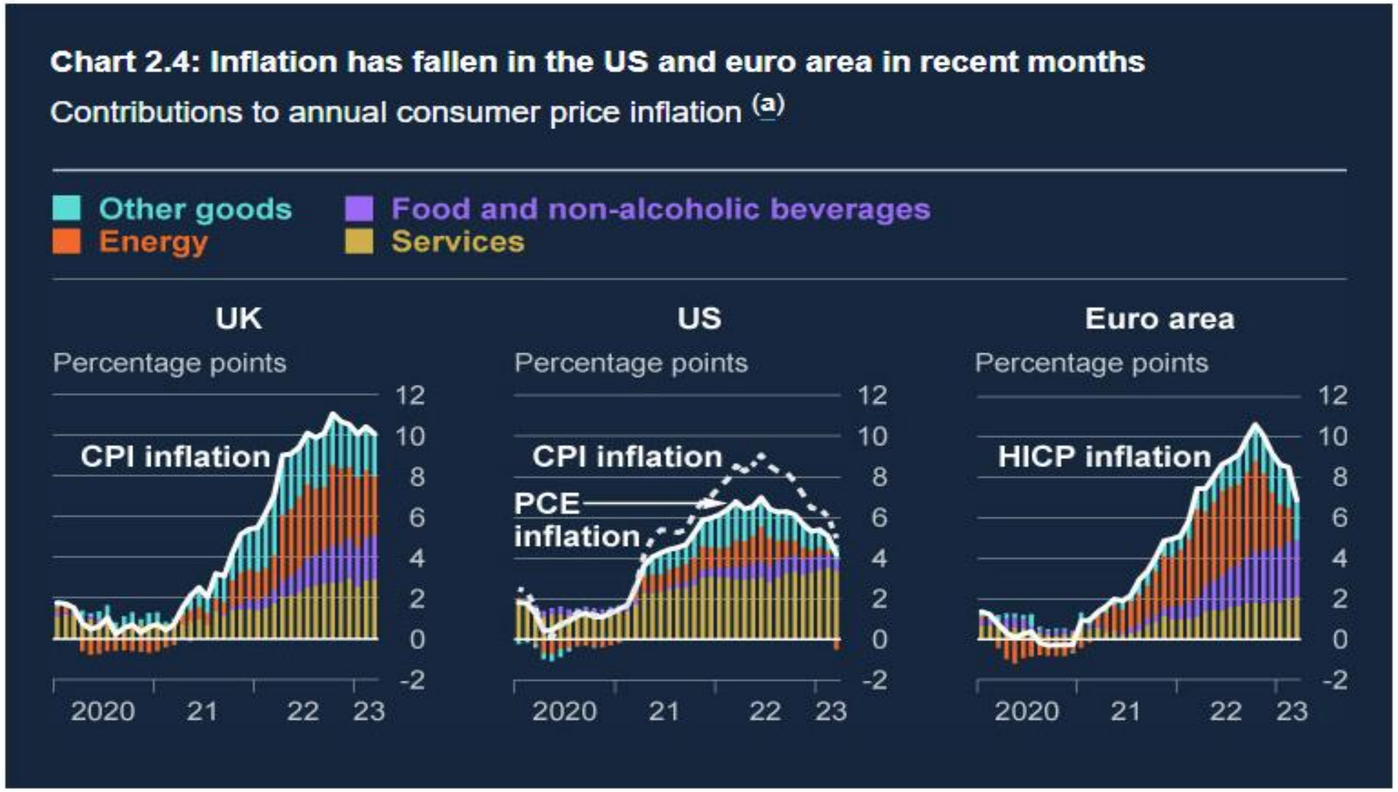
Inflation Impacts on the Lloyd’s Insurance Market – The actuarial perspective

