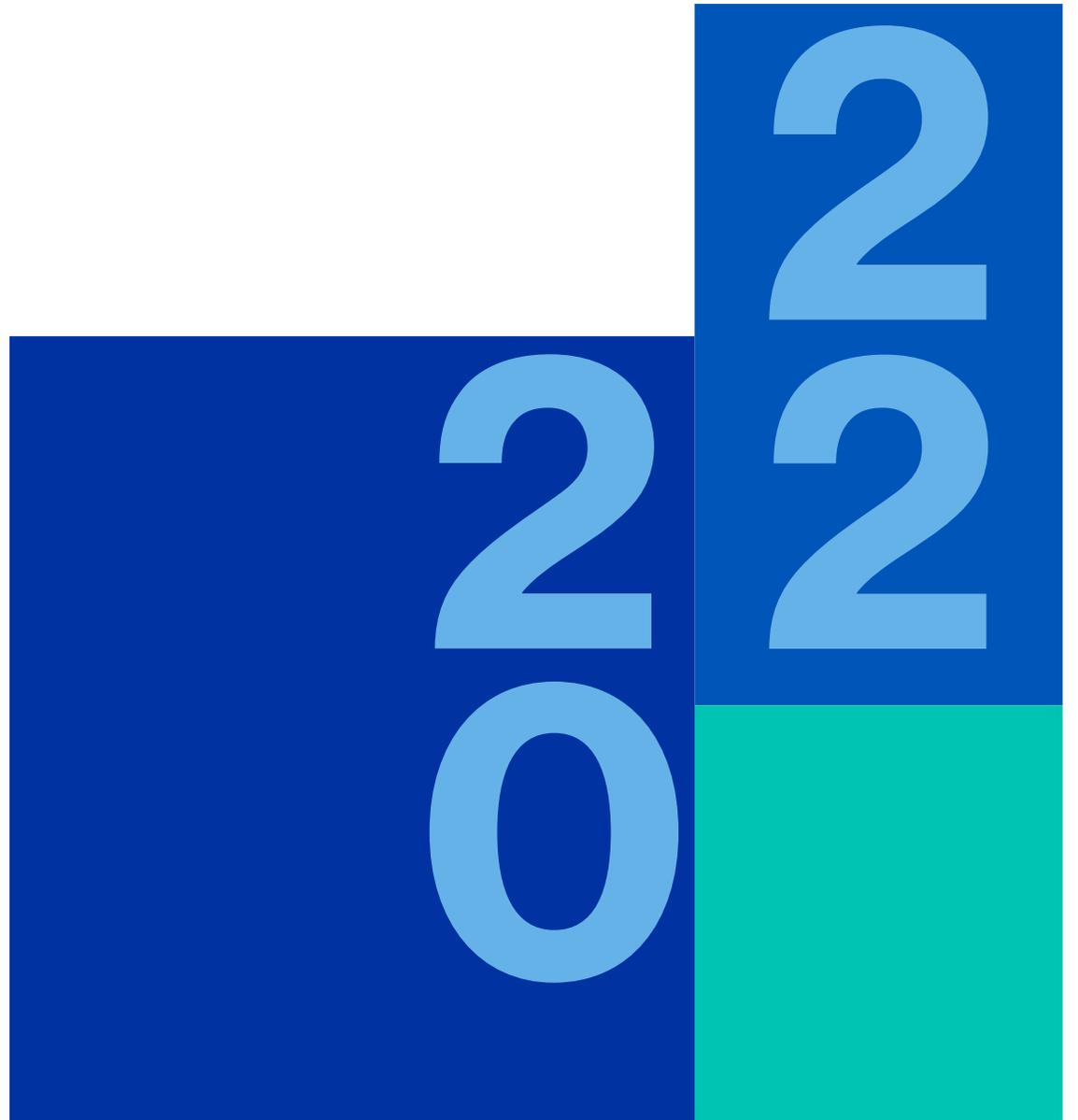


LLOYD'S

Capital Briefing



Agenda

- Opening remarks
- 2022 YoA SCR review summary
- Thematic work carried out in 2021
- Priorities – 2021 to 2022
- Closing comments



Opening remarks

Mirjam Spies

Head of Actuarial Oversight

A reminder of the priorities at start of 2021

Moving to a principles-based approach

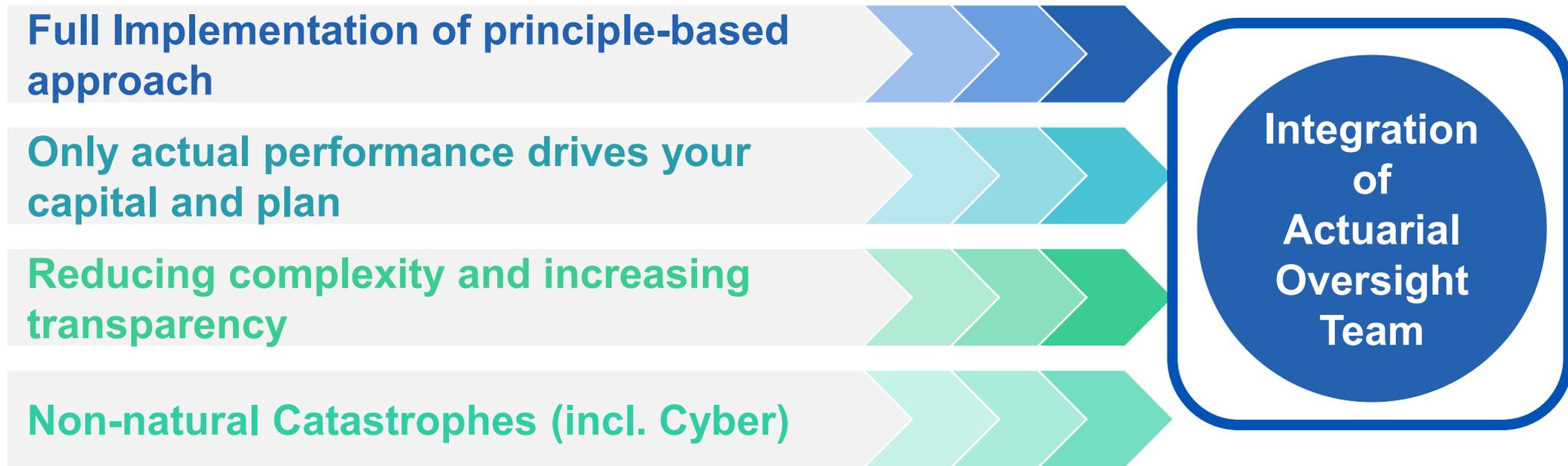
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People and well-being

And how they will change for 2022



LLOYD'S

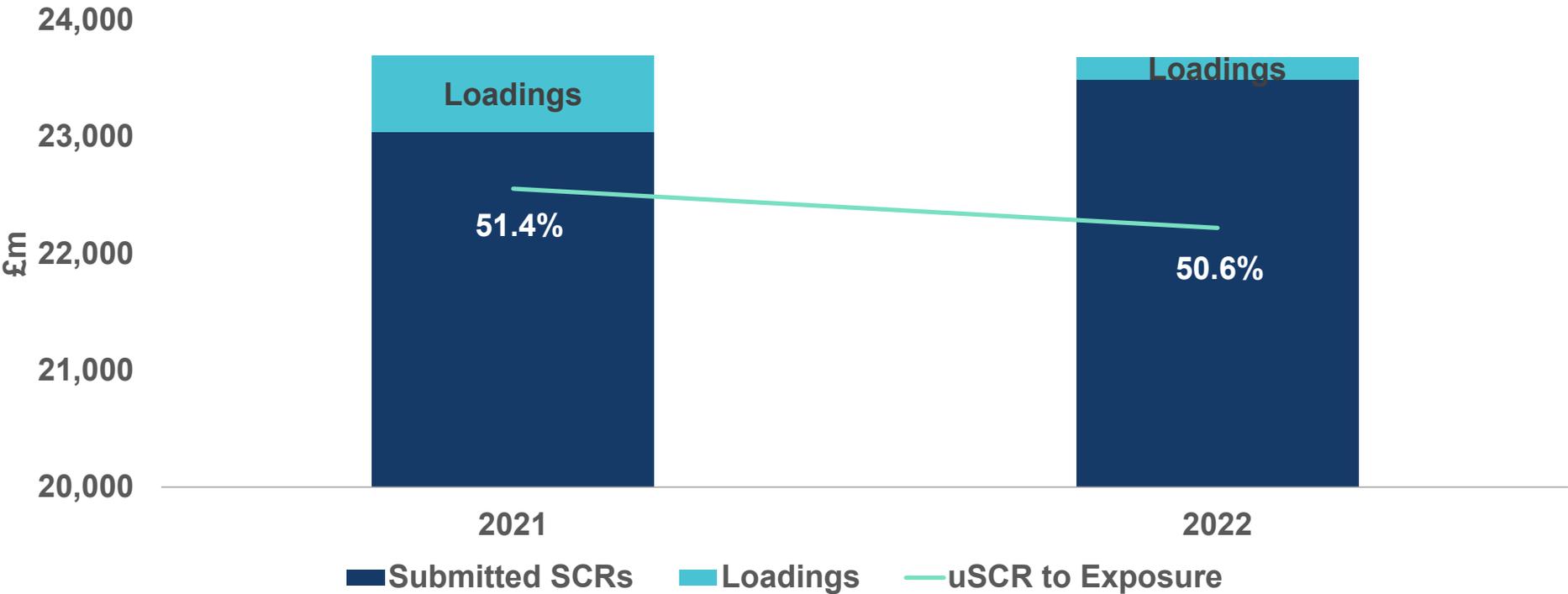
2022 YoA SCR review summary

Rebecca Soraghan

Senior Manager, Syndicate Capital

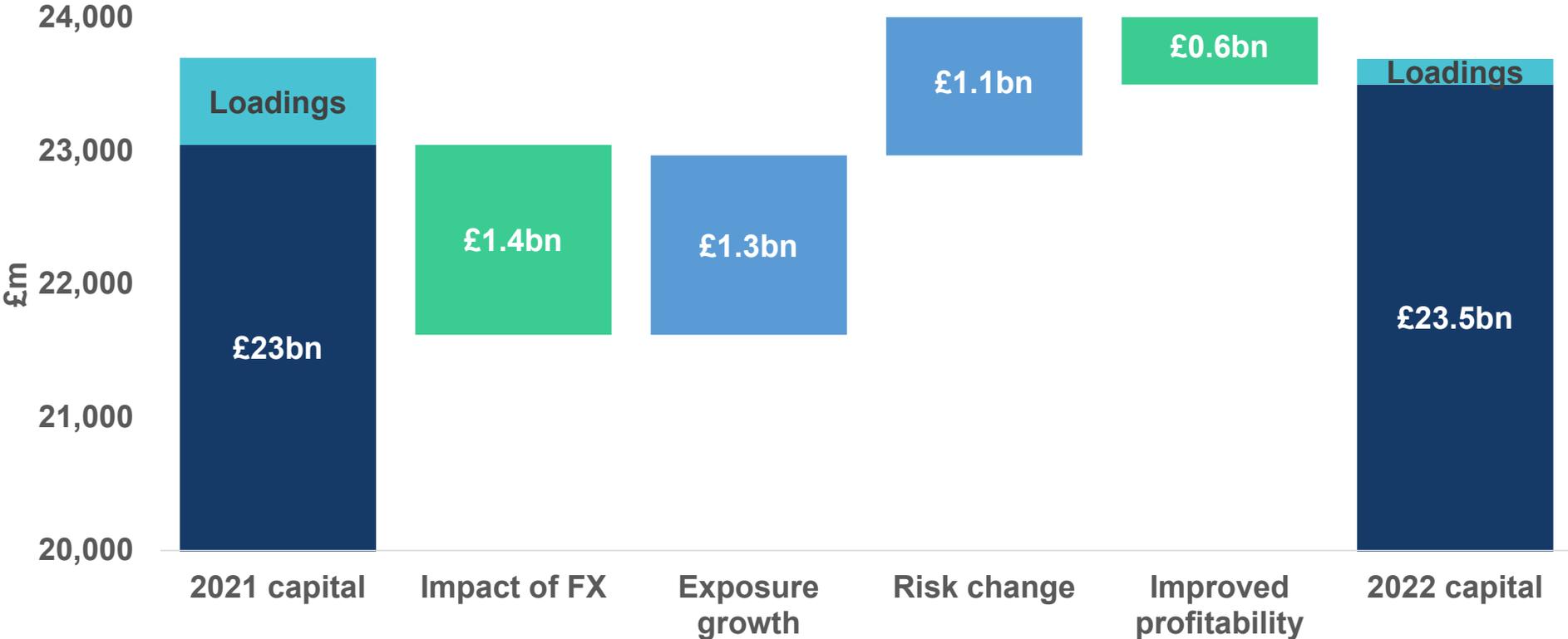
Required capital remains in line with 2021 level

