MUNI
ECON

Economic Policy

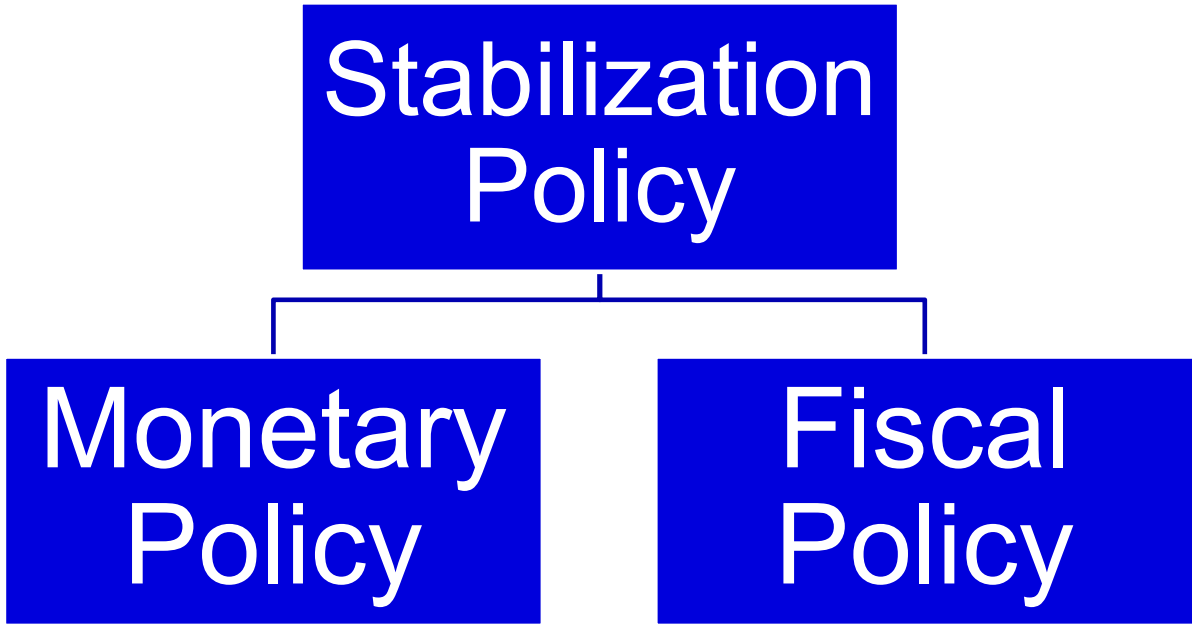
Monetary Policy

Content

- Introduction
- Objectives
- Instruments
- Institutions
- Transmission channels

Stabilization Policy

– aim: maintain a healthy level of economic growth and minimal price changes; to **smooth** the **economic cycle**

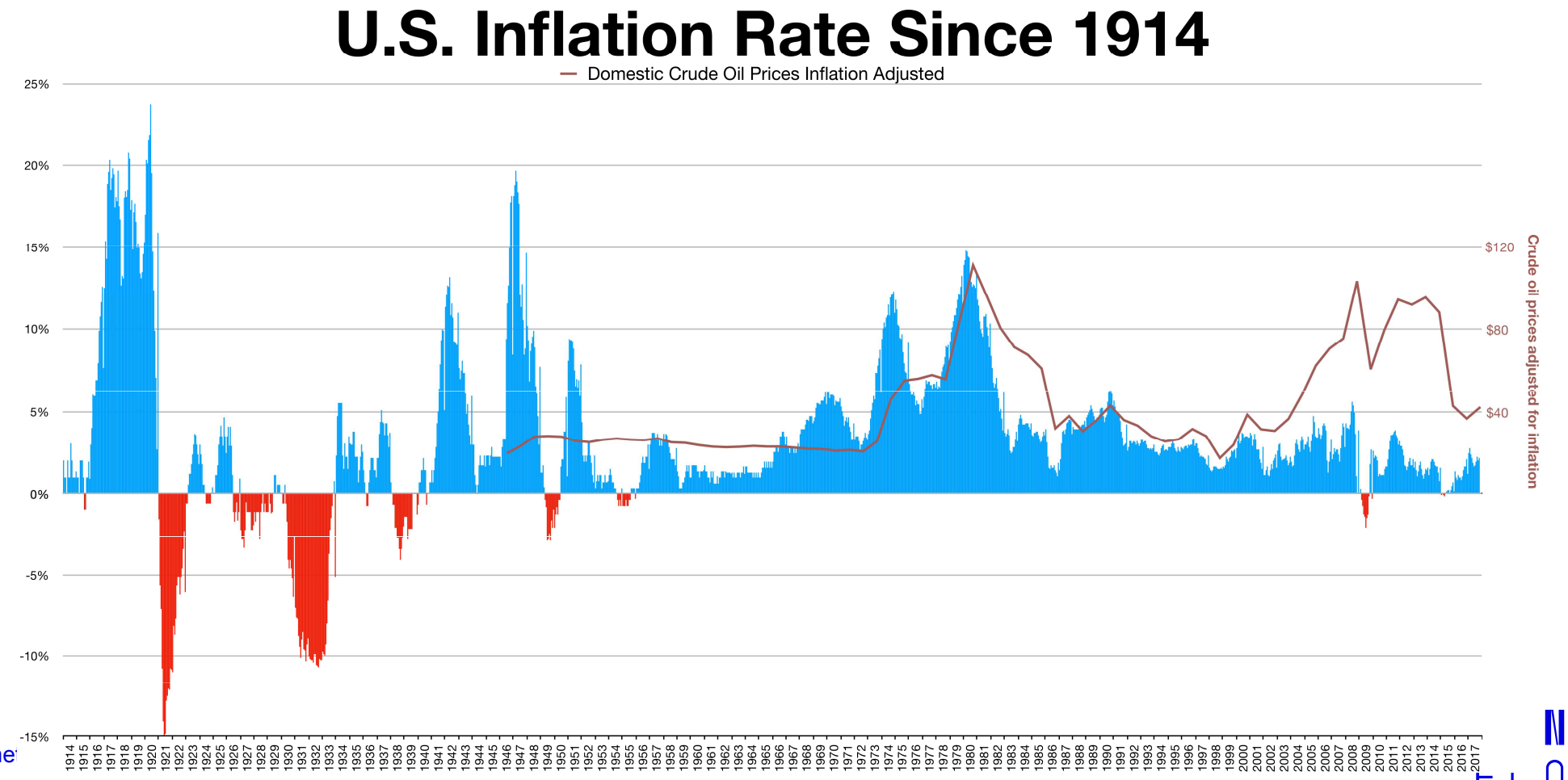


MUNI ECON

Overview

- Money is old device, but the concept of monetary policy (MP) emerged during interwar period
- It emerged after hyperinflation experiences of the 1920s and the Great Depression in 1930s
- During 50s and 60s MP was eclipsed by fiscal policy and primarily concentrated on minimizing the cost of public borrowing
- In the 70s the role of MP was reassessed as a consequence of the made in the response of the inflationary shocks (+ independence)
- By the late 90s MP geared toward achieving price stability
- Financial crisis in 2008 highlighted the role of CB as guarantors of financial stability, CB engaged in unconventional MP actions