Mirjam Spies – Lloyd’s Interim Chief Actuary

13 July 2023

Inflation - Background

The “look how bad inflation is” graphs

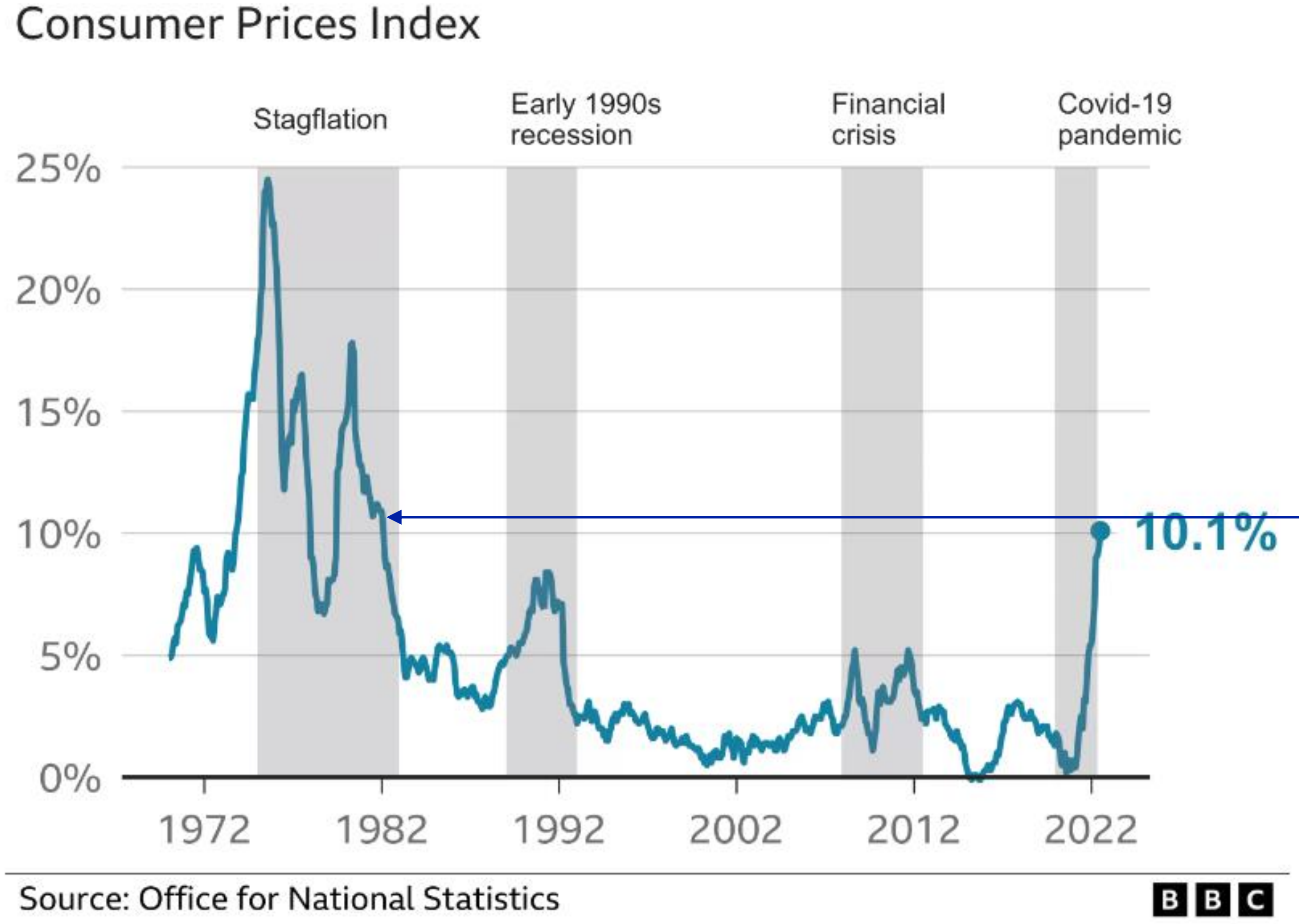


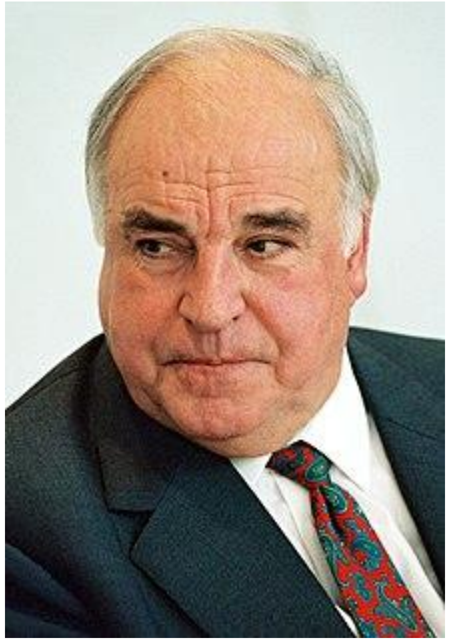
Sources: Eurostat, ONS, Refinitiv Eikon from LSEG, US Bureau of Economic Analysis, US Bureau of Labor Statistics and Bank calculations.

(a) Energy includes fuel and household energy bills. Other goods is the difference between overall inflation and the other contributions identified on the chart, and therefore includes alcohol and tobacco. The latest data are March 2023 outturns.

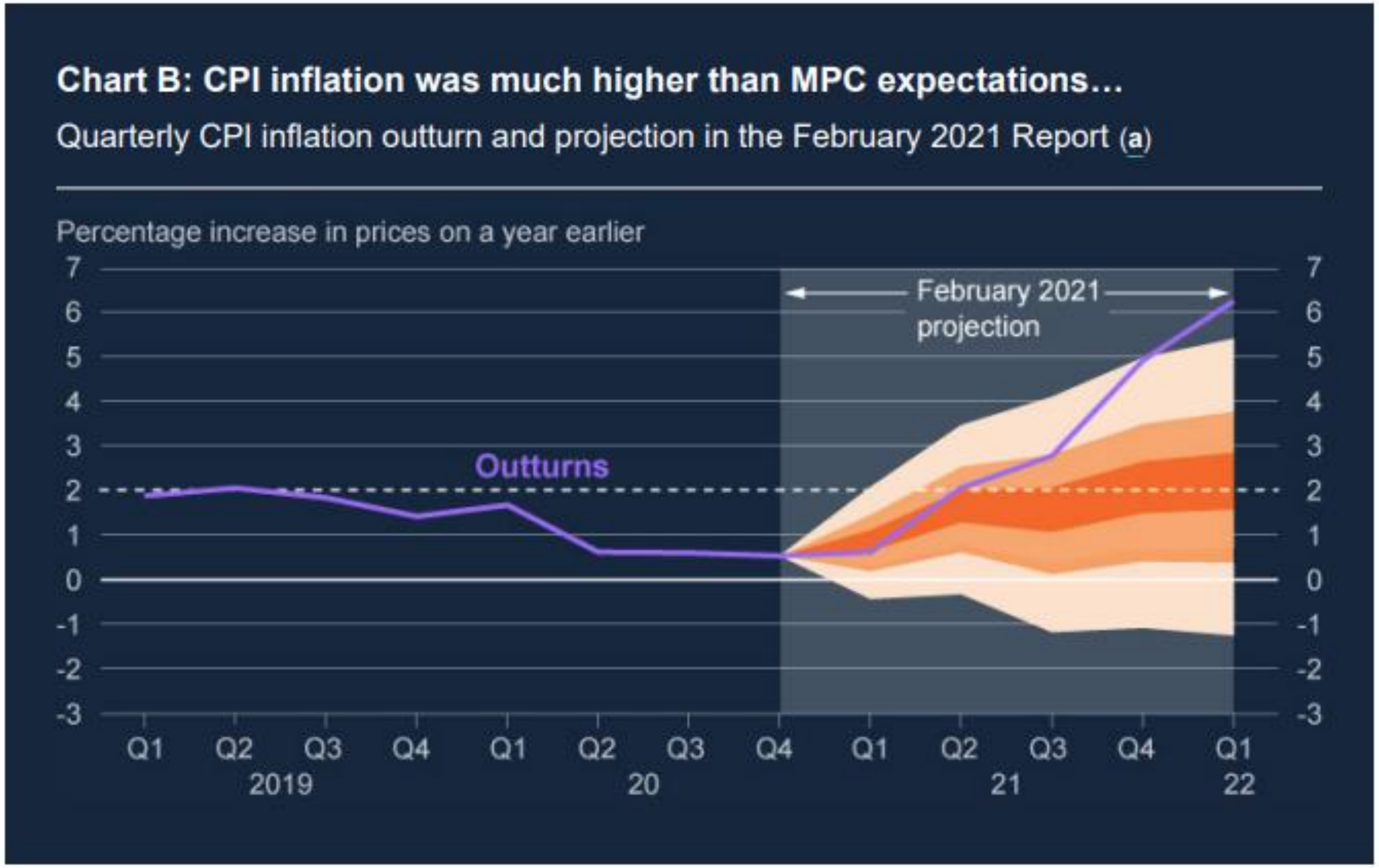
Source: Bank of England Monetary Policy Report May 2023

Inflation is at its highest since 1982





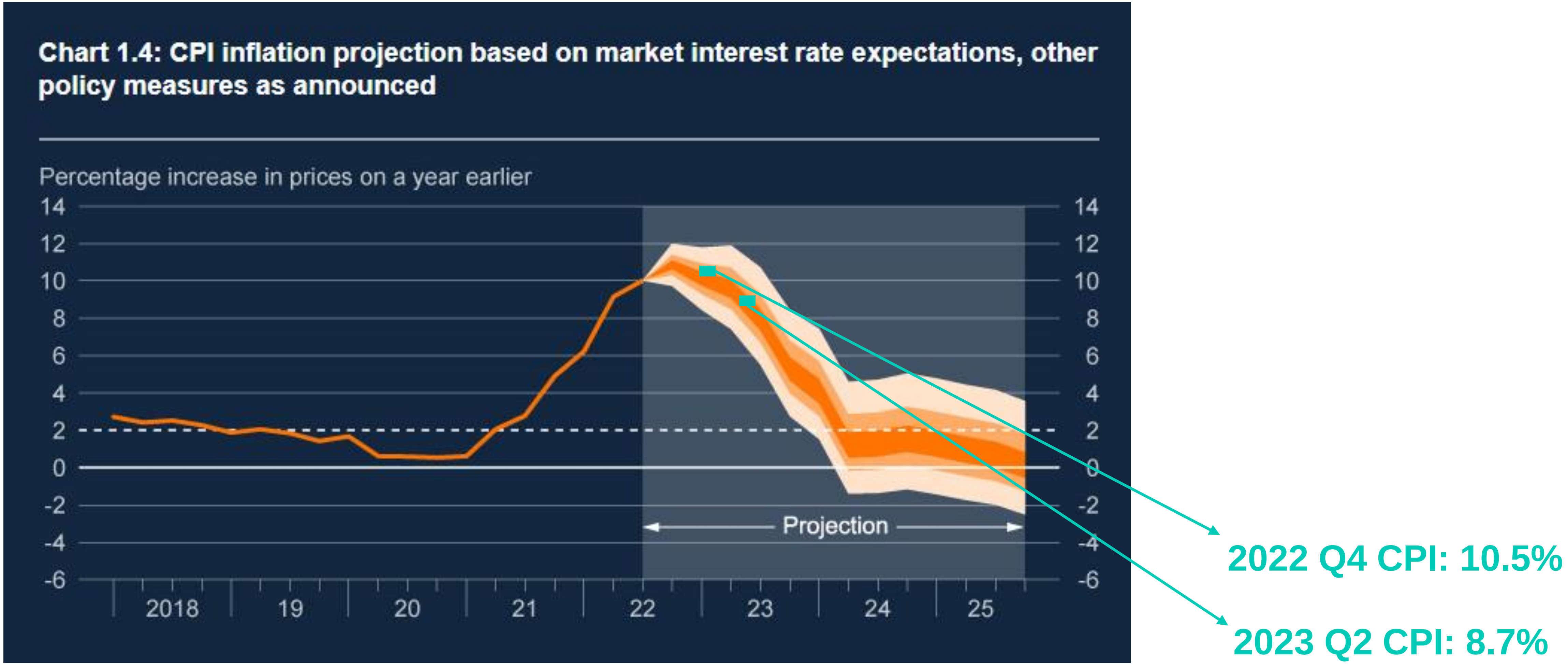
The “look how bad inflation could get” graph