Market level risk versus exposure has returned to the pre-pandemic level



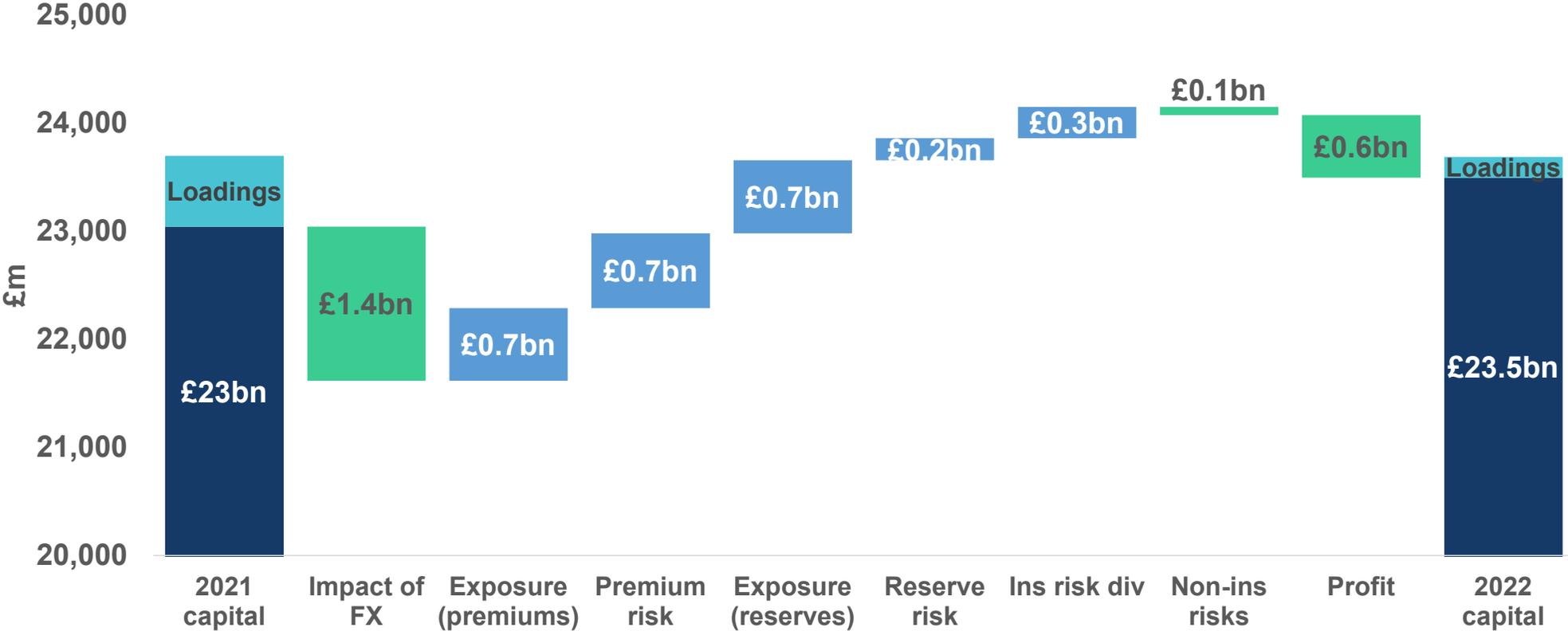
Exposure is defined as premium risk mean net claims +1/2 earned reserves (as per LCR form 600)

Movement in capital is driven by exposure growth, offset by FX movements and strengthening of rates



Breakdown of overall submitted SCRs

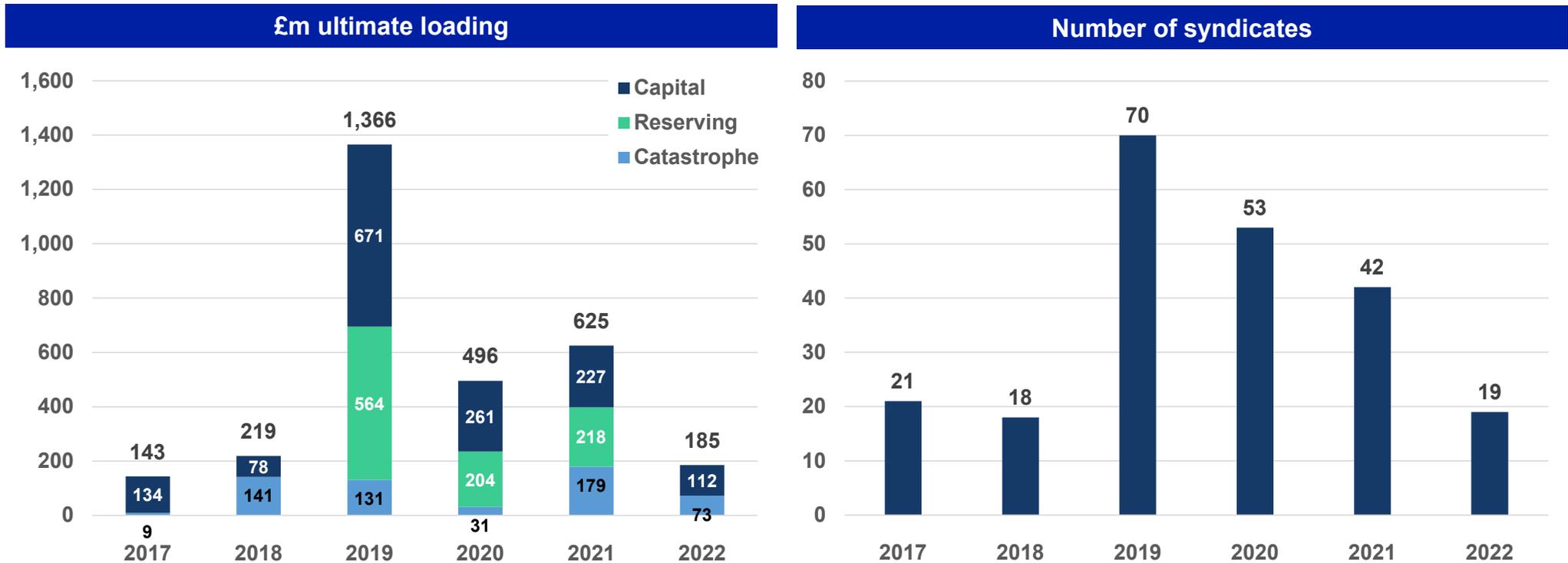
Capital increases with exposure growth and increased view of risk offset by FX and higher profit



Submitted SCRs include RICB adjustment

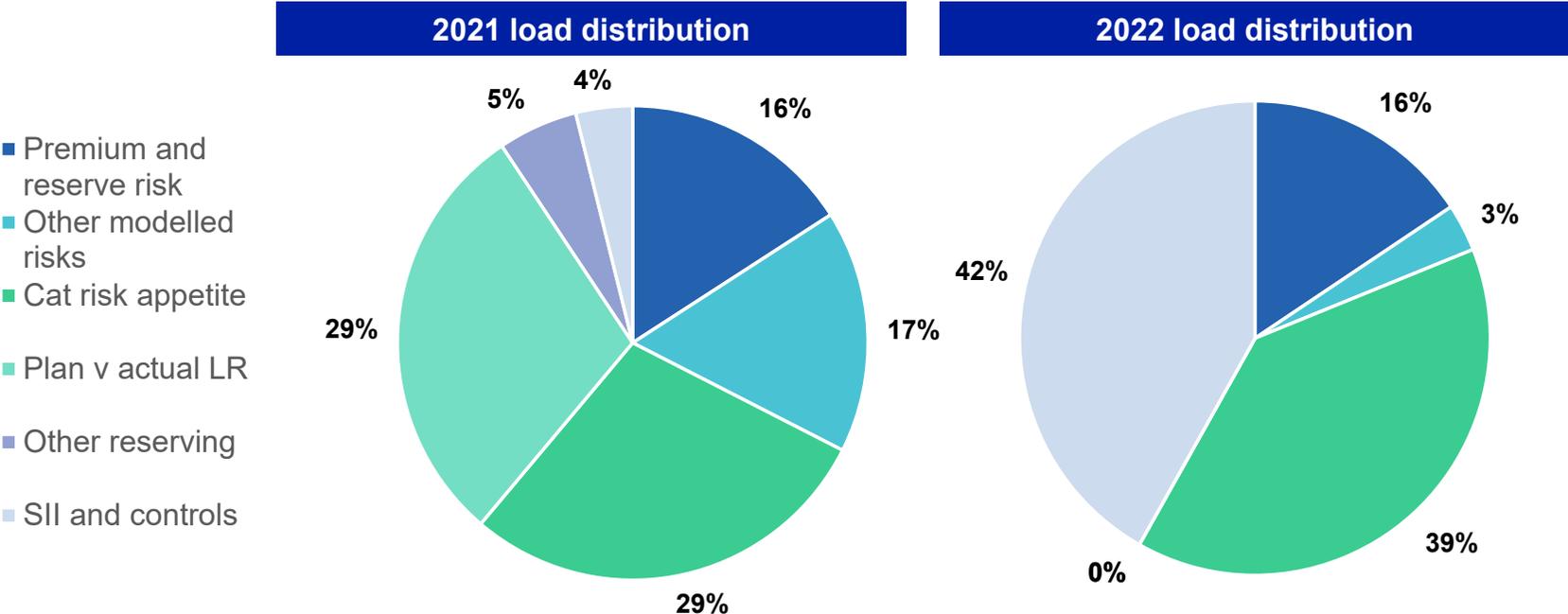
The amount of loadings and number of affected syndicates reduced from 2021

This reflects that Lloyd's carried out reserve testing ahead of CPG and a shift in focus during CPG to more 'material' areas of capital uncertainty



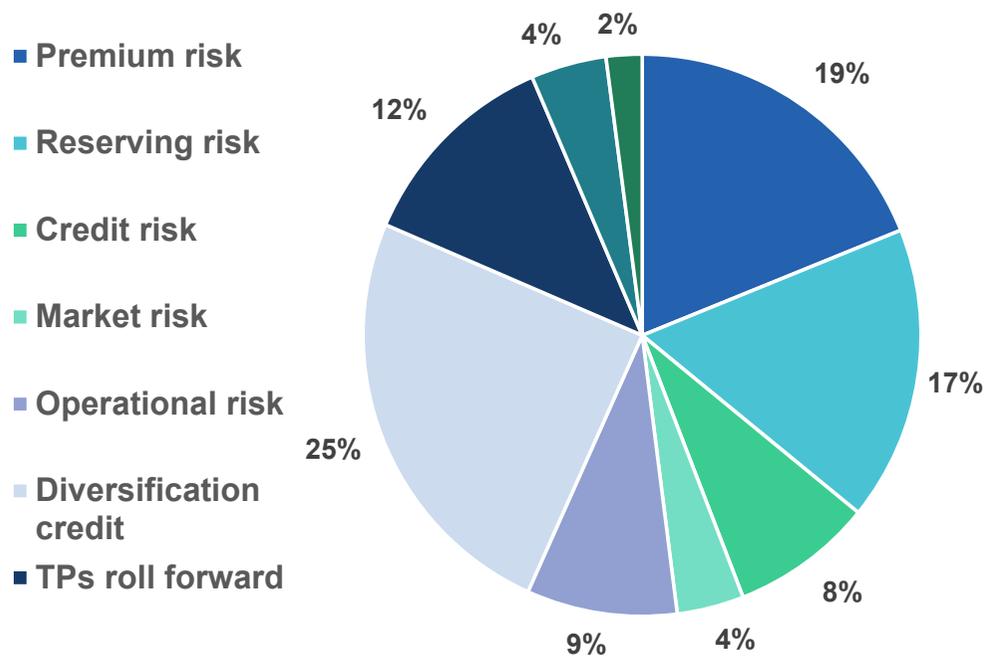
Scope of loadings applied has narrowed

Majority of loads SII & controls related issues



- Amount of SII and controls loading has increased in terms of size and share – as announced last year, focus shifted onto governance and risk management related issues
- Waived loadings process resulted in fewer loads being applied for non-insurance risk related uncertainties
- Reserving loads reduced as a result of improved market behaviour.

Waived loads process introduced for 2022



- Loadings under 5% of uSCR were waived except for thematic areas of review (cat risk appetite and model completeness loadings this year).
- Waived loadings totalled just under 1% of market SCR and were spread across many risk areas.
- The process reduced workload for Lloyd's and the market by reducing discussion over immaterial loads.
- Waived loads must be considered in the model change triggers used for 2022 capital resubmissions.
- Waived loads can be removed by submitting a response to MRC, discuss this with PoC.