Overview


U.S. Inflation Rate Since 1914
Domestic Crude Oil Prices Inflation Adjusted
25%
20%
15%
10%
5%
0%
-5%
-10%
-15%
$120
$80
$40
Crude oil prices adjusted for inflation
1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

Terms

- **inflation** = an increase in the general price level in the economy
- **zero inflation** = constant price level
- **deflation** = price level falls
- **rising inflation** = the price level is increasing at an increasing rate
- **disinflation** = falling inflation (the inflation rate is falling)
- **core inflation** = change in the costs of goods and services but does not include those from the food and energy sector

What's wrong with inflation?

- **redistributing** income from creditors and those on nominally fixed incomes to debtors
  - decline in nominally fixed incomes (like pensioners)
  - decline in real interest rates

    real interest rate (%)= nominal interest rate (%) − the inflation rate (%) (Fisher equation)
- large price changes create **uncertainty**, and make it more difficult for households and firms to make decisions based on prices
- **menu costs** (the resources used in setting and changing prices)
- **shoe leather cost** (inflation increases the opportunity cost of holding cash; it is still needed to carry out transaction => more „trips to bank")

MUNI ECON

What's wrong with deflation?

- when prices are falling, households will **postpone consumption** (because they expect goods will be cheaper in the future)

- **redistributing** income from debtors to creditors and those on nominally fixed incomes
  - increase in nominally fixed incomes (like pensioners)
  - increase in real interest rates

Inflation x deflation

- a little bit of inflation is a good thing, as long as it remains stable
- some amount of inflation gives the central bank more ability to boost the economy
- low inflation fosters investment
- low inflation helps with downward wage and price rigidities

What do central banks do?

Central banks: an institution that manages the currency and monetary policy, and oversees their commercial banking system

- issue banknotes
- provide banks with liquidity
- impose compulsory reserves on commercial banks
- act as ’lender of last resort’ to banks

Liquidity provision

– to maintain price stability and promote a safe and efficient payment system

Liquidity is provided through:

– open market operations (purchases of financial assets by the CB from commercial banks)

– repurchase agreements or repos (short-term agreement between CB and commercial bank under which commercial bank sells a security to the CB and CB provides commercial bank with liquidity; CB holds the corresponding assets for a fixed period)

In so doing central banks set price of liquidity and control the quantity of base money.

CB can also influence the banks' lending behaviour through reserve requirements (the amount of funds that a bank holds in reserve to ensure that it is able to meet liabilities in case of sudden withdrawals).

Lender of last resort

- Commercial banks turn to their lender of last resort (CB) when they cannot get the funding they need for their daily business.
- This can happen in periods of financial crisis, when banks may have doubts about lending to each other and lots of people may suddenly want to withdraw their money from their bank account.
- CB helps protect people and businesses from the difficulties that can arise when banks are in trouble.

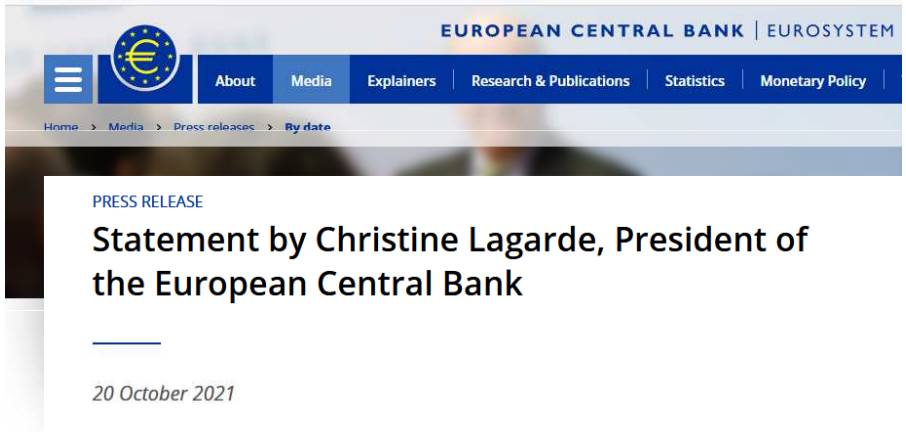
Central bank credibility

- CB credibility is very important for effective MP.

- How can CB enhance its credibility?
  - By adequate institutional design (independence, transparency and accountability)
  - By tying its hands: exchange rate peg, monetary policy rules
  - By selecting conservative central bankers, i.e. more adverse to inflation than the average of society
  - By incentive contracts

Communication

- communicating relevant information about macroeconomic fundamentals, the condition of financial institutions and the financial sector more generally, and the conduct of policy can reduce uncertainty.



- Their communication differs quite a lot
  - ECB Press conference (ECB)
  - Disclosure of meetings minutes and individual votes
  - Disclosure of expected interest rate path by Swedish Riskbank, Bank of Norway, Fed

