Macroeconomics of Financial Crisis

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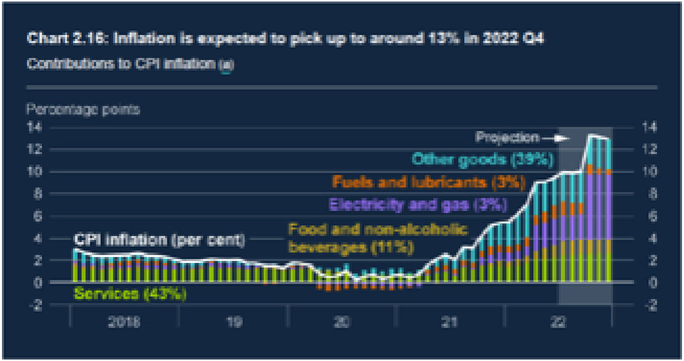
UK financial crisis 2022: background



Sources: Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, ONS and Bank calculations.

(a) Figures in parentheses are CPI basket weights in 2021 and do not sum to 100 due to rounding. Data to June 2022. Bank staff projection from July 2022 to December 2022. Fuels and lubricants estimates use Department for Business, Energy and Industrial Strategy petrol price data for July 2022 and then are based on the sterling oil futures curve. Other goods is the difference between CPI inflation and the other contributions identified in the chart.

UK financial crisis 2022: ex-post inflation developments

Sources: Eurostat, ONS, Refinitiv Eikon from LSEG, US Bureau of Economic Analysis, US Bureau of Labor Statistics and Bank calculations.

(a) For United States, the solid line represents PCE inflation, and the dashed line represents CPI inflation. The latest data points shown are for March 2024. The flash estimate for euro-area HICP inflation in April was released after the data cut-off.

UK financial crisis 2022: background

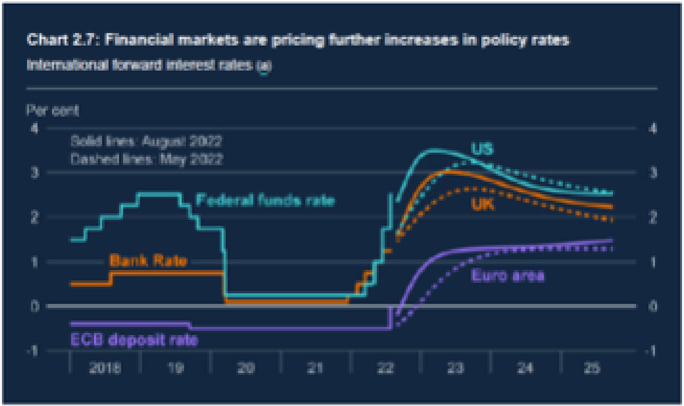


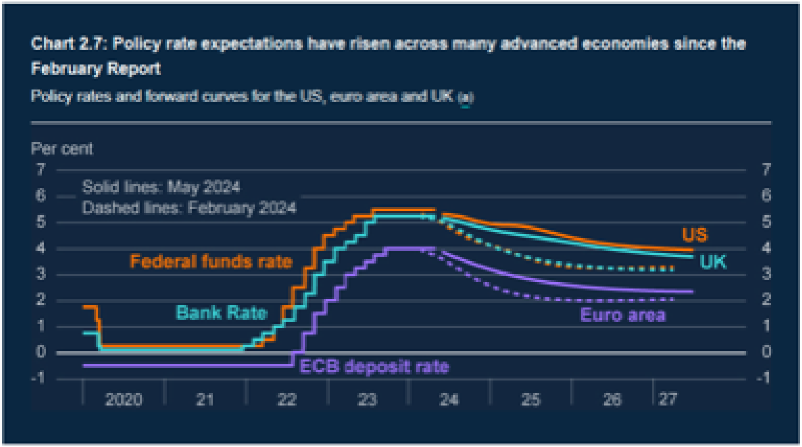
Chart 2.7: Financial markets are pricing further increases in policy rates

International forward interest rates (a)

Sources: Bloomberg Finance L.P. and Bank calculations.

(a) All data as of 26 July 2022 except for ECB deposit rate and Federal funds rate which are to 27 July 2022. The August and May curves are estimated using instantaneous forward overnight swap rates in the 15 working days to 26 July 2022 and 26 April 2022 respectively. Federal funds rate is the upper bound of the target range.

