

**Bank of England**

Financial Stability in Focus:  
Interest rate risk in the economy  
and financial system

**Financial Policy Committee**

July 2023



# Financial Stability in Focus

July 2023

The primary responsibility of the Financial Policy Committee (FPC), a committee of the Bank of England, is to contribute to the Bank of England's financial stability objective. It does this primarily by identifying, monitoring and taking action to remove or reduce systemic risks, with a view to protecting and enhancing the resilience of the UK financial system. Subject to that, it supports the economic policy of His Majesty's Government, including its objectives for growth and employment.

The Financial Stability in Focus sets out the FPC's view on specific topics related to financial stability. It complements the Financial Stability Report, which is published twice a year, and sets out the FPC's overall view of the outlook for UK financial stability, including its assessment of the resilience of the UK financial system and the main risks to UK financial stability, and the action it is taking to remove or reduce those risks.

## The Financial Policy Committee:

Andrew Bailey, Governor

Jon Cunliffe, Deputy Governor responsible for financial stability

Ben Broadbent, Deputy Governor responsible for monetary policy

Dave Ramsden, Deputy Governor responsible for markets and banking

Sam Woods, Deputy Governor responsible for prudential regulation

Nikhil Rathi, Chief Executive of the Financial Conduct Authority

Sarah Breeden, Executive Director for Financial Stability Strategy and Risk

Colette Bowe

Jon Hall

Randall Kroszner

Elisabeth Stheeman

Carolyn Wilkins

Gwyneth Nurse attends as the Treasury member in a non-voting capacity.

The report was finalised on 3 July 2023. This document, unless otherwise stated, uses data available as at 30 June 2023.

PowerPoint™ versions of the charts in this document and Excel spreadsheets of the data underlying most of them are available at [www.bankofengland.co.uk/financial-stability-in-focus/2023/july-2023](https://www.bankofengland.co.uk/financial-stability-in-focus/2023/july-2023).

For the avoidance of doubt, the Financial Stability in Focus is not intended to satisfy the requirements of Section 9W of the Bank of England Act 1998. ©2023 Bank of England

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This Financial Stability in Focus Report sets out where the risks from higher interest rates sit within the UK economy and financial system.

Interest rates have increased significantly over the past 18 months. Returning inflation to target sustainably will support the Financial Policy Committee's (FPC's) objective of maintaining UK financial stability. However, the sharp transition to higher interest rates and greater market volatility could create stress in the financial system through a number of channels.

- Higher interest rates work to reduce inflation by dampening demand in the economy, making it more attractive to save and less attractive to borrow. In doing so, they increase debt-servicing and refinancing costs for households and businesses. This could make borrowers more likely to default or cut spending sharply and hence amplify macroeconomic downturns. This would increase credit risk and potentially losses for lenders.
- Higher interest rates result in reductions in the market value of some financial assets, which could present risks if exposures are not managed prudently.
- Liquidity risks from the use of derivatives or leveraged products could arise if those users lack sufficient liquidity to meet higher margin and collateral calls. The pressure of liquidity calls can lead to the fire-sale of assets and tighten credit conditions for households and businesses.

The rapid adjustment to higher rates has posed challenges to some sectors of the UK and global economies, but large parts of the UK financial system have so far been resilient. This is partly due to the range of regulatory measures that are in place to manage interest rate risk and to build resilience into the financial system more generally. But there is uncertainty about the impact that higher interest rates will have on the economy and financial system, and it will take time for the full effect of higher interest rates to come through.

All else equal, given the prevalence of variable rate and short-term fixed-rate mortgages and other loans in the UK, the impact of higher interest rates is relatively lower in the financial system than in the real economy compared to some other jurisdictions. Financial systems in some other jurisdictions, which may be more exposed to higher interest rates, could pose risks to UK financial stability, however, if that exposure translates into tighter financial conditions, sharp moves in asset prices, or reduced confidence in the global banking system.

The FPC will continue to develop its approach to assessing interest rate risks framework and monitor the financial system as it adjusts to higher interest rates.

# 1: The role of interest rate risk in the financial system

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**Interest rates have increased significantly over the past 18 months, following a prolonged period of very low rates.**

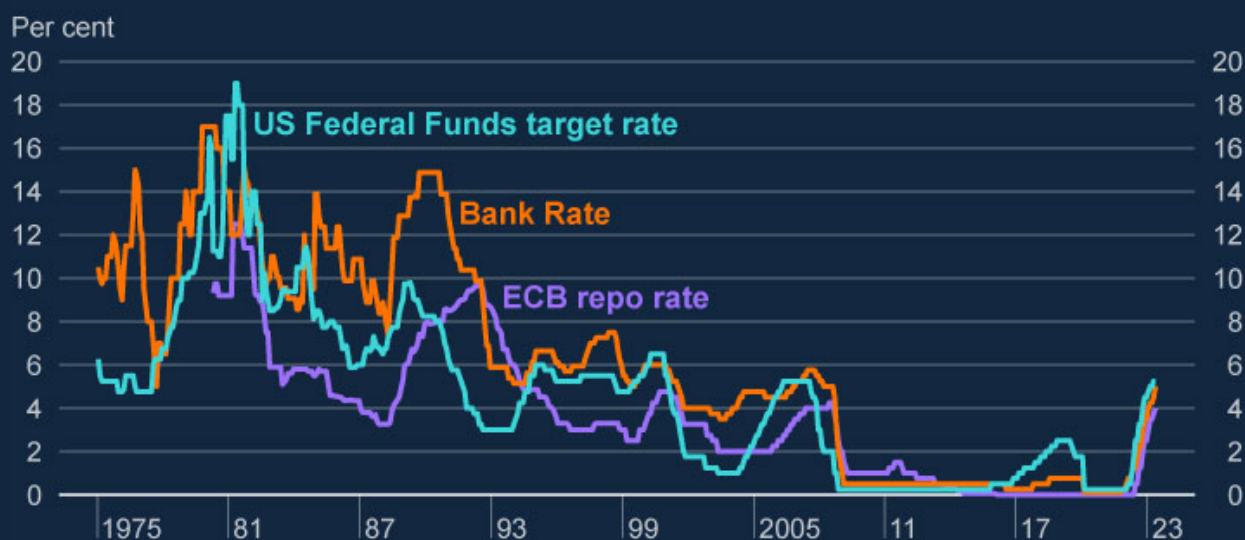
Central banks globally have increased interest rates sharply in response to inflationary pressures. Since December 2021, Bank Rate has increased from 0.1% to 5%, and there have been similar increases in other jurisdictions. Chart 1 places this increase into historical context – while global policy rates are not high relative to the long-term historical norm, the recent tightening cycle has been sharp and follows a prolonged period of very low rates.

