Please note: This letter has been prepared for the website. Square brackets show where this letter may differ slightly, along with formatting from those versions sent directly to firms.

Bank of England PRA

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23 June 2023

Dear Chief Actuaries of general insurance firms and Lloyd's Managing Agents regulated by the PRA,

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

We are writing to provide feedback to the market from our recent thematic review across the general insurance sector which looked at how firms responded to our letter to chief actuaries published on 20 October 2022.[1] The letter focused on the effect of claims inflation on general insurance claims. By claims inflation, we are referring to the increase in the cost over time to settle general insurance claims.

As we have communicated previously, we expect claims inflation to affect all general insurance firms, although the nature of the impact will vary depending on the firm's business model and risk profile. There is a risk that persistently elevated claims inflation might result in a material deterioration of solvency coverage for some firms unless they take appropriate mitigating actions.

We have spoken to a number of firms from across the London market, retail, and commercial insurers to understand how they have taken on board the content of our letter to Chief Actuaries and how they have allowed for claims inflation in the 2022

[1] October 2022: https://www.bankofengland.co.uk/prudential-regulation/letter/2022/october/insights-from-thematic-review.

year-end Solvency II technical provisions[2] and Solvency Capital Requirement (SCR) calculations.[3] In particular, we were interested in understanding the work that firms have been doing to identify drivers of claims inflation, the approaches they used to assess claims inflation present in the claims data and firms' expectations for future claims inflation. The latter includes assumptions for inflation[4] on existing claims, unexpired policies, and in respect of business expected to be written in 2023.

Technical provisions must[5] be calculated based on up-to-date, credible information, and realistic assumptions. Therefore, claims inflation should be robustly considered. Firms also need to ensure the risk of further claims inflation is appropriately allowed for in internal model (IM) SCR calculations[6] and where the standard formula (SF) is used to calculate the firm's SCR, that it remains appropriate.[7]

We trust this letter will be useful as your firm prepares for its mid-year reserving exercise, along with capital and business planning for 2024 later in the year. In line with the Prudential Regulation Authority's approach to insurance supervision,[8] when assessing insurance firms, we will consider the external environment in which they operate, including potential system-wide risks. We would encourage you to assess the extent to which the points raised below are relevant to your business and how they are being addressed. Please share and discuss this letter with the board and other key stakeholders. As part of our 2023 year-end reserve adequacy supervisory work, we may ask you to explain how you have considered the key findings set out below.

Key findings and observations from our reviews

Our observations are grouped into three specific areas: i) adequacy of reserve strengthening, ii) observations on mitigating benefits to firms' reserves and capital, iii) financial resilience and governance challenges in responding to claims inflation.

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[2] Technical Provisions Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212670/12-06-2023.

[3] Solvency Capital Requirement – General Provisions Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212754/12-06-2023.

[4] Technical Provisions Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212670/12-06-2023.

[5] Technical Provisions Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212664/12-06-2023.

[6] Solvency Capital Requirement – Internal Models Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212835/08-06-2023.

[7] November 2016: https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/supervisory-statement/2016/ss1916.