Source: Bank of England Monetary Policy Report May 2022

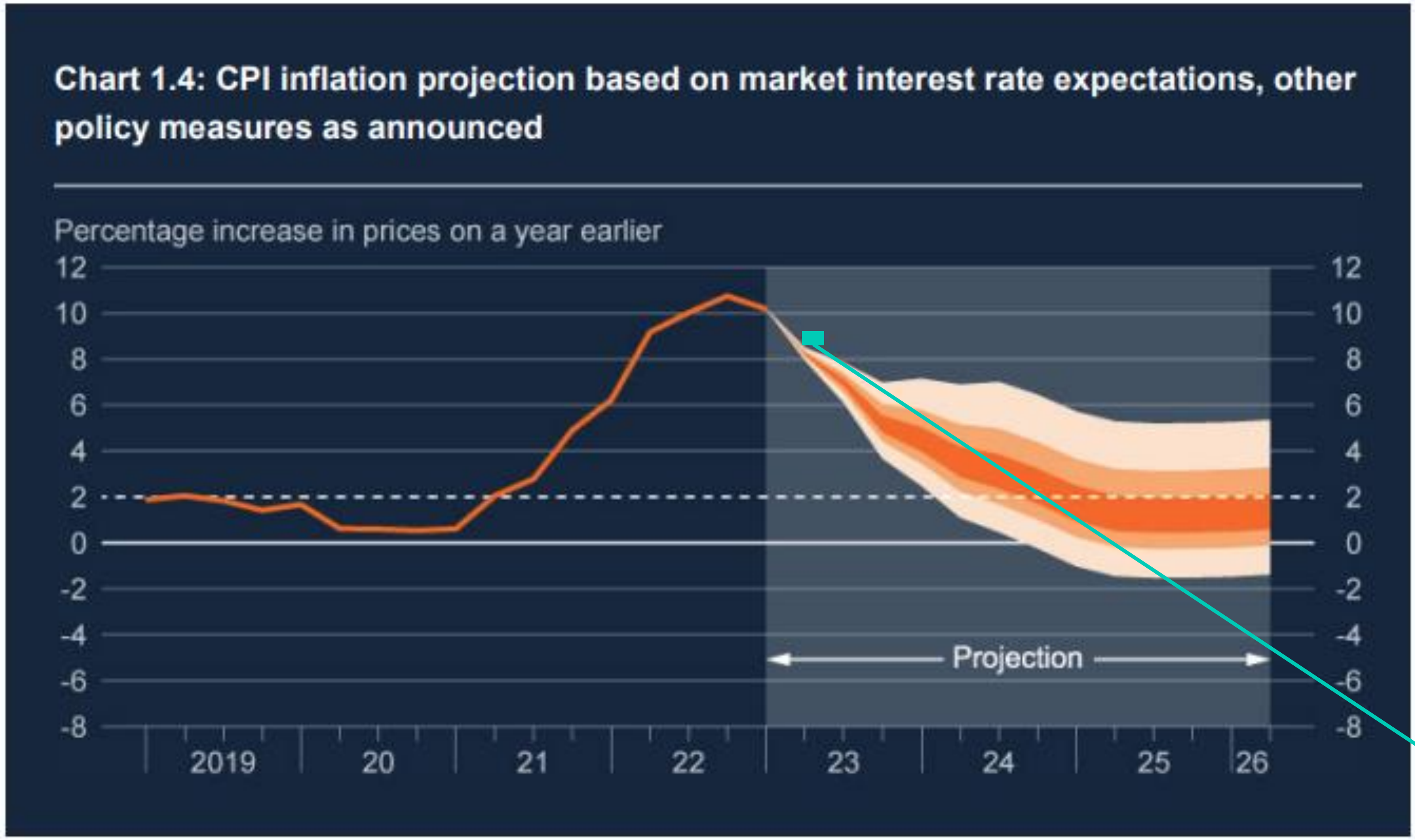
The development of inflation was not expected last year – not even as a “worst case” scenario.

The “look how bad inflation could get” graph



Source: Bank of England Monetary Policy Report November 2022

The "look how bad inflation could get" graph



Source: Bank of England Monetary Policy Report May 2023

When will inflation come down again?

How quickly will the target be reached?

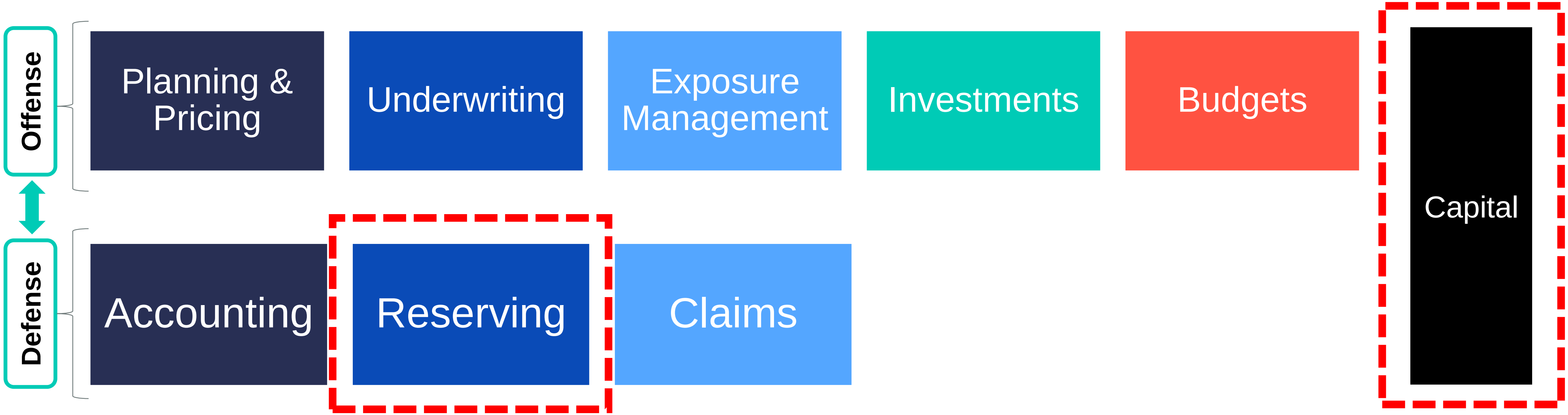
How far off can projections be?

