political business cycle
- Avoids "inflation bias"
- Allows longer horizon in monetary policy
- Emphasizes responsibility for fulfilling mandate

2. Independence

- Several dimensions of independence
  - Functional, institutional, personal, financial
  - Goal vs. instrument
  - Formal (legal) vs. informal (actual)

2. Independence

- Strong international trend towards increasing independence (RBNZ 1990, Bank of England 1997, ECB 1998, Sweden 1999)
- Degree of independence varies across countries
- Norges Bank Watch 2002: "Monetary policy among the best in the world; institutional framework among the worst in the world"
- Informal independence even if not formal
- Safer with formal independence

3. Accountability

- Democracy: Independence requires accountability (Blinder)
- Efficiency: Accountability strengthens CB incentives to fulfill mandate
- Accountability requires transparency

Transparency

- Strengthens accountability
  - Improves discussion and evaluation of monetary policy
  - Strengthens CB incentives
- Improves efficiency of monetary policy
  - More effective "management of expectations"
  - Publishing interest-rate forecasts affects interest-rate expectations

Transparency

- Degree of transparency varies across countries
  - Inflation target, stabilization of resource utilization
  - CB forecasts, analysis, motivation for decisions (Monetary Policy Reports)
  - Analysis of outcomes: Unanticipated shocks, etc.
  - Alternative scenarios (interest rates, shocks, international developments, …)
  - Forecasts of output, output gap, resource utilization
  - Interest-rate forecasts (NZ, Norway, Sweden, …)
  - Attributed (Sweden) vs. nonattributed minutes

Transparency

- Possible improvements:
  - Interest-rate forecasts (optimal interest-rate plans)
  - Resource-utilization stabilization
    - Weight relative to inflation stabilization
    - Role in decision process
    - Forecasts of potential output and output gap
  - Explicit loss functions and explicit optimal policy

Accountability in practice

- Current discussion by experts and interested parties in media, reports, conferences, etc.
- Parliaments and governments: Evaluation of **past** policy, **not** interference in **current** policy
  - Respect independence
- Hearings in Parliaments
  - Avoid superficial political points
  - Expert assistance, evaluation reports, questions
  - Submissions from interested parties

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Accountability in practice

- Official evaluations by experts
  - New Zealand 2001
  - Sweden 2007,…
- Independent evaluations (could be sponsored by CB/Government)
  - Norges Bank Watch
  - Annual conference (ECB Watchers' Conference, US Monetary Policy Forum)

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Accountability in practice

- Evaluation of monetary policy: Difficulties
  - Lags (1-2 years), uncertainty
  - Current inflation affected by policy about 2 years ago
  - Current inflation on target
    - Policy right 2 years ago, unanticipated shocks small or cancel
    - Policy wrong 2 years ago, unanticipated shocks compensate (luck)
  - Current inflation off target
    - Policy right 2 years ago, unanticipated shocks explain deviation
    - Policy wrong 2 years ago, unanticipated shocks don't compensate
  - Ex post evaluation difficult: Must identify shocks to judge policy

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Accountability in practice

- Evaluation of monetary policy: Difficulties
  - Ex ante evaluation of decisions better
  - Evaluate decision given info at the time of decision
  - Requires transparency: CB info at the time
 - Compare w/ other forecasts/policy recommendations at the time

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Modern monetary policy regimes

- Mandate, independence, accountability
- Flexible inflation targeting
  - Works very well in many countries
- Room for further improvements of transparency and accountability
- Accountability in practice, evaluations
- We learn more from some variety across countries

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Riksbank governance

Riksdag

↓

General Council
11 members

↓

Executive Board
6 members
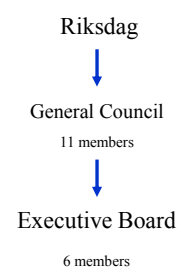
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The Executive Board of the Riksbank

Stefan Ingves

Svante Öberg

Karolina Ekholm

Lars Nyberg

Lars E.O. Svensson

Barbro Wickman-Parak

Implementating monetary policy:

October 2007

December 2007

February 2008

April 2008

July 2008

September 2008

October 8, 2008

October 23, 2008

December 2008

February 2009

April 2009

July 2009

September 2009

- Repo rate
- Old repo-rate path
- New repo-rate path
- Day before
- After announcement

Note: Source:

October 2009

- Repo rate
- Old repo-rate path
- New repo-rate path
- Day before
- After announcement

Differences between market expectations and repo-rate path
Percent

- feb-07
- jul-07
- okt-07
- dec-07
- feb-08
- apr-08
- jul-08
- sep-08
- okt-08
- dec-08
- feb-09
- apr-09
- jul-09
- sep-09

Kvartal

Källa: Riksbanken

Management of interest-rate expectations

- Overall pretty good through February 2009
- From April 2009: Higher market expectations, imperfect credibility
- Result: Actual policy more restrictive than intended policy

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Management of interest-rate expectations

- Possible reasons for lack of credibility?
  - Communication, divisions in Board, lower bound?
  - Mean or mode?
  - Market expectations of future inflation and growth?