UK financial crisis 2022: ex-post interest rates



Sources: Bloomberg Finance L.P. and Bank calculations.

(a) All data as of 29 April 2024. The February curves are estimated based on the 15 UK working days to 23 January 2024. The May curves are estimated using the 15 working days to 29 April 2024. Federal funds rate is the upper bound of the announced target range. ECB deposit rate is based on the date from which changes in policy rates are effective. The final data points shown are forward rates

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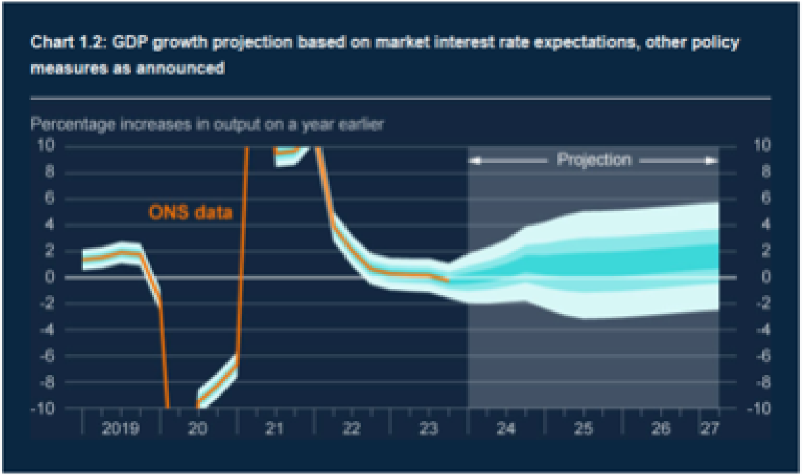


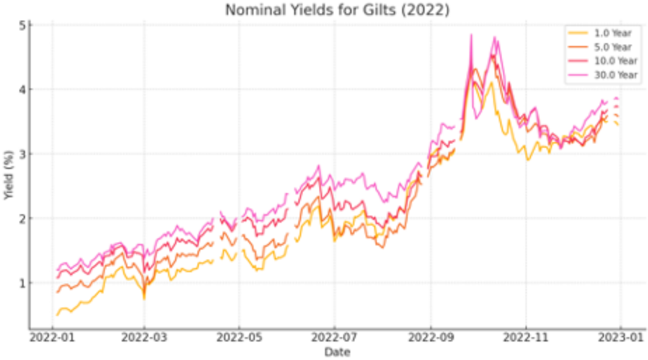
UK financial crisis 2022: background

- Inflationary pressures have pushed Central Banks to reverse monetary policy accommodation: interest rate increases and quantitative tightening.
- Energy shock contributed to worsen trade balance and economic outlook for commodity importer countries
- Rapid Federal Reserve tightening is contributing to tightening global financial conditions and reinforcing foreign inflationary environment via dollar strenght
- UK policy authorities: monetary policy tightening with expansionary fiscal policy aimed at preserving consumer purchasing power (tax cuts and energy subsidies).

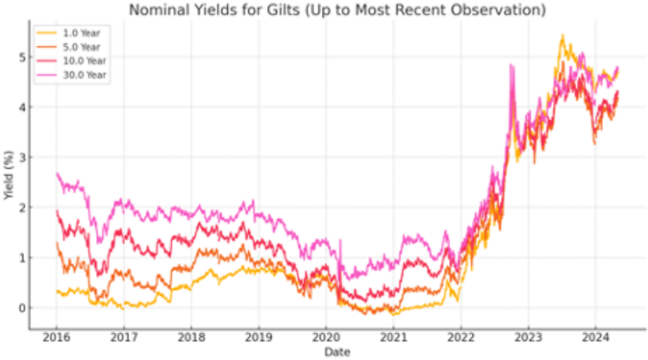
UK financial crises 2022

- Fiscal policy package:
  - Increase supply of government debt in an environment in which marginal buyer is changing;
  - Support consumption;
- Market reaction: pushed up yields on gilts and depreciation of the pound
  - typical market reaction for emerging market economy despite the fact that UK issues debt in its own currency and is considered a country with strong institutions.
- Rapid increase in gilts yields forced margin calls by Pension Funds that sold gilts to meet their margin call reinforcing the increase in yields (vicious spiral)
- Bank of England stepped in by promising to buy 65 billion pounds of gilts for two weeks. Justified as financial stability intervention.