2023 Q2 CPI: 8.7%

Inflation - Impacts

Inflation impacts MOST areas of the business

Is there a holistic approach to inflation across the business?



Does the business have a joined up approach and view on Inflation?

Co-ordination on Inflation

Who is leading on the co-ordination of inflation?

Are you talking the same language?

Pricing and Underwriting	*Exposure Inflation*	+	*Other Inflation*
Reserving	*Historical Inflation*	+	*Excess Future Inflation*
Capital	*Economic Inflation*	+	*Excess Inflation*

Lloyd's definition

Claims inflation - change in claims cost of a like for like policy over time.

Claims inflation is the sum of **economic inflation** and **excess inflation**:

- **Economic inflation**: **published economic indices** relevant to a (re)insurer's mix of business.
- **Excess inflation**: **beyond what is captured in economic indices**

Social inflation as a subset of excess inflation - as a result of **societal trends**.

Quick refresh: Lloyd's inflation review and communications

Presentations, report and guidance issued across Reserving, Capital & Planning

Reserving

- Thematic review on claims inflation report (Q2 2022)
- Lloyd's Market Presentations
  - LMA Finance Committee NED session (June 2022)
  - London Market Actuaries Group (July 2022)
  - General Insurance Actuarial Conference (November 2022)
- Reserving Technical Guidance Issued (June 2022)
- Quarterly reviews of standardised market returns from Q2 2022

Capital

- Thematic review on claims inflation report (Q2 2021)
- Lloyd's Market Presentations
  - General Insurance Actuarial Conference (October 2021)
  - General Insurance Actuarial Conference (November 2022)
- Capital Technical Guidance Issued (July 2022)
- Inflation reviews as part of capital and planning for 2023 YoA

Planning

- SBF Guidance updates for 2023 (August 2022)
- Inflation reviews as part of capital and planning for 2023 YoA

Plus the **PRA Dear Chief Actuary Letters** (October 2022) - with reference to Lloyd's Reserving Technical Guidance and follow up in June. Lloyd's guidance planned in July 2023 (Risk Management) and September 2023 (Claims)

Link to Lloyd's referenced items above here

LLOYD'S

Lloyd’s expectations of syndicates

Lloyd's has issued guidance on Reserving, Capital and Planning for inflation allowances

Reserving

Syndicates are expected to:

- Consider inflation explicitly as part of the best estimate reserving by class of business and geography
- Be able to clearly explain how inflation has been allowed for to allow challenge from various stakeholders
- Take a considered and balanced approach to allow for inflation which reflects the specificities of your risk profile

Capital

Syndicates are expected to:

- Reflect the current economic conditions in their capital models
- If used, ensure that the economic scenario generator (ESG) is appropriate and validate the outputs
- Perform sensitivity testing on inflation volatility
- Conduct Stress and Scenario tests related to the heightened economic inflation and potential for recession

Planning

Syndicates are expected to:

- Consider claims inflation explicitly as part of business planning by class of business
- Report on how inflation assumptions have been made
- Understand inflation captured within exposure changes versus other inflationary pressures that may be need to be priced for

LLOYD'S

How to determine claims inflation allowances (for past and future claims)?

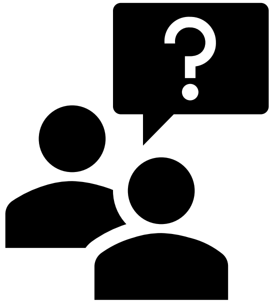
Joining the dots across the business

There needs to be a joined up approach across the business as the outputs are interlinked

Lloyd's guidance:

Syndicates need to determine explicit allowances on claims for the change in inflationary environment.

Q: How?



Assessment to determine explicit allowances	Outputs	Business Owner
What are the key drivers in different classes for claims inflation?		
Current Year / Prospective Year	Plan LRs	Underwriting
	Cat LRs	Exposure Management
	Reserving IELRs	Reserving Actuaries
	Capital Model LRs	Capital Actuaries
Prior Years of Account	Case Reserves	Claims
	IBNR	Reserving Actuaries

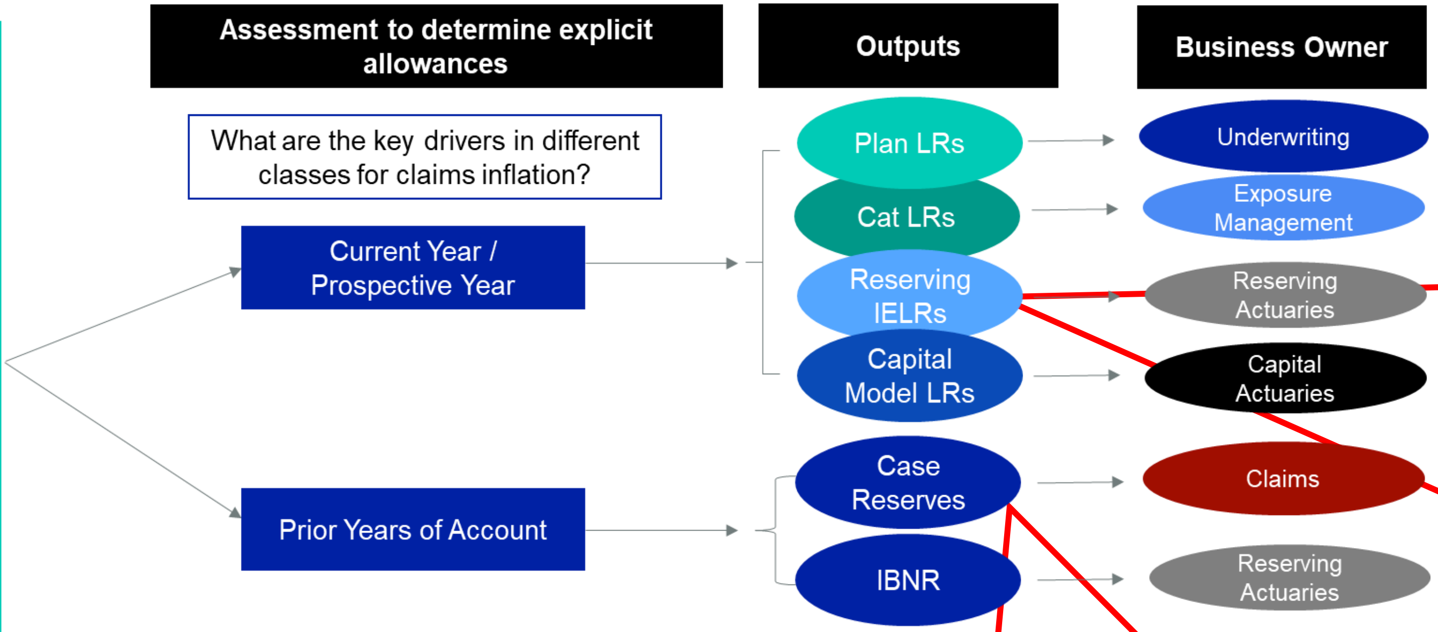
Why joining the dots is important

Ensures that inflation allowances are robust and any differences in view are known to the business

Lloyd's guidance:

Syndicates need to determine explicit allowances on claims for the change in inflationary environment.

