

Economic Policy #06

Monetary Policy II

(Tools, Transmission Channels and
Strategies)

Monetary policy: provision of liquidity

- CBs have the privilege of creating *base money (high-powered money)*
- provide liquidity to individuals and to financial system.
- MP consists primarily in setting the price and quantity of liquidity.

How the liquidity is provided?

Monetary policy tools

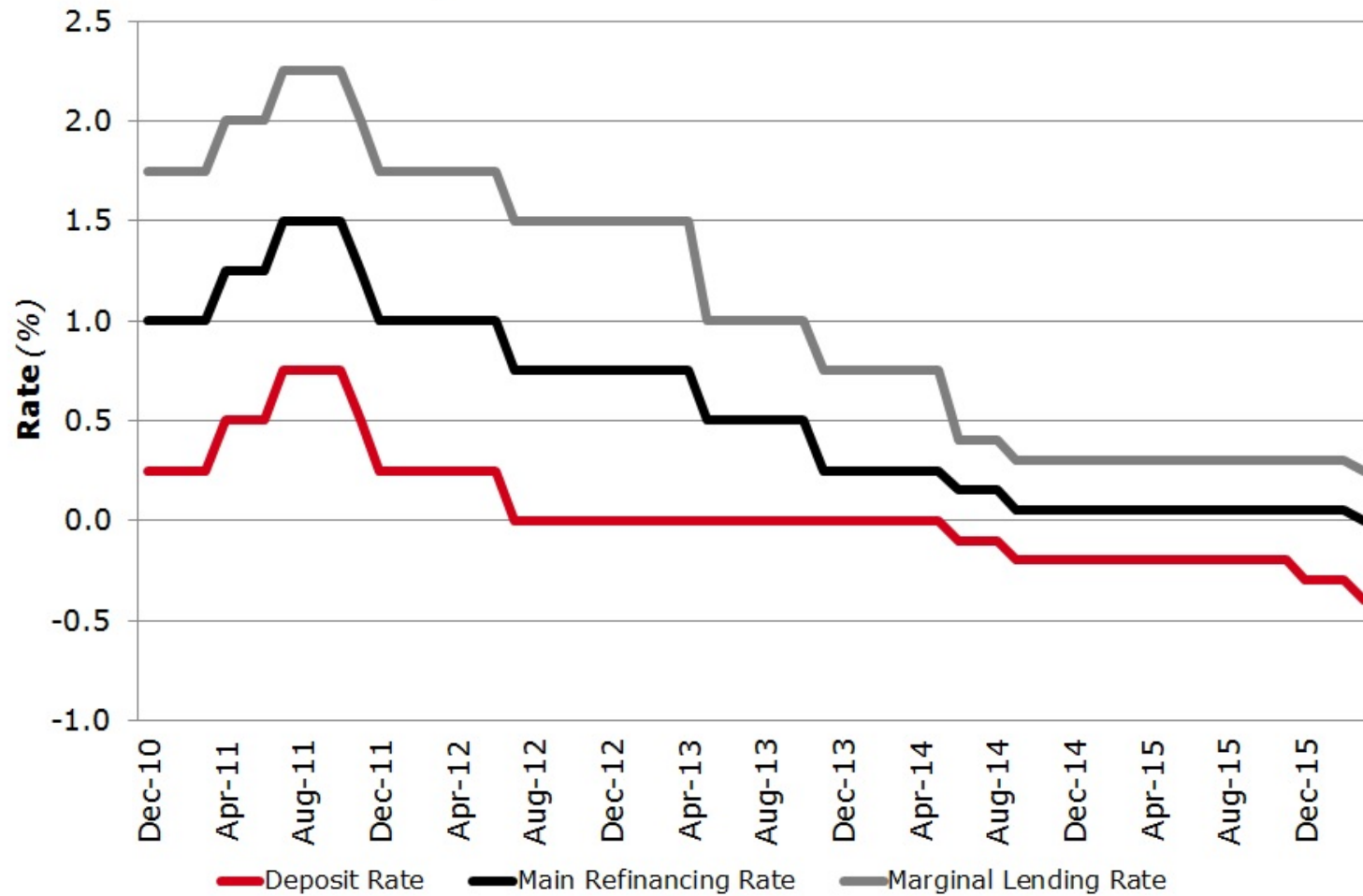
- *open market operations*: purchases or sales of financial assets by the CB from/to commercial banks
- *repurchase agreements or repos*: CB provides loans to commercial banks and holds the corresponding assets for a fixed period
- *discount rate*: the rate of interest the CB charges on loans to commercial banks
- *reserve requirements*: the proportion of deposits the commercial banks should deposit with the CB.