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Evaluating
flexible inflation targeting

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Evaluations of monetary policy, examples

- Riksdag's Committee on Finance (annual)
- Giavazzi-Mishkin (2006)
- Independent Review of Monetary Policy in New Zealand (2001)
- Norges Bank Watch (annual, 2002)

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Why not just check if inflation equals the inflation target?

(1) Imperfect control of inflation: Lags, intervening unforeseen shocks
  - Inflation on target: MP wrong but CB lucky
  - Inflation off target: MP right but CB unlucky
(2) Deviation from target may be intentional
  - Flexible inflation targeting: Stabilize *both* inflation around target *and* the real economy

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Flexible inflation targeting

- "Forecast targeting"
- Choose policy-rate path so forecast for inflation and real economy "looks good"
- "Looks good": Inflation goes to target and resource utilization goes to normal at appropriate pace
- Riksbank: "Well balanced" policy

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Flexible inflation targeting

- More formally:
  Minimize quadratic forecast loss function
  $$\sum_{\tau=0}^{\infty} (\pi_{t+\tau,t} - \pi^*)^2 + \lambda \sum_{\tau=0}^{\infty} (y_{t+\tau,t} - \bar{y}_{t+\tau,t})^2$$

  $y_{t+\tau,t} - \bar{y}_{t+\tau,t}$ output gap
  λ constant relative weight on output-gap stabilization
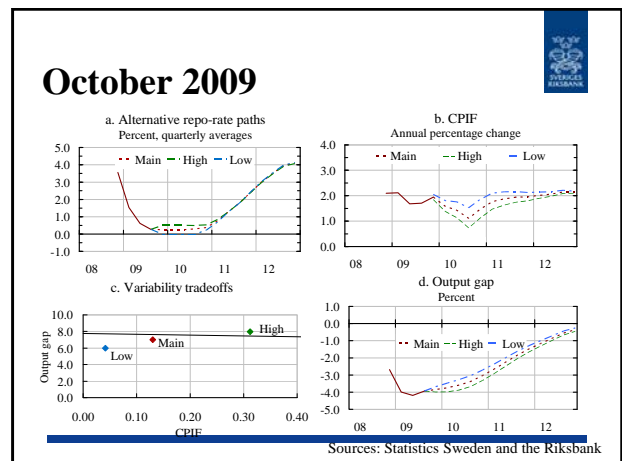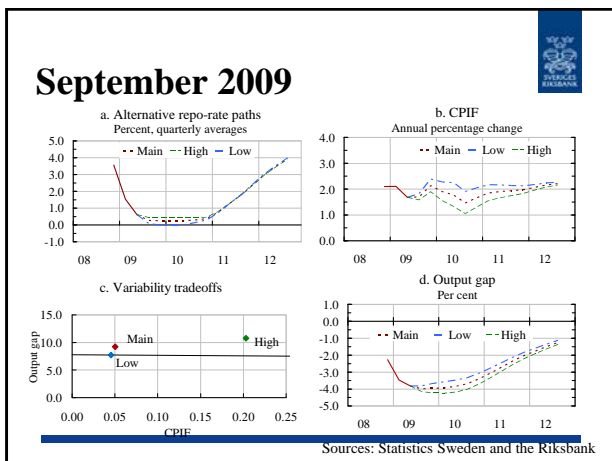
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Flexible inflation targeting
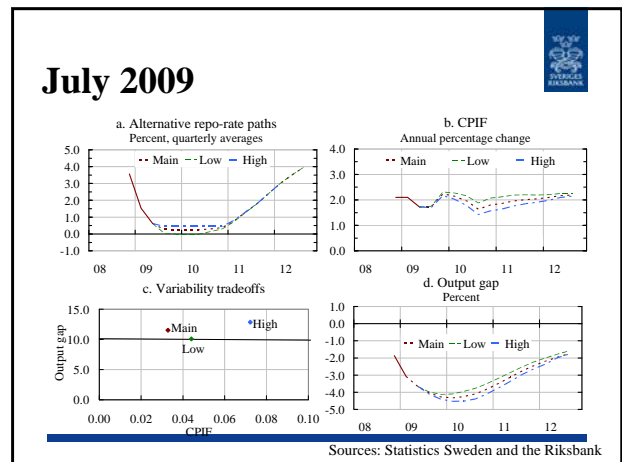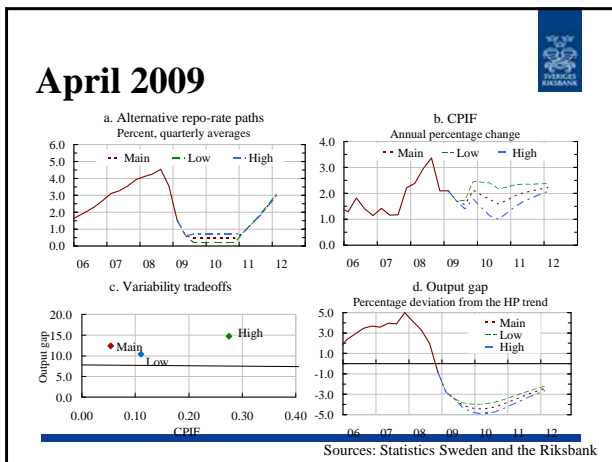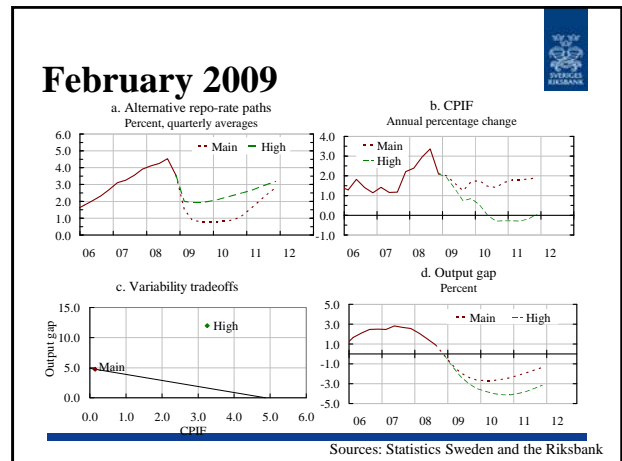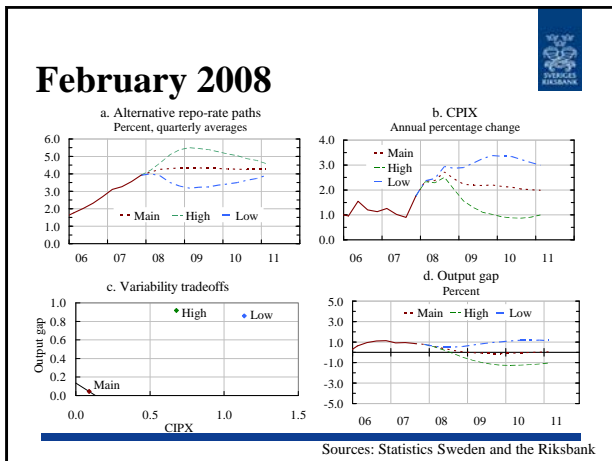
- Mean squared gaps:
  $$\sum_{\tau=0}^{T} (\pi_{t+\tau,t} - \pi^*)^2 / (T+1)$$
  $$\sum_{\tau=0}^{T} (y_{t+\tau,t} - \bar{y}_{t+\tau,t})^2 / (T+1)$$