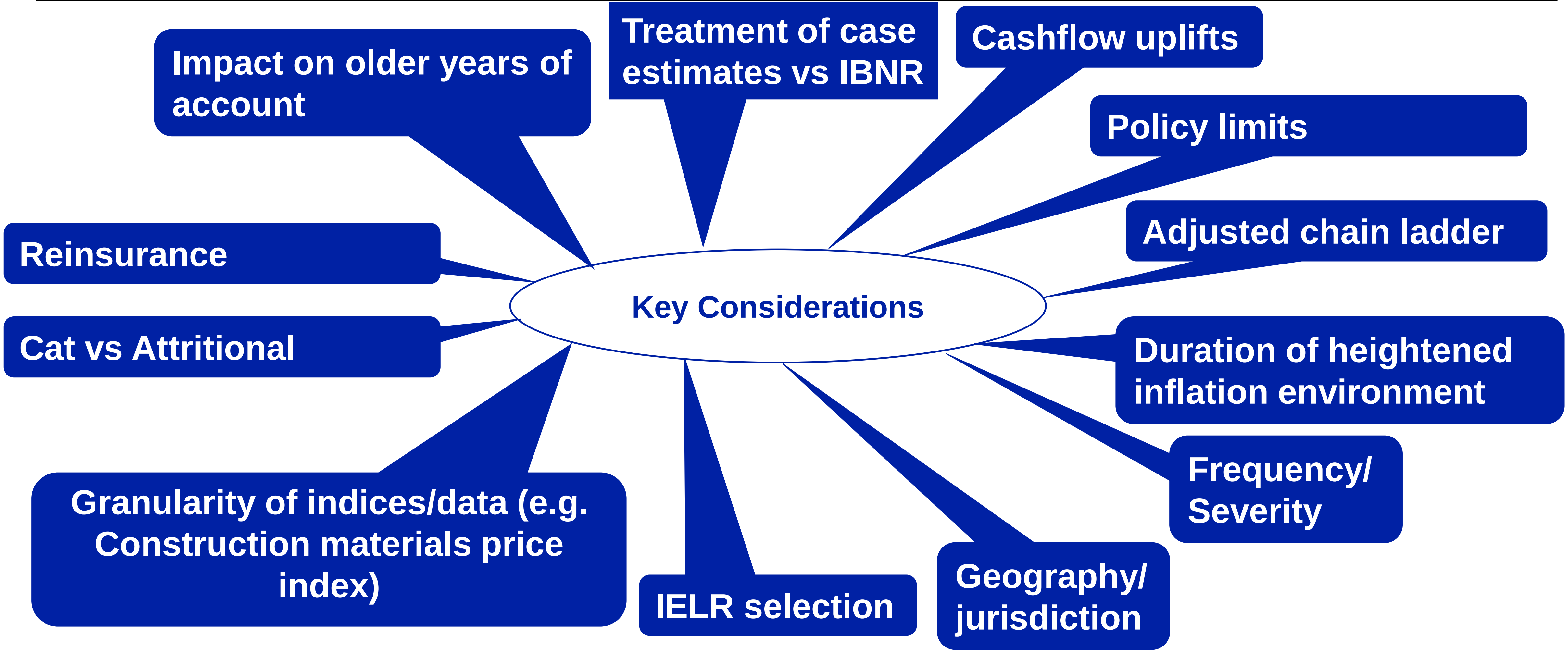
Q: How?



- How have historical implicit inflation allowances been determined?
- What's the view of future inflation?
- Have the limits/exposures changed that will impact use of historical loss ratios to derive future loss ratios?
- How does the capital model loss ratio compare to the reserving IELR?
- Is there a consistent allowance for inflation across each loss ratio?

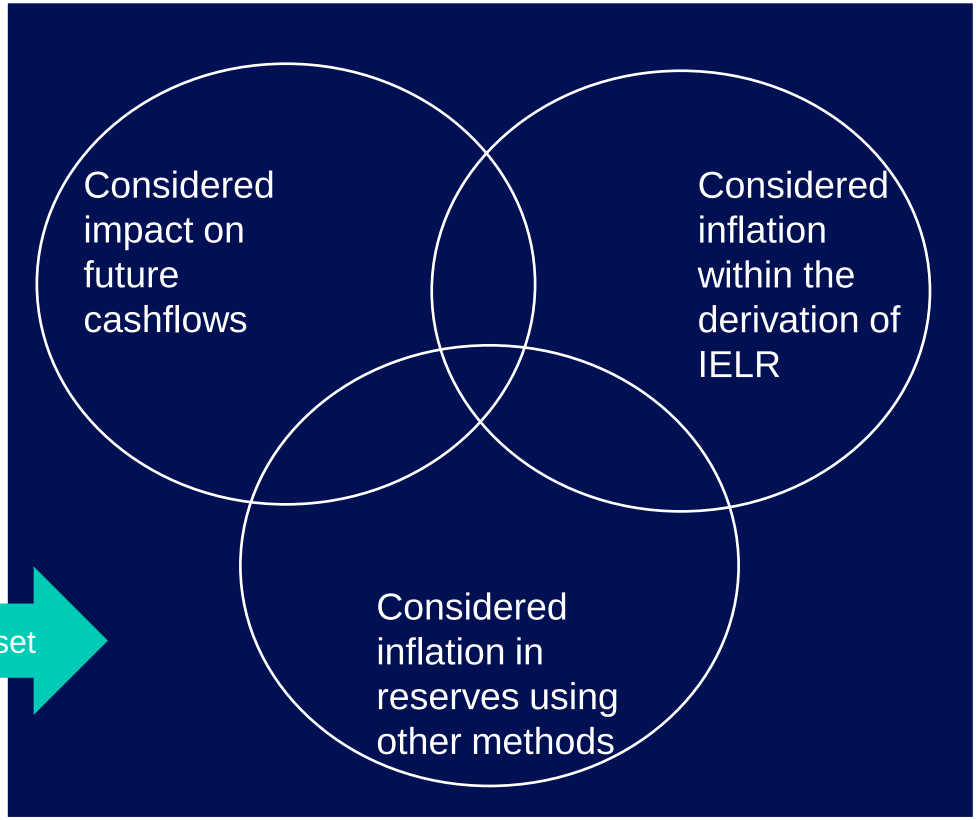
- Has the Claims team already made an adjustment to the case estimates for inflation?
- Are their inflation assumptions consistent with those being used by the actuaries for the IBNR estimates?

Inflation uplift methodology and assumptions



Market has updated approaches for inflation as at 2022YE

Based on our review of the QMA return as at Q4 2022, broadly the market has explicitly allowed for the change in inflation within the reserving.