BOX. Instruments of ECB

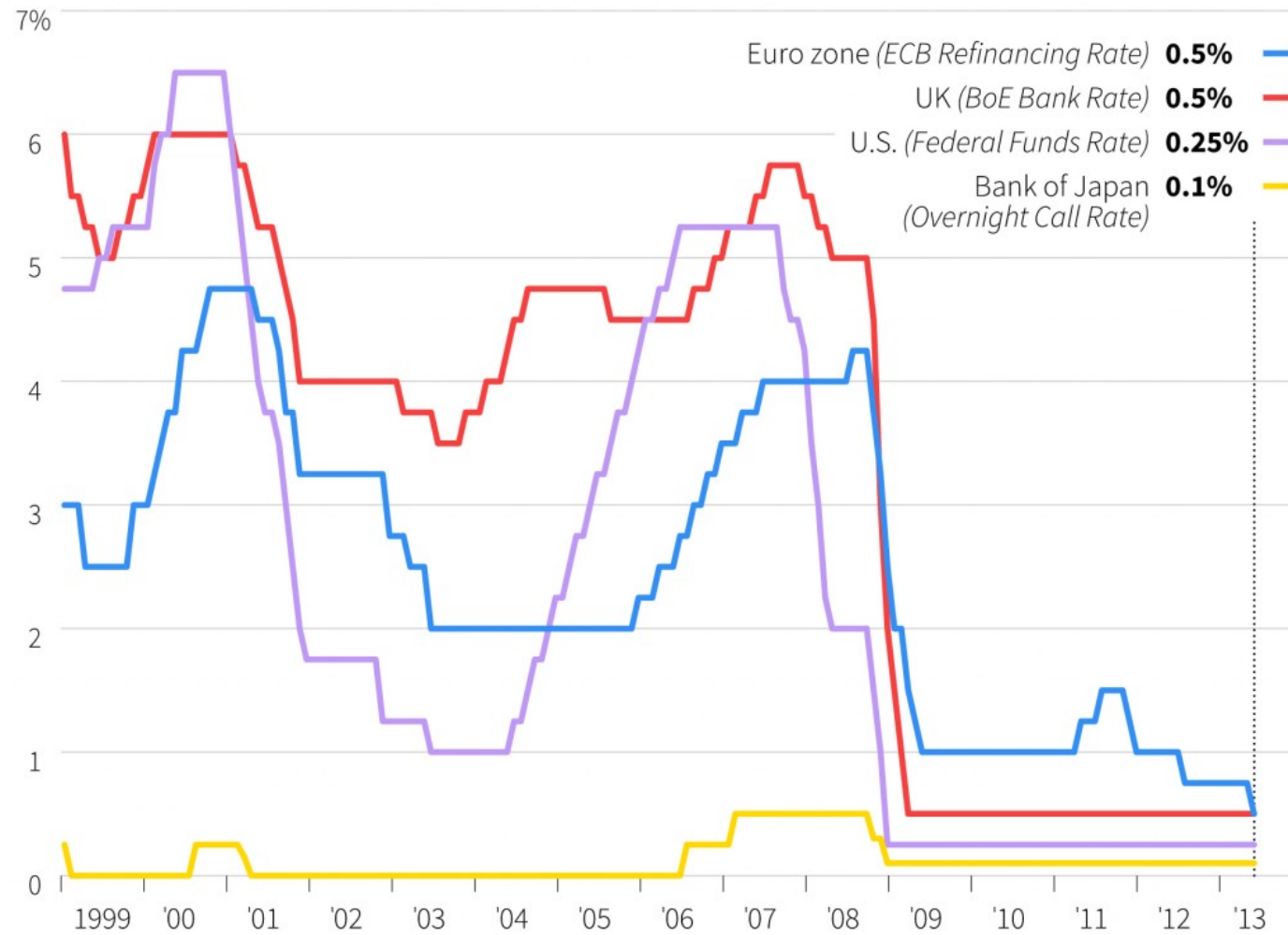
- *Weekly refinancing operations* (competitive bids through which ECB provides liquidity against collateral => *refinancing rate* (the main rate of Eurosystem))
- *Two overnight standing facilities*:
 - *Marginal lending facility* (ceiling rate)
 - *Marginal deposit facility* (floor rate)
- *Minimum reserves* (1 % of the demand deposits and of time deposits shorter than two years)

These three rates are sometimes called *leading interest rates*. Interbank rate fluctuates between floor and ceiling rate and in normal time close to refinancing rate.

BOX. ECB: leading interest rate (December 2010-March 2016)



BOX. ECB: leading interest rate (December 2010-March 2016)



