Monetary policy: Application

Introduction to Mopos – Random mode

Economics for everyone
Iconomix – the Swiss National Bank's
educational programme

Mopos

Mopos is a monetary policy simulation game:

- You act as a governor of a central bank and conduct a country's monetary policy.
- You gain insight into the considerations behind a central bank's monetary policy decisions.
- You learn about the possibilities and limitations of monetary policy.

Monetary policy tasks

A modern central bank pursues two goals:

- Price stability as the primary objective
- Balanced economic development as an important secondary objective

Monetary policy instrument

The central bank uses one instrument to pursue both goals – its key interest rate.

- Raising key interest rate ⇒ lower inflation and economic slowdown
- Lowering key interest rate ⇒ higher inflation and economic upturn

Please note: It is important to distinguish between *conventional* monetary policy, which involves steering the key interest rate, and *unconventional* measures, such as foreign exchange market interventions.

Monetary policy decision-making process

The central bank board meets regularly at monetary policy assessments to its make interest rate decision.

- Phase 1: Analyse the current situation by looking at developments in inflation and economic activity.
- Phase 2: Prepare a forecast on the future development of inflation and economic activity.

Monetary policy challenges

A number of factors complicate the conduct of monetary policy in Mopos:

- It has one instrument (key interest rate) for two goals (price stability and balanced economic development).
- Inflation does not react immediately to interest rate adjustments.
- In addition to monetary policy, unforeseeable events (also known as *disruptions* or *shocks*) influence the economy.
- Unlike in reality, the interest rate cannot be negative.
- Important economic data only becomes available after a time lag.

What economic data is shown in Mopos?

- Nominal interest rate (in percent): In Mopos, the key interest rate is the same as the market rate that applies to consumers and businesses.
- Inflation: Increase in general level of prices in percent compared to year-back quarter (0–2% = price stability)
- Output gap: Business cycle indicator
  0% = balanced economy, >1% = boom, <−1% = recession)
- Shocks or disruptions: Expressed as percentage of output gap
  (shock of ±1% causes output gap to change by ±1%)

What is an output gap?

The actual output of an economy fluctuates around its long-term potential output.

- Potential output is the output that can be achieved at full capacity utilisation without causing additional inflationary pressure.
- If actual output exceeds potential (gap >0%), inflation tends to rise.
- If actual output is lower than potential (gap <0%), inflation tends to fall.

What are shocks?

In addition to monetary policy, Mopos features four types of unforeseeable events that can influence the economy.

The effect of these *shocks* is not limited to the short term, but can persist over several periods before disappearing again.

- Demand shocks (long-term effects), e.g. a decline in export demand
- Supply shocks (very long-term effects), e.g. a disruption in global supply chains
- Inflation shocks (short-term effects), e.g. a sudden rise in commodity prices
- Exchange rate shocks (very long-term effects), e.g. an abrupt appreciation of national currency

How are forecasts generated in Mopos?

- Developments in inflation and economic activity are dependent on three factors: past conditions, monetary policy and unforeseen events (shocks).
- When forecasting inflation and economic activity, the most plausible assumptions possible are made with regard to the future development of shocks.
- As these assumptions are not usually accurate, the actual values may differ from those forecast.
- Analysing shock data series helps to understand such deviations and the underlying causes of past developments in inflation and economic activity.

What is the significance of important economic data only becoming available with a time lag?

- One of the challenges in monetary policy is the lack of complete and reliable information on the current economic situation.
- For this reason, central banks have no choice but to base their interest rate policy on estimates that may prove to be inaccurate in retrospect.
- To gain a better understanding of how this uncertainty feels, the option ‘Show demand and supply shocks with delay’ can be selected in Mopos.

What is a simulation?

- Simulations present a more or less simplified version of reality; Mopos is no different.
- Many of the challenges encountered in monetary policy in practice do not arise in the Mopos simulation. For instance, only one interest rate is used in the model.
- This means, however, that some of the fundamental difficulties in monetary policy as well as the underlying dynamics of the economy become all the more apparent.

What data is used in Mopos?

- The Mopos simulation is based on an economic model that realistically depicts key economic relationships.
- The simulated data is based on real economic conditions, but does not relate to a particular country.

Debriefing of term in office

At the end of each scenario, Mopos provides a debriefing of your term in office, with time series charts for the nominal interest rate, inflation and output gap, as well as the following additional information:

- **Key figures:** Averages and standard deviations for inflation and the output gap. These serve to assess how well monetary policy objectives – price stability and balanced economic development – have been achieved. The smaller the deviation, the better the performance.

Start Mopos

To start the simulation, go to mopos.iconomix.ch

Good luck!