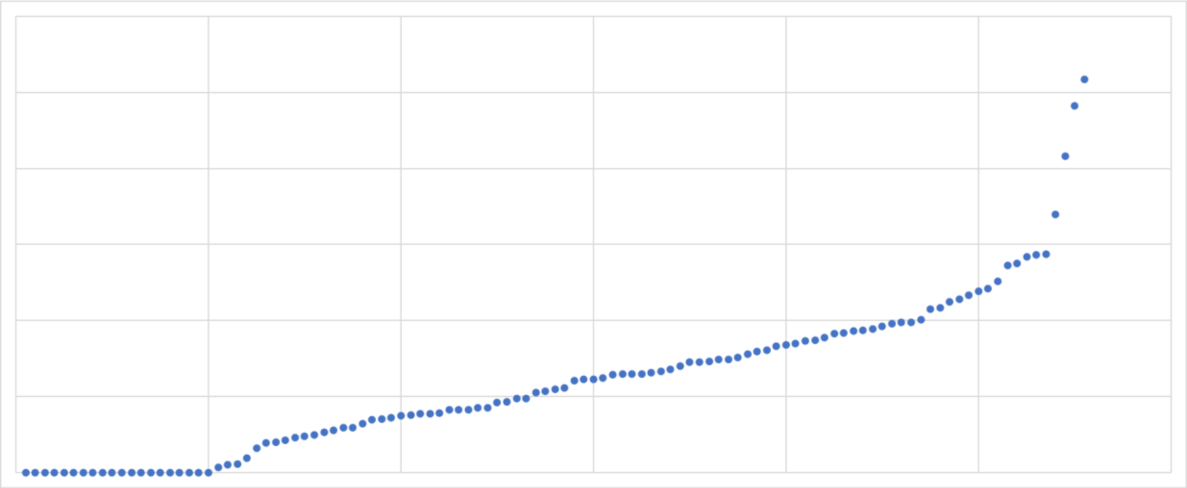


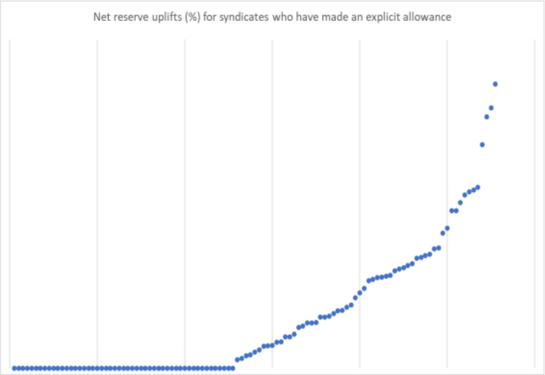
LLOYD'S

Explicit reserving inflation allowances as at Q4 2022

There was an uplift to net reserves as at Q4 2022 based on our review of QMA templates

Net Reserve Uplift (%) for Syndicates that made an explicit allowance



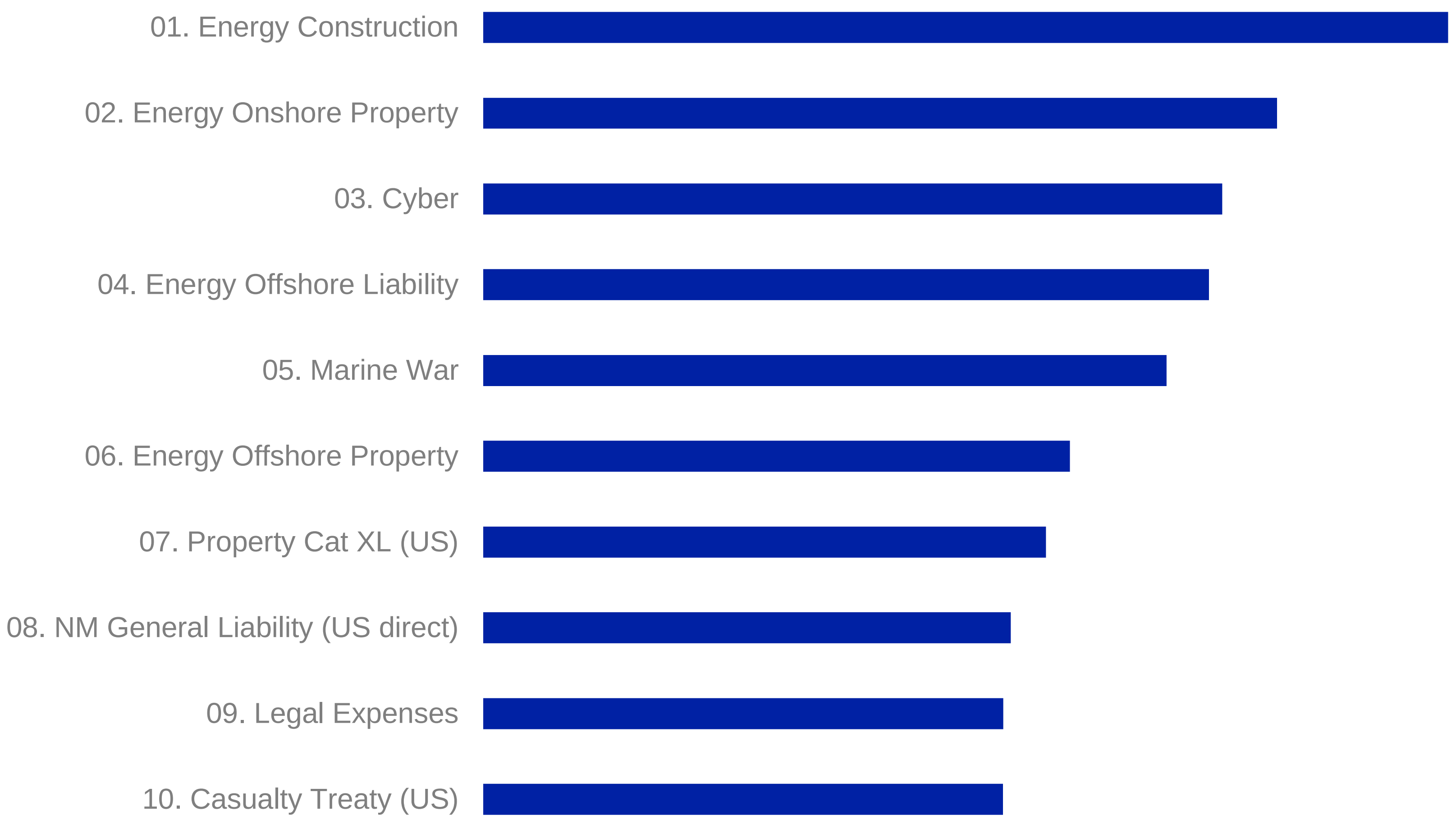


Q2 equivalent

- The was an overall uplift to net reserves as at Q4 2022 of 2.9% (2.3% at Q2).
- ***The appropriateness of the allowance depends on the risk profile of the syndicates***
- In cases where explicit allowances were not made (i.e. not considered) at Q4 2022 Lloyd's performed additional oversight on each Syndicate to determine if this was appropriate.

Market's Inflation Uplifts to Reserves by Class

Market view inflation allowance – Top 10 classes



Average net reserves uplifted by **2.9%** as per Q4 2022 QMA

Appropriateness of allowance depends on risk profile of syndicate

Class of business data based on Q2 2022 QMA

LLOYD'S

Capital

How to allow for appropriate claims inflation volatility?

There is not a one size fits all approach

The main point is for the model to include the systemic impacts of inflation on all classes simultaneously

Lloyd's guidance:

Syndicates need to reflect the current economic environment appropriately in their internal model.

Q: How?

Types of Inflation

- Economic Inflation
- Excess Inflation

How do you ensure there is an appropriate dependency between different types of inflation?

Methods

Economic Inflation → Inflation indices from an ESG applied to cash-flows. Indices can be weighted by currency and business mix.