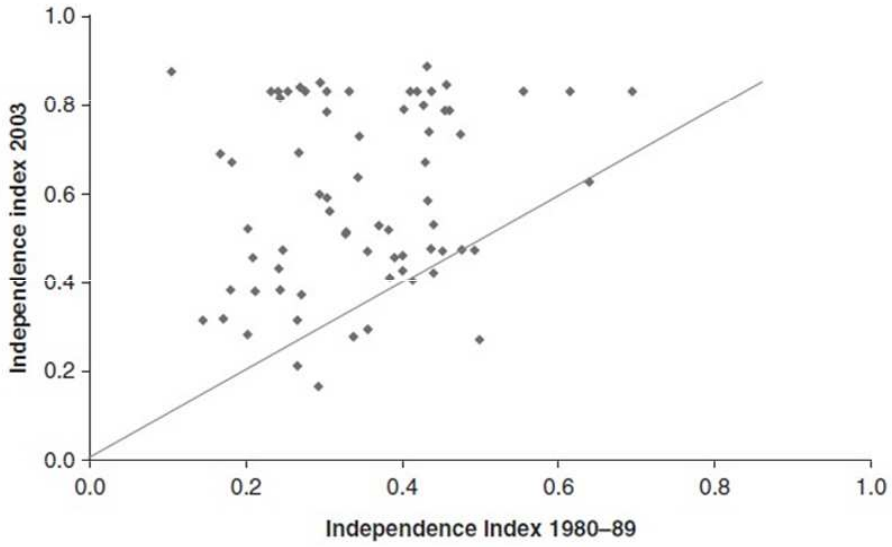
MUNI ECON

Importance of CB independence

- Why is CB independence so important?
  - independent central bank is insulated from the political pressures
  - fiscal policy tends to follow a political business cycle, if central banks were subject to political approval, monetary policy would also follow this volatile pattern
  - elected politicians do not have enough knowledge to conduct monetary policy
  - If the CB was hold to political interests, the government could accumulate large budget deficits then turn to the CB to pay off its debts

CB independence

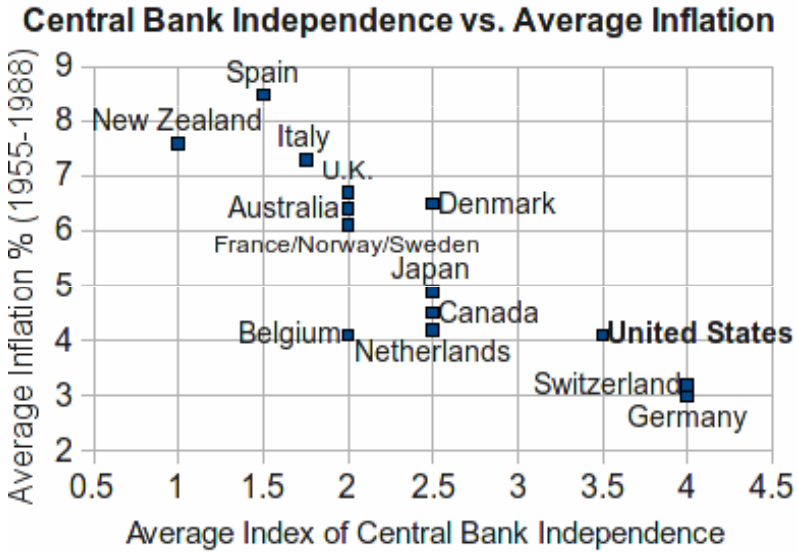
– Increasing number of countries granted full independence to their CB during 1990s and 2000s.



MUNI ECON

CB independence and inflation

– This institutional move to independence resulted from the better ability of independent CB to cope with the inflationary pressures



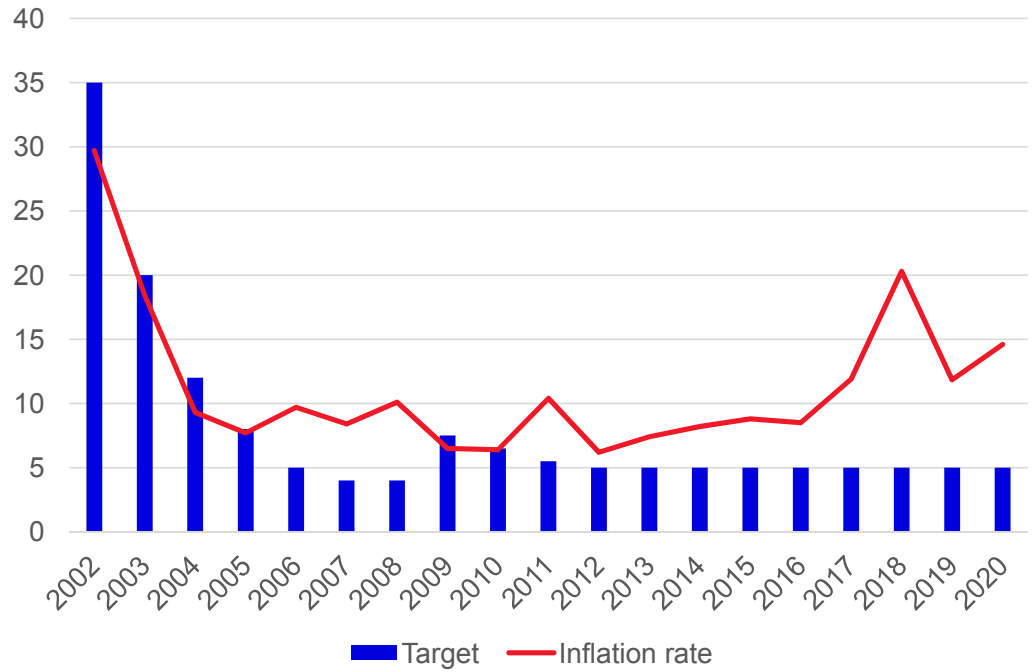
MUNI ECON

Central bank independence

- Consider three measures of CB independence:
  - instrument independence: the central bank is free to set any monetary policy instrument
  - goal independence: the central bank is free to set its own goals for monetary policy
  - political independence: the central bank is able to conduct monetary policy without legislative influence

Central bank independence

Venezuela



Turkey

MUNI ECON

The objectives of monetary policy

The objectives of MP have varied significantly over time:

- in 70s CB had broad mandates involving difficult trade-offs between alternative targets
- after inflation period during 70s **price stability** emerged as **dominant goal**
- some CBs pursue other objectives simultaneously
- after financial crisis 2007-09 discussion about gearing MP more towards financial stability

The objectives of MP: price stability

- Maintain the real value of money

- Most central banks aim at keeping inflation rate

Inflation should be **neither too high**:

- Shoe leather costs, menu costs, redistribution effects, implicit taxation, risk of hyperinflation,..

- Ex: Germany in the 1920s, Argentina in the 80s, Zimbabwe in the 2000s,..

The objectives of MP: price stability

- … **nor too low**
  - Risk of deflation and liquidity trap (interest rates are low, saving rates are high => MP is ineffective)

=> Most central banks have objectives between 1-3 %

The objectives of MP: exchange rate stability

- Until 90s transition countries relied on a fixed exchange rates as a means of controlling inflation
- MP of many European countries focused on maintaining the external value of the currency vis-à-vis some larger country (Austria and Germany)
- The attraction of fixed exchange rates has faded away in recent years
- Apart from China, only smaller countries (Denmark, some Caribbean countries) continue peg their exchange rate

The objectives of MP: output stabilization

- MP can be used to stabilize aggregate demand, i.e. support demand through an expansionary MP in recession and a restrictive MP when demand is ballooning.