Sources: National and EU banks ECB: European Central Bank BoE: Bank of England

MP at the zero lower bound

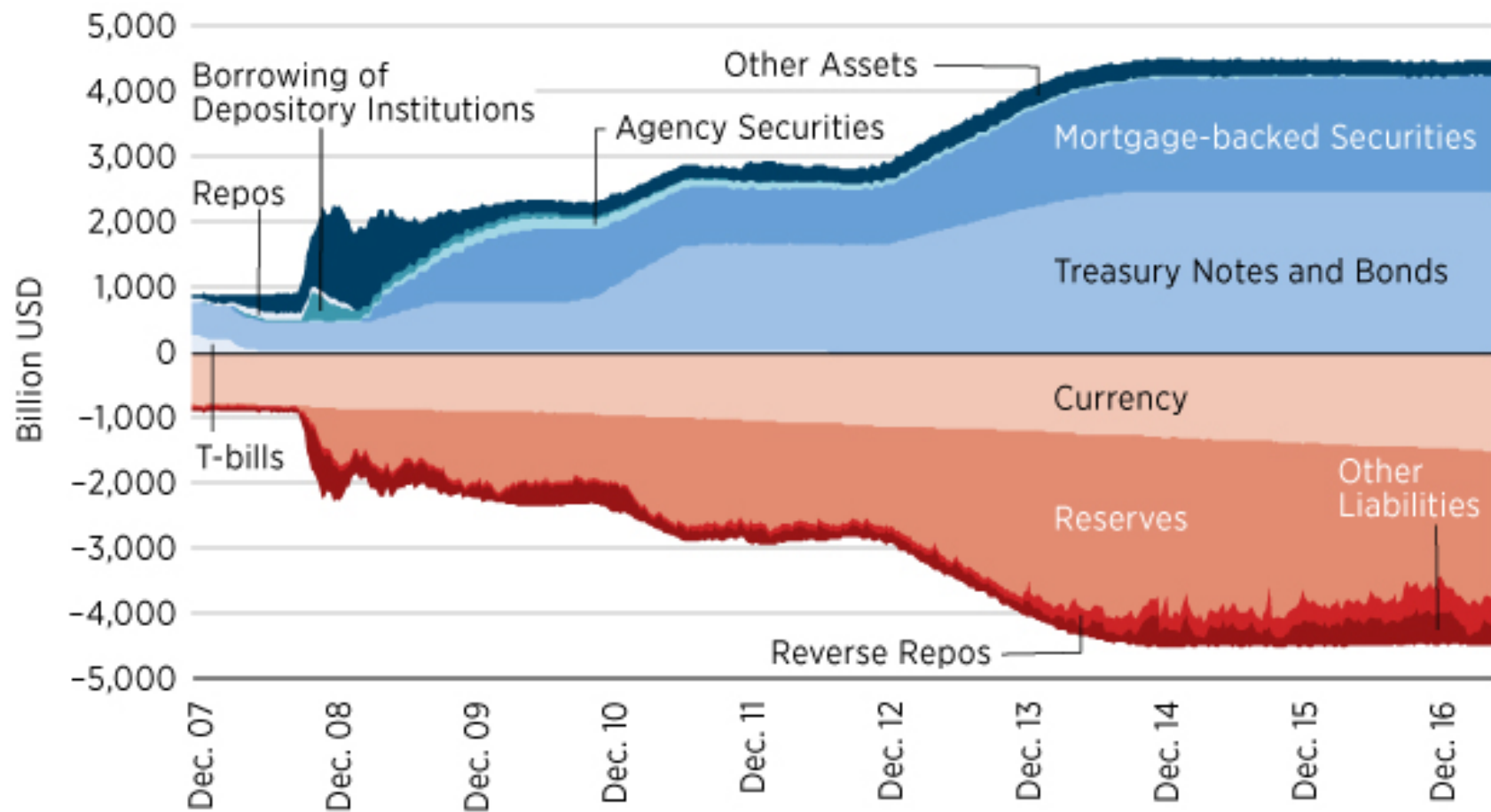
CBs reached the limits of MPs after global financial crisis => unconventional MPs:

- easier access of commercial banks to CB liquidity (e.g. through extending the list of eligible collateral, changing the way CB provides liquidity, providing liquidity at longer horizons) => *credit easing*
- interventions in targeted way on specific market segments (purchases of securitized loans and covered bonds)

MP at the zero lower bound

- flattening the yield curve (reduce longer term interest rates) through
 - appropriate communication => *forward guidance*
 - purchases of long-term bonds => *quantitative easing*