Excess Inflation →

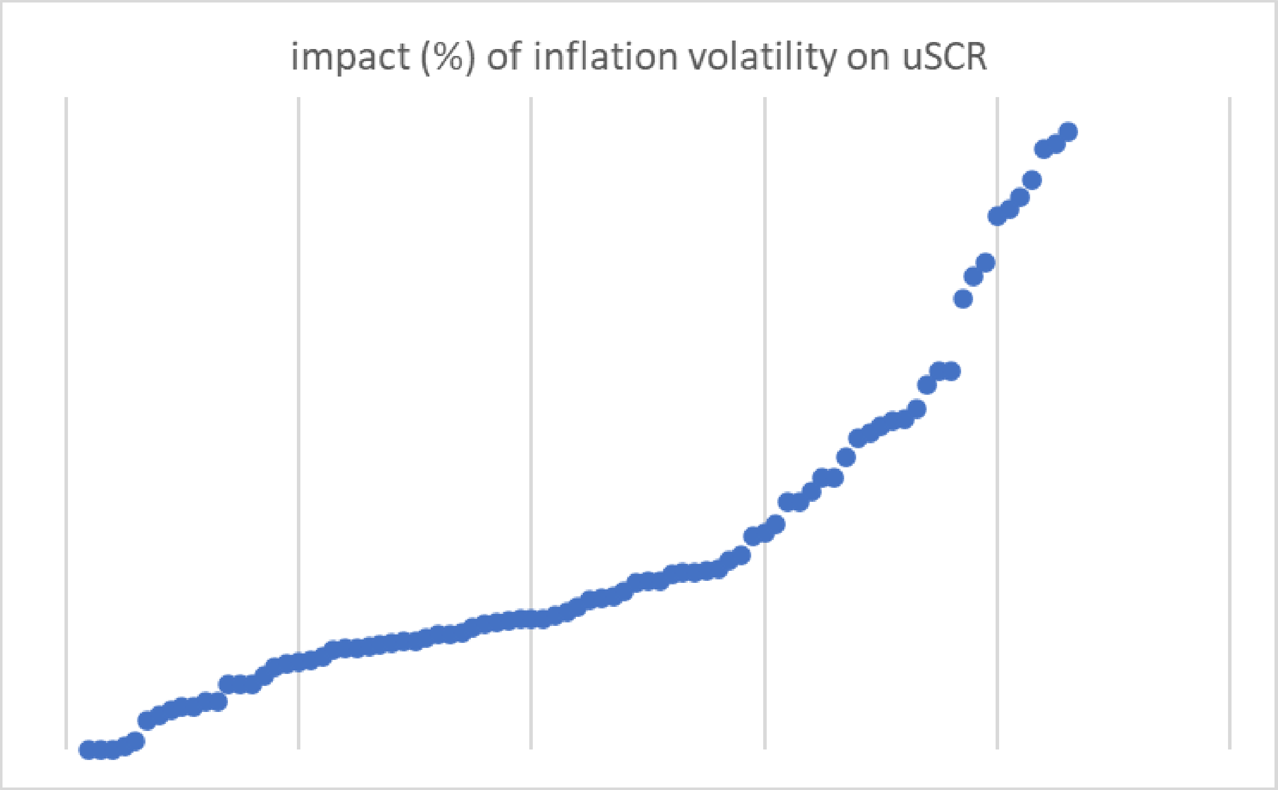
- **Model inputs:** Adjustment to cat exposure data and ELTs; implicit in the opening TPs; implicit / explicit in plan loss ratios.
- **Parameters**: Implicit in parameterisation data and on-levelling; implicit / explicit in dependency between years and classes; implicit / explicit in premium and reserve risk CoVs
- **Driver-based**: Explicit drivers e.g. for social inflation or economic events; demand surge and post loss amplification; overlay applied to ESG indices

Validation

Scenario Tests, RST, Sensiti-vity Testing, Backtes-ting

Inflation allowances for 2023 YoA capital setting

Varied impacts with wide variety of approaches to run this test



- The impact of economic and excess inflation allowances in models varies significantly.

- ***The appropriateness of the allowance depends on the risk profile of the syndicates.***

- This test was designed to test the impact of volatility allowances related to inflation. For economic inflation the most common approach was to remove the impact of the ESG inflation. For excess inflation the approaches were varied as a lot of syndicates make implicit allowances.

- **In general syndicates DID NOT remove mean allowances in the reserves or plan loss ratios for this test or allowances in the cat models**.

Economic Inflation

Key Findings – Economic Scenario Generators

Remainder either use an ESG but don't apply the inflation indices to insurance cash-flows, or don't use an ESG at all

86% use an ESG to model inflation volatility

66% used a Q2 2022 version

34% used an alternative version

Adjustment to older ESG releases tended to increase economic inflation volatility only

39% made adjustments

68% made adjustments

To increase volatility of economic indices and / or make the indices more representative of total claims inflation

Inflation – What next?

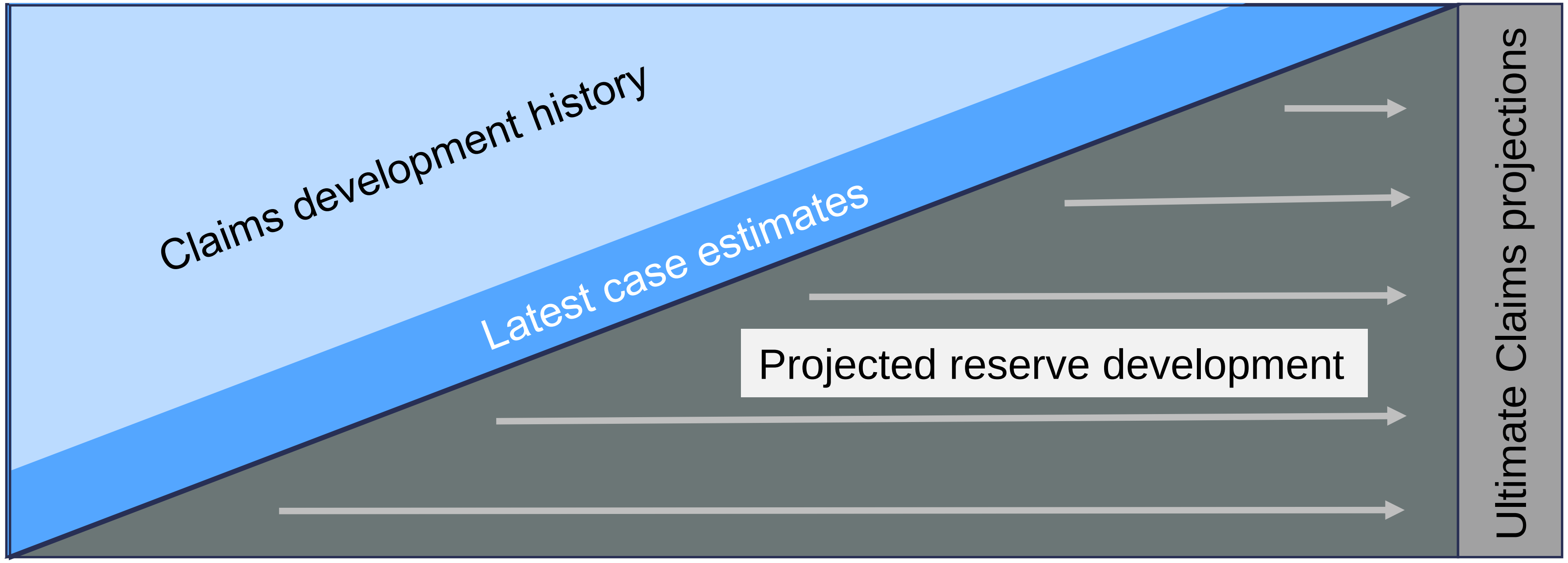
Inflation – Entering a new phase

After central adjustments have been made – what is next?