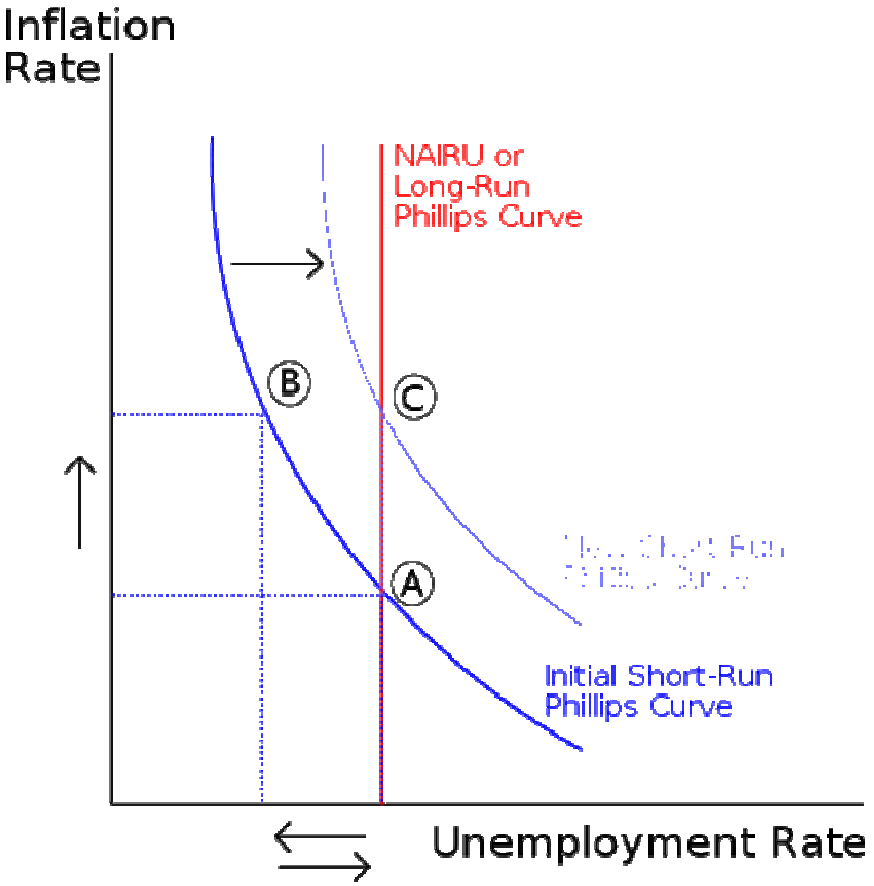
- The rationale for counter-cyclical MP goes back to the Great Depression in 1930s.

- But desirability and effectiveness of counter-cyclical MP are debated because of time lags which can transform MP into a procyclical policy.

The objectives of MP: full employment

- full employment was one of the leading objectives of the central bank (it was mostly abandoned at the end of the 20th century)

- full employment is still a relatively important objective (most central banks would take action if employment starts keeping up)



MUNI ECON

The objectives of MP: financial stability

- Financial stability: proper functioning of banks and financial markets
- Usually not a formal objective
- Lender of last-resort; CB regulates and controls commercial banks
- Responsibility of the CB as a lender of last-resort to banks is inevitable, but should be exerted with great caution because of:
  - Moral hazard problem
  - Possible incompatibility with price stability

The mandates of four central banks: US Fed

- Legal vehicle
  - Full Employment and Balanced Growth Act (“Humphrey Hawkins Act”) of 1978
- Objectives:
  - maximum employment (without a fixed goal for employment)
  - stable prices, meaning low, stable inflation (2 % p. a.)
  - (financial stability)

The mandates of four central banks: ECB

- Legal vehicle
  - EU Treaty (since Maastricht Treaty of 1992) Article 127
- Objective
  - maintain price stability (2 % over the medium term)
  - without prejudice to the objective of price stability, the ECB shall support the general economic policies in the EU with a view to contributing to the achievement of the objectives of the EU
  - financial stability is not an explicit goal of ECB

The mandates of four central banks: Bank of England

- Legal vehicle
  - Bank of England Act, 1998
- Objective
  - price stability; definition of price stability belongs to government (2 %)
  - without prejudice to the objective of price stability, BoE shall support the economic policy of the government, including its objectives for growth and employment
  - (financial stability)

The mandates of four central banks: Bank of Japan

- Legal vehicle
  - Bank of Japan Law, 1997
- Objectives
  - price stability (inflation 2 % p.a.), thereby contributing to the sound development of the national economy.„
  - (financial stability)

MUNI ECON

Mandates of CB: key differences

- US Fed has dual mandate of full employment and price stability, while ECB and BoJ have not
- ECB, Fed and BoJ decides on objectives, while BoE do not
- Crisis has prompted fresh discussion on the central bank role in financial stability
  - Example: creation in 2011 of European Systemic Risk Board chaired by ECB President

Theories

- the long-run neutrality of money
  - the dichotomy between money and real variables (David Hume)
  - in the long-run increase of money in circulation has no impact on real variables (GDP, real wages, real interest rates); only nominal variables are affected
  - The Quantity Theory of Money (controlling money growth allows the central bank to control the inflation rate without incurring any real cost)

$$P * Y = M * Y$$

P: *price level*
M: *money supply*
Y: *Real GDP*
V: *money velocity*

$$\frac{\Delta P}{P} = \frac{\Delta V}{V} + \frac{\Delta M}{M} - \frac{\Delta Y}{Y}$$

MUNI ECON

Theories

- the short-run nominal rigidities
  - major explanation for the short-run disconnect between monetary growth and inflation is the existence of nominal rigidities
  - rise in money supply increases the real value of monetary holdings, which affects other real variables (decrease in real interest rate and increase in real consumption)
  - the short-run impact of MP on real variables relies on incomplete price adjustment