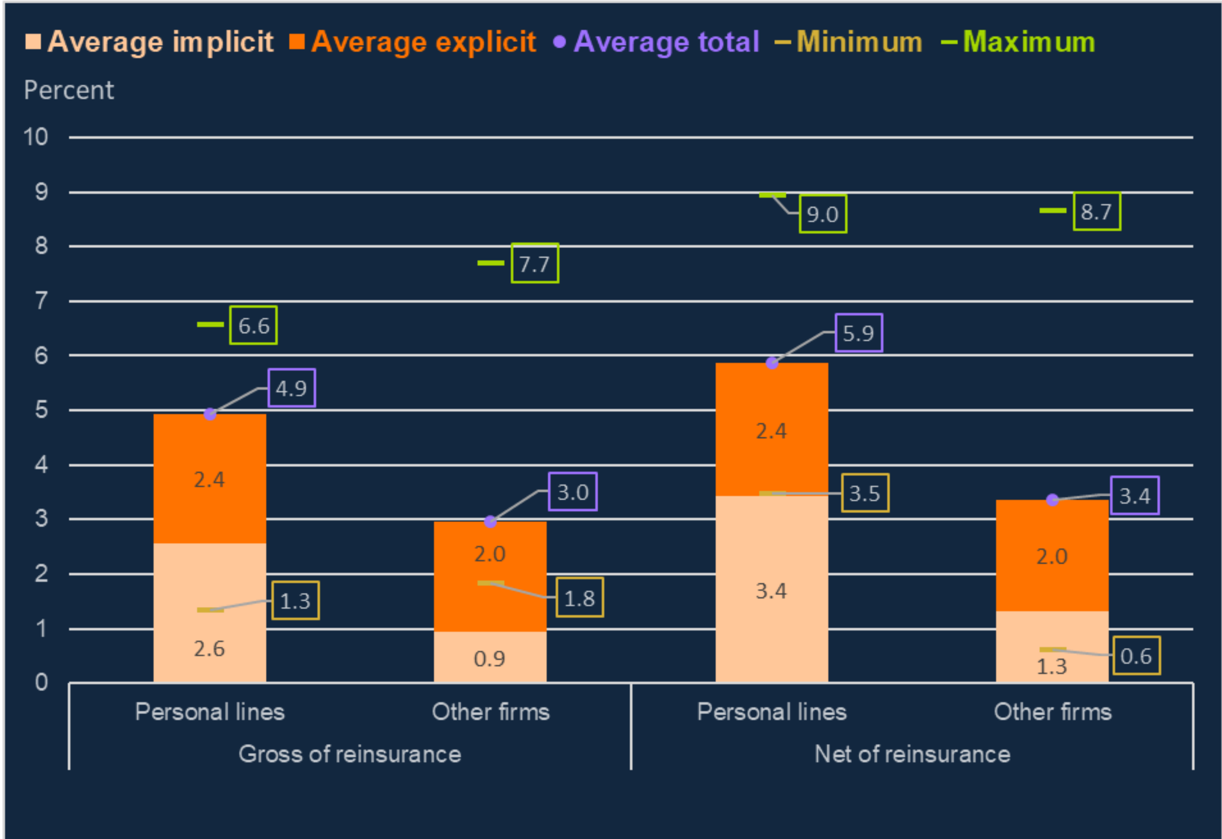
[8] October 2018: https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/approach/insurance-approach-2018.pdf.

Examples of the different practices that we have seen, and detailed observations, are set out in the Annex.

Adequacy of reserve strengthening

We have seen a range of claims inflation related increases applied to reserves. The average increases applied may not be sufficient to support future claims in relation to the total economic inflation forecast to pass through the economy. Firms in our sample of 16 have reported an average, net-of-reinsurance claims inflation allowance[9] of around 5.9% in entities classified to be predominantly personal lines firms and 3.4% across all other firms, with a range of 0.6% to 9%, as shown in Chart 1. Note that these allowances are in addition to underlying claims inflation coming through in the data.

Chart 1: Inflation allowance as a percentage of undiscounted best estimate liabilities



* Of the 16 firms, three firms were not able to quantify the implicit allowances that have resulted from updating the parameters, assumptions, or case estimates feeding into the best estimate liabilities. One firm was not able to provide the explicit allowance. These firms have not been included in the calculations for the allowances. The inflation allowance figures reported could be higher or lower if these firms were able to quantify the allowance. Allowances are weighted

[9] We have referred to the increases within the technical provisions as 'allowances' for claims inflation. We have avoided using the word 'loading' because this could be as interpreted as an amount in excess of the best estimate. We are aware that the two terms can be used interchangeably within the market.

averages. All figures were reported in GBP sterling. Inflation allowance has been calculated as % of undiscounted best estimate liabilities as at YE22.

Within responses, firms widely acknowledged that there would be a lagging effect as the heightened economic inflation passes through to claim settlement costs, eg higher court settlement costs, exposures to larger compensatory claim settlements, legal, and medical costs. These may ultimately lead to higher claim settlement costs.

Noting that many firms have yet to see claims inflation reflected in the data on some longer-tailed lines, it is a plausible outcome that claims inflation on some lines of business may lag economic inflation. We would encourage all firms to carefully consider and be able to justify whether such a lag might apply to their business.[10]

Firms that have better monitoring of the impact of the changing economic environment are likely to be able to respond faster and more appropriately to emerging claims inflation trends, especially where the monitoring results are communicated and discussed across all functions.