Long-term market rates have increased sharply in response to higher actual and expected policy rates. UK 10-year gilt yields increased by over 300 basis points from the beginning of 2022 to the end of June 2023. Uncertainty about the future path of interest rates has also been elevated, as evidenced by the sharp rise in market interest rate volatility (see Section 1 of the [July 2023 Financial Stability Report](#) (FSR)).



## Chart 1: Global policy rates have increased sharply since December 2021

Policy rates in the UK, US and euro area



Source: Bank of England.

### The sharp transition to higher interest rates alongside greater market volatility can create risks to financial stability through a number of channels.

Sharp increases in interest rates have been a necessary response to inflationary pressures. Returning inflation to target sustainably supports the FPC's objective of protecting and enhancing UK financial stability. Increases in interest rates do not necessarily create stress at a systemic level. But it is the FPC's responsibility to identify, monitor and take action to reduce the financial stability risks that do arise as a result of the transition to higher interest rates. These risks can arise through a number of channels (Figure 1 and Table A).

- Higher interest rates work to reduce inflation by dampening demand in the economy, making it more attractive to save and less attractive to borrow. One result of this is reductions in spending and employment by households and businesses. And by increasing debt servicing costs for households, businesses and governments, higher interest rates also increase the probability that borrowers are unable to refinance their debt, or default, potentially creating losses for lenders. Depending on how households and businesses adjust their

spending and saving behaviour in response to higher debt servicing costs, this may reduce the financial resources that they have available to cope with future shocks.

- Increases in policy rates that are not already priced into market valuations tend to reduce the value of some financial assets, including government debt. The failures of three US mid-sized banks this year were a result of substantial deposit outflows prompted by concerns over poor management of interest rate risk, related falls in the value of assets, and liquidity risk (see Section 4 of the [July 2023 FSR](#)). A fall in asset valuations also affects the value of collateral supporting repo transactions, and could result in calls for further collateral to be met by net cash borrowers in the repo market.
- The market volatility that can come with sharp changes in interest rates leads to increased initial and variation margin and collateral calls on interest rate derivatives and repo, reflecting increased interest rate uncertainty in the financial system. This can create liquidity risks for some institutions, that, if left unchecked, can spread to other parts of the financial system for example, the issues faced by LDI funds in September 2022 were in part related to this (see Section 5 of the [July 2023 FSR](#)).

For banks and many non-bank financial institutions, there are benefits as well as costs associated with higher interest rates. The profitability of bank lending is typically higher in aggregate for a period of time after interest rates increase, as banks are able to raise the interest rates they charge on their loans more quickly than their funding costs rise. Insurers and defined benefit (DB) pension schemes also typically benefit as the present value of their future payments to policyholders and pensioners falls.

