



# Monetary Policy

Lars E.O. Svensson  
Sveriges Riksbank

Stockholm School of Economics, November 2007

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# Monetary Policy: Outline

1. Modern monetary policy: Mandate, independence, and accountability
2. Monetary policy in Sweden
3. Flexible inflation targeting and the interest-rate path

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# Modern Monetary Policy Regimes: Mandate, Independence, and Accountability

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# Modern Monetary Policy Regimes

Three pillars (Chuck Friedman, Bank of Canada):

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, ...)

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## 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

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## 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

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## 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

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## 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 (CPIX, RPIX, UND1X, ...)

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## 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

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## 2. Independence

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



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## 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



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## 3. Accountability

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



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## 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



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## 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



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## 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



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## 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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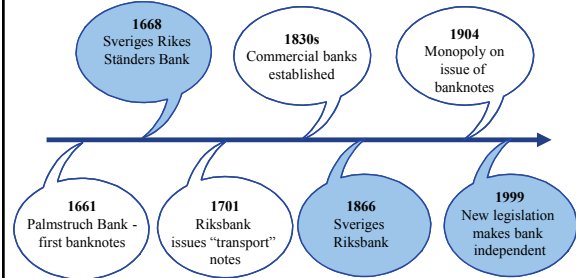
# Monetary Policy in Sweden

Lars E.O. Svensson  
Sveriges Riksbank

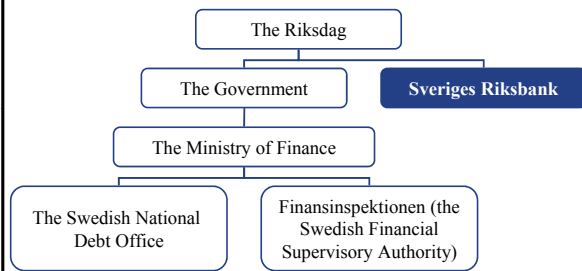
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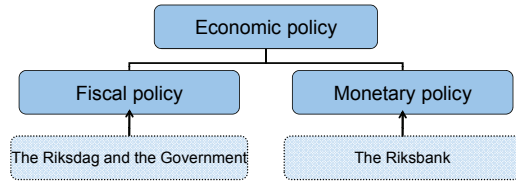
# The world's oldest central bank



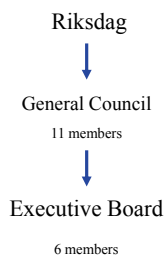
# An authority under the Riksdag



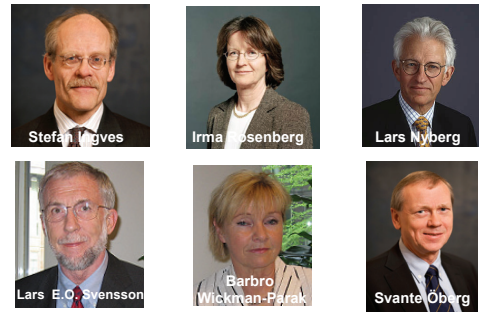
# Economic (stabilization) policy



# Governance




# Executive Board




## An independent Riksbank


- Before 1999: Conduct monetary and exchange rate policy.
- From 1999: Price stability