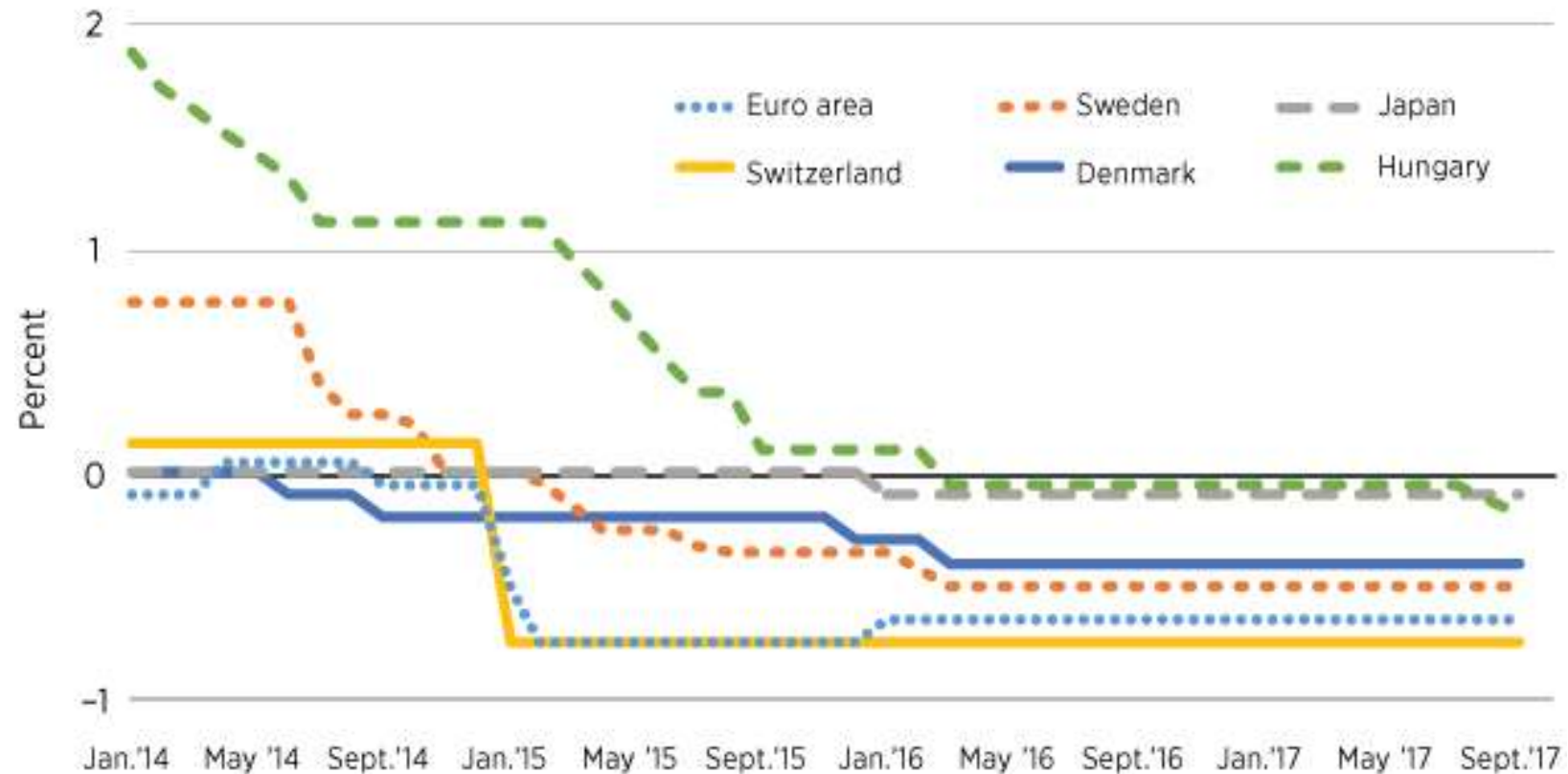
BOX. Fed balance sheet



■ FEDERAL RESERVE BANK OF ST. LOUIS

SOURCES: Federal Reserve Board/Federal Reserve Economic Data (FRED).