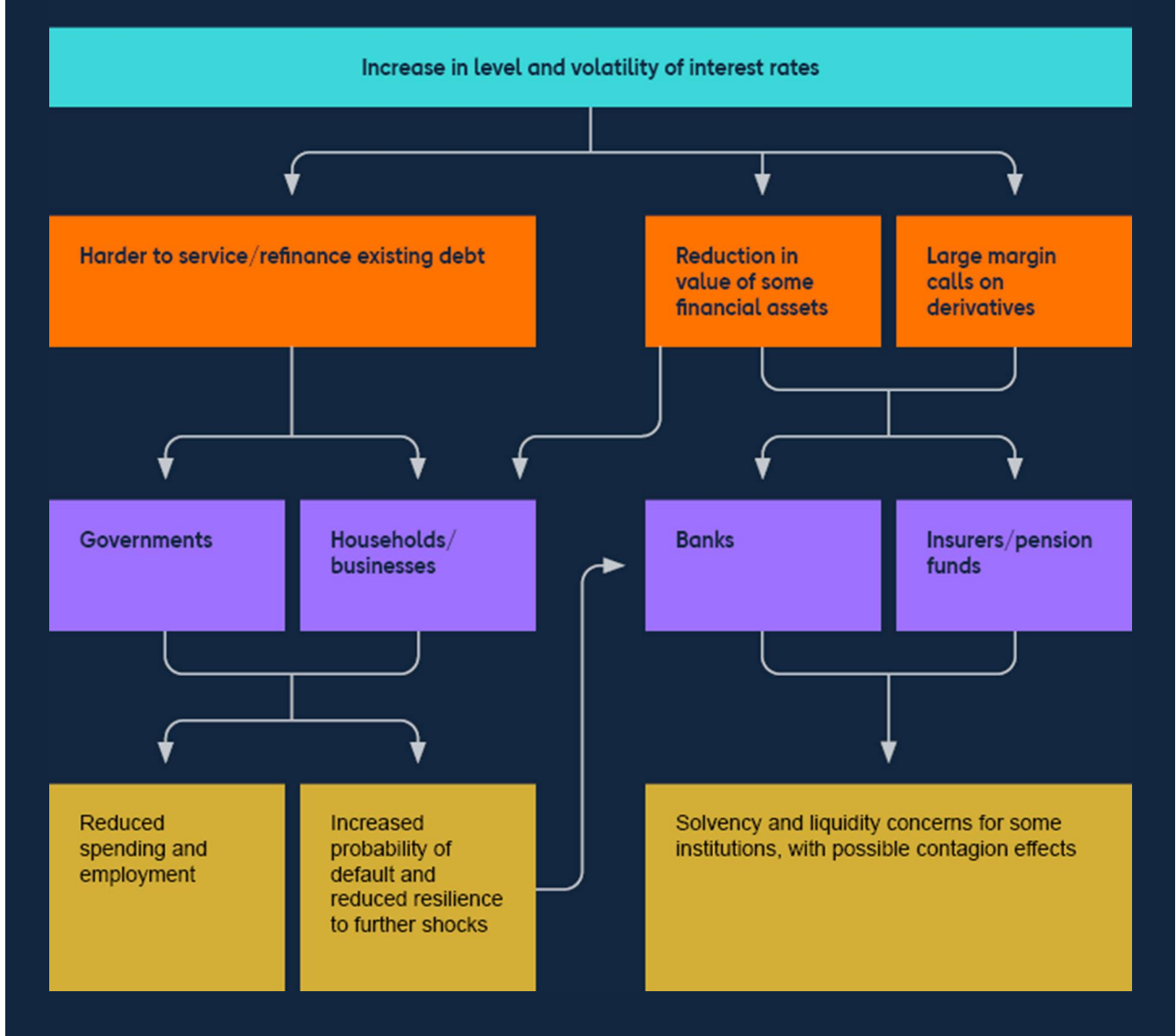


**Table A: Distribution of direct interest rate risk in the UK economy and financial system**

Sector	Description of channels
<b>Households</b>	<p>(+) Increase in return on bank deposits.</p> <p>(-) Increased cost of servicing or refinancing debt (delayed for those on fixed rates) leads to reduced consumption and reduces financial resources available to deal with future shocks.</p> <p>(-) Landlords seek to pass on additional debt-servicing costs to renters.</p> <p>(-) Reduced value of some assets (eg savings in pension funds or other investment funds).</p> <p>(-) Reduced present value of future income.</p>
<b>Businesses</b>	<p>(+) Increase in return on bank deposits.</p> <p>(-) Increased cost of servicing debt (delayed for those on fixed rates) leads to reduced investment and employment and reduces financial resources available to deal with future shocks.</p> <p>(-) Reduced value of some assets.</p> <p>(-) Reduced present value of future profits.</p>
<b>Banks</b>	<p>Banks use hedging to reduce interest rate risk exposure as well as having capital and liquidity resources to manage remaining risks.</p> <p>(+) Increased net interest margin (particularly as rates move away from close to zero).</p> <p>(-) Reduced value of some assets.</p> <p>(-) Increase in losses from increased defaults on loans.</p>
<b>Insurers, DB pension schemes and LDI funds</b>	<p>In general, seek to ensure that the value of their investments moves broadly in line with the value of their commitments to pay out to policyholders.</p> <p>(+) In general, higher rates reduce the present value of future payments to policyholders by more than the fall in the value of their assets. General insurers are less exposed than life insurers due to liabilities being shorter term.</p> <p>(-) Use of derivatives and repo to manage interest rate exposure creates risk of insufficient liquidity to meet large margin and collateral calls.</p>

Sector	Description of channels
<b>Central counterparties</b>	<p>Initial and variation margin protect against changes in the market value of contracts</p> <p>(–) Exposed indirectly via default risk of large counterparties.</p>
<b>Other funds</b>	<p>Immediate risks from higher interest rates are borne by end investors.</p> <p>(–) Rapid portfolio restructuring as a result of higher and more volatile rates could create liquidity pressures in some markets and losses for asset holders.</p> <p>(–) Use of derivatives and repo to manage interest rate exposure creates risk of insufficient liquidity to meet large margin and collateral calls.</p>

**Figure 1: Higher interest rates and greater volatility can present financial stability risks through a number of channels if not well managed**



**| The full impact of higher interest rates remains uncertain.**

The repayments on some household and business debt (eg fixed-rate mortgages and fixed-rate business loans) take time to increase in response to higher interest rates. There also may be a delay in these increased debt repayment burdens feeding through to spending and employment decisions. And there is likely to be a lag between borrowers experiencing repayment difficulties and higher defaults materialising. For financial institutions, the sharp transition to higher rates and the impact on financial asset prices has already been a key factor in three regional

bank failures in the US, and contributed to the stress faced by LDI funds in late 2022. But the transition may also have created losses in other parts of the global financial system that are yet to become apparent.

**The preceding period of very low financing costs means that some parts of the financial system may be more vulnerable to higher interest rates.**

As discussed in previous Financial Stability Reports, the prolonged period of very low financing costs in recent years encouraged a ‘search for yield’ among market participants who were seeking to increase their returns by investing in riskier assets.<sup>[1]</sup> For example, the global high-yield bond, leveraged loan and private credit markets almost doubled in size over the past decade (see Section 4 of the [July 2023 FSR](#)). As private credit and leveraged loans are typically floating rate, they are particularly exposed to sharp increases in interest rates.

Relatedly, the long period of low rates may have led to less prudent management of interest rate risk, especially in parts of the financial system where such risks are not well captured by regulation, leading to a higher level of interest rate risk in the system. Mismanagement of interest rate risk was a key factor in the recent US bank failures (see Section 4 of the [July 2023 FSR](#)).

If higher interest rates persist, it could reduce the incentive for ‘search for yield’ behaviour and lead to a degree of structural change in the financial system. This might be expected to reduce vulnerabilities in the long run. But these vulnerabilities will remain until the financial system has adjusted fully to higher rates.

## 2: The impact of higher rates on the UK real economy

**UK households are directly affected by increases in interest rates through the cost of servicing and refinancing their debt, but are less exposed now than in previous tightening cycles.**

Higher interest rates are passed through to households via the interest rates on their mortgages and other loans. For mortgage borrowers, this effect tends to outweigh the impact from higher rates on their bank deposits. An increase in rates could lead to some households struggling to afford debt repayments, cutting consumption, or defaulting on their debt (see Box B in the [May 2023 Monetary Policy Report](#) for a more detailed description of the cash-flow channel of monetary policy). Households with higher debt-servicing costs relative to their income and debt on shorter fixed-rate periods are the most affected.