Standard instruments of monetary policy

- open market operations (refinancing operations)
  - used for steering interest rates in the economy
  - executed in the form of repo operations (CB accepts liquidity from banks and in return transfers eligible securities to them as a collateral or CB provides with liquidity to commercial banks)
- automatic facilities
  - used for providing and depositing liquidity overnight

    deposit facility: commercial banks may overnight deposits of surplus liquidity with the CB

    marginal lending facility: commercial banks may overnight obtain liquidity from the CB
- minimum reserves
  - every commercial bank is required to hold minimum reserves on its account with the CB
  - the role is declining

MUNI ECON

C.S. Instruments of European Central Bank (ECB)

- Minimum reserves (1 % of the demand deposits and of time deposits shorter than two years)

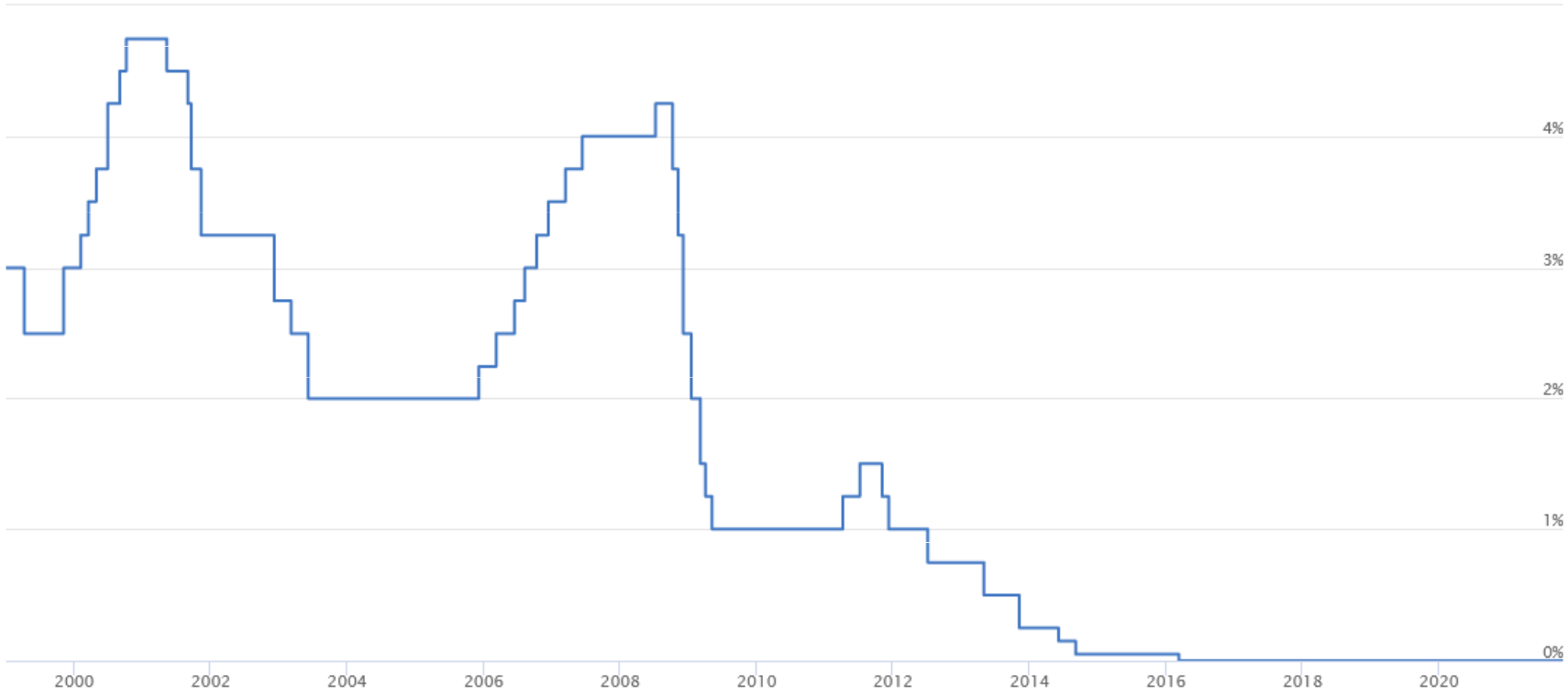
- Two overnight standing facilities:
  - Marginal lending facility (high rate): -0.50 %
  - Marginal deposit facility (low rate): 0.25 %

- Weekly refinancing operations (competitive bids through which ECB provides liquidity against collateral

  => refinancing rate (the main rate of Eurosystem): 0 %

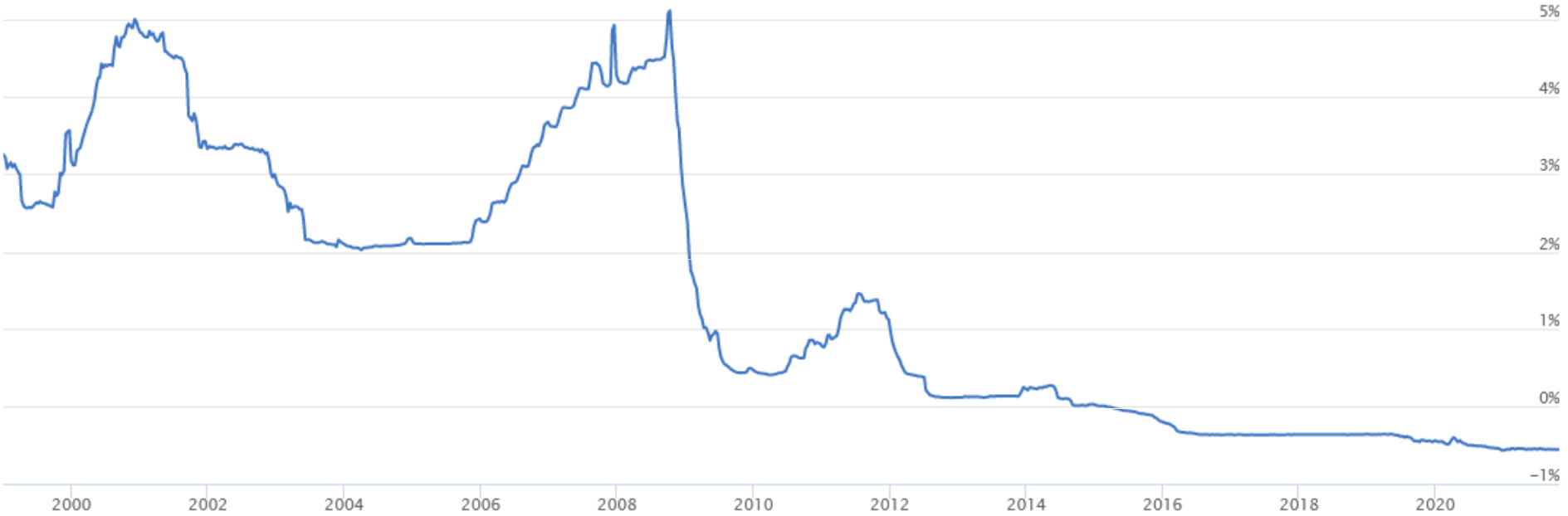
- These three rates are sometimes called leading interest rates. Interbank rate (EURIBOR) fluctuates between floor and ceiling rate and in normal time close to refinancing rate.