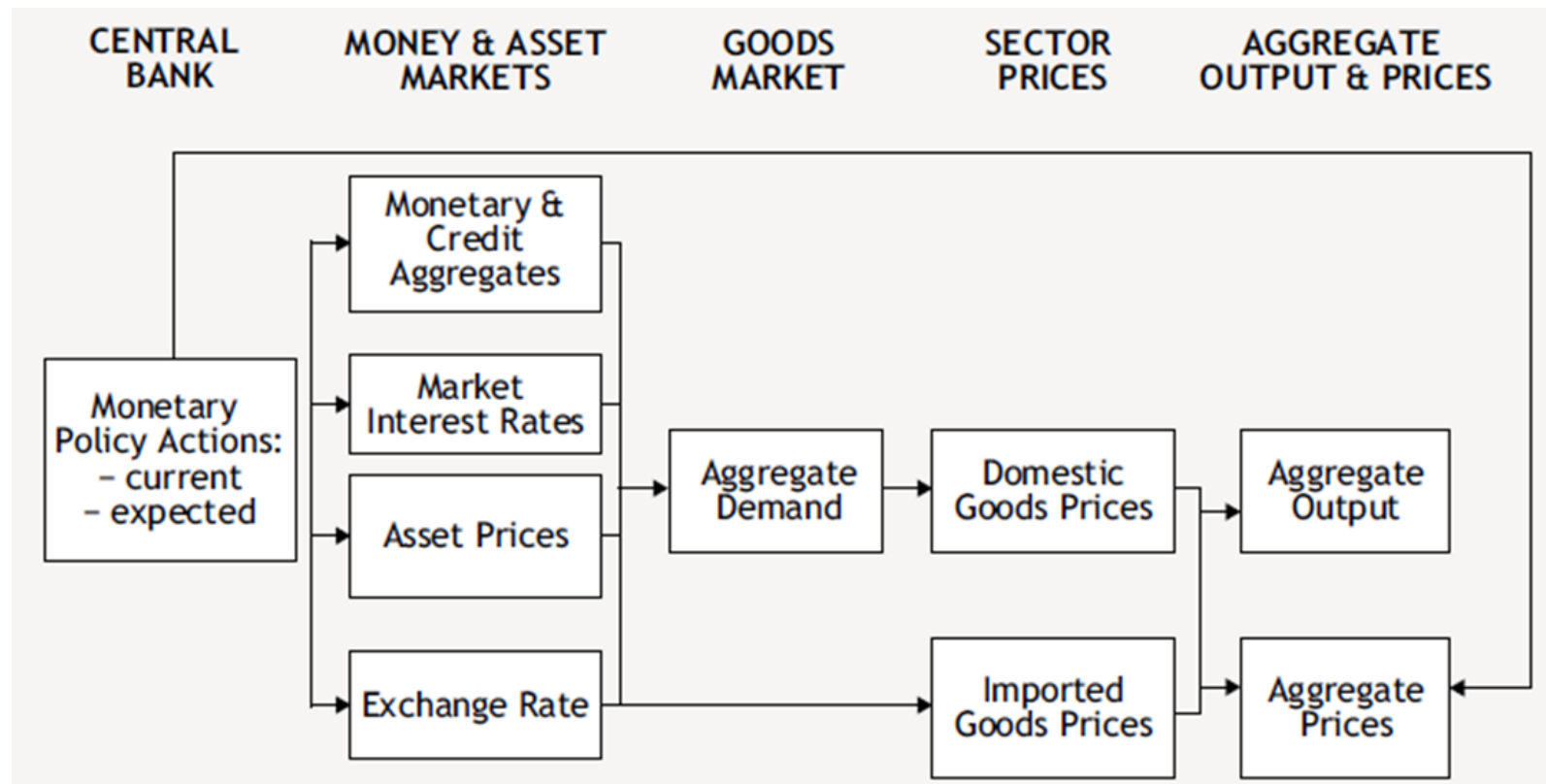
BOX. Central banks' policy interest rates



SOURCES: European Central Bank, Riksbank, Denmark Nationalbank, Swiss National Bank, Bank of Japan, Central Bank of Hungary, Haver Analytics, Bloomberg, World Bank, Trading Economics.

Transmission channels of MP

Transmission channels: the way monetary policy decisions affect output and inflation



The interest rate channel

Traditional Keynesian channel:

- Monetary expansion in the presence of nominal rigidities leads to a fall in the interest rate, hence to a revival of investment and durable-goods consumption and via multiplier affect to rise of aggregate demand (AD)
- Uncertainty: CB can directly affect overnight nominal interest rate, while AD rather depends on expected real long-term interest rates.

The asset-price channel

- Lower interest rate raises asset prices held by households, who in turn partially consume this extra wealth, which then stimulates AD.
- E.g. Japan in the early 1990s, U.S. in 2000s.
- The importance of this channel has increased as a consequence of the general rise in the wealth-to-income ratio.

The credit channel

Lower policy rates stimulate commercial banks to relax credit constraints and hence to stimulate credit supply.