Effective interest rates on residential mortgages have increased by less than for lending to businesses so far (Chart 2). This is due to the increased popularity of longer fixed-rate mortgages over recent years. In contrast, fixed-rate products were relatively less popular in the run up to previous tightening cycles – in 2023 Q1, 87% of the outstanding value of UK residential mortgages was on a fixed rate, compared to under 30% in the early 2000s. Nonetheless, around half of mortgage accounts (4.4 million) are estimated to have already seen payment increases since mortgage rates started to rise in late 2021, with higher rates expected to affect the vast majority of the remainder (a further 3.8 million) by the end of 2026. For the typical mortgagor rolling off a fixed deal over the second half of 2023, monthly interest payments are expected to increase by around £220 if their mortgage rate rises by 325 basis points (the increase implied by quoted mortgage rates as at the end of June).

This delay in the impact of higher interest rates on household debt-servicing costs also delays the impact on household consumption and on the probability of default. However, even once the full effect of higher interest rates has fed through, aggregate mortgage debt-servicing burdens are projected to stay well below previous peaks (Chart 3). This partly reflects the impact of the FPC's mortgage

market Recommendations, which have been in place since 2014, and which have guarded against an excessive build-up of household debt (see Section 2 of the [July 2023 FSR](#)).

Buy-to-let landlords are particularly exposed to higher interest rates. While – like other mortgagors – most buy-to-let landlords have fixed-rate mortgages, the vast majority of these are interest only. This means that, proportionally, buy-to-let mortgage payments will be much more sensitive to changes in mortgage rates. Landlords may seek to pass additional costs on to renters, increasing the financial pressure on those households. Alternatively, landlords could decide to sell their properties. If widespread, this selling behaviour could put downward pressure on UK house prices (see Section 2 of the [July 2023 FSR](#)). In extreme cases, some landlords may default on their debt.

In some other jurisdictions, households are less directly exposed to higher interest rates than in the UK. For example, 80% of mortgages in the US were originated with a fixed term of 15 years or more, and in Germany, around half of mortgages have fixed rates lasting 10 years or more.



### Chart 2: Interest rates increases have flowed through to the stock of business loans more quickly than to the stock of mortgages

Change in the average interest rates paid on the stock of lending and 10-year gilts since end-2021 (a) (b)



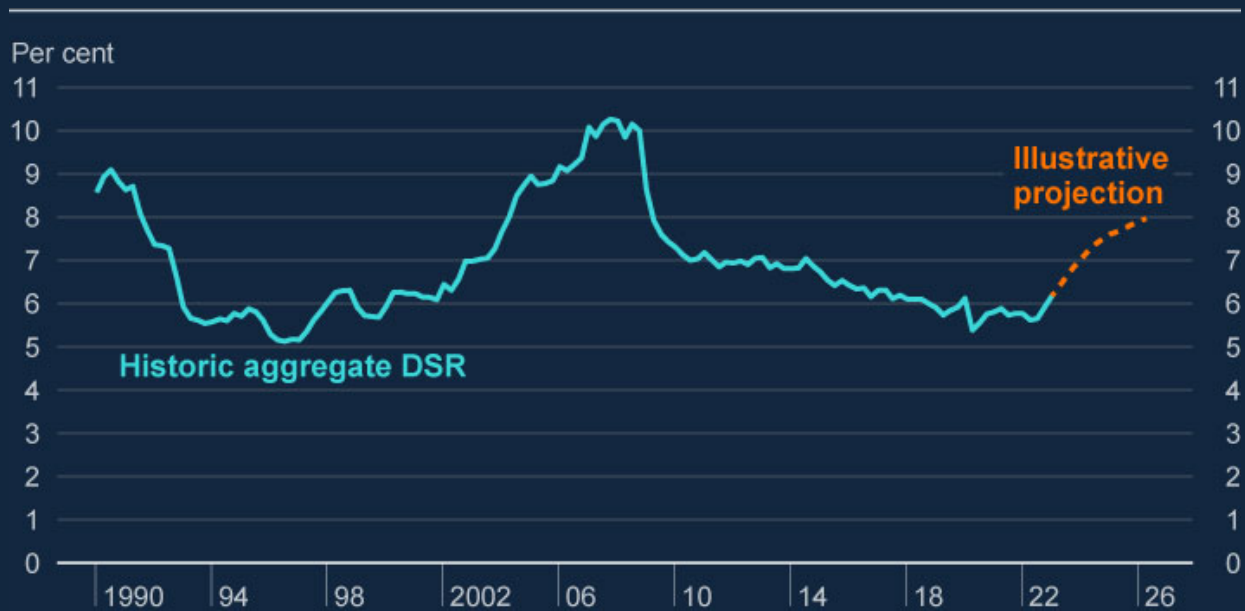
Sources: Bank of England and Bloomberg.

(a) The household mortgages series is the monthly average of UK resident banks' sterling weighted average interest rates on loans secured on dwellings to individuals and individual trusts.

(b) The loans to businesses series is the monthly average of UK resident monetary financial institutions' sterling weighted average interest rate, other loans to private non-financial corporations.

### Chart 3: Aggregate mortgage debt-servicing burdens are expected to increase but to remain below previous peaks

Aggregate UK household mortgage Debt-Servicing Ratios (DSRs) (a) with illustrative projection to 2026 (b)



Sources: Bank of England, Bloomberg Finance L.P., FCA Product Sales Data, ONS and Bank calculations.

(a) Calculated as interest payments plus mortgage principal repayments as a proportion of nominal household post-tax income. Household income has been adjusted to take into account the effects of Financial Intermediation Services Indirectly Measured. Mortgage interest payments before 2000 are adjusted to remove the effect of mortgage interest relief at source.

(b) For the illustrative projections to mid-2026, projections for household post-tax income consistent with the [May 2023 Monetary Policy Report](#). Payment increases are projected using market expectations for Bank Rate based on the overnight index swap curve as at 30 June, taking into account the distribution of fixed-deal terms from the FCA Product Sales Data and assuming the aggregate mortgage debt to income ratio remains constant.