  T forecast horizon
- Variability tradeoffs

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February 2008

a. Alternative repo-rate paths
Percent, quarterly averages

Main · High — Low

b. CPIX
Annual percentage change

Main · High — Low

c. Variability tradeoffs
High · Low · Main

d. Output gap
Percent

Main · High — Low

Sources: Statistics Sweden and the Riksbank

February 2009

a. Alternative repo-rate paths
Percent, quarterly averages

Main — High

b. CPIF
Annual percentage change

Main — High

c. Variability tradeoffs
High · Main

d. Output gap
Percent

Main — High

Sources: Statistics Sweden and the Riksbank

April 2009

a. Alternative repo-rate paths
Percent, quarterly averages

Main — Low — High

b. CPIF
Annual percentage change

Main — Low — High

c. Variability tradeoffs
Main · High · Low

d. Output gap
Percentage deviation from the HP trend

Main — Low — High

Sources: Statistics Sweden and the Riksbank

July 2009

a. Alternative repo-rate paths
Percent, quarterly averages

Main — Low — High

b. CPIF
Annual percentage change

Main — Low — High

c. Variability tradeoffs
Main · High · Low

d. Output gap
Percent

Main — Low — High

Sources: Statistics Sweden and the Riksbank

September 2009

a. Alternative repo-rate paths
Percent, quarterly averages

Main · High — Low

b. CPIF
Annual percentage change

Main — Low — High

c. Variability tradeoffs
Main · Low · High

d. Output gap
Per cent

Main — Low — High

Sources: Statistics Sweden and the Riksbank

October 2009

a. Alternative repo-rate paths
Percent, quarterly averages

Main — High — Low

b. CPIF
Annual percentage change

Main · High — Low

c. Variability tradeoffs
Low · Main · High

d. Output gap
Percent

Main — High — Low

Sources: Statistics Sweden and the Riksbank

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Evaluation ex post or ex ante?

- Evaluation ex post, after the fact?
- In hindsight, policy could normally have been better (but this is trivial)
- More relevant: Given available information at the time of decision, could policy have been better?
- Evaluation ex ante arguably more relevant
- Can be done in real time

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