General Council 4 years



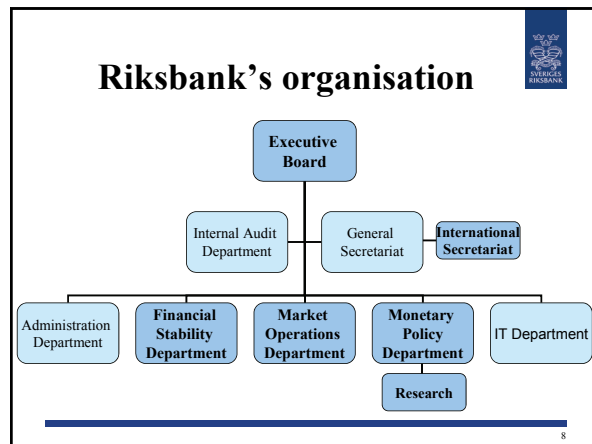
Riksbank Governor 5 years



General Council 4 years



Executive Board 6 years



## The Riksbank's goals

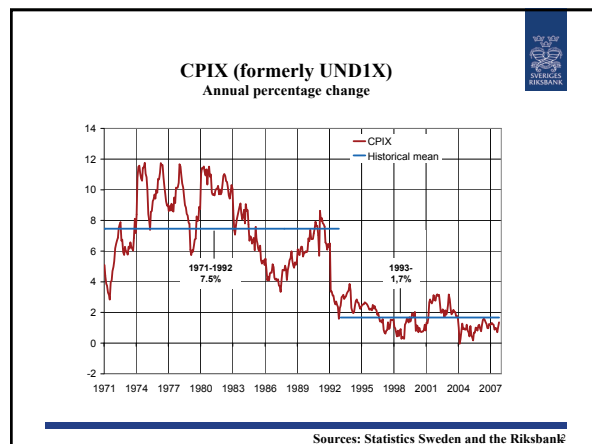
- To safeguard the value of money (price stability)
  - Oversee and analyse monetary stability
  - Conduct monetary and exchange rate policy measures
  - Manage the Riksbank's assets (domestic credit and FX reserves)
- To promote a safe and efficient payment system
  - Oversee and analyse stability in the payment system
  - Responsibility for the RIX system
  - Ensure the supply of banknotes and coin
  - Financial stability

## Price stability

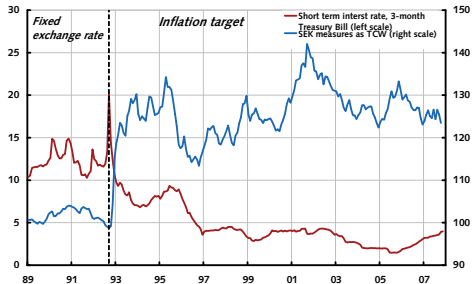
- General Council of the Riksbank, Jan 15, 1993
- Inflation target for CPI  $2\% \pm 1\%$  (tolerance interval)

## Calendar

- 6 monetary policy meetings per year (2008-)
  - 3 Monetary Policy Reports
  - 3 updated assessments
- 2 public hearings before the Riksdag's Committee on Finance

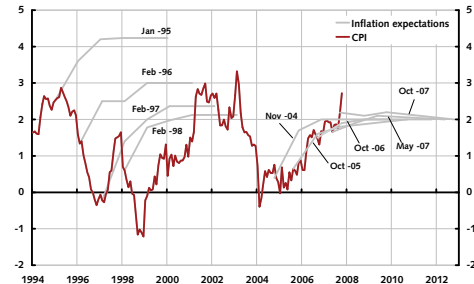


## Interest rate and exchange rate



Source: The Riksbank <sup>13</sup>

## Inflation expectations by money market agents



Sources: Statistics Sweden and Prospera Research AB <sup>14</sup>



## Flexible inflation targeting and the interest-rate path

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## Flexible inflation targeting

- Stabilise inflation around the inflation target
- Stabilise resource utilisation
- Loss function

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

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## Strict inflation targeting ( $\lambda=0$ )

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

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## Flexible inflation targeting ( $\lambda>0$ )

- Weight on stabilising resource utilisation may increase over time
- New regime
  - Establish credibility
  - Greater weight on stabilising inflation
- Established regime with credibility
  - Larger weight on stabilising resource utilisation

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## Warning

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

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## 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 utilisation 1-3 years ahead

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## Transmission mechanism

- Prices, inflation, inflation expectations sticky
- Instrument rate, inflation expectations  
=> Short real interest rate
- Exped future short real interest rates  
=> Future output
- Expected future inflation and output (gap)  
=> Future inflation



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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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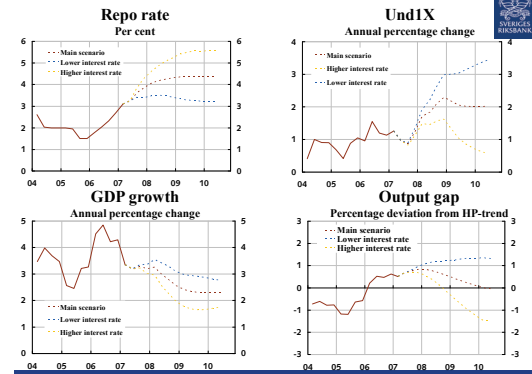
## Flexible inflation targeting