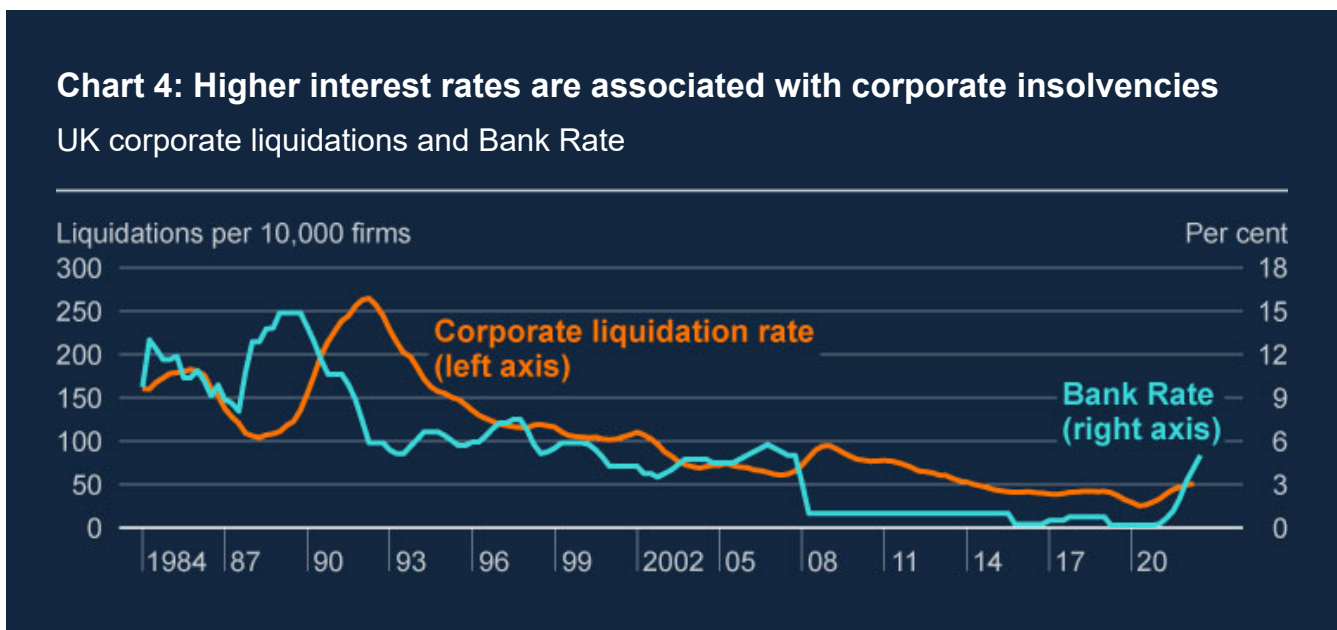
### UK businesses are more exposed to increases in interest rates in the short term due to the prevalence of floating-rate debt.

Over three-quarters of bank lending to UK businesses is floating rate, meaning that businesses' debt-servicing costs on bank loans are more responsive to changes in interest rates in the short term than those faced by households. Some businesses may find that their debt is no longer affordable as a result of higher interest rates. And as interest coverage ratios (ICRs) – the earnings of a business as a proportion

of their interest payments – are a key variable in determining their creditworthiness to lenders, a decrease in ICRs may make it harder for some businesses to refinance their debt. These businesses may then reduce investment and employment as a result.

If investors are concerned more generally about the impact of higher interest rates on the long-term profitability of equity-financed businesses, then these businesses may also see a fall in their market value, making it more difficult to raise funding. Some businesses may fail as a result of these pressures. Higher interest rates have historically been associated with higher corporate insolvencies (Chart 4).[2]

However, while many businesses have floating rate loans, bond finance also makes up significant proportion of large corporates’ total debt. Bonds generally have a fixed interest rate, and corporate issuers will face higher costs when they need to refinance.



Sources: Bank of England, Companies House and Insolvency Service.

**Household and business debt-servicing burdens are expected to remain below historical highs, with the impact falling unevenly across households and businesses.**

Once the full effects of higher interest rates that are currently priced in by financial markets have fed through to debt servicing costs, the proportion of households and businesses facing high debt-servicing costs relative to their income is expected to rise further, but remain below historical highs (see Section 2 of the [July 2023 FSR](#)). Given the uncertainty around the economic outlook, including the future path for interest rates, debt-servicing burdens could turn out to be higher or lower than in these central projections.

In some cases, households and businesses may be able to take actions to reduce the increase in their debt-servicing burdens. For example, some may be able to pay down debt using existing assets or cash buffers and not roll over maturing debt. Some households may also be able to extend the periods over which they repay their mortgages.

The impact of higher interest rates across households and businesses depends in particular on the type and amount of debt they hold. Highly indebted households and businesses with floating-rate debt are more likely to be affected than those that are less indebted or have longer fixed-rate periods in the short term.

Businesses that have borrowed in riskier credit markets, including leveraged loans and private credit, are likely to be more vulnerable because the debt is floating rate, and because they tend to be more highly leveraged. Larger businesses are more likely to be able to protect themselves from interest rate risk by using derivatives to hedge their exposures, or being able to access market-based financing at fixed interest rates. But many smaller businesses are likely to be more exposed as they tend to have higher debt burdens relative to their income than average (see Section 2 of the [July 2023 FSR](#)). New debt issued to small and medium-sized enterprises (SMEs) via government-guaranteed loan schemes was at relatively low and fixed interest rates (the majority having terms of six years or longer) and include greater repayment flexibility than typical SME loans. This will help protect businesses from the effect of higher interest rates in the short term. However, some businesses may struggle to afford new loans at market rates, should they need them.

## 3: The impact of higher interest rates on the banking sector

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**Higher interest rates have so far increased UK bank profitability, but interest rate risk is inherent in banking.**

The profitability of the UK banking system has increased as policy rates have risen, primarily driven by increases in net interest income. Aggregate UK bank net interest margin has risen as the interest banks pay on their liabilities (such as deposits) has risen by less than the interest they receive on their assets (including mortgages). The increase in net interest margins (NIMs) has been boosted by the move away from interest rates that were close to zero (Chart 5).

Changes in interest rates also affect the value of banks' assets relative to their liabilities. Higher rates reduce the present value of assets with fixed payments, including government bonds, other fixed-rate securities, and most mortgages. Therefore, interest rate risk is an inherent part of banking.

### Chart 5: Bank loan margins have increased from historically low levels

Major UK bank loan margins with consensus forward estimates (a) (b) (c)



Sources: Bank of England, published accounts, Refinitiv Eikon and Bank calculations.