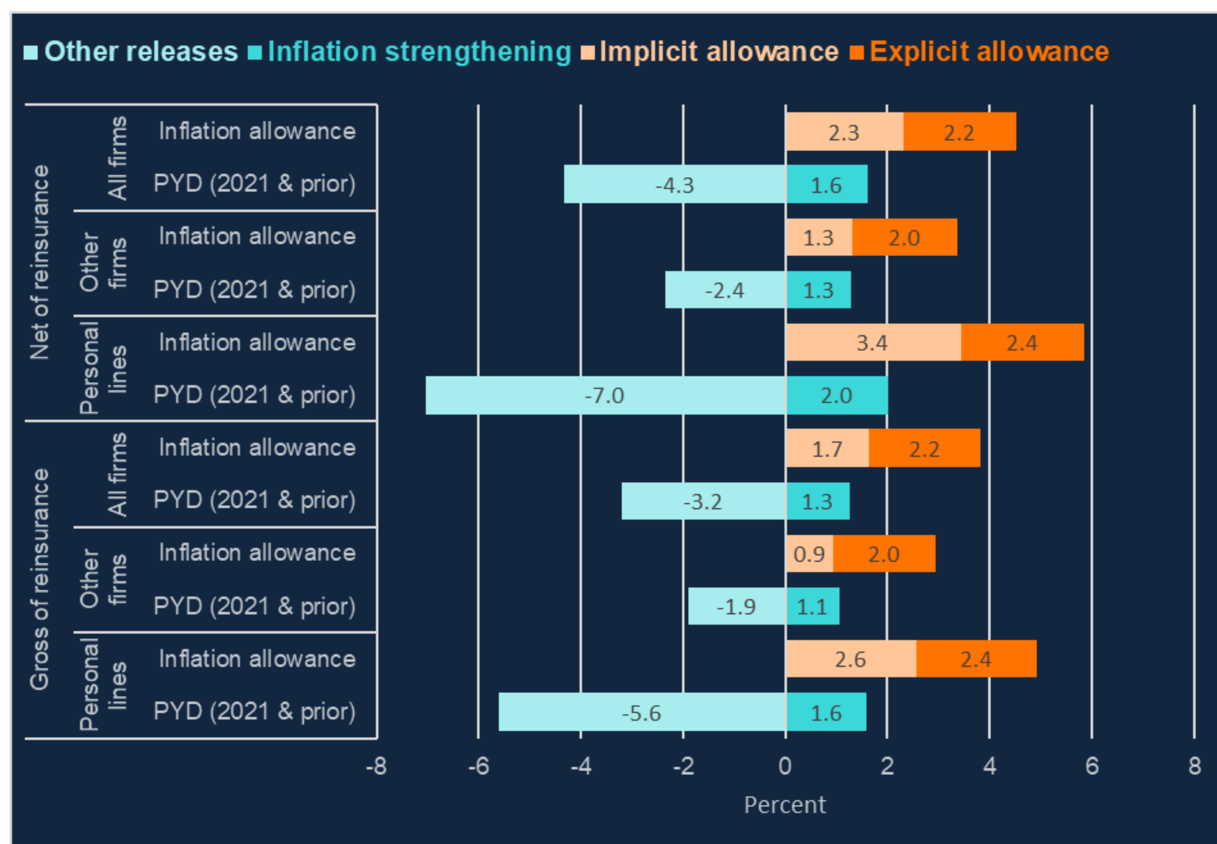
[10] Technical Provisions Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212679/12-06-2023**.

Observations on mitigating benefits to firms' reserves and capital

Over the past year, many firms have been able to release from prior year reserves as other potential downside uncertainties become more benign. Premium rates have also hardened in some sectors. However, there is a risk that firms may be releasing reserves while uncertainty still remains regarding long-term trends or overestimating the benefits of market hardening on recent years due to inappropriate claims inflation assumptions eg adjusting historical cash-flows to their present value to attempt to remove the effect of claims inflation in the analysis.

Where claims inflation has yet to be observed in some classes, there is a risk that firms underestimate future inflationary impacts and consequently overstate their profitability. We can see in Chart 2 below that the total releases from reserves have far exceeded the prior year deterioration for claims inflation and the allowances applied for future claