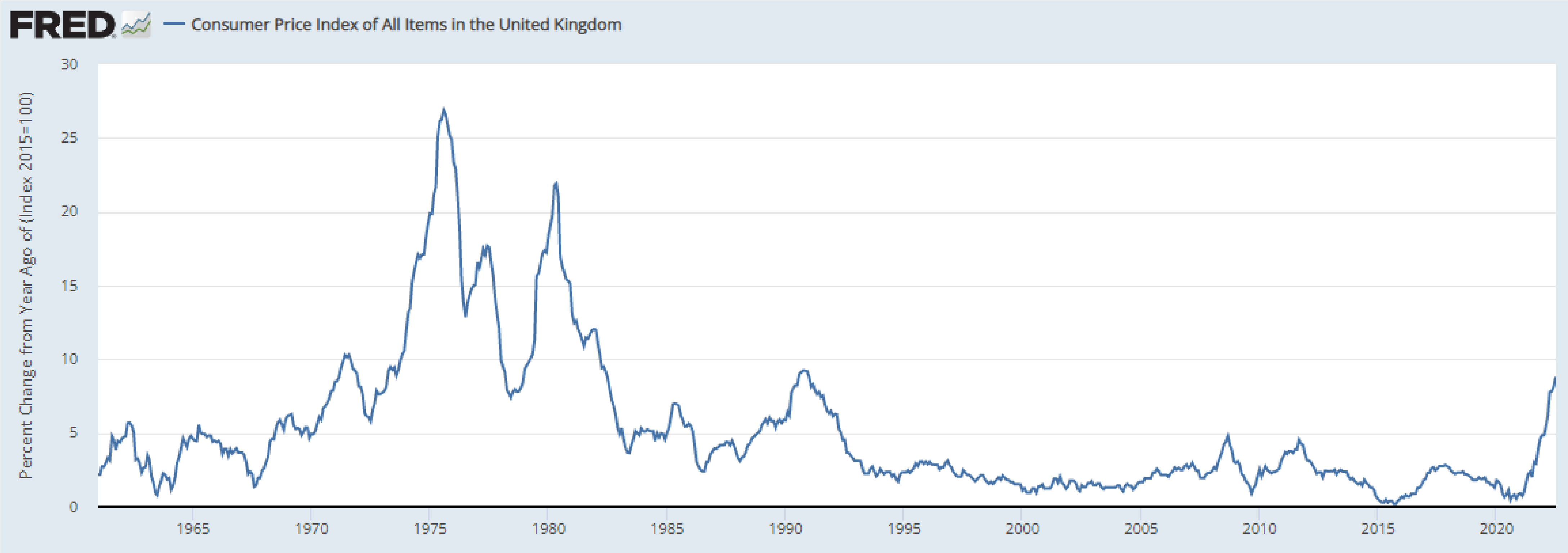
ECOM181 Macroeconomics for Policy

2022/23 Semester 1

Joep Lustenhouwer

Inflation in the UK



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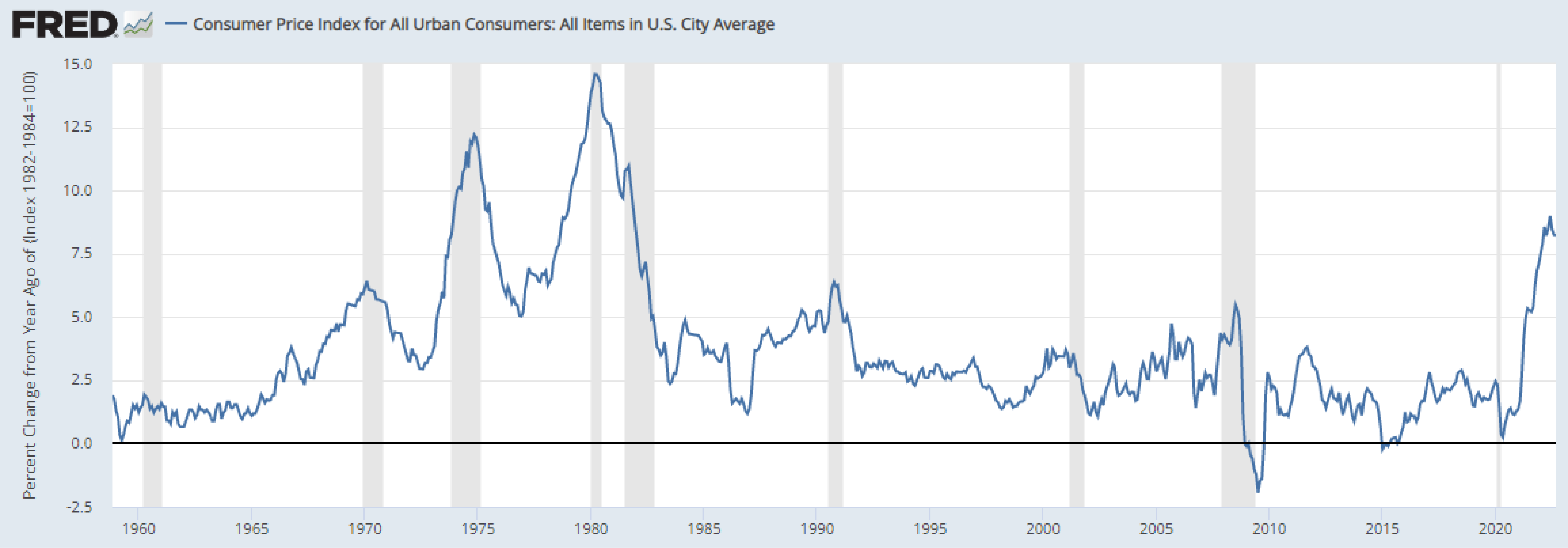
Inflation in the US



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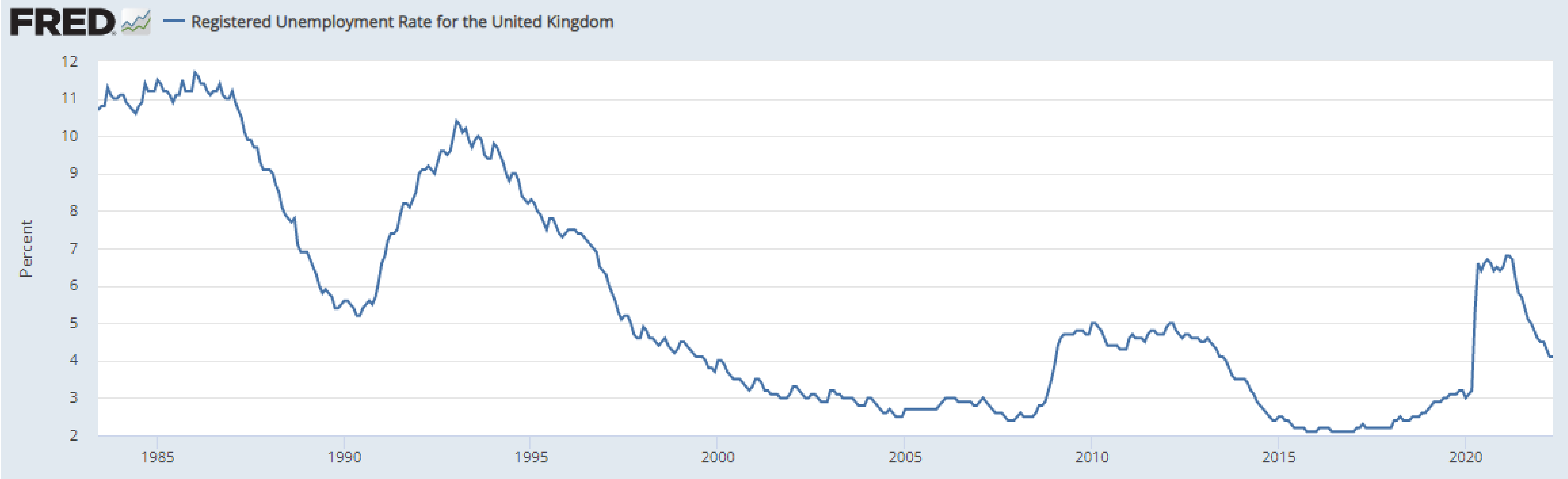
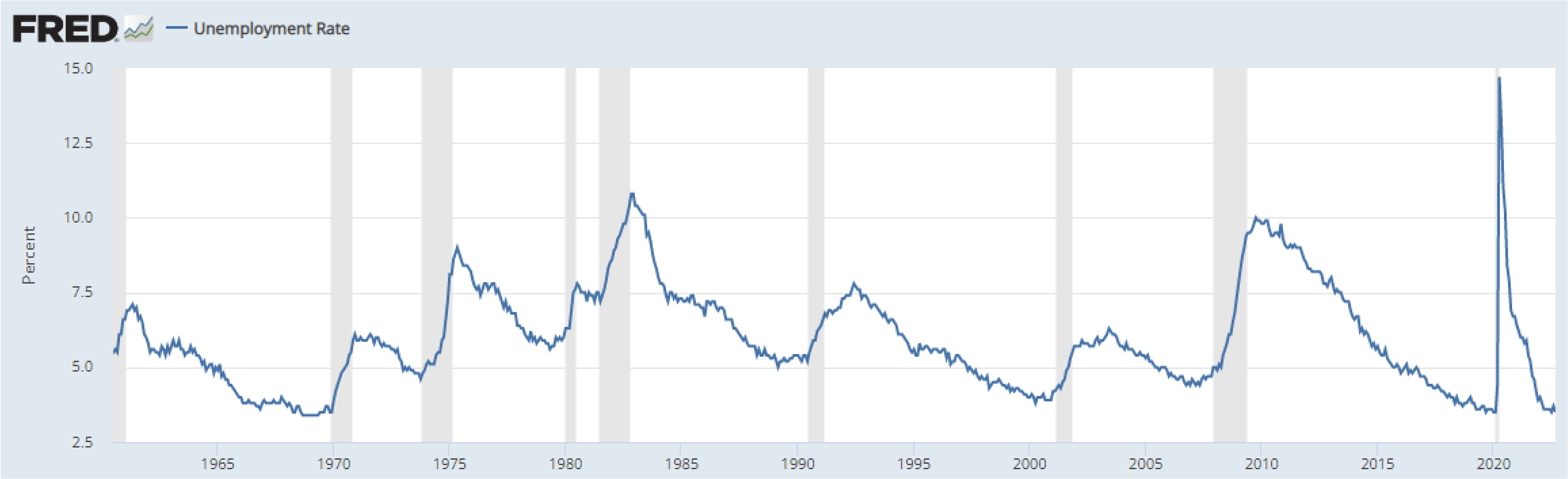
Unemployment in the UK



Unemployment in the US



Monetary policy and volatility in the sterling money market

Osborne, Matthew, 2016

BoE WP #588

Plan for today

- Questions about monetary policy
- Volatility changes under different frameworks of the Bank of England

Questions to discuss

- What is the goal for the Bank of England?

- What is the main tool to achieve the mandate - any significant change before and after the crisis?

- Why did the framework set out in normal times need change?

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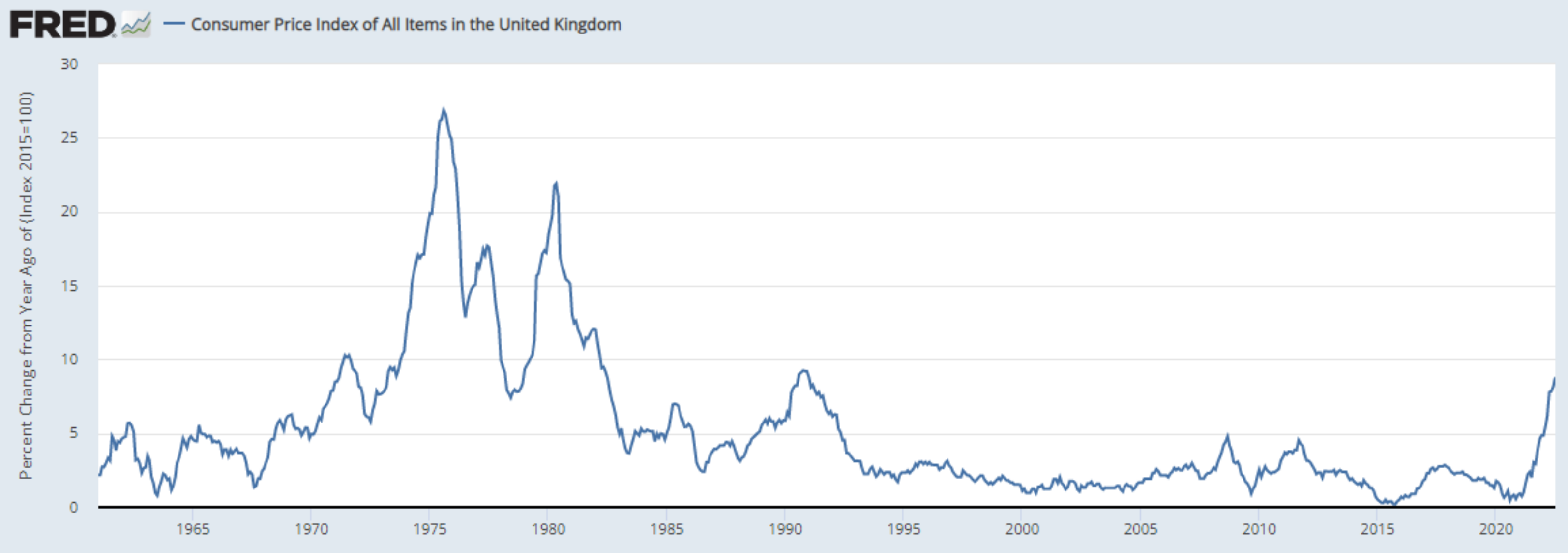
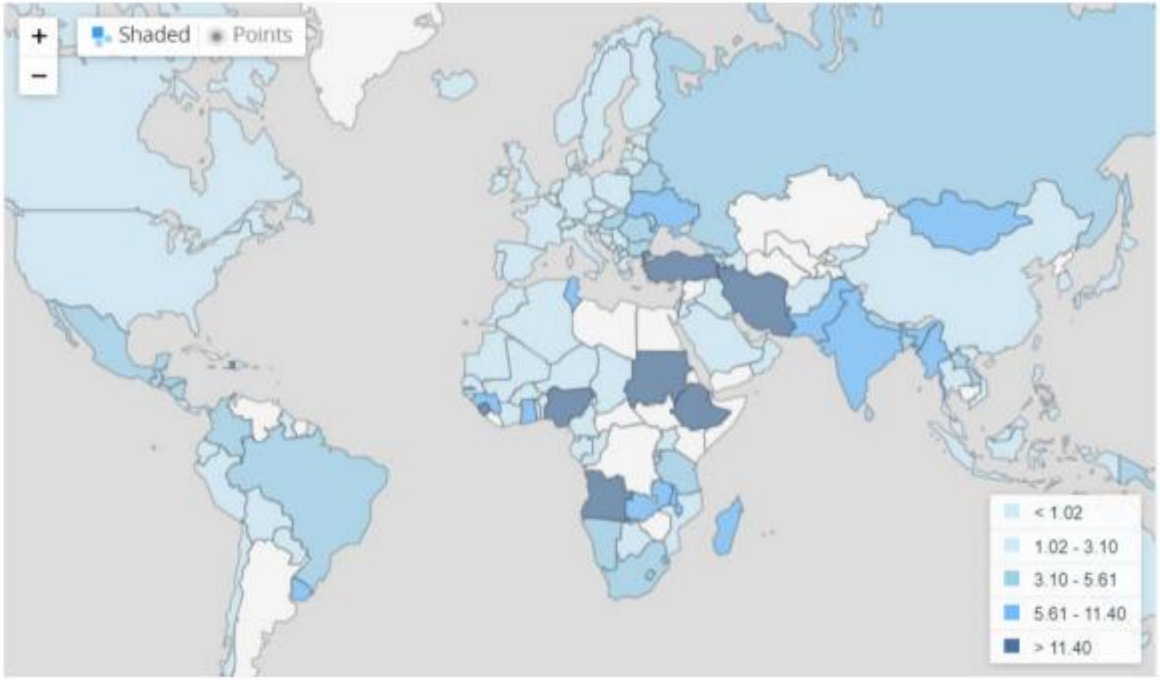


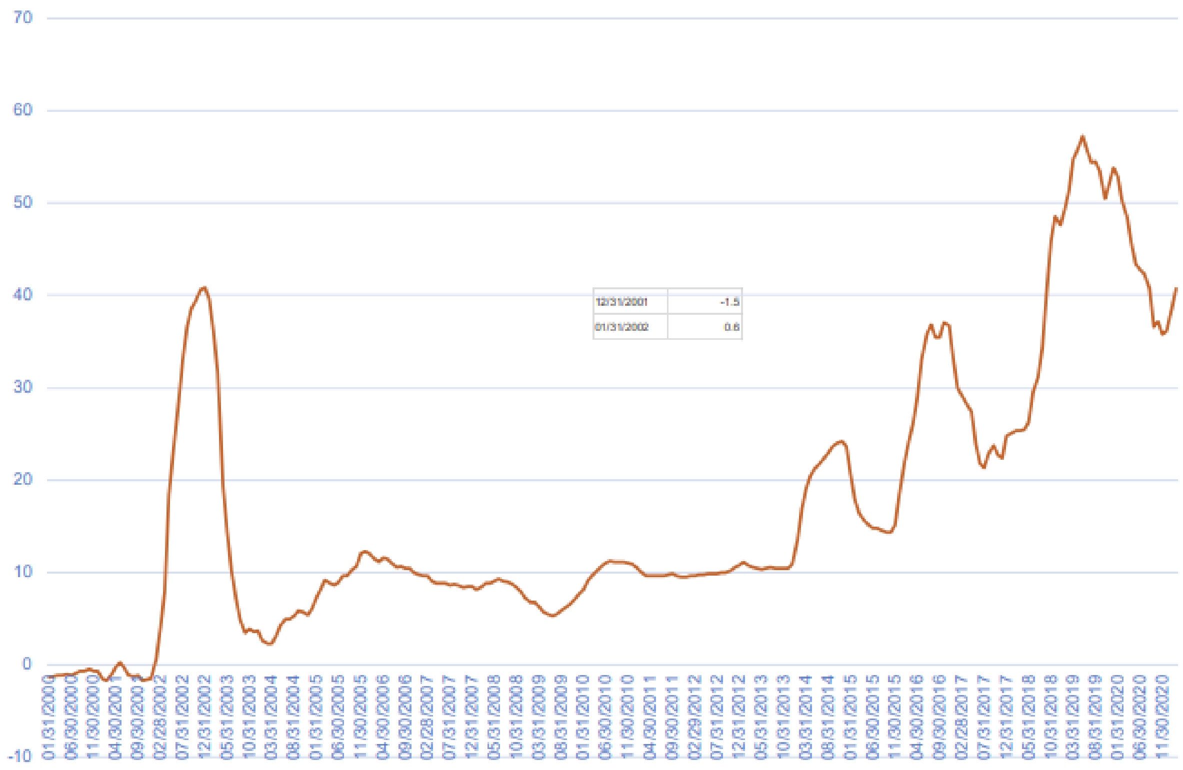
Inflation quite different across countries

World Bank (Data Bank)



Inflation quite different across countries

Inflation in Argentina



Question to discuss

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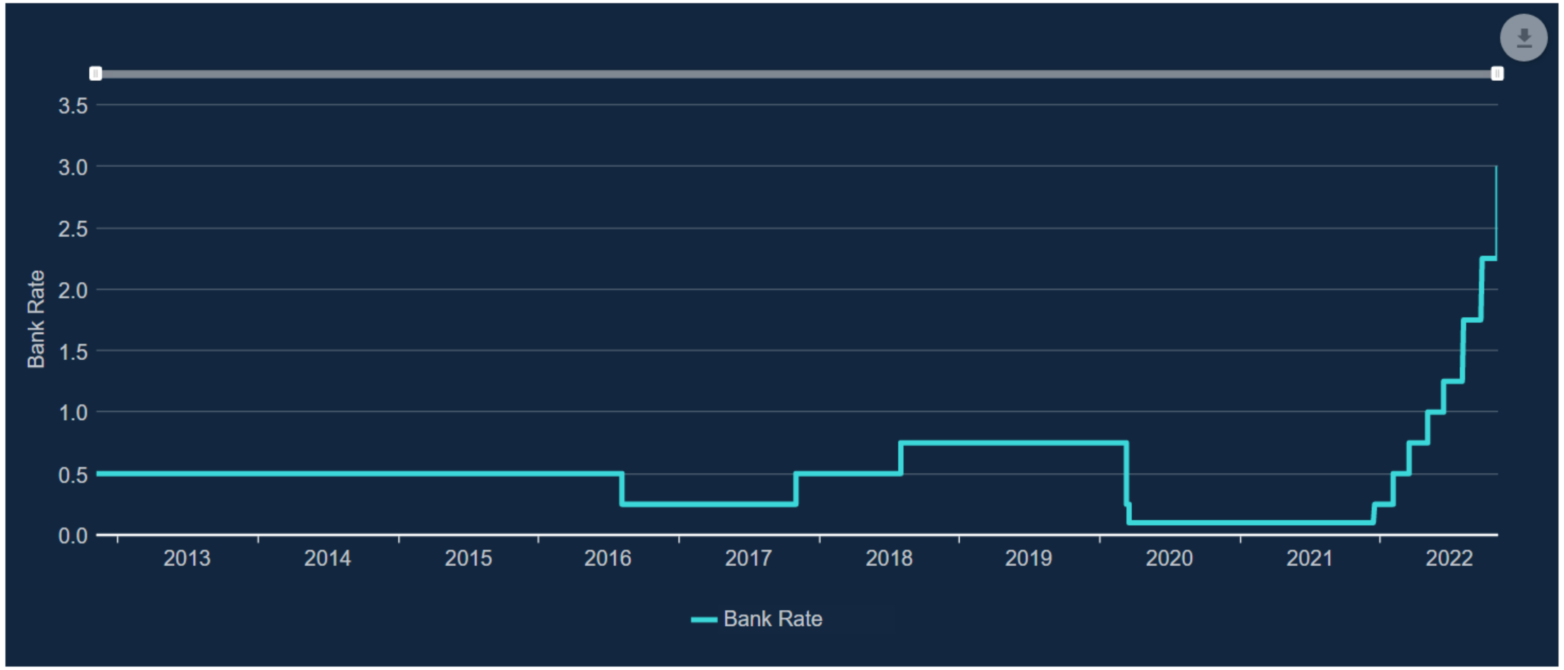


Question to discuss

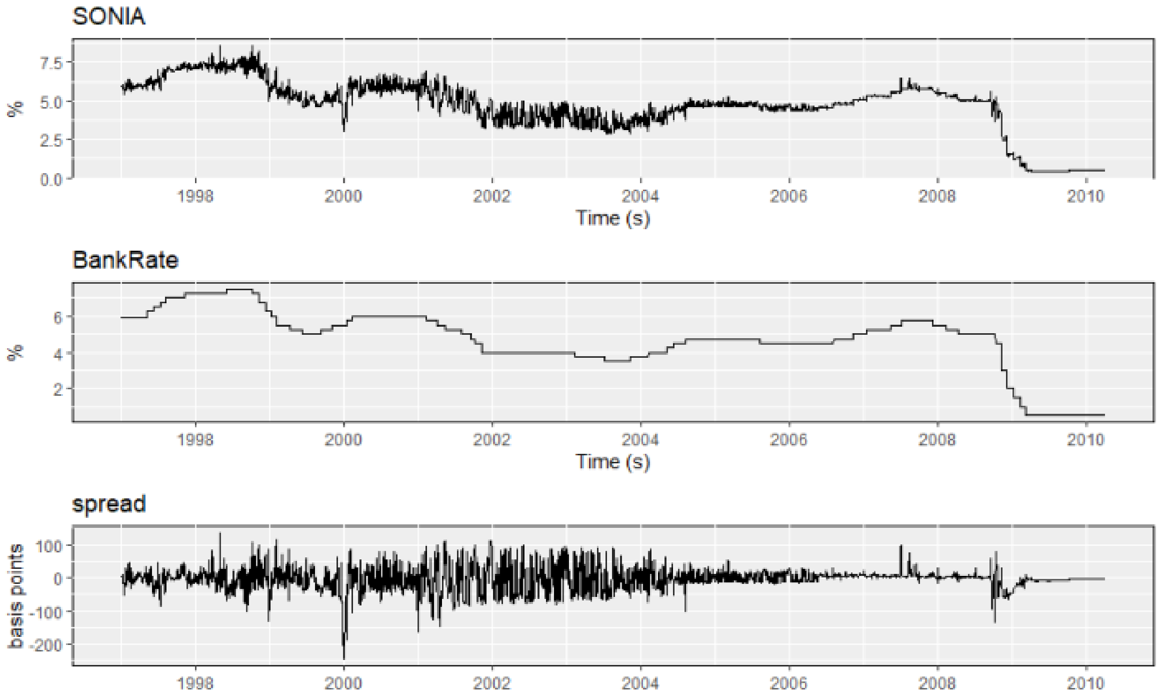
- What is the main tool to achieve the mandate - any significant change before and after the crisis?

→ "Bank Rate" - short-term interest rate (nominal)

Within the BoE's money market operating framework, the Bank Rate affects/determines other overnight interest rates such as the SONIA

Question to discuss

"The Sterling Overnight Index Average (SONIA) is used as the measure of overnight interest rates. SONIA is the weighted average rate of all unsecured sterling overnight cash loans brokered in London by members of the Wholesale Markets Brokers' Association (WMBA)."



Question to discuss

Home / Monetary policy / Interest rates and Bank Rate

Interest rates and Bank Rate

We set Bank Rate to influence other interest rates. We use our influence to keep inflation low and stable.

Related links

› Interest calculators

What is Bank Rate?

Bank Rate is the single most important interest rate in the UK. In the news, it's sometimes called the 'Bank of England base rate' or even just 'the interest rate'.

Our **Monetary Policy Committee (MPC)** sets Bank Rate. It's part of the Monetary Policy action we take to meet the **target** that the Government sets us to keep inflation low and stable.

Bank Rate determines the interest rate we pay to commercial banks that hold money with us. It influences the rates those banks charge people to borrow money or pay on their savings.

Current Bank Rate

3%

Next due: 15 December 2022

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Question to discuss

- What is the main tool to achieve the mandate - any significant change before and after the crisis?

→ “Bank Rate” - short-term interest rate (nominal)

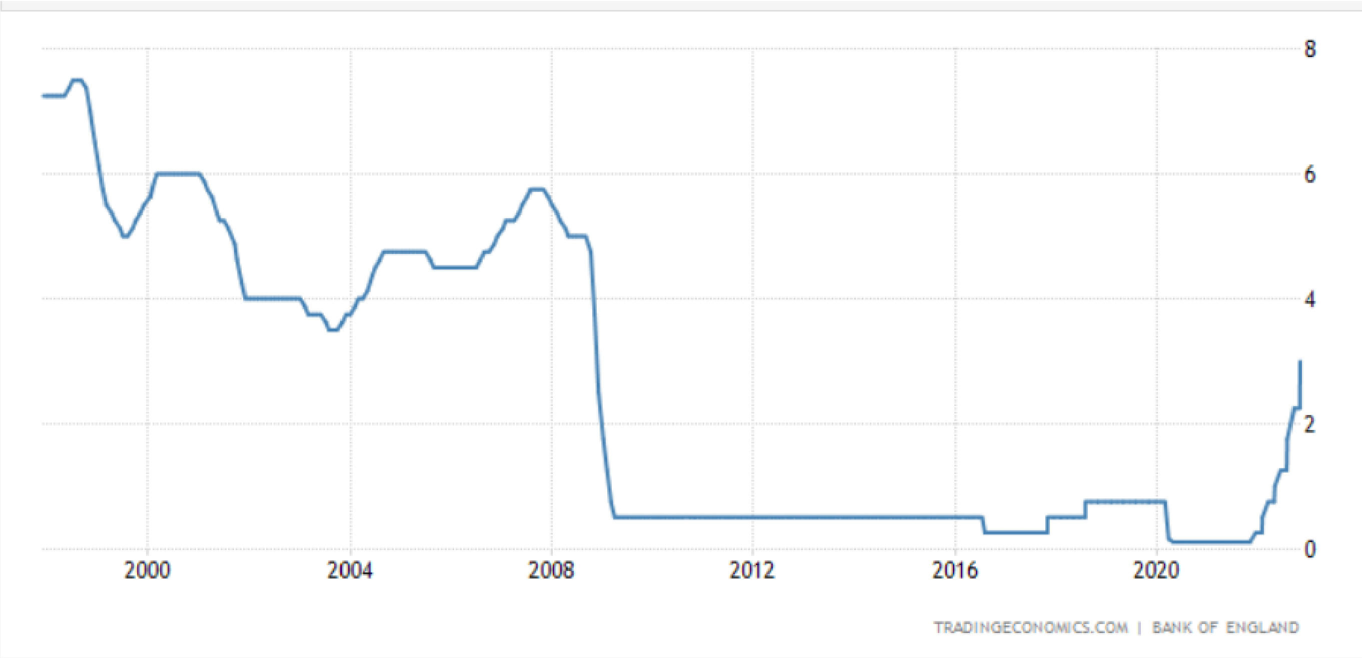
Through setting the Bank rate, the BoE tries to influence longer-term rates (which depend on expectations about future short-term rates)

After financial crisis (until this year) main instrument limited by effective lower bound on interest rates.

Question to discuss

- What is the main tool to achieve the mandate - any significant change before and after the crisis?

→ “Bank Rate” - short-term interest rate (nominal)



Unconventional policy tools

After financial crisis (until this year) main instrument limited by effective lower bound on interest rates.

https://www.brookings.edu/author/ben-s-bernanke/?type=posts

What tools does the Fed have left? Part 3: Helicopter money

Ben S. Bernanke · Monday, April 11, 2016

What tools does the Fed have left? Part 2: Targeting longer-term interest rates

Ben S. Bernanke · Thursday, March 24, 2016

What tools does the Fed have left? Part 1: Negative interest rates

Ben S. Bernanke · Friday, March 18, 2016

Question to discuss

- Why did the framework set out in normal times need change?

Question to discuss

- Why did the framework set out in normal times need change?

→ There was quite some volatility in overnight interest rates

Why do we want low Money market volatility?