(a) Loan margin is calculated as net interest income divided by total lending. Loan margins in this chart are calculated across all currencies. Net interest income is interest income minus interest expense.

(b) Figures before 2020 exclude Virgin Money UK, and figures before 2006 exclude Standard Chartered.

(c) The orange diamonds show market analyst expectations of loan margins 2023–25.

## Banks manage their interest rate risk via hedging practices within a robust regulatory framework.

UK banks manage interest rate risks through their hedging practices within a regulatory framework, which includes adherence to capital requirements specifically for interest rate risk in line with international standards, the maintenance of substantial liquid asset buffers, supervision by the Prudential Regulation Authority (PRA), and stress testing.

Banks adopt a range of hedging approaches to manage volatility in their income and balance sheet (see Section 3 of the [July 2023 FSR](#)). In general, banks convert some of their fixed rate assets (coloured orange in Figure 2 on the left-hand side) into floating rate assets (coloured aqua in Figure 2 on the left-hand side), to match



their floating rate liabilities (coloured aqua in Figure 2 on the right-hand side). They might do that, for example, by using interest rate swap contracts in which they pay a fixed rate and receive a floating rate that is linked to market interest rates.

Banks also tend to hold fixed rate assets against a portion of their liabilities that are interest rate insensitive or fixed. This reduces the volatility of their net interest income as interest rates change in either direction. Banks' specific approaches to hedging their interest rate risk depend on their business model. As well as using interest rate swaps, they can, for example, rely on the underlying fixed and floating nature of their assets.

So long as the interest rate sensitivity of banks' assets and liabilities are well-matched, reductions in the value of banks' fixed-rate assets arising from changes in interest rates will not be realised if those assets are held to maturity. As such, banks hold some assets, such as mortgages and 'held to collect' securities on an amortised cost basis meaning when interest rates rise, the accounting value of such assets used in the calculation of regulatory capital is typically not adjusted.

Even after hedging has been taken into account, most banks will retain some degree of exposure to interest rate risk. The PRA assesses all UK banks on their need to have capital against the interest rate risk on their banking book, including assets held at amortised cost or fair value. This is done via an explicit capital requirement in the Pillar 2A part of the capital framework, against 'interest rate risk in the banking book' (IRRBB).

If banks lacked an adequate stock of high-quality liquid assets, a large outflow of deposits could force them to sell fixed-rate assets held on an amortised cost basis before they mature, potentially realising previously unrecognised losses. UK banks' holdings of liquid assets reduce the likelihood that any hold-to-maturity assets would need to be sold as a result of depositor outflows. Major UK banks have £1.4 trillion of high-quality liquid assets, and access to an aggregate total additional drawing capacity of around £300 billion through the Bank of England's liquidity facilities.

Figure 2: Stylised bank balance sheet

Assets	Liabilities and equity
Cash and central bank reserves	Floating-rate liabilities
Floating-rate loans and bonds	Fixed-rate liabilities swapped to floating
Fixed-rate loans swapped to floating	Sight deposits assumed to behave as fixed-rate liabilities
Fixed-rate loans and bonds	Fixed-rate liabilities
Fixed-rate securities	Equity

**There are risks to banks from increased loan defaults as a result of higher interest rates.**

Banks also remain exposed to credit losses on their loan portfolios as interest rates increase. This could be through greater direct risk of borrower default as their debt-servicing costs increase (see Section 2 of the July 2023 FSR), or through the effect of higher interest rates on macroeconomic variables including GDP, unemployment and property prices.

The results of 2022/23 annual cyclical scenario stress test (ACS) indicate that the major UK banks are resilient to a severe macroeconomic stress scenario that incorporates persistently higher advanced economy inflation, increasing global interest rates, deep simultaneous recessions in the UK and global economies, materially higher unemployment, and sharp falls in asset prices (see Box A of the [July 2023 FSR](#)).

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The FPC continues to judge that the UK banking system is resilient, and has the capacity to support households and businesses through a period of higher interest rates even if economic and financial conditions were to be substantially worse than expected.

## 4: The impact of higher interest rates on the non-bank financial sector

**Some non-bank financial institutions (NBFIs) may benefit from higher interest rates.**

NBFIs will be affected by interest rate increases in a number of ways. Many NBFIs are naturally well hedged against interest rate risk. For example, insurers and DB pension schemes seek to ensure that the value of their investments (their assets) moves broadly in line with the value of their commitments to pay out to policyholders and pensioners in the future (their liabilities). Such strategies reduce their exposure to changes in interest rates.

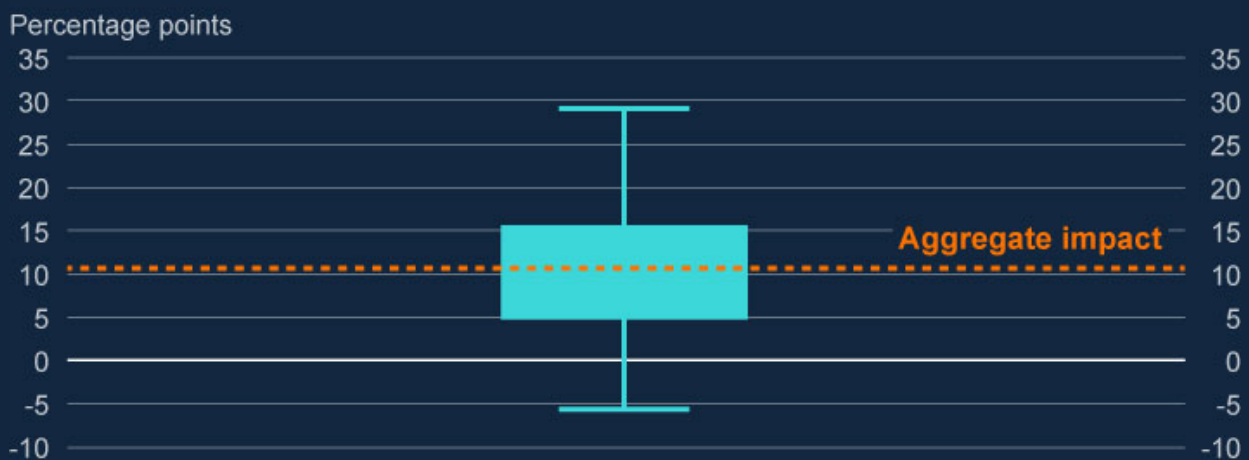
Insurers and DB pension schemes typically benefit from an increase in interest rates. Increases in rates reduce the provisions they need to hold to meet future payments to policyholders by more than the fall in the value of their assets.<sup>[3]</sup> Analysis by the PRA shows that the majority of life insurers – who make up around 70% of net written premium in the UK insurance market – see their capital position improve as a result of higher interest rates, though a small number of insurers would see a deterioration in their balance sheet (Chart 6). General insurers – who make up the remainder of the insurance market – are naturally less exposed to interest rate risk because their liabilities tend to be much shorter-term. Furthermore, in the UK, the risk of unrealised losses crystallising for insurers is low, as they are required to ‘mark-to-market’ investments on their regulatory balance sheets. This means losses from changes in interest rates are realised immediately rather than when they sell the assets.