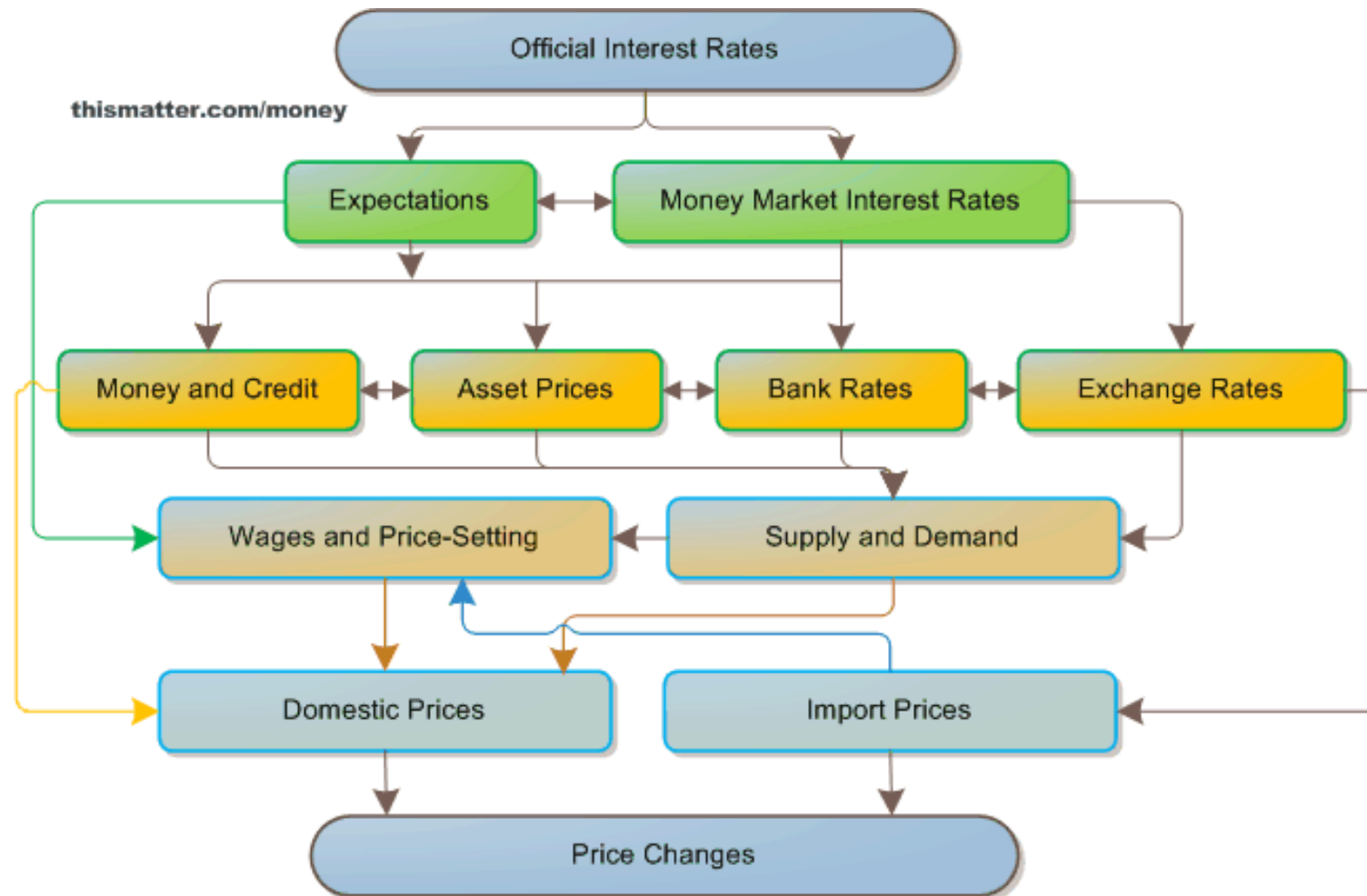
The banks' financial health is crucial for the transmission of MP. When the banks' balance sheets are burdened with *nonperforming loans* (loans with high probability of default) or with *impaired assets* (assets not traded any more or whose market value is much lower than they were purchased), banks are less willing to grant new loans => *credit crunch* (e.g. Japan at the end 90s and beginning of the 2000s).

The foreign-exchange channel

A fall in the domestic interest rate implies a fall in the yield of domestic assets in comparison with foreign assets => domestic currency depreciates and this influences:

- the price level (through change in import prices)
- aggregate demand (through change in net exports)
- aggregate supply (through a change in the price of imported inputs)

BOX. ECB transmission mechanism



What monetary strategy?

- A monetary strategy is a policy framework that relates instruments to objectives.
- Since the 1960s the debate about monetary strategy has never abated.
- Svensson (1999, 2001) proposes three different types of rules:
 - intermediate-targeting rules
 - instrument rules
 - targeting rules

Intermediate-targeting rules

- .. target an intermediate variable that is correlated with objective.
- Example: money targeting rules especially during 80s
- At the end of 80s the the relationship between money and inflation broke down.
- Nominal exchange rate is also used as an intermediate target in small open economies.

Instrument rules

- express the instrument(s) as a function of predetermined or forward-looking variables such as inflation or output gap.
- Example: ***Taylor rule*** which relates the interest rate to inflation and output gap.

The Taylor rule

$$i_{ff} = \pi + 2 + 0.5(\pi - 2) - 0.5(\text{GDP gap})$$

where

i_{ff} = nominal federal funds rate target (interest rate)