Thematic work carried out in 2021

Rebecca Soraghan

Senior Manager, Syndicate Capital

1. Social Inflation
2. Cyber
3. COVID-19

1. Social Inflation

Social inflation

Key Findings

- Social inflation was difficult to isolate in capital models and so analysis focussed on claims inflation

Excess inflation assumptions tend to be implicit

- Inflation embedded in data, often dependency driver for capital => not explicitly modelled or quantifiable
- How can assumptions be validated/informing decisions if not quantifiable?

Excess inflation assumptions are not challenged enough

- Validation often limited to qualitative assessments and price/wage inflation, limited detail on claims inflation

Syndicates not always proactive to reflect emerging trends

- Use knowledge across the organisation (working groups?), internal and external data
- “Traditional” actuarial methods might need adjustment - don’t cope well when past is not representative of future - range of estimates and uncertainty around them clearly communicated

Consistency between teams could be enhanced

- Views between pricing, planning, claims, reserving and capital don’t need to be the same but need to be consistent
=> implement an Inflation framework

Social inflation

Good practice approaches

Excess inflation assumptions tend to be implicit

- Use scenario analysis to inform parameterisation.
- Make more allowances in insurance risk parameters explicit.
- Adjusting ESG indices to align volatility to internal views.
- Build explicit scenarios and shocks in the model to mimic real world which simultaneously impact multiple cohorts of business.

Excess inflation assumptions are not challenged enough

- Consider how material the risk is for the syndicate and whether the validation approach is commensurate.
- Challenge capital modellers more to improve availability of outputs for validation.
- Make greater use of stress and scenario tests, reverse stress tests and type 2 sensitivity tests, which are inflation specific.

Syndicates not always proactive to reflect emerging trends

- Make use of internal working groups and knowledge from the risk management function.
- Make more use of internal data.
- Smaller organisations may need to rely more on external data and research, but there is a lot of information available publicly (e.g. ISO, CPI and wage data, CIAB, consultancies and brokers)
- “Traditional” actuarial methods might need adjustment - don't cope well when past is not representative of future - range of estimates and uncertainty around them clearly communicated

Consistency between teams could be enhanced

- Sharing of information and discussion around judgements will help to enrich the assumption setting process
- Consider using inflation frameworks that collate internal views of inflation and trends for key lines of business, and these link into capital model parameterisation.
- Work closely with other teams to improve quality and granularity of data.

2. Cyber

Cyber

A class with significant uncertainty given the changing landscape

GWP has more than doubled over the last 5 years

Since 2019 there has been a significant uptick in the number of ransomware attacks

There has been a **145%** increase in incidents in the US in 2020 vs 2019

Across the market, syndicates on the whole have missed their plan every year since 2018

Poor performance has been experienced globally – no longer limited to US/UK risks



Can standard actuarial projection techniques be used?

What is the underlying exposure?

Observed inflationary trends on both frequency and severity?

How have key assumptions been validated?

Lloyd's review of cyber

What were the aims?

- To assess the materiality of cyber risk capital relative to existing capital requirements in order to manage concentration risk and risk to the central fund
- To assess what steps were being taken to manage any resulting material uncertainty

What did we do?

- Risk-based approach
- Part of the 2022 LCR reviews
- Compared the cyber RDS to internal model allowance for cyber

Review Process

- Materiality testing – to determine a Green, Amber or Red rating
- Detailed testing – for Amber and Red rated syndicates only
- Qualitative testing – for Red rated syndicates only

High-level findings

- As expected, best practice is still emerging
- Generally, higher materiality syndicates were able to evidence more developed approaches.
- Issues were identified when comparing forecast RDS and LCR, due to inconsistent bases being used.

Cyber review findings

Based on the deep dives into material syndicates

Using the forecast RDS for capital assessment

- Most syndicates had already compared their cyber risk distributions to the Lloyd's Cyber RDS, as a reasonable alternative view within validation.
- The most established syndicates extend this to include comparison to several other sources such as RI broker scenarios, one or more external models, and internal scenarios.
- Some syndicates had compared to a forecast RDS produced on a 'maximum' basis, which is not consistent with LCR 'accident year' exposure.
- Only using the RDS as a basis for the assessment might create undue weight being given to these.

Early view of approaches in the market

- Syndicates are relying on scenario analysis to determine potential extreme outcomes.
- Market best practice appears to be large suites of scenarios, across a range of narratives, and using materially complete exposure information.
- Standard practice appears to rely on smaller scenarios sets, often developed in tandem with an external specialist firm. Exposure information may also be less complete.
- Some syndicates blend internal scenarios and external model views to reach a final view.
- In general, the level of uncertainty associated with estimating cyber risk is communicated appropriately, i.e. there is higher uncertainty than for other lines of business.

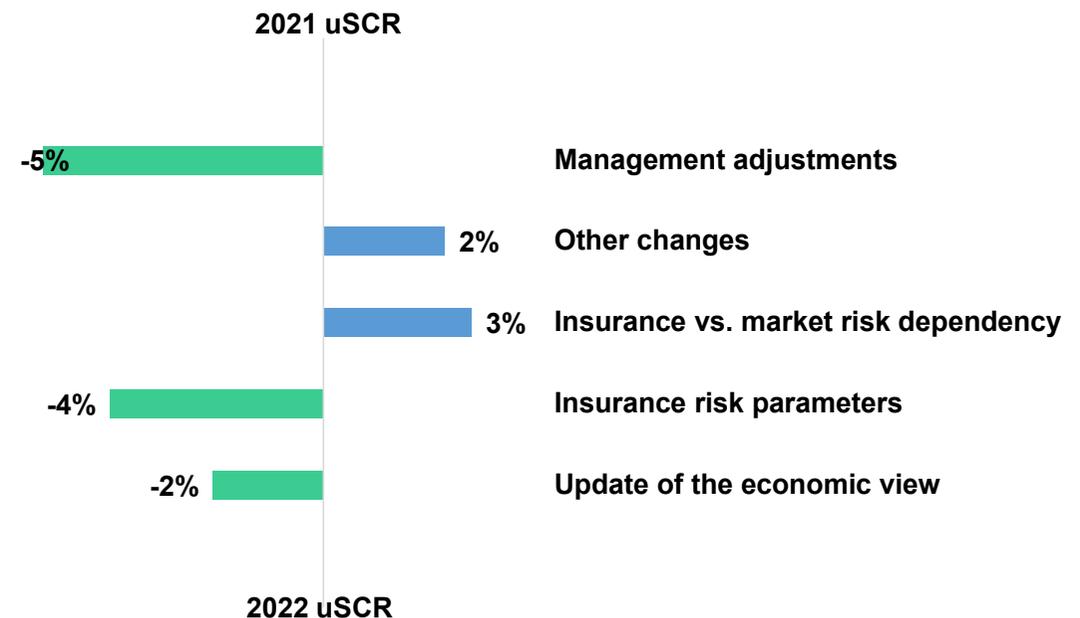
3. COVID-19

Lloyd's review of COVID-19

Review of up-to-date COVID-19 focus area responses

- We reviewed updated COVID-19 focus area responses for syndicates we considered to be at significant risk of adverse loss development
- Capital allowance for COVID-19 **reduced by 6%** since last year at a market level (based on focus area reporting)
- **Management adjustments** were released or reduced.
- Volatility and exposure have reduced as **claims have been paid out and uncertainty around loss estimates has reduced**
- Some syndicates found it **difficult to isolate the impact** of COVID-19

Movement in COVID-19 Model Allowance – reduction by 6% in 2022 from market total of 1.3bn for 2021 YoA



Priorities – 2021 to 2022

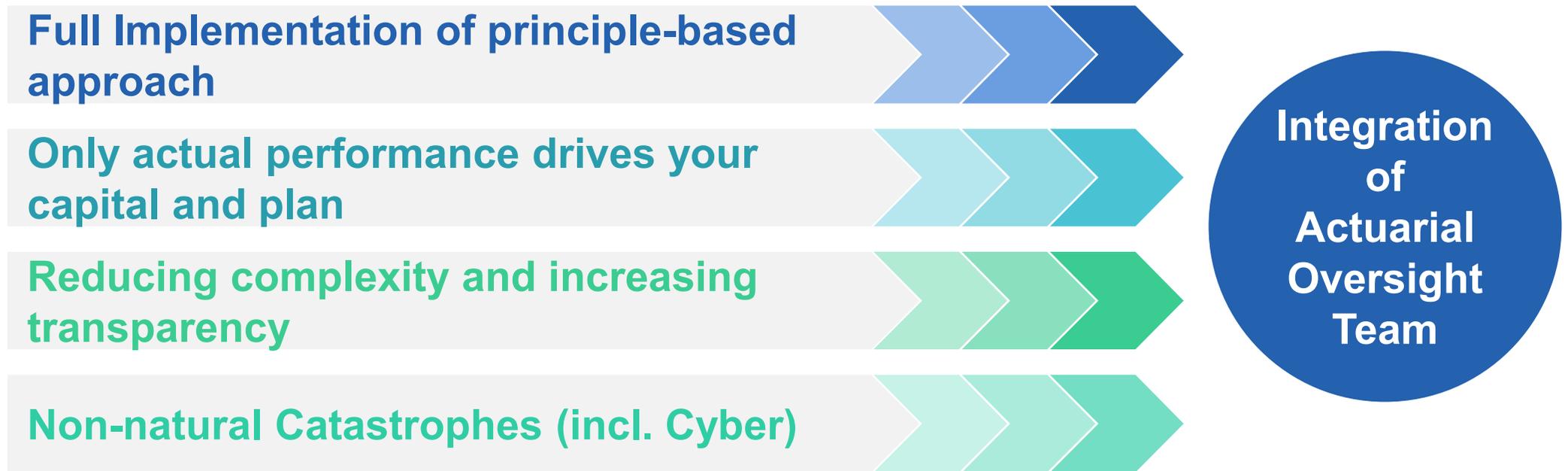
Mirjam Spies

Head of Actuarial Oversight

A reminder of the priorities at start of 2021



And how they will change for 2022



A reminder of the priorities at start of 2021

Moving to a principles-based approach

Fast track pilot to be boosted

Model changes to be prioritised

Only actual performance drives your capital

People and well-being

Prioritising Model Changes

Target: Prioritising oversight where it matters whilst reviewing all MMC applications

- All MMC application were reviewed last year – no prioritisation necessary with over 80% being reviewed within 8 weeks
 - However – with deep dives and thematic review we need to prioritise reviews and have more certainty around planning.
- **Introduction of pre-application process**
- This does not have to include unexpected risk profile changes, changes due to regulator feedback nor major changes resulting from an accumulation of minor changes.
 - **We plan to review all of the MMCs submitted to us already via MMC pre-applications.**
 - This year we only deferred 8 out of 43 (19%) MMCs during the 2021 capital setting season compared to 40 out of 76 (53%) the previous year.
 - This is as a result of the Fast Track and the model change process improvements.