- 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



Note. Broken lines refer to the Riksbank's forecasts

Sources: Statistics Sweden and the Riksbank

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## Natural trinity

- Forecasts for interest rate, inflation and resource utilisation form a natural trinity
- Interest rate forecast (assumption) necessary for forecast of inflation and resource utilisation
- All central banks that stabilise inflation have interest rate forecasts or assumption in their materials preparing the decision (even when these are not published)



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## Choice and publication of 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:
  - Explicit discussion and selection of main interest rate forecast (otherwise incomplete decision-making process)
  - Publication of 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 favour from several researchers
- Norges Bank from Spring 2005
- Riksbank from February 2007
- Sedlabanki Islands from March 2007
- Czech National Bank from 1998
- Next?

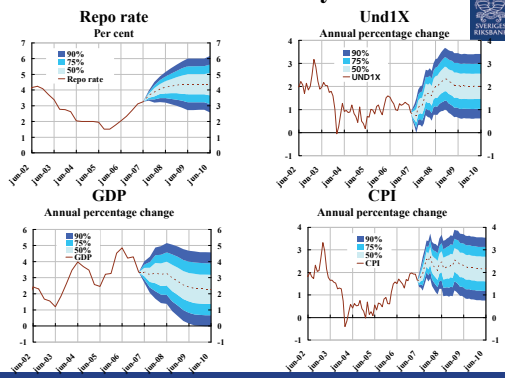
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## Forecasts are uncertain

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

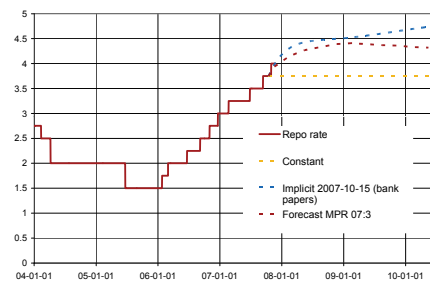
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## Mean value with uncertainty interval



Note. Broken lines refer to the Riksbank's forecasts Sources: Statistics Sweden and the Riksbank 15

## Repo rate forecast and market expectations



Source: The Riksbank

## Forecast targeting: Handling new information

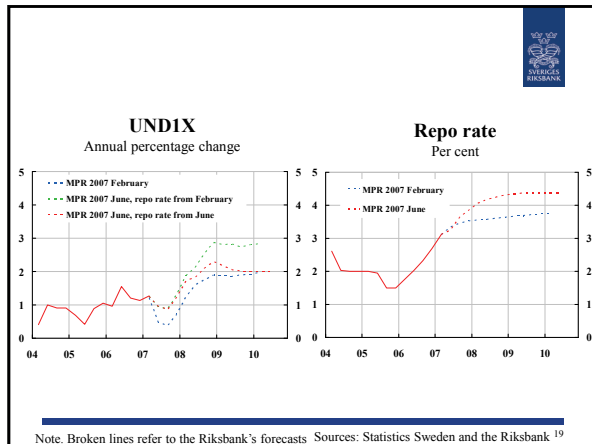
- New information relevant only if it changes the forecast for inflation or resource utilisation *forth an unchanged interest rate path*
- “Filter new information through the forecast”
- New info shifts forecasts for inflation and resource utilisation up (down) with unchanged interest rate path
- Shift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

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## Forecast targeting: Handling new information

- Forecast in February: Well-balanced monetary policy given information then
- New info up to June:
  - 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 above high-wage scenario in February

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## 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
- Strong reasons for more research

## 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 utilisation looks good
2. Expectations of the entire interest rate path, not the repo rate over the next few weeks, is what matters
3. Discussion, selection and publication of the interest rate path is the only right thing to do
  - New information relevant only if it affects the forecasts
  - Strong reasons for more research on measures of resource utilisation