UK financial crises 2022: Gilts



UK financial crises 2022: Gilts



UK financial crises 2022: Sterling

Root of the crisis

- Financial sector vulnerabilities combined with policy choices in complicated economic environment.
- Expansionary Fiscal Policy contributed to a structural problem initiated by Quantitative tightening.
- Monetary Policy faces complicated policy choice: financial market intervention is expansionary in nature but increase in the policy rate is contractionary

Root of the crisis

- Financial sector vulnerabilities:
  - What is the issue?
  - Is it UK specific?
- Pension funds and LDI (Leveraged Liability Driven Investment) strategy
  - UK pensions take in contributions when people are young, invest them, and then pay out fixed amounts when people get old. They hold large quantities of government bonds, currently 1.5 trillion pounds. That's a good strategy: if you have fixed payments to make, invest in risk free assets that provide fixed payments, and ignore the mark to market.
  - Problem: cannot keep promises. Pensions used their government bonds as collateral, borrowed money, and invested that money in more government bonds or, to a lesser extent, in stocks or other investments.
  - Implications: portfolio return benefits from stock price increase and low interest rates.
  - Rising interest rates are a problem: borrow short term and buy long term government bonds that are very sensitive to interest rate changes

Root of the crisis

Financial Sector Vulnerabilities

- Long Term Bond Pricing:
  - A 30 year zero coupon bond paying 100 pounds is worth 100 pounds when $i = 0$
  - If the interest rate goes up to 2 percent, that is the same thing as the price going down to $100/(1.02)^{30} = 55.2$ pounds,half the original value.
  - Borrowing to invest in long-term bonds is a very risky strategy on a mark to market basis.
  - What happens on liability side: as interest rate increases reduces liabilities as well.

Root of the crisis

Financial Sector Vulnerabilities

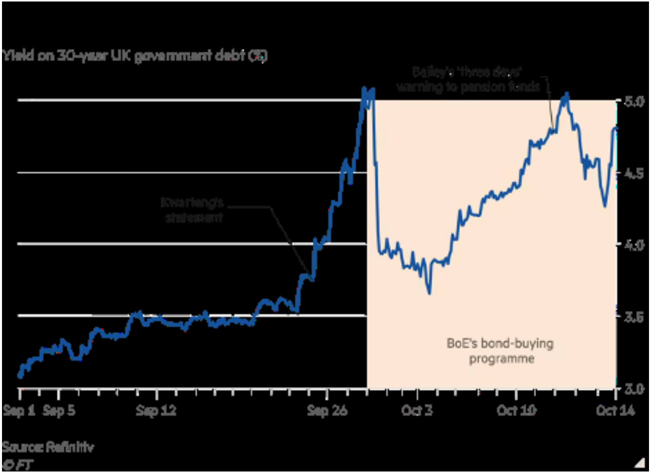
- Collateral constraint (margin call): mismatch between asset and liabilities magnifies when equity and long term bonds are bought against collateral.
- As collateral loses value, pension funds are forced to sell assets to raise cash to meet collateral requirements. By selling gilts they further reduce their prices amplifying the initial problem.
- Example: you have 1,000 pounds of bonds. You use that as collateral to borrow 1000 pounds, and invest in another 1000 pounds of bonds. The bond prices fall to 500 pounds. Now you have to come up with 500 pounds cash, right now, to replace the missing collateral on your loan. You must sell the 500 pounds of bonds you bought immediately.
- Mark to market combined with interest rate fluctuations.

Events

UK crisis

- Mini budget announcement: unfunded tax cuts.
- Wednesday 28th September: the market became effectively paralysed. That forced the Bank of England to take dramatic action, stepping in as a sort of 'buyer of last resort' and agreeing to buy about £65billion into gilts over the coming weeks.
- Reverse of personal income tax cut
- Political crisis: Chancellor replaced 14th of October;
- U(K) turn on mini budget? Reverse of corporation tax cut and limitation of energy subsidies (till April 2023 and then targeted).
- Bank of England announced new lending facility for pension funds.

UK crisis


Yield on 30-year UK government debt (%)
Bailey's 'three days' warning to pension funds
Kwarteng's statement
BoE's bond-buying programme
5.0
4.5
4.0
3.5
3.0
Sep 1
Sep 5
Sep 12
Sep 26
Oct 3
Oct 10
Oct 14
Source: Refinitiv
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Issues

Confidence crisis

- What is a risky asset? Are government bond safe?
- What policy should do?
- Is the UK at risk of default?