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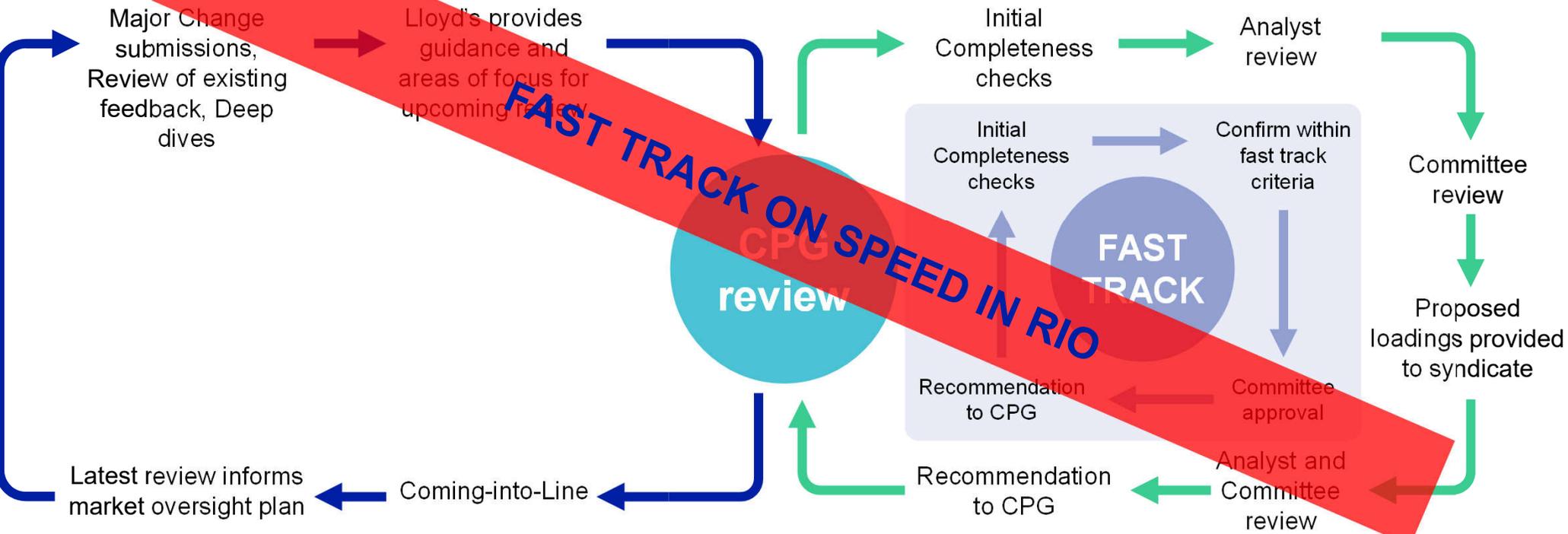
Boosting Fast Track

Target: Reducing Review in Planning Season

- Number of syndicates on Fast Track route increased significantly – 29 in 2021 vs. 17 in 2020.
- Just over half the syndicates were removed from Fast Track (i.e. they were still reviewed as part of their LCR submission) – either because they had a lot of deep dive feedback to address, because they submitted large changes which needed review or because their LCR submission included an MMC.
- More remained on Fast Track than previously and this resulted in a greater time saving during the capital setting season when the whole market is reviewed in a few weeks.
- Benefit of less time-pressured queries for the market and more predictable capital requirements

How does this interact with Fast Track process

Target: Moving to a more year-round process and improved predictability of capital setting



Moving to a principles-based approach

Target: Assess model holistically

- Our primary concerns continue to be:
 - That capital adequately reflects risk profile
 - Consistency in capital strength in the market
- Focus on material issues in the review process:
 - We introduced waived loadings as part of the capital setting process, resulting in fewer syndicates being loaded so less work for Lloyd's and the market
 - As mentioned earlier, 19 syndicates were loaded in 2021 vs 42 in 2020
 - We introduced controls loadings which target concerns around governance and management

Fully Implementing the Principles-Based Approach

We got quite far in 2021 – what is missing?



Benefits

- ✔ Less annual review (of LCR submission)
- ✔ **Expectations are differentiated based on level of materiality**
- ✔ **Waiving of immaterial loadings – faster and more predictable capital setting process**

Shift in focus

- ✔ Shift to more targeted deep dives
- ✔ Supplement review of the numbers with qualitative review of governance/processes
- ✔ Transparent and clear application of oversight
- ✔ **Focus on material issues**
- ✔ Application of control loadings/SII loadings as an intervention in a consistent way across teams

Fully Implementing the Principles-Based Approach



Fully Implementing the Principles-Based Approach

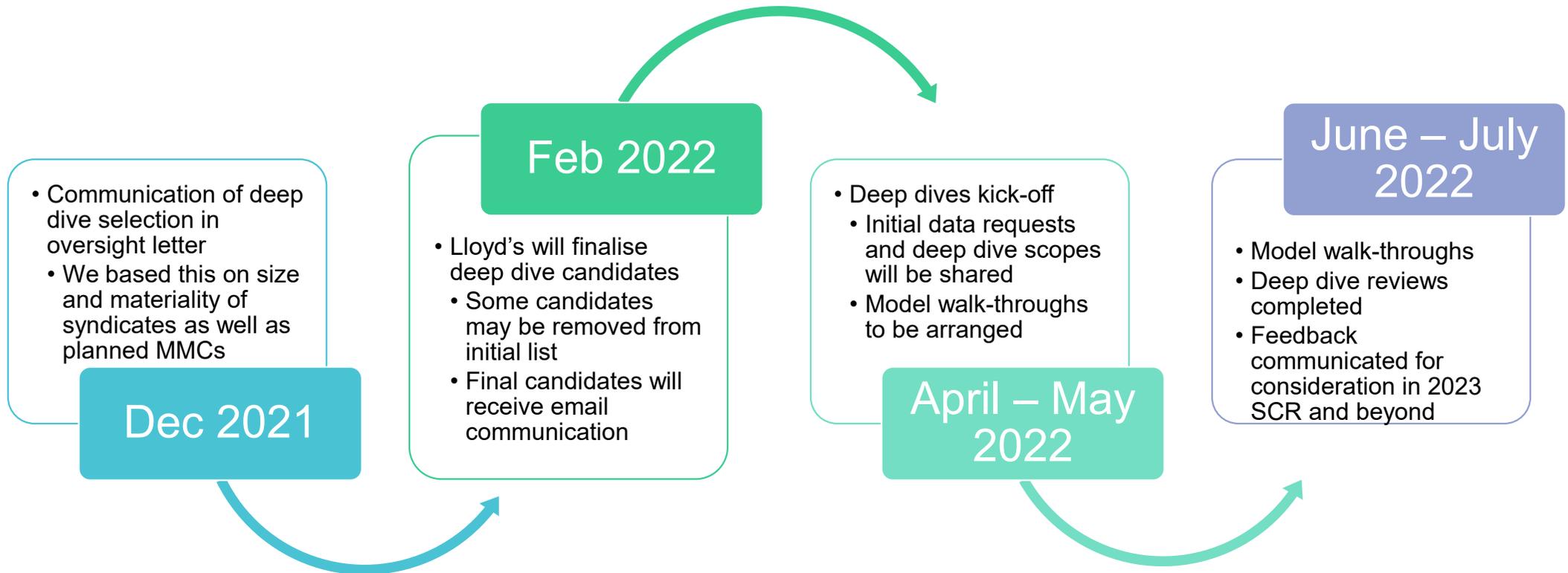
Deep dives

Process has **NOT** materially changed in a RIO world – but there are tweaks

- Longer term planning – deep dives driven by RIO maturity expectations of syndicates, syndicates were informed in oversight letters
- Deep dive scope has been aligned further with the RIO principles – governance focus
- Year-round oversight- review of feedback process and the timelines we give
- Deep dive outcome will influence our evaluation of your maturity level → Key oversight tool for assessment
- What does being “deep-dived” mean for you?
 - Mainly desk-based review of your latest submission (MMC or last LCR submission)
 - Model walk-through with syndicate to test how you apply various sub-principles to sample areas of the model (such as the parameterisation of material classes of business) – this covers ‘softer’ model features such as team resourcing and experience, governance and adherence to model policies
 - Will not cover every area of the maturity matrix in detail, but use the walk-through and submission materials to improve the confidence level of our assessment of syndicates against each dimension of the RIO capital principle
 - Feedback after review will set out timescales for implementation

Fully Implementing the Principles-Based Approach

Deep dives – excepted timeline



A reminder of the priorities at start of 2021

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A reminder of the priorities at start of 2021

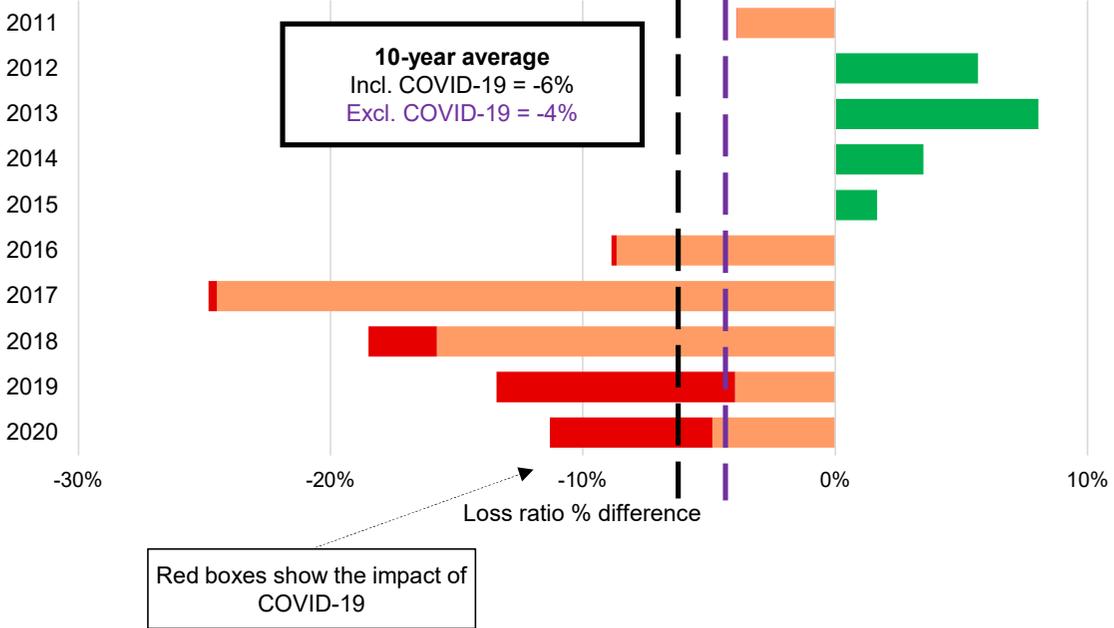
- Moving to a principles-based approach
- Fast track pilot to be boosted
- Model changes to be prioritised
- Only actual performance drives your capital

And how they will change for 2022

- Full Implementation of principle-based approach
- Only actual performance drives your capital and plan

Only actual performance drives your capital

Prospective loss ratios – performance against plan is improving



	SBF to model self-load	Lloyd's uplift	Total uplift
2019	1.0%	1.5%	2.5%
2020	2.5%	0.4%	2.9%
2021	2.6%	0.5%	3.1%
2022	2.6%	0.0%	2.6%

Nil Lloyd's loadings from the 2022 CPG process – market has shifted behaviour

The future of Reserving Tests of Uncertainty

Integration of reserving tests into general oversight

Shifted market behaviour and improved market conditions means less market-wide oversight expected

Monitoring of *individual syndicates* for the need to interrogate assumptions in scope of Actual vs Plan loss ratio and technical provisions roll forward tests

Syndicates of concern reviewed as part of as part of general oversight

Run minimum tests (e.g. compliance with Modelled Loss Ratio Floor guidance) as part of capital assessment framework

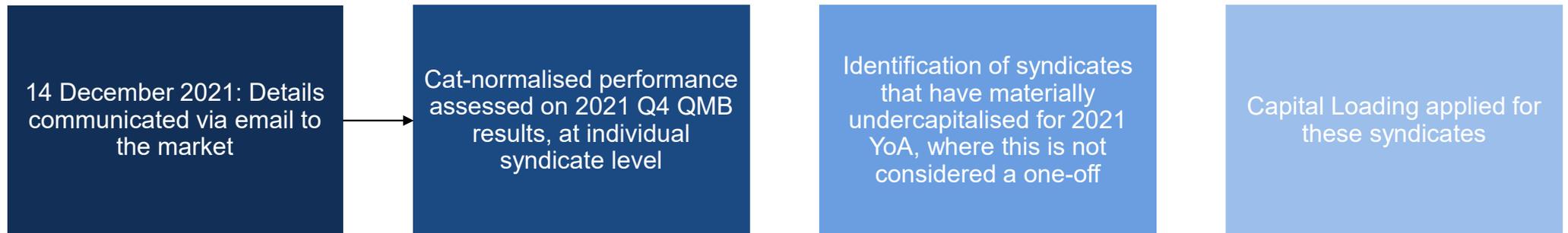
Monitoring of market as a whole to assess if market testing needs to be reinstated due to future shifts in market cycle

Better understanding of differences between capital modelled and plan loss ratios

Only actual performance drives your capital **and plan**

Retrospective performance test

Process for the 2022 calendar year



- Details communicated via market communication email on 14 December 2021
- Purpose is to identify and collect additional capital from Syndicates deemed to be materially under-capitalised for 2021 YoA:
 - Based on loss ratio performance against capitalised plan loss ratio
- Loadings are calculated using a prescribed formula
- Syndicates flagged for potential loading based on 2021 Q3 QMB data have already been notified by Lloyd's

And how they will change for 2022

Full Implementation of principle-based approach

Only actual performance drives your capital and plan

Reducing complexity and increasing transparency

Non-natural Catastrophes (incl. Cyber)

Integration of Actuarial Oversight Team

Reducing complexity and increase transparency

Target: Streamline processes to more efficiently use resource for Lloyd's and increase transparency in capital setting for Managing Agents

- Continuously improving process
- Focussing on two areas this year:
 - Capital setting for new syndicates
 - Process for calculating capital requirements for RITC deals and other forms of retrospective reinsurance