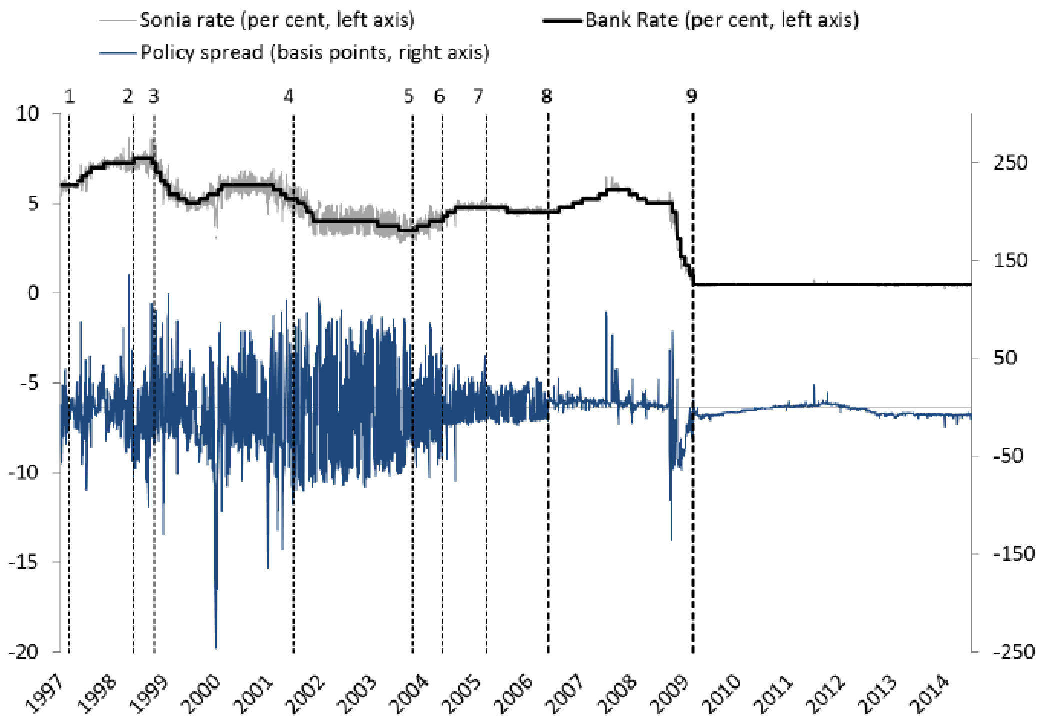
- Varying overnight interest rates may impede the transmission mechanism of monetary policy and hence interfere the CB’s targets.

- Volatility leads to more uncertainty which is costly for market participants and may lead to a dry up of liquidity in the money market (liquidity hoarding).

Bank of England’s money market operating framework

- First “zero reserves“ system
- Then corridor with borrowing and lending facilities introduced
- Then ‘reserves averaging‘ system
- And after the financial crisis QE + ‘floor system‘

Developments in the Sterling Monetary Framework (SMF)



Key to events

1	Gilts obtained via reverse repo accepted in OMOs and access widened
2	Collateral eligibility further expanded
3	Access to borrowing facility extended to banks
4	Deposit facility introduced, completing corridor system
5	Governor announces review of Sterling Monetary Framework
6	First consultation paper on SMF review
7	Interim reforms including narrower corridor
8	Reserves averaging framework introduced
9	Start of large-scale asset purchases and floor framework introduced

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Rate corridor and volatility

Why did introduction of a rate corridor not reduce volatility?

- Amount of available liquidity was limited by what BOE expected would be required on each day

→ There could have been forecast errors

→ There could be large counterparties that bought most of the available liquidity to make a profit on it.

Reserve Averaging system

- Under the ‘reserves averaging�‘ system, unlimited liquidity available at overnight standing facilities

- Averaging system is well designed as discussed in the videos of this topic.

- The result was considerably lower volatility (already upon announcement of the system).

Larger volatility after 2008

- During the financial crisis Bank‘s demand for liquidity increased and became more predictable.

- Less willing to borrow from Overnight Lending Facility for fear of being stigmatized.

- The reserve averaging system was working less well.
- The Bank of England allowed for more deviations from average reserve targets and conducted more frequent supply operations.

Quantitative Easing and floor system

- Large supply of excess reserves meant that banks had no incentive to borrow at bank rate or above.

- At the same time, the floor system guaranteed no lending below the Bank rate as they could obtain that rate by depositing (unlimited amounts) of reserves at the BoE (see videos)

- No longer incentive to trade with other banks in money market

- This system can continue as long as supply of reserves introduced by QE remains at high levels.

Modelling volatility

- Osborne models time-varying volatility using a GARCH model. Estimate volatility/variance in period t given the history (conditional variance) :

$$r_t = \mu_t + u_t,$$
$$u_t = \sigma_t \varepsilon_t,$$
$$\sigma_t^2 = \omega + \sum_{i=1}^{s} \alpha_i \, u_{t-i}^2 + \sum_{i=1}^{s} \alpha_i \, \sigma_{t-i}^2,$$
$$\varepsilon_t \sim i.i.d.(0,1).$$

- Depends on pas conditional variances and on past model errors

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Modelling volatility

- Different levels of volatility
- Especially after ‚reserve averaging‘