Central counterparties (CCPs) are not directly impacted by higher or more volatile interest rates, but could be indirectly impacted if they lead to the default of a key counterparty. CCPs collect initial margin on trades to protect against future changes in the market value of contracts following a counterparty default, and they collect variation margin to ensure that the collateral posted reflects day-to-day changes in the market value of derivatives contracts (including from volatility in interest rates). CCPs are subject to strict prudential requirements relating to their management of counterparty credit risk. This includes requirements on holding initial margin that

adequately captures market volatility to protect against losses in the event that a counterparty defaults. UK CCPs are also required to hold sufficient financial resources to cover the default of the two members with the largest exposures in an extreme but plausible stress. In the supervisory stress test run by the Bank in 2021–22 UK, CCPs were found to be resilient to a severe financial market stress scenario, incorporating a rise in interest rates.

### Chart 6: Most life insurers are likely to benefit from higher interest rates

Estimated impact of a 100 basis point increase in interest rates on UK Life Insurers' Solvency Capital Ratios (SCRs) (a)



Source: Supervisory data collection.

(a) Solvency Capital Ratio is defined as the ratio of an insurance company's eligible capital to its regulatory capital requirement. The box plot shows the estimated movements in the solvency capital ratios of 19 individual UK life insurers following a 100 basis point rise in UK rates at all maturities as at 2022 H1. The box shows the interquartile range.

### | The risks from higher interest rates can be amplified by NBFIs.

Hedge funds and investment funds can have large and complex exposures to interest rate risk. While the risks from higher interest rates are borne ultimately by their end investors, the behaviour of these funds in response to any losses caused by higher interest rates could exacerbate market moves. For example, hedge funds are often highly leveraged, and deleveraging behaviour involving the sale of an asset, often as its price falls, can amplify market moves in stressed environments.

Furthermore, an increase in interest rates changes the attractiveness of certain investment strategies, potentially leading to investor redemptions from certain funds or restructuring of portfolios. For example, the recent continued outflows from open-ended property funds have been in part driven by higher rates. If redemptions take place rapidly, this might create liquidity pressures in certain markets, as was seen more broadly in the March 2020 ‘dash for cash’ episode. Rapid redemptions from funds operating in illiquid markets can lead to losses for asset holders. This, in turn, could lead to further deleveraging by asset holders and sharp increases in the demand for liquidity. It may also lead to funds selling their most liquid assets first, reducing the liquidity of portfolios. This could tighten financial conditions for UK households and businesses, and in the extreme can create solvency concerns for some financial institutions.

**The use of interest rate derivatives and repo by financial institutions can create leverage and liquidity risks that need to be managed appropriately.**

Derivatives are widely used – particularly by NBFIs – to enable financial system participants to manage their interest rate exposure in line with their investment strategies and risk appetite.

Derivatives can support the management of interest rate risk by financial institutions, and help to provide liquidity and support price discovery in markets. Central clearing and collateralisation of derivatives can also help to mitigate interconnectedness and counterparty credit risks. However, derivatives create leverage in the financial system – the management of which can amplify other risks in the economy and can present liquidity risks that need to be managed appropriately.

Firms in the insurance and pension fund sectors could be particularly sensitive to liquidity risk from their derivative investments, and LDI and pension funds have exposures via their gilt repo positions. These risks can materialise in the event of a sharp increase in interest rates, as these entities are unable to liquidate assets quickly enough to meet the large margin and collateral calls that arise. As the counterparties to a large proportion of these gilt repo exposures, banks are also exposed to these risks.



These liquidity risks materialised in September 2022 when LDI funds had insufficient liquidity in the time available to meet the margin and collateral calls on interest rate derivative and repo contracts that resulted from the sharp rise in interest rates. The FPC has since made a Recommendation to ensure LDI funds are subject to appropriate resilience standards (see Section 5 of the [July 2023 FSR](#)).

## 5: Managing interest rate risk in the UK financial system

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**Despite the evidence of resilience to date, the full impact of higher interest rates remains uncertain.**

The impact of increases in interest rates in the UK falls primarily on household, business and government sectors, largely through higher interest payments on their debt. While the system has shown resilience to higher interest rates at an aggregate level, the full impact of the higher interest rates remains uncertain given higher rates are yet to fully feed through to debtors, and there are areas, including in NBFIs, where insufficient liquidity resilience has been built to date. Higher interest rates combined with an uncertain outlook for growth could trigger a revaluation of asset prices, and risk a further tightening of financial conditions for UK households and businesses.

Financial systems in some other jurisdictions may also be exposed to higher interest rates. This could pose risks to UK financial stability through tighter financial conditions, sharp moves in asset prices, and reduced confidence in the global banking system, as well as trade and financial spillovers.

Measures taken to hedge risks from higher interest rates rely on assumptions around the future path and volatility of interest rates, and do not completely protect institutions against the risks from higher and more volatile interest rates. Losses realised as a result of higher interest rates have already weakened the balance sheets of some financial institutions, and there may be some institutions that are still exposed, either directly to losses from higher interest rates, or to liquidity risk from the interest rate derivatives that they hold. Deleveraging behaviour or the crystallisation of as yet unrealised losses for financial institutions in response to higher interest rates – in the UK or globally – has the potential to pose further risks to UK financial stability. Households, businesses and some financial institutions may now also be more vulnerable to future shocks – from higher interest rates or elsewhere.