And how they will change for 2022

Full Implementation of principle-based approach

Only actual performance drives your capital and plan

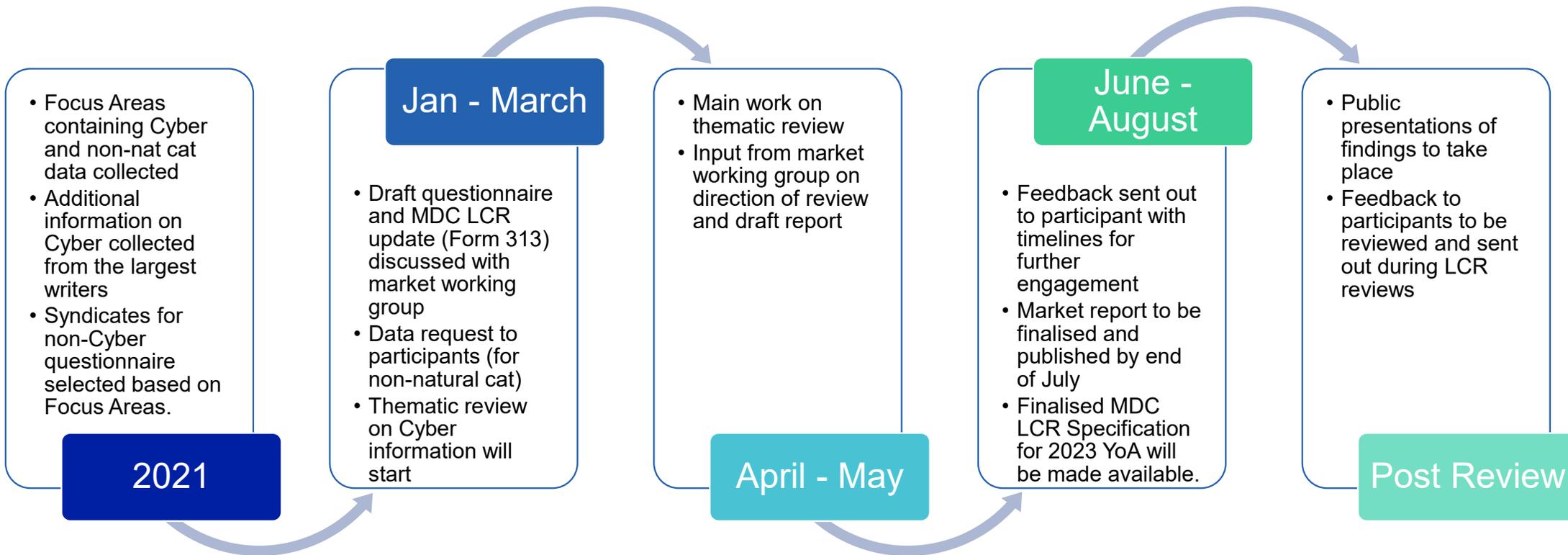
Reducing complexity and increasing transparency

Non-natural Catastrophes (incl. Cyber)

Integration of Actuarial Oversight Team

Non-natural catastrophe thematic review

Cyber to be considered as part of this review



Exposure Management

Thematic Areas of review for the 2022 YoA review

– Model Completeness

- 2021 focus was on “LCM5” perils; 2022 focus will be on “Rest of World” and demonstrating that the WWAP representation of risk is complete, across the curve
- Climate change: we expect that natural catastrophe models should be validated as appropriate for **current climate conditions** i.e. not overly weighted to history

– Non-Natural Catastrophe (NNC)

- Maturity guidance for the management of NNC risk will be published and all syndicates/managing agents will be subject to a full review
- The expectations are that methodologies for managing and modelling these risks are as robust as those used in modelling natural catastrophes.
- Cyber scenarios now form part of the RDS framework and are subject to Franchise Guidelines; Liability scenarios will be collected again, including Reserve risk elements.

– We expect agents to incorporate the work of their exposure management teams effectively into the capital modelling process, including the use of RDS and other scenarios to inform parameterisation

Closing remarks

Emma Stewart

Chief Actuary

Quarterly Corridor Test (QCT)

What changes for Syndicates?

- Capital requirements are now being adjusted quarterly for movements in FX rates and the balance sheet (Risk margin and RICB) – as previously in March only
- Coming-into-Line is now only in June – for the other QCTs member assets need to be within 90% of ECA
- CPG letters will only be issued as previously in Sept/Oct and March/April – and for resubmissions. So syndicates will not get a CPG letter with their adjusted requirement quarterly.
- The most up-to-date capital requirements are visible through the member modeller
- The member releases have been run last year with the most up-to-date information at all times to give members the most accurate requirements – even if that meant that e.g. the balance sheet and FX rate were out of sync.
- Ongoing monitoring requirement: LCR has to be resubmitted if SCR moves by more than 10% - any resubmission will be in line with the QCT timetable (except in exceptional circumstances).

LCR Re-submissions vs MMC applications

What is the difference between an LCR resubmission and an MMC application?

If SCR moves by more than 10% (either due to a risk profile major model change or for other reasons)

All other MMC applications:

LCR resubmissions

- **Deadlines for submitting:**
 - Q1 QCT: 20th January 2022
 - June CiL: 3rd March 2022 (March resubmissions)
 - Q2 QCT: 7th April 2022
 - Absolute Cut off: 7th July 2022
- Review time: In line with QCT deadlines (around 4 weeks)
- Full LCR submission is required, including all supporting documentation and MMC application if required
- Capital requirement changes/new CPG letter.

MMC application

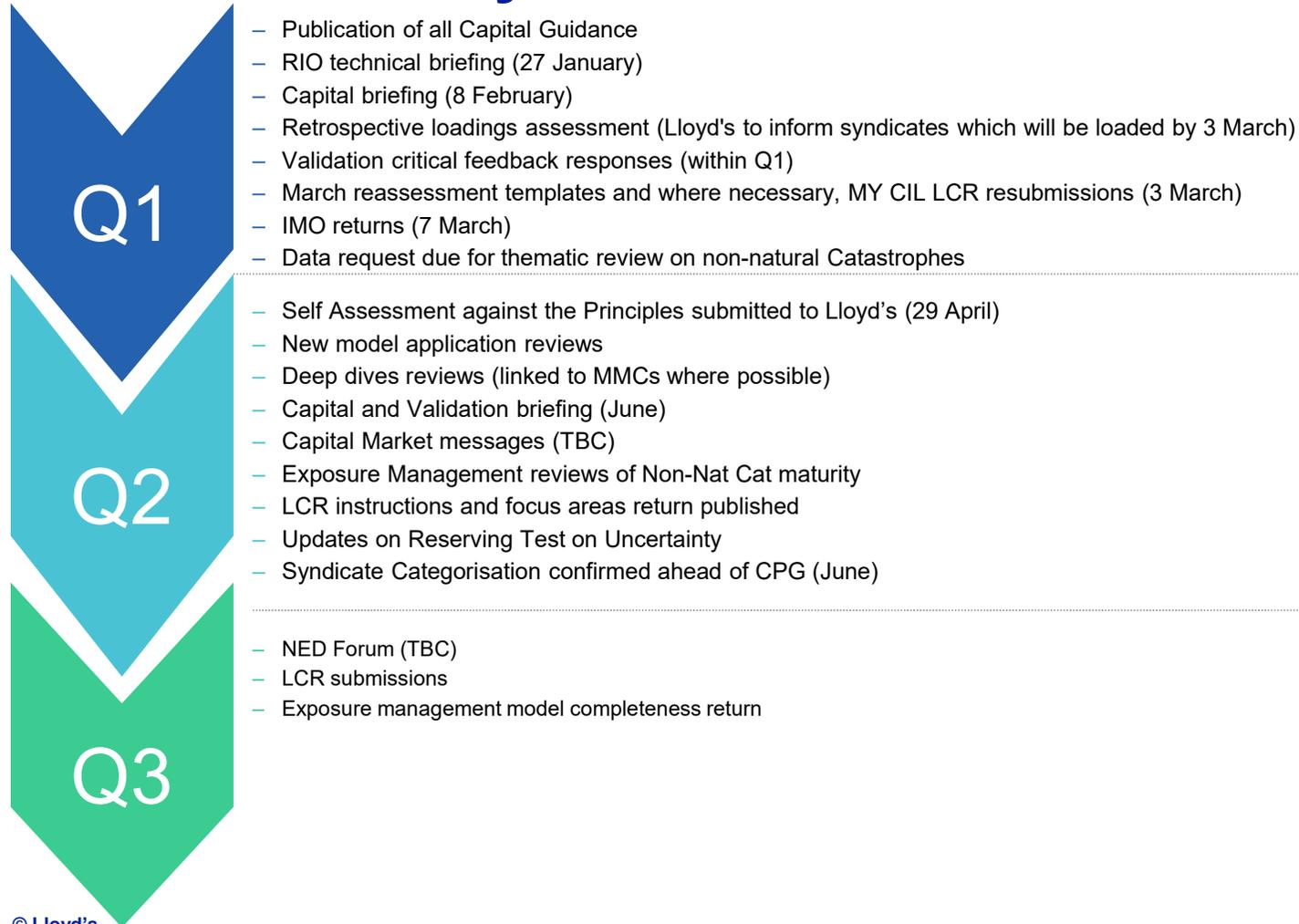
- **Windows for submitting:**
 - 1 November 2021 – 3rd January 2022 for review in time for March re-assessment
 - 31 March – 16th June 2022 for review in time for LCR submissions
- Review time: 8 weeks
- Hypothetical LCR submission is required including all documentation for Major Model Change Application
- Capital requirement does not change.

Hot Topics and Working Groups in 2022

- Non natural Catastrophes
- Social Inflation (Reserving)
- (Setting RI recoveries in the SBF)
- Reserving tests of uncertainty
- Working group on LCR instructions/Focus Areas return for 2023
- Working group on RITC/Retrospective Reinsurance and new syndicate capital setting processes

Feedback always welcome

What does the year ahead look like



Closing Remarks

- **RIO** will be the big focus this year as our **oversight evolves** under the new framework
- We continue to look for **areas of improvement** and **welcome feedback** as always
- There is a busy year ahead for Actuarial Oversight, with **changes** in how we are structured and how we perform oversight
- We look forward to working **collaboratively** with you!

Time for questions

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Appendices

Links to various presentations mentioned

- **Modelling of Claims Inflation – Lloyd's Syndicate Capital Thematic Review August 2021**

<https://www.lloyds.com/resources-and-services/capital-and-reserving/hot-topics>

- **GIRO Lloyd's update (with Claims inflation section):**

<https://learning.actuaries.org.uk/course/view.php?id=795§ion=7> (needs IFOA login)

- **GIRO/CAS GIRO It's not all social inflation - Is general inflation back for real? Worldwide overview of how actuaries should consider these two forms of inflation**

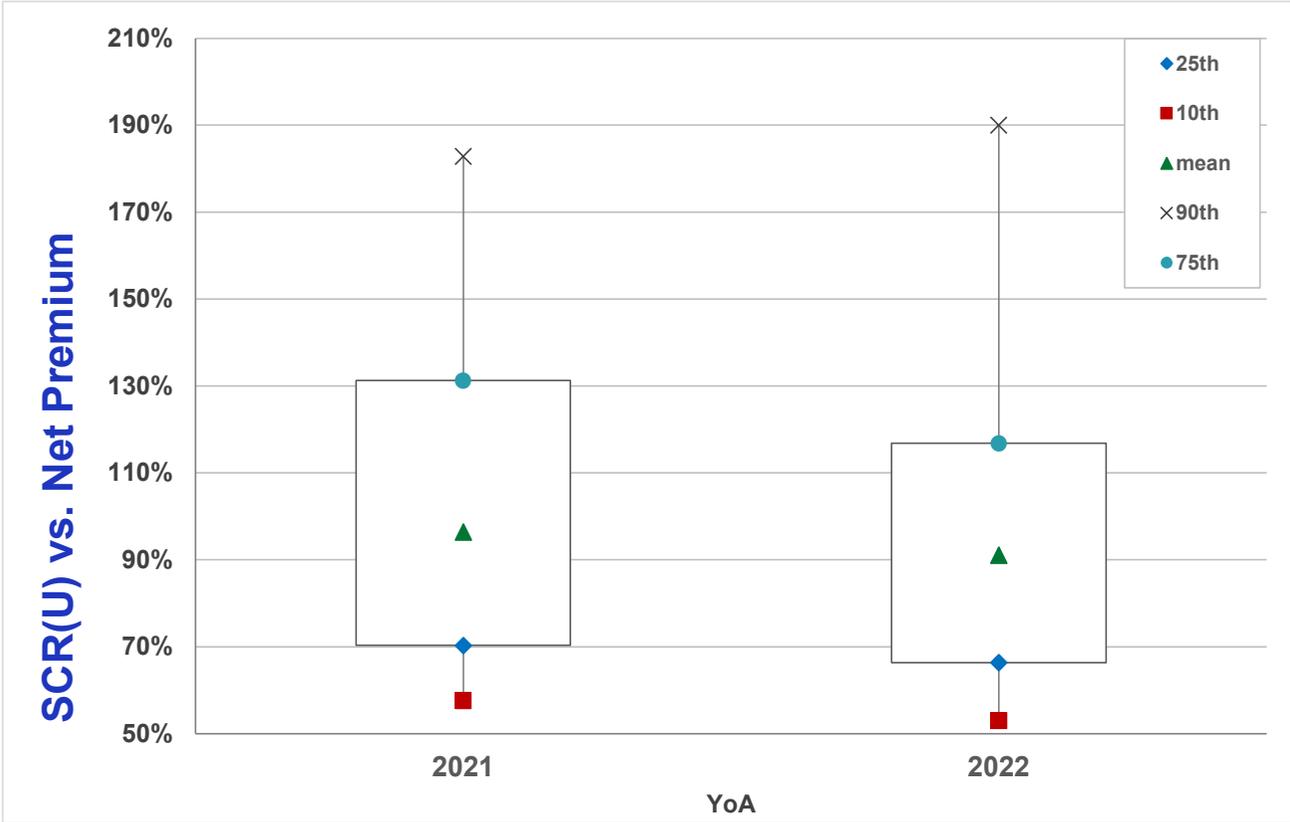
<https://learning.actuaries.org.uk/course/view.php?id=795§ion=19> (needs IFOA login)