Historical ECB rates



MUNI ECON

Historical Euribor rates

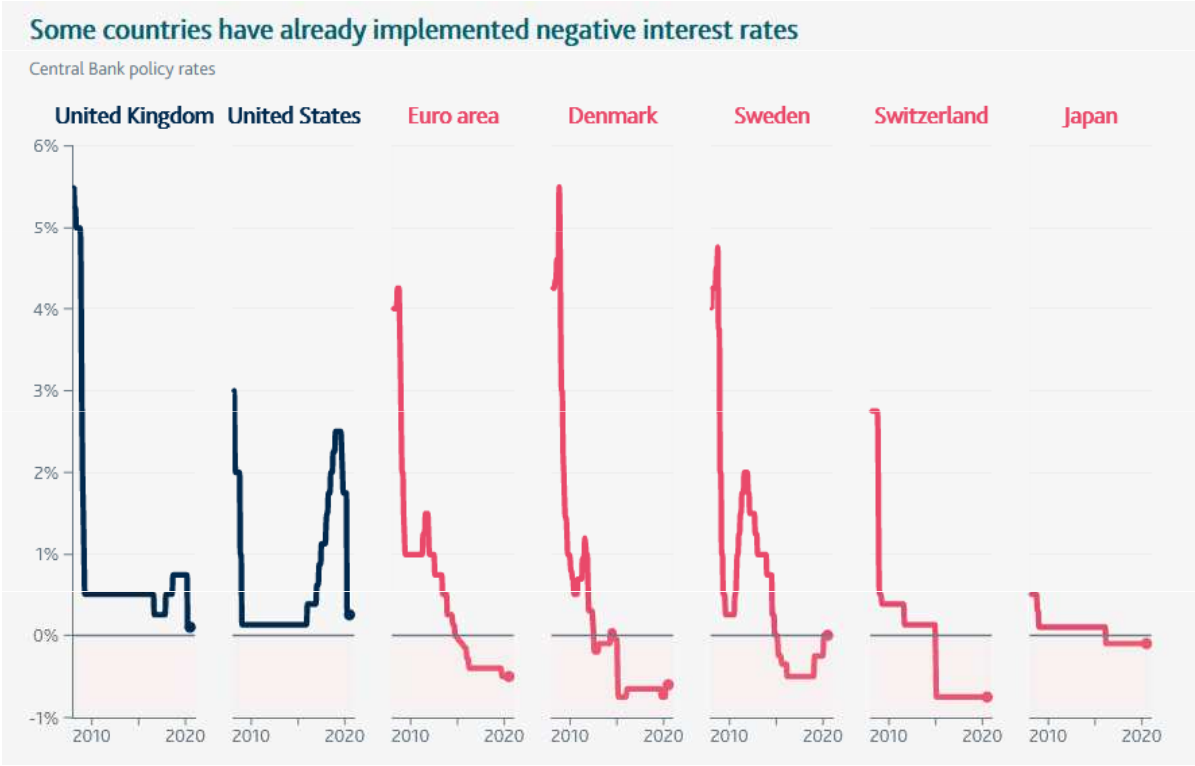


MUNI ECON

Negative interest rates

- when the economy is in a slump, nominal interest rate of zero may not be low enough to get the economy going again
- negative interest rate => banks are more likely to chargé lower interest rates on loans to customers => boost GDP growth and inflation
- it can raise financial instability (it can lead to housing or stock market bubble)

Negative interest rates



MUNI ECON

Quantitative easing (QE)

- aim: to increase aggregate demand by buying assets, even when the policy interest rate is zero
- CB buys bonds (both government and corporate) and other financial assets (it creates additional base money)

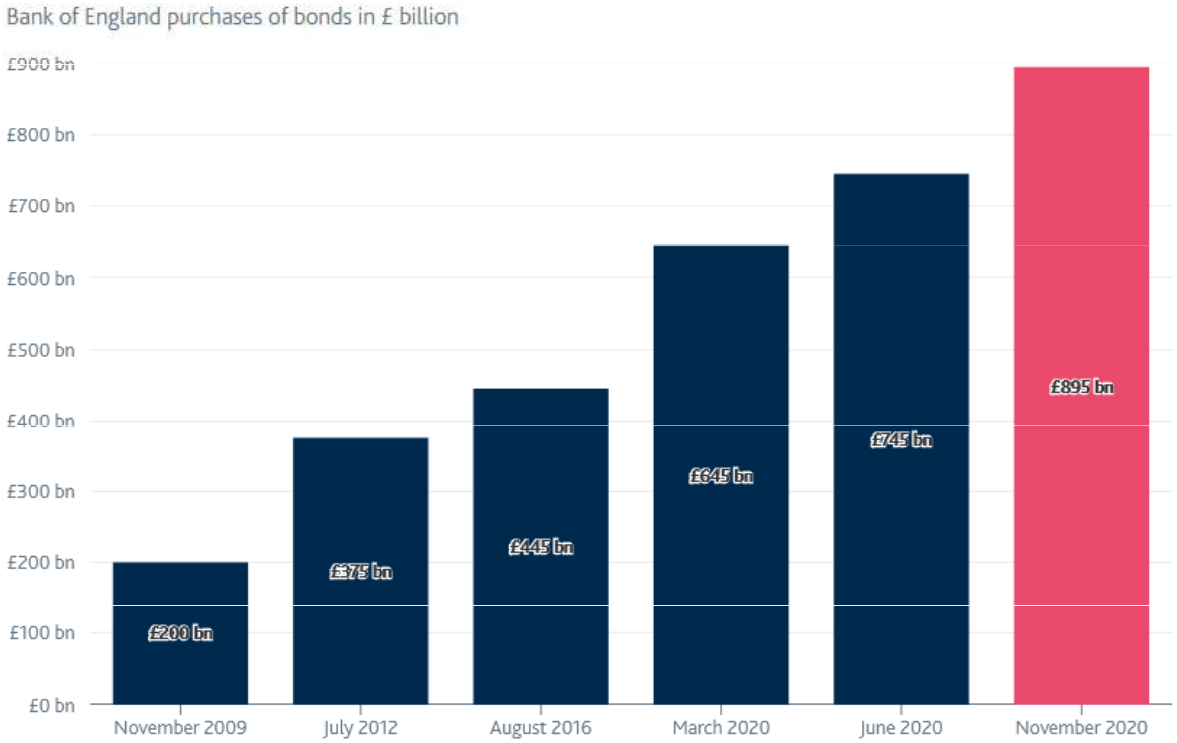
$\Rightarrow$This decreases the yield and intrest rate on bonds

