

# Monetary policy

## Introduction to Mopos



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## Mopos 3.0

Mopos 3.0 is a simulation tool:

- ▶ You will assume the role of a central banker and be in charge of a country's monetary policy
- ▶ You will learn about what a central bank takes into consideration when making a monetary policy decision
- ▶ You will learn about the possibilities and limitations of monetary policy

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## Monetary policy goals

A modern central bank pursues two goals:

- ▶ Price stability is the most important objective
- ▶ Balanced economic activity is an important secondary objective

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## Monetary policy instruments

The central bank uses its key rate as an instrument to achieve these two goals:

- ▶ Key rate increased, lower inflation and weaker economic activity
- ▶ Key rate decreased, higher inflation and stronger economic activity

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## The monetary policy process

The central bank's management takes its interest rate decision periodically:

- ▶ Phase 1: It analyses the development of key variables such as inflation and aggregate economic output
- ▶ Phase 2: It prepares a forecast of the future development of inflation and the economy; interest rate decisions are based on this

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## Monetary policy challenges

A number of reasons make it particularly difficult to steer monetary policy:

- ▶ Inflation does not react immediately to interest rate adjustments
- ▶ Besides monetary policy influencing economic developments, there will always be events (disruptions or shocks) that cannot be forecast
- ▶ The interest rate can never be negative
- ▶ Important economic data only become available after a lag

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## Which economic data are displayed in Mopos?

- ▶ Nominal interest rate (in %): this is both the key rate and the standard market interest rate for consumers and companies
- ▶ Inflation: a sustained increase in the general price level in % compared to the year-earlier quarter (0–2% = price stability)
- ▶ Output gap: indicator of economic activity (0% = balanced economy, >1% = Boom, <-1% = recession)
- ▶ Shocks or disruptions: in percentage of output gap (a shock of +/-1% causes the output gap to change by +/-1%)

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## What is the output gap?

An economy's actual output varies by the potential output

- ▶ The potential is the maximum level of output that is possible with existing capacities but without giving rise to any additional inflationary pressure
- ▶ If output is above potential (gap  $>0\%$ ), inflation tends to increase
- ▶ If output is less than the potential (gap  $<0\%$ ), inflation tends to fall



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## What are shocks?

As well as monetary policy and events in the past, Mopos 3.0 contains four kinds of unforeseeable events which can also influence the economy:

- ▶ Demand shock, e.g. a sudden decrease in export demand
- ▶ Supply shock (or potential shock), e.g. technological innovation
- ▶ Inflation shock, e.g. a sudden increase in commodity prices
- ▶ Exchange rate shock, e.g. a sudden and substantial appreciation of the national currency

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## What information do the shock data series provide?

- ▶ The development of inflation and the economy is dependent on three factors: the past, monetary policy, and unforeseen events (the shocks)
- ▶ In forecasting inflation and economic activity, the best possible assumptions have to be made with regard to the development of shocks in the future
- ▶ As this assumption is usually not completely accurate, the actual values often vary from those forecast
- ▶ Analysis of the shock data series helps to understand such deviations, as well as the underlying causes of previous developments in inflation and economic activity

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## What impact does it have if important economic data only become available after a lag?

- ▶ One of the difficulties concerning monetary policy is the lack of complete or accurate information regarding economic developments
- ▶ For this reason, central bankers have no choice but to base interest rate policy on estimates, which, in retrospect, may turn out to be incorrect
- ▶ To get an idea of what this feels like, Mopos can be played with the option 'Demand shock and supply shock visible with delay'

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## What is a simulation?

- ▶ Simulations present a fairly simplified version of reality; Mopos is no exception
- ▶ Many difficulties faced by monetary policy are omitted here (e.g. there is only one interest rate and no equity or real estate market in the model)
- ▶ This means, however, that several basic difficulties concerning monetary policy and the underlying dynamics of the economy are even more apparent





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## What data does Mopos 3.0 use?

- ▶ Mopos uses an economic model that reflects important economic issues in a realistic manner
- ▶ The data mirror real life situations but do not relate to any specific country

**Good luck in your new job as central banker!**

# Mopos rating scale

	Calm waters	Soft landing	Threat of deflation	Stagflation
	77%+ + M	95%+ + M	75%+ + M	95%+ - M
	70-76% + M	88-94% + M	68-74% - M	88-94% - M
	60-69% + M	74-87% + M	58-67% - M	70-87% - M
	0-59% - M	0-73% - M	0-57% - M	0-69% - M
M = Mandate	M: 60	M: 74	M: 75	M: 125