- **Project RIO resource hub including technical briefings**

<https://www.lloyds.com/conducting-business/market-oversight/principles-for-doing-business-at-lloyds/project-rio-resource-hub>

Ultimate SCR vs. net premium

Excludes loads and other adjustments

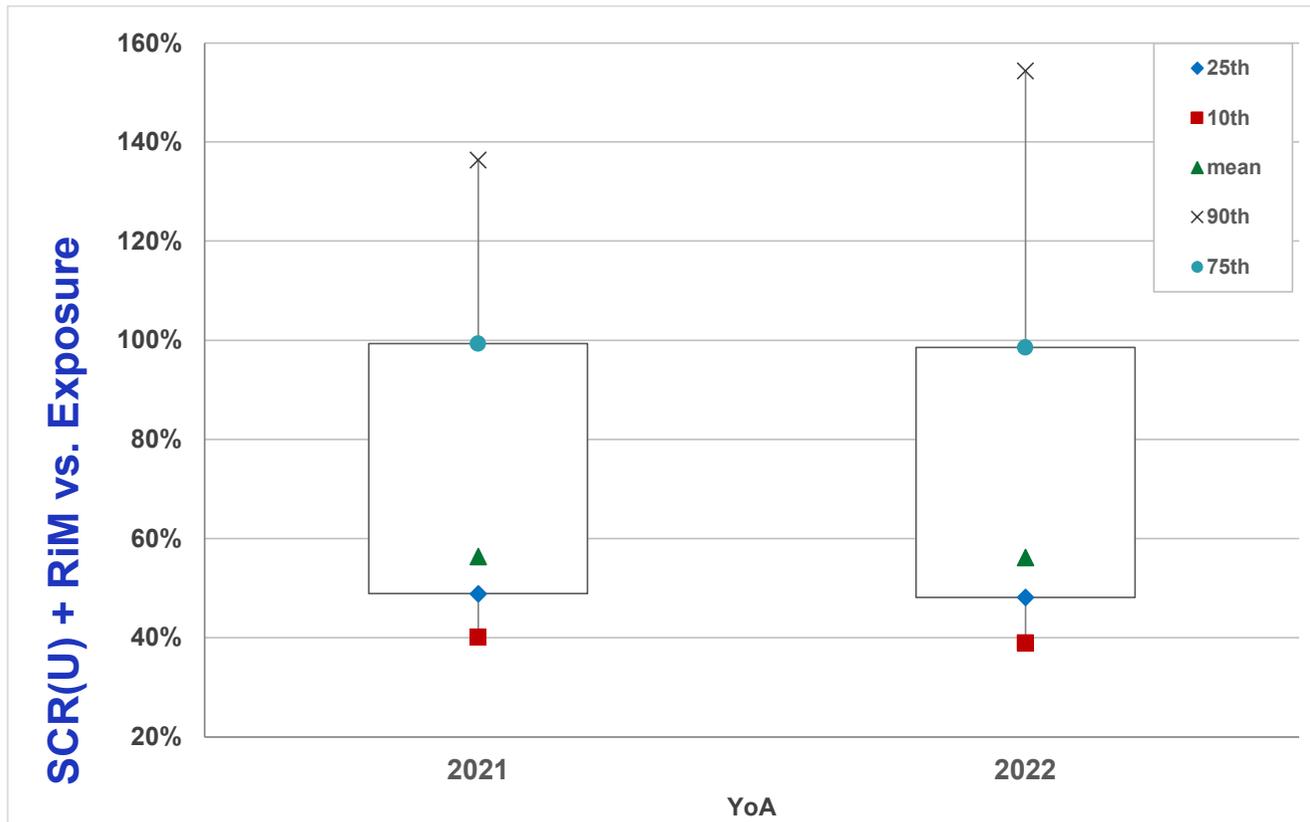


Ult SCR: F309 (submitted uSCR + management adjustments).

Net PI: F313 table 1 col D row 1

Ultimate SCR + RiM vs. Exposure

Excludes loads and other adjustments

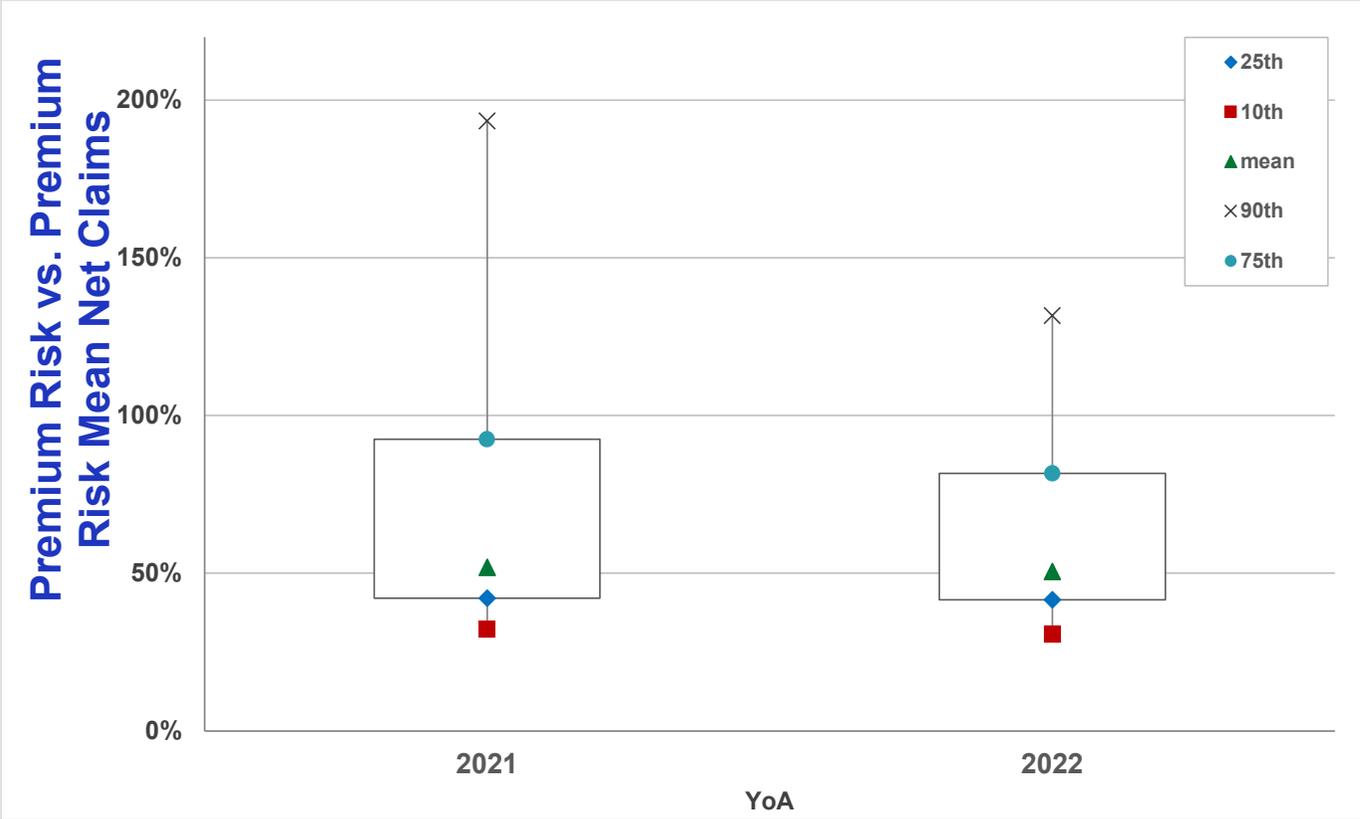


Ult SCR: F309 (submitted uSCR + management adjustments).

RiM: F312 col P total

Exposure: (LCR 313.3 H1 + LCR 313.3 H4) + (0.5 * LCR 313.3 H5)

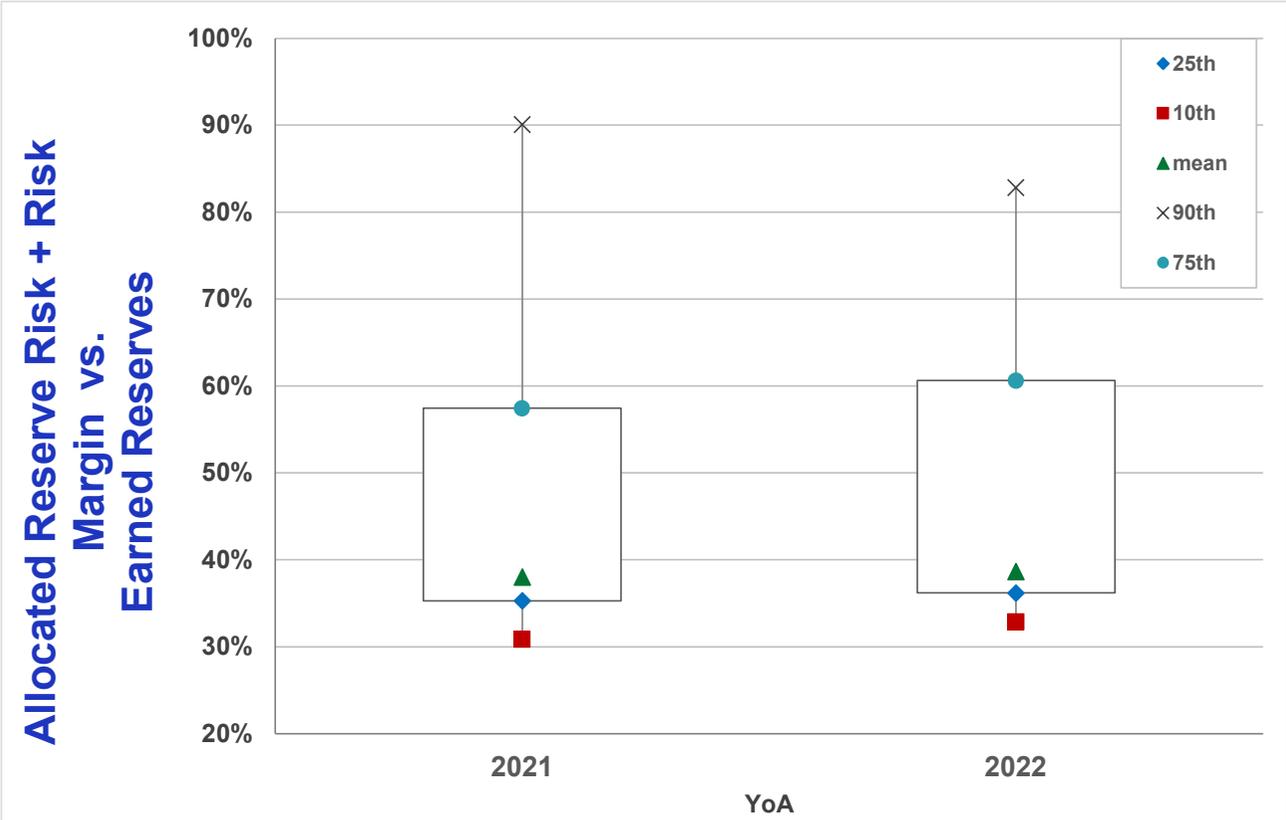
Premium Risk vs. Premium Risk Mean Claims