## A number of UK regulatory measures are in place to manage interest rate risk.

Interest rate risks can be managed through a combination of building appropriate resilience in advance of stresses alongside appropriate regulatory and supervisory frameworks to monitor, mitigate and manage those risks. For the banking sector, a regulatory framework is in place in the UK to manage these risks. Measures introduced after the global financial crisis – including robust prudential standards for bank capital and liquidity – have meant that the potential risks to UK financial stability from increases in interest rates have so far been contained. And as discussed in Section 2 of the [July 2023 FSR](#), the FPC's mortgage market Recommendations have helped to limit household indebtedness ahead of rates rising (Table B). More recently, in response to risks crystallising in LDI funds, actions were taken by the Bank and other regulators to build appropriate resilience in the sector.

**Table B: Summary of key regulatory measures to mitigate interest rate risk**

Sector	Measure	Explanation
The real economy	<a href="#"><u>FPC loan to income flow limit</u></a>	Mortgage lenders must not extend more than 15% of total new mortgages at loan to income ratios greater than or equal to 4.5. This helps to limit the number of highly indebted households that would be most exposed to higher interest rates.
	<a href="#"><u>The FCA's Mortgage Conduct of Business guidelines</u></a>	All new mortgage borrowers must be stress tested against reversion rates plus a minimum 100 basis point buffer for all mortgages with a fixed term of under five years, but lenders must have regard for market expectations in deciding the appropriate interest rate stress.
Banks	<a href="#"><u>Prudential standards for bank capital</u></a>	Robust capital framework increases bank resilience, including through having capital against interest rate risk as part of Pillar 2A capital requirements.
	<a href="#"><u>Stress testing</u></a>	The Bank runs regular stress tests to test major UK banks' resilience to a severe global macroeconomic shock. In the 2022/23 stress test, this included an increase in Bank Rate to 6%. Smaller firms are subject to Internal Capital Adequacy Assessment Process (ICAAP) stress tests, with scenarios derived from the major bank stress test.
	<a href="#"><u>Ongoing prudential supervision</u></a>	Banks are subject to robust prudential supervision by the Bank of England, including in their management of interest rate and liquidity risk.

Sector	Measure	Explanation
Non-banks	<a href="#"><u>Conduct rules for FCA regulated investment firms</u></a>	The FCA requires investment firms, which includes discretionary portfolio managers, to have appropriate stress testing and risk management. The capital & liquidity requirements vary depending on the firm's permissions. Where interest rate risk is relevant to the firm, this is captured in the firm's capital and liquidity planning.
	<a href="#"><u>Conduct rules for FCA-regulated funds</u></a>	The FCA's requirements on stress testing, liquidity and risk management vary according to the legal structure of the fund. The investment manager is required to ensure risks relevant to the fund, such as interest rates, are identified and managed in its controls.
	<a href="#"><u>Solvency II</u></a>	UK insurers are required to use fair value (mark-to-market or mark-to-model) accounting for investments on their regulatory balance sheets, so losses related to interest rate risk are realised immediately.
	<a href="#"><u>Insurer stress testing</u></a>	Insurers assess their risk exposure and risk management processes as part of Own Risk and Solvency Assessment requirements. Large insurers with internal models set their SCR equivalent to the loss that arises in a 1-in-200 year event stress. Insurers are also expected to conduct liquidity stress tests to assess the potential for liquidity strain, and ensure they maintain an appropriate liquidity profile.
	<a href="#"><u>LDI resilience standards</u></a>	Following the FPC's Recommendation, The Pensions Regulator published updated LDI resilience standards guidance, including a minimum 250 basis point level of resilience against market risk, in addition to an operational buffer and resilience testing requirements.
	<a href="#"><u>CCP stress testing</u></a>	The Bank conducted a supervisory stress test of UK CCPs in 2021–22. This looked at the impact of a severe financial market stress scenario incorporating a rise in interest rates on UK CCPs financial and liquidity resources.
	<a href="#"><u>System-wide exploratory scenario</u></a>	The Bank has recently launched its system-wide exploratory scenario (SWES) exercise, which aims to improve understanding of the behaviours of non-bank financial institutions in stressed financial market conditions.
	Ongoing prudential supervision of <a href="#"><u>CCPs</u></a> and <a href="#"><u>insurers</u></a>	<p>Insurers and CCPs are subject to supervision by the Bank, including of their management of interest rate risk. Other non-bank financial institutions are regulated by the FCA.</p> <p>CCPs are subject to strict prudential requirements relating to their management of counterparty credit risk, including holding sufficient margin to cover the default of their two largest members.</p>

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**The Bank will continue to work to improve its monitoring and assessment of interest rate risk in the financial system as it adjusts to higher interest rates.**

There is more information available on interest rate risk in some parts of the financial system, such as entities regulated by the Bank and PRA, the household sector, and to a lesser extent the corporate sector. But it is challenging to fully understand the distribution of interest rate risk held across the financial system due to the complexity and opacity of exposures, including some of those in the non-bank sector.

The Bank will continue to work to improve its monitoring and assessment of interest rate risk in the financial system. This includes making use of UK EMIR trade repository data to understand the outstanding exposures and intraday activity of individual institutions and sectors across a range of derivative asset classes. This data will also allow the Bank to better understand the potential liquidity demand triggered by margin calls across the system when relevant risk factors change.[4]

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1. See Cunliffe (2019), [Financial Stability and Low for Long](#) for a discussion of financial stability risks from Low for Long interest rates.
  2. There is academic evidence to support this eg see: [Liu, J., 'Macroeconomic determinants of corporate failures: evidence from the UK', 2006.](#)
  3. DB pension schemes typically set their hedging of interest rates so that their funding position improves with an increase in interest rates. Insurers typically set their hedging of interest rates so that they gain some benefit from the risk margin part of their provisions reducing with an increase in interest rates.
  4. Data collected under the UK European Market Infrastructure Regulation. See [Trade Repository \(TR\) Data Collections](#) for more information.