$$\text{GDP gap} = 100 \times \frac{\bar{Y} - Y}{\bar{Y}}$$

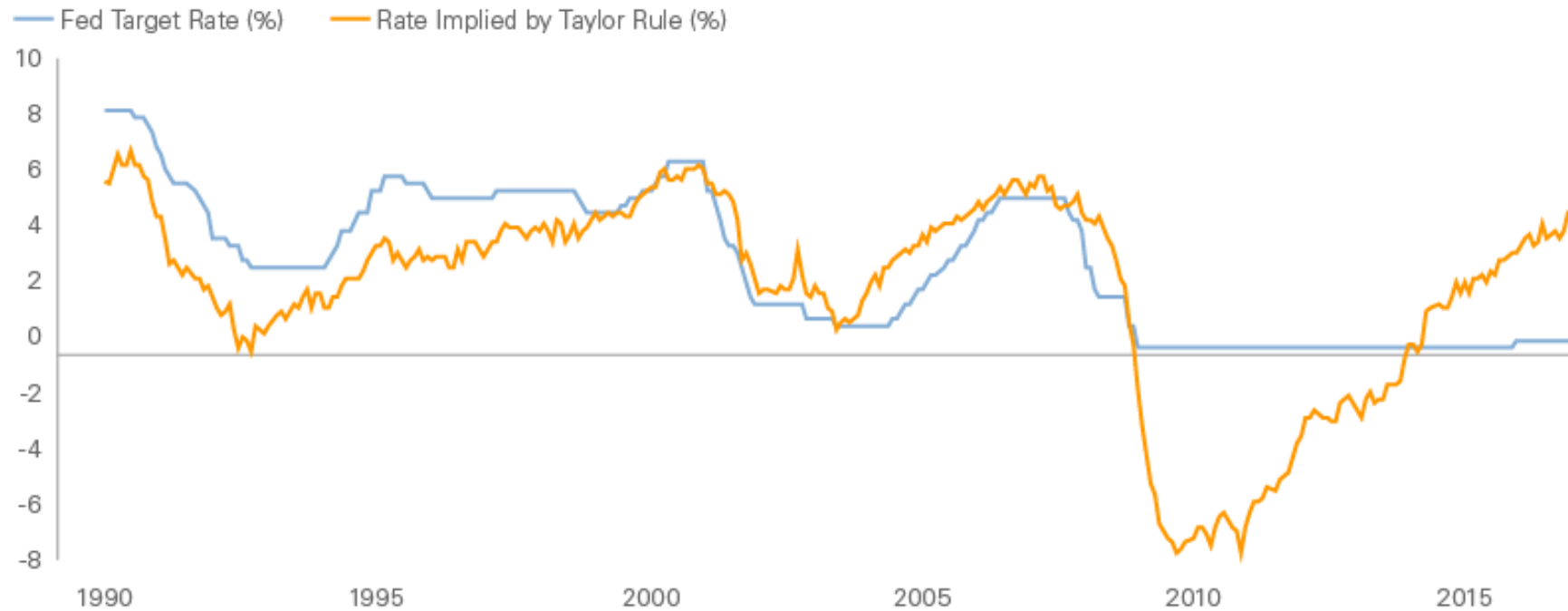
= percent by which real GDP
is below its natural rate

The Taylor rule (example)

$$i = \pi + 2 + 0.5(\pi - 2) - 0.5(\text{GDP gap})$$

- If $\pi = 2$ and output is at its natural rate, then interest rate should be targeted at 4 percent.
- For each one-point increase in π , monetary policy is automatically tightened to raise Fed funds rate by 1.5.
- For each one percentage point that GDP falls below its natural rate, monetary policy automatically eases to reduce the fed funds rate by 0.5.

BOX. Fed target rate (%) and rate implied by Taylor rule (%)

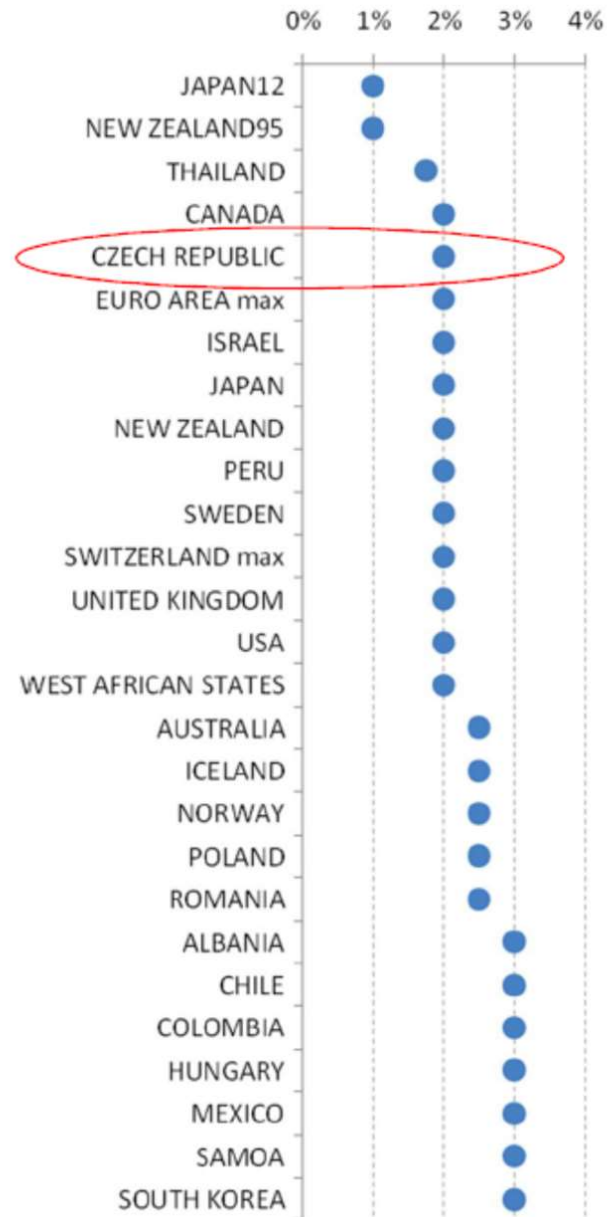


Source: Bloomberg. As of Nov. 30, 2016. The Taylor Rule is a model for adjusting policy rates based on actual inflation relative to the central bank's target, actual employment versus an estimate of full employment and an estimate of the "neutral" policy rate consistent with full employment.