Ult premium risk (pre diversification): F309

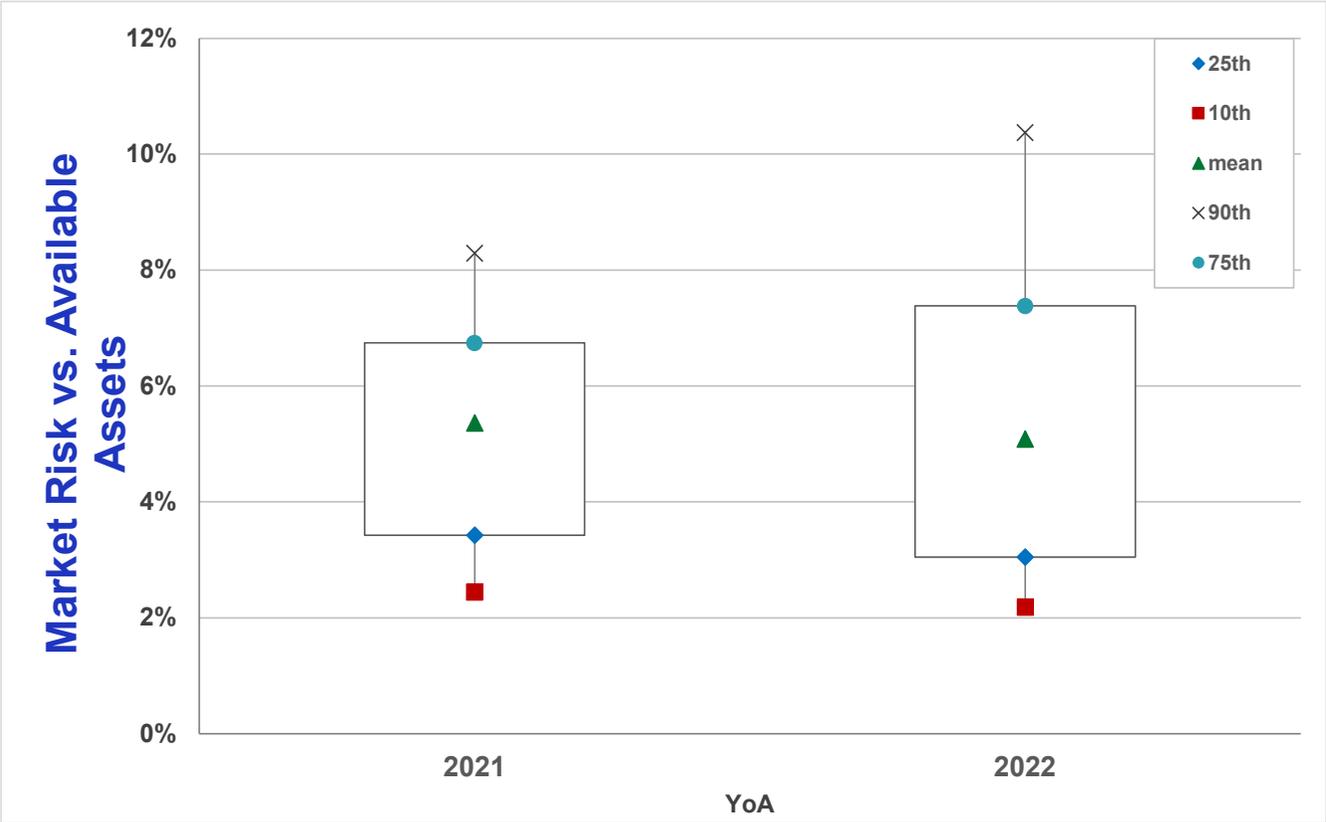
Exposure: LCR 313.3 H1 + LCR 313.3 H4

Reserve Risk + Allocated RiM vs. Earned Reserves



Ult Reserve risk (pre diversification): F309
 Risk Margin: F312 col P total
 Earned Reserves: LCR 313.3 H5