Phase 1 “New”	• Inflation emerges as a step change in comparison to previous expectations • Central adjustments needed
Phase 2 “Transition”	• Heightened inflation starts coming through in claims/case estimates • Increased severity, central adjustments need to be updated
Phase 3 “Emerged”	• New Inflation environment fully integrated into case estimates • Rolling off central adjustments
Phase 4 “Exit”	• Expectation of inflation to decrease – reversing of process

Co-ordination between claims and reserving
Phase 2 might be the hardest bit yet

Claims



Reserving

Are there gaps or double-counting?
Are you making consistent assumptions?

Where could we go wrong?

Underestimating future claims inflation can have a significant effect on the financial strength

Adequacy of reserve strengthening in 2022 – risk for deterioration in 2023

- Duration and level of future inflation – how quick is the “mean reversion”?
- How does economic inflation translate into claims inflation?
- Lag of economic inflation affecting claim settlement costs make assumptions more uncertain
- It will be difficult to identify inflation effects in case reserves to validate any projections

➡ Underestimating long-term inflationary trends (together with overvaluing market hardening) could overstate profitability (and ultimately result in reserve deteriorations)

➡ Underestimating technical provisions and overestimating profits could lead to lower capital requirements with potential for gearing effects and overstated solvency

Based on: Follow up to the letter: Insights from PRA thematic review of general insurance reserving and capital modelling

How to develop a holistic view of inflation for the business

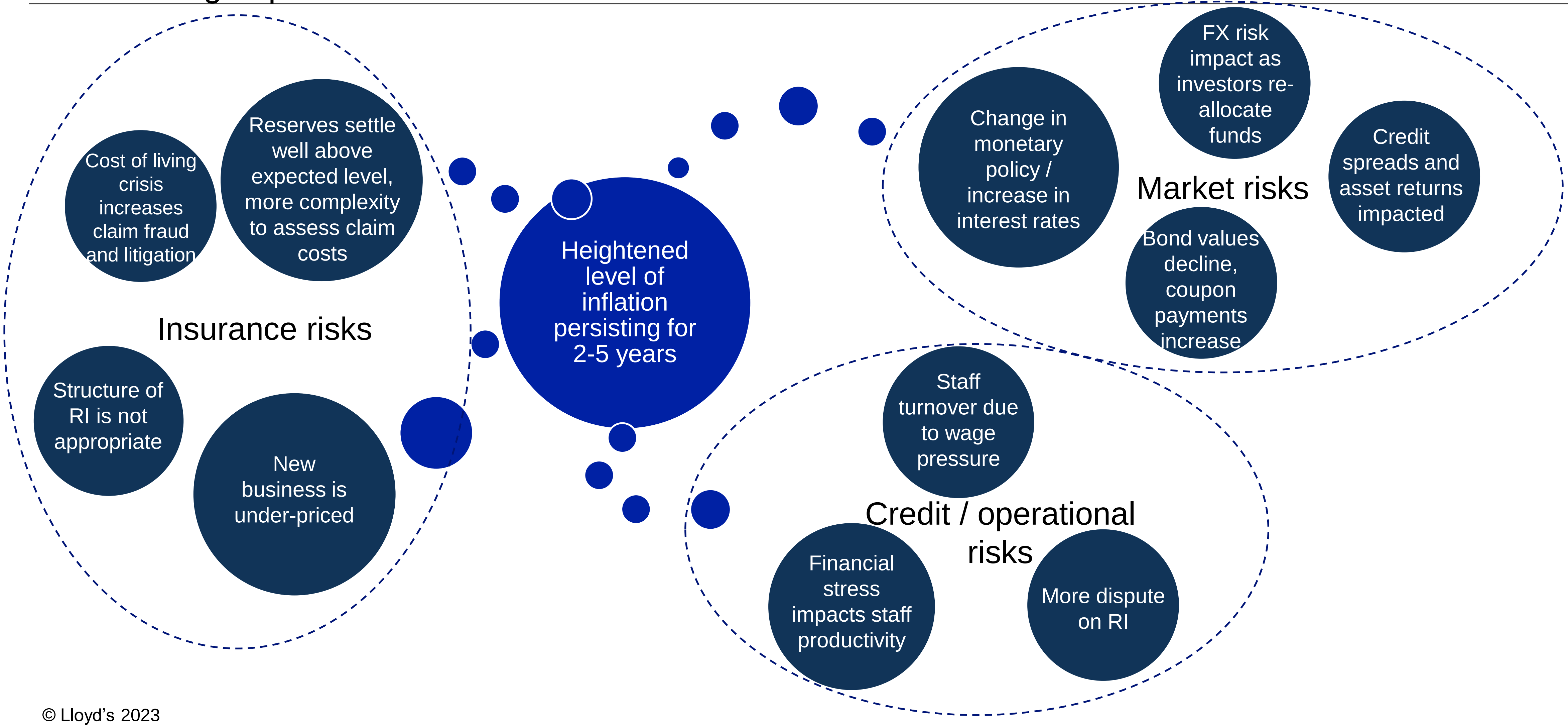
Highlights from a review of the ORSA reports

Best practice syndicates consider:

- Cross Functional Feedback Loops – working group with a clear remit and decision-making transparency
- Holistic view of impacts – consideration of all different areas
- Acknowledgement of this as a systemic risk and mitigation considerations across all areas
- Linking to the external environment – clarity on how internal view relates to different forecasts
- Clear visibility of the judgements (e.g. impact and duration of inflation at board level)
- Longer term view of capital impacts
- Stress and scenario tests are holistic and consider full balance sheet impacts on key risks across assets, liabilities and operations
- A range of stresses is performed at different likelihoods and severity, considering inflation but also combination with recession (stagflation) and other external factors highlighting the interlinkages

Scenario testing

Considering impacts across all risks



Summary – how to deal with heightened inflation

Examples of questions the Board could consider asking

- How have judgements on inflation been made – in particular the duration and level of heightened inflation and the level of volatility?
- How has the company view been translated into adjustments for the different areas of the business? Has this been consistent?
- Has there been sufficient justification for the level of inflation allowances made in the reserves and capital? How have inflation views been translated into impacts? What is in best estimate reserves – what in margins?
- Top down – how impactful do you think inflation should be? Does the reserve impact/allowance in the internal model fit your thinking? If not, do you understand why?
- How is the company dealing with phase 2 – i.e. how will adjustments be changed as case reserves are updated?

Questions?

LLOYD'S

LLOYD'S

Disclaimer

This document is not intended for distribution to, or use by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to local law or regulation. It is the responsibility of any person communicating the contents of this document, or any part thereof, to ensure compliance with all applicable legal and regulatory requirements.

The content of this document does not represent a prospectus or invitation in connection with any solicitation of capital by Lloyds. Nor does it constitute an offer by Lloyd’s to sell securities or insurance, a solicitation of an offer to buy securities or insurance, or a distribution of securities in the United states or to a U.S. person, or in any other jurisdiction where it is contrary to local law. Such persons should inform themselves about and observe any applicable legal.

This document has been produced by Lloyd’s for general information purposes only. While care has been taken in gathering the data and preparing this document, Lloyd’s does not make any representations or warranties as to its accuracy or completeness and expressly excludes to the maximum extent permitted by law all those that might otherwise be implied.

Lloyd’s accepts no responsibility or liability for any loss or damage of any nature occasioned to any person as a result of the acting or refraining from acting as a result of, or in reliance on, any statement, fact, figure or expression of opinion or belief contained in this document. This document does not constitute advice of any kind.