Targeting rules

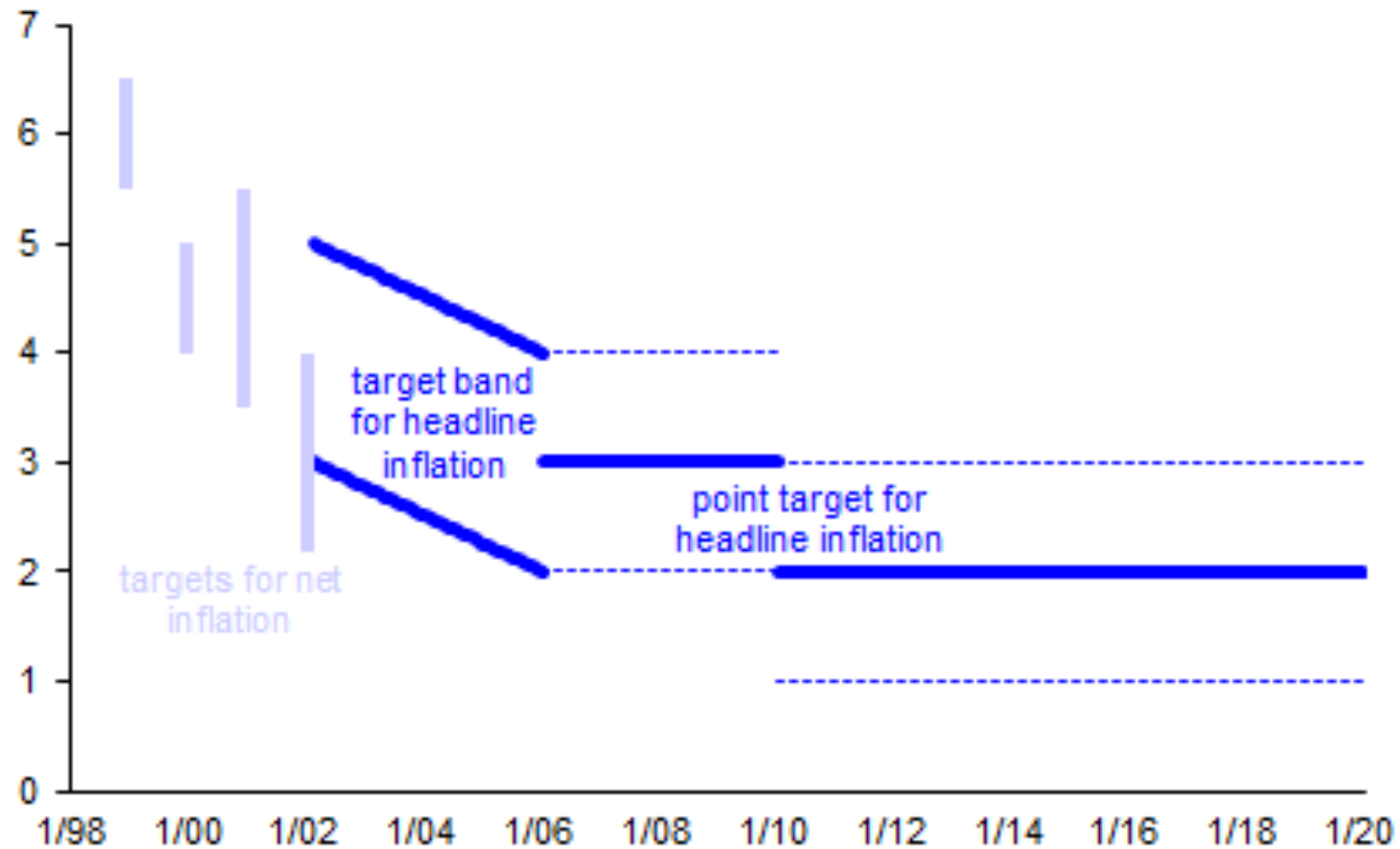
- specify what the objectives of the central bank are.
- Example: ***inflation targeting*** (IT):
 - has become increasingly popular in the 2000s
 - target = CB inflation forecast, conditional on market expectation and policy rate
 - IT requires transparency on models, procedures and forecasts
 - most central banks implement flexible inflation targeting, with some weight on the output gap

BOX. Inflation targets in the world



Source: www.cnb.cz

BOX. Inflation targeting in the Czech Rep.



Source: www.cnb.cz

Reference textbook

Bénassy-Quéré, A. et al. *Economic Policy : Theory and practise*. Oxford University Press, 2010.

Chap. 4