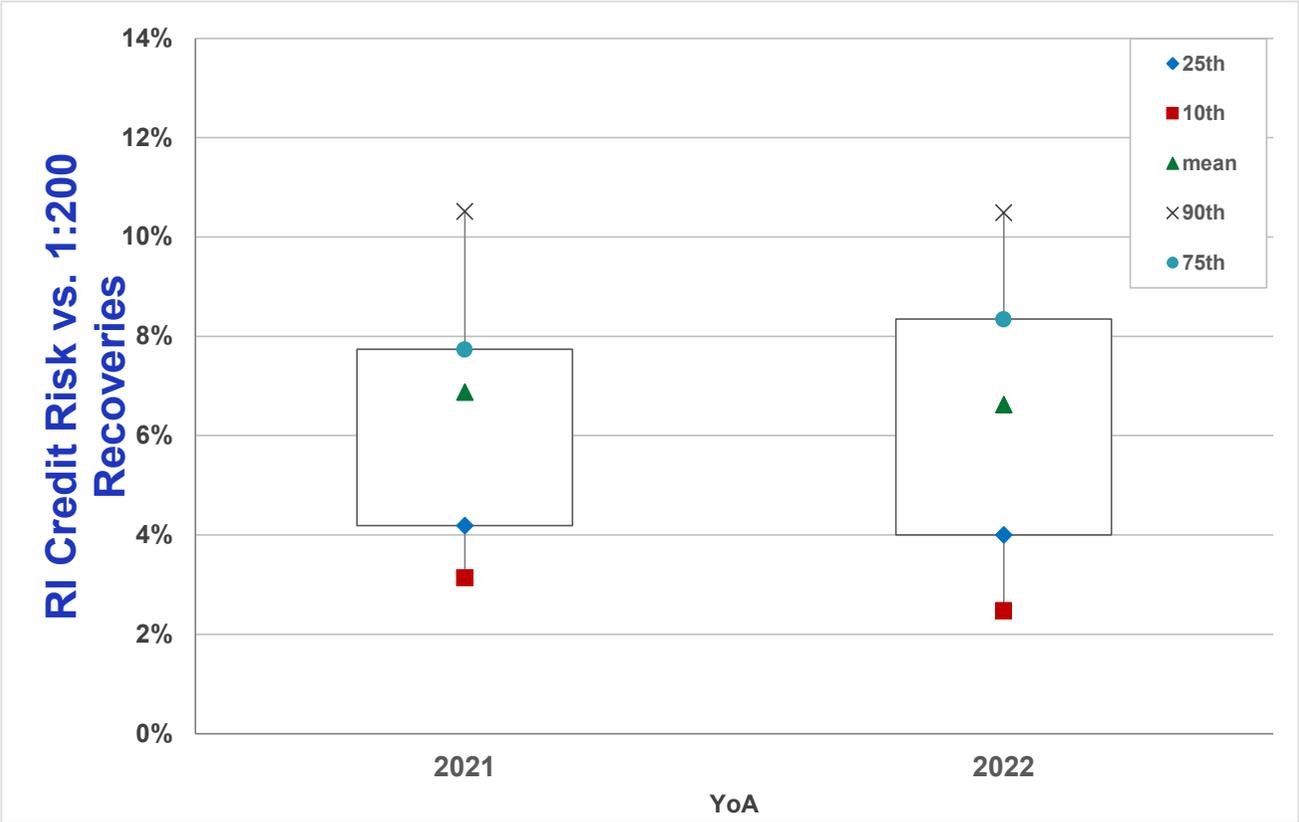
Market Risk vs. Available Assets



Ult Market risk (pre diversification): F309

Available Assets: F312 col Q Total less Proposed YOA + F313 table 1 col D row 1

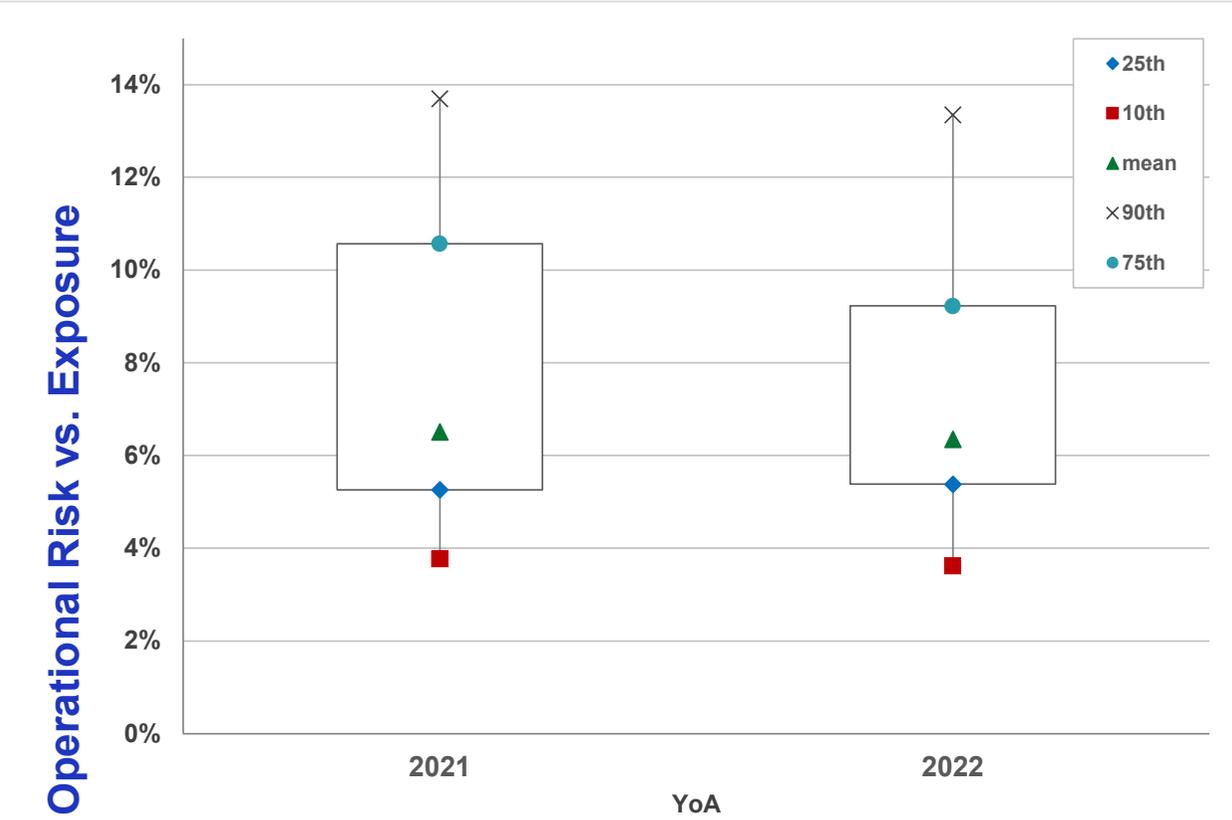
RI Credit Risk vs. 1:200 recoveries



RI Credit risk (pre diversification): F309

1:200 Recoveries (approximated): F311 table
1 col G row 4 less row 3

Operational risk vs. Exposure

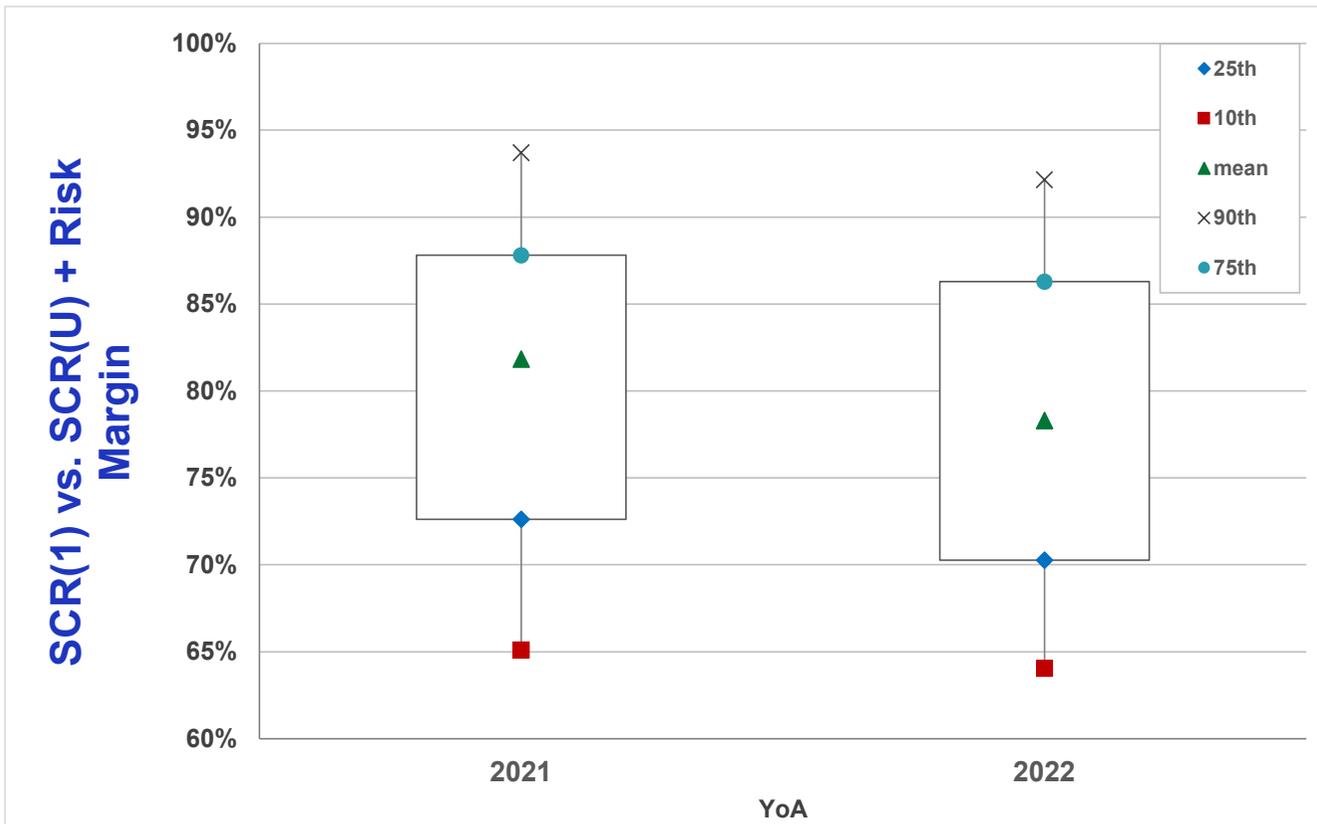


Operational risk (pre diversification): F309

Exposure: $(LCR\ 313.3\ H1 + LCR\ 313.3\ H4) + (0.5 * LCR\ 313.3\ H5)$

SCR(1) vs. SCR(U) + RiM

Excludes loads and other adjustments

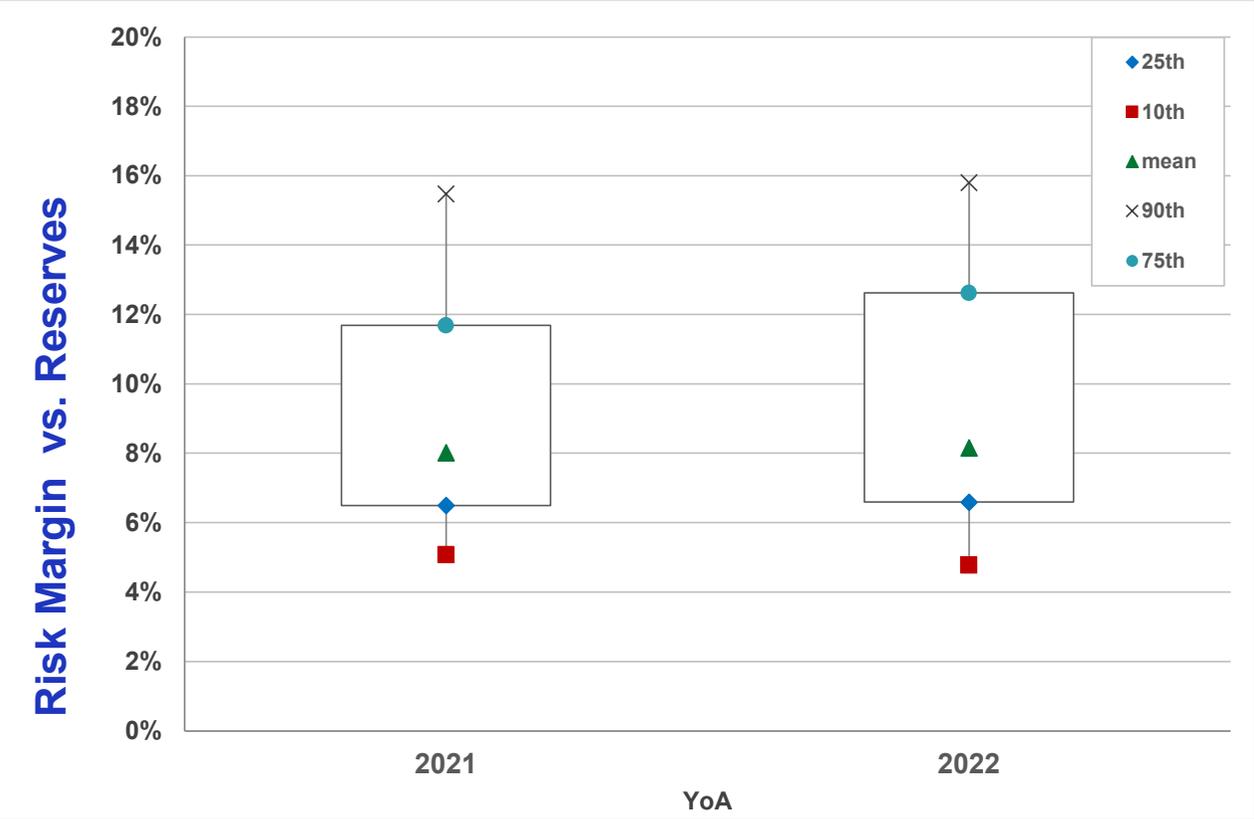


Ult SCR: F309
 1YR SCR: F309
 Both includes management adjustments

Risk margin: F312 col P total

Risk Margin vs. Reserves

Excludes loads and other adjustments

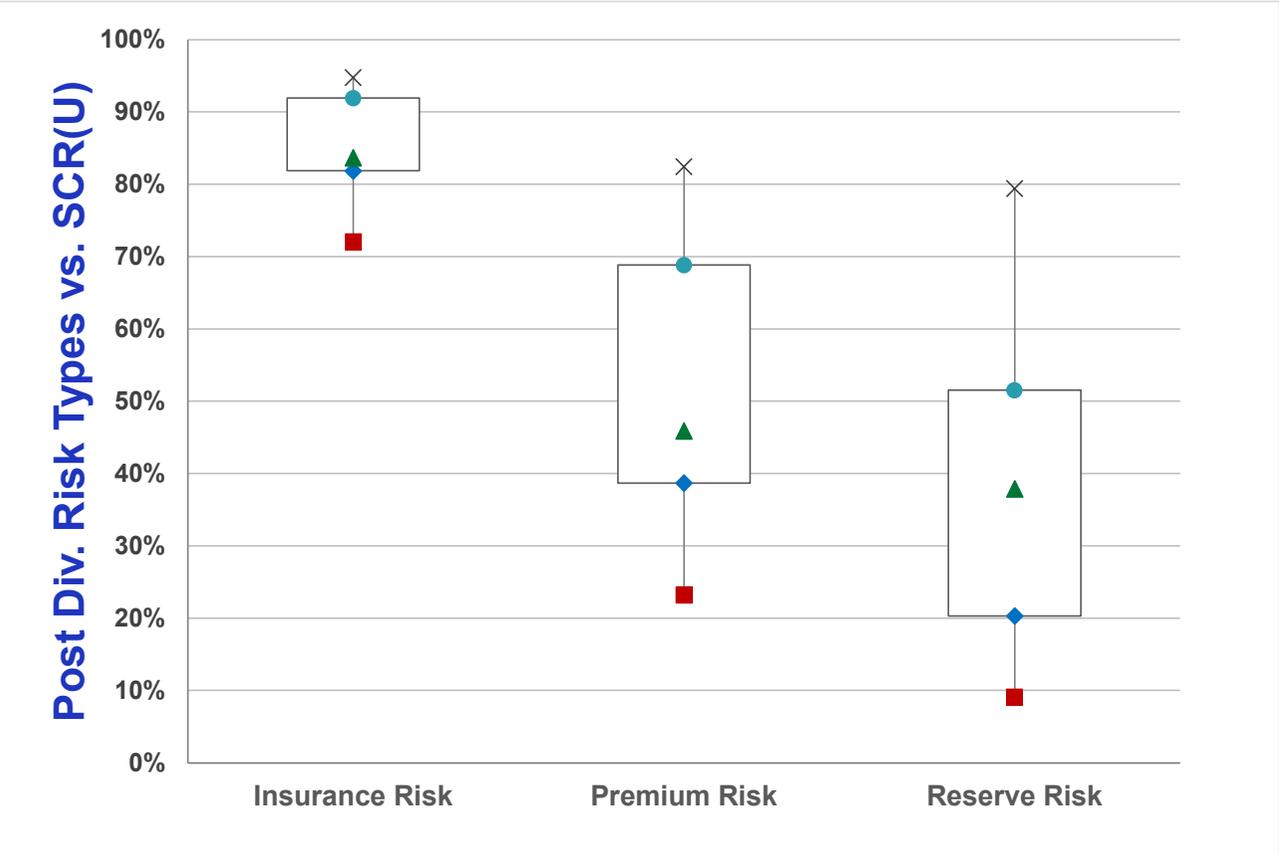


Risk margin: F312 col P total

Net Reserves: F312 cols H+I+J Total less Proposed YoA

Post Diversified Risk Types vs SCR(U) part 1

Excludes loads and other adjustments

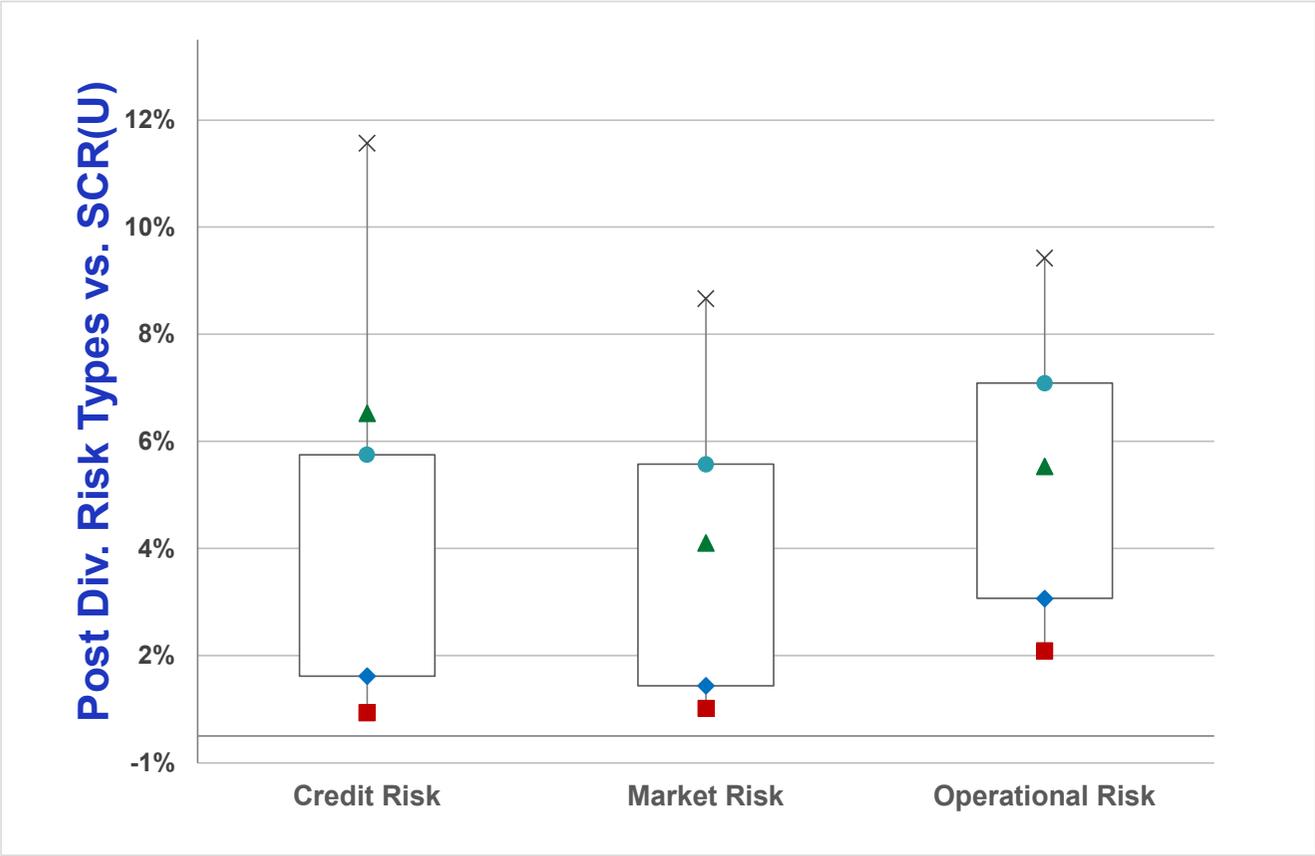


Post Div. Insurance Risk & Ult SCR: F309

Post Div. Premium & Reserve Risk: F541

Post Diversified Risk Types vs SCR(U) part 2

Excludes loads and other adjustments



Post Div. Credit, Market & Operational Risk & Ult SCR: F309