$\Rightarrow$QE lower the cost of borrowing throught the economy, including for the governement

$\Rightarrow$This boost spending and AD

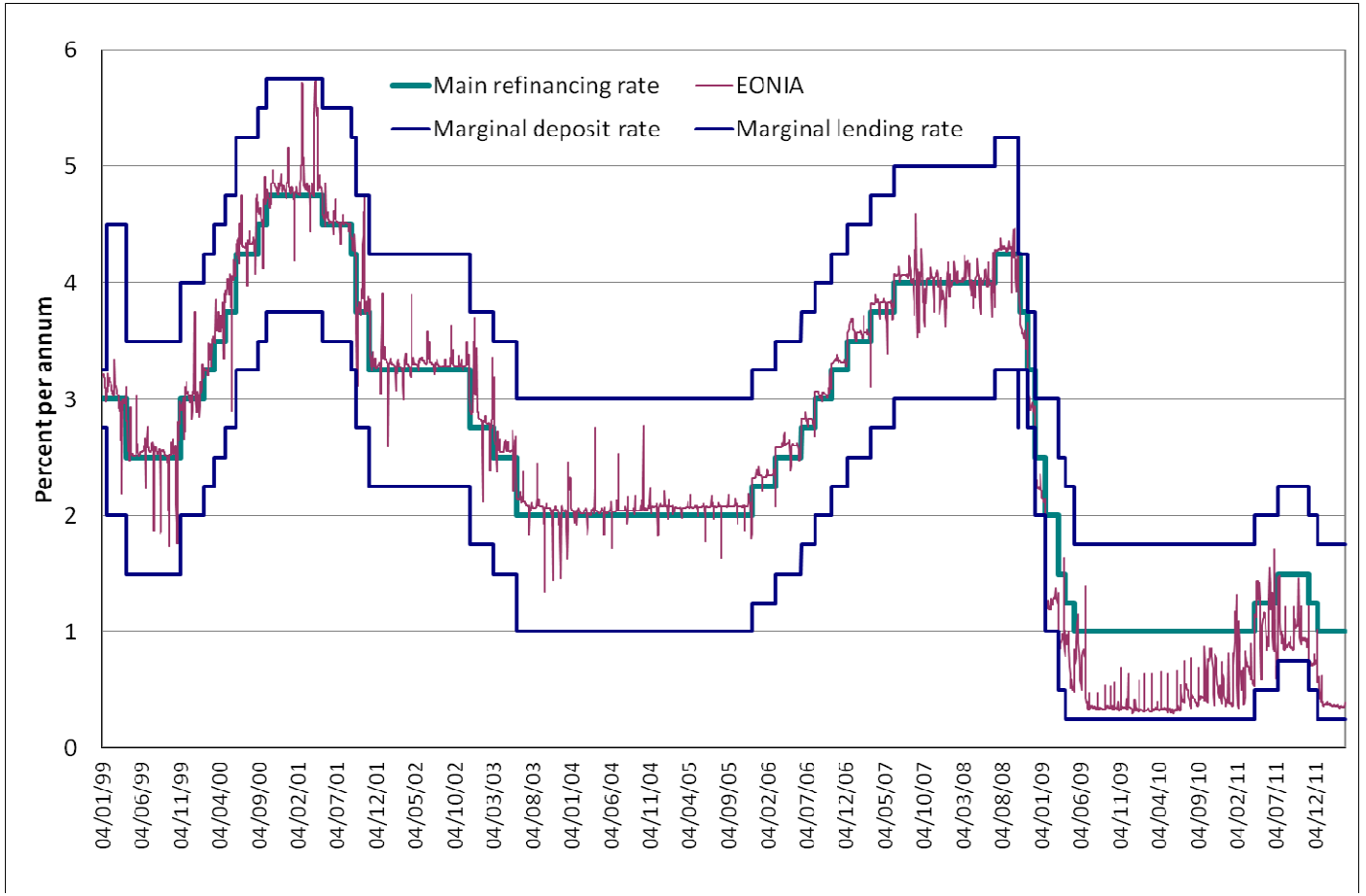
Quantitative easing (QE) in UK

- 2009 – Financial crisis
- 2012 – Eurozone debt crisis
- 2016 – Brexit referendum result
- 2020 – Coronavirus pandemic



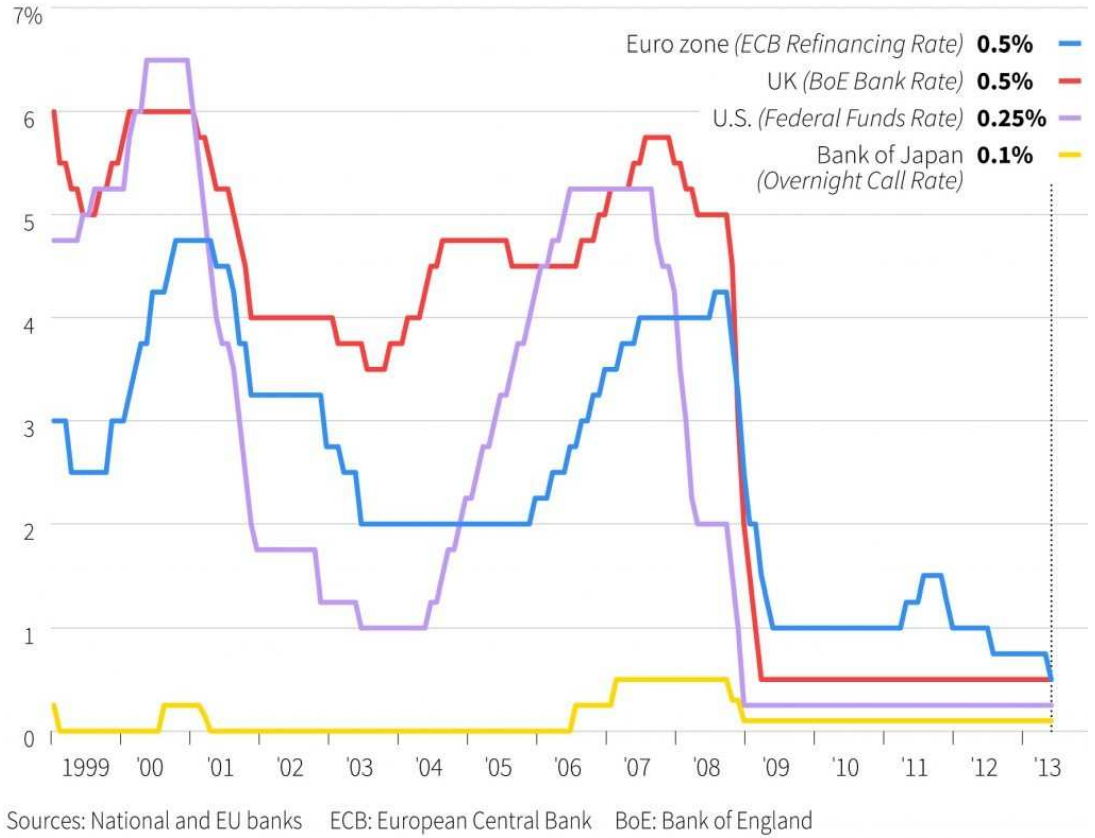
MUNI ECON

Refinancing rates and interbanking market rate in euro area



MUNI ECON

Refinancing rates in the US, UK, the euro area and Japan



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

MUNI ECON

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) => inflation
  - 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 => inflation

- The importance of this channel has increased as a consequence of the general rise in the wealth-to-income ratio.

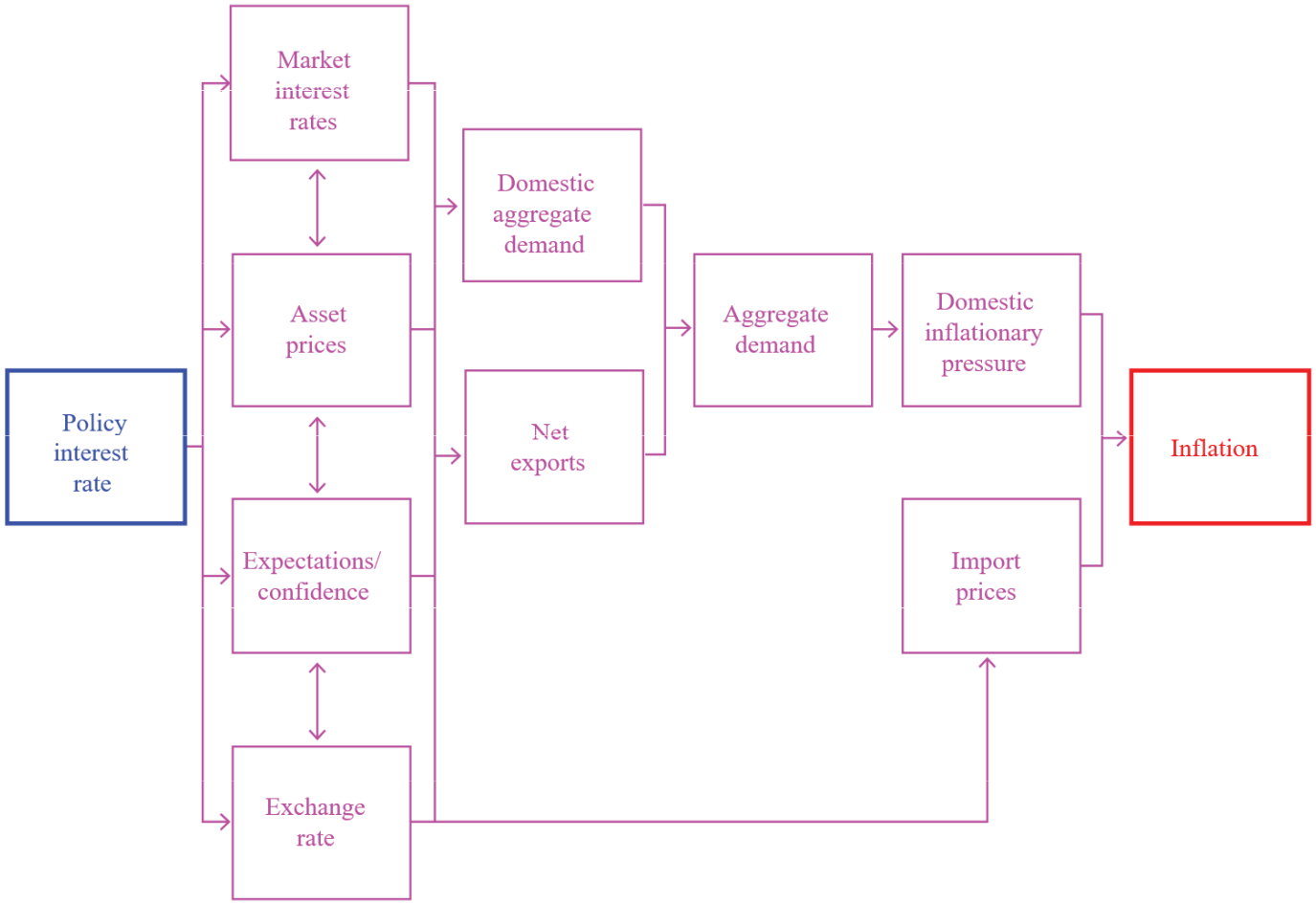
The credit channel

– Lower interest rates stimulate commercial banks to relax credit constraints and hence to stimulate credit supply => AD => inflation

The foreign-exchange channel

- lower the interest rate, demand for that country's bonds declines: international investors are less attracted to their financial assets
  - with the demand for bonds lower, the demand for the currency to buy those bonds declines => the decline in demand for the currency will liead to depreciation
- lower policy rates stimulate net exports through an exchange-rate depreciation (Mundell-Fleming)
- important in small, open economies

Bank of England transmission mechanism



MUNI ECON

Reference textbook

– Benassy-Quéré, A. et al. *Economic Policy: Theory and practise*. Oxford University Press, 2010. ***Chap. 4.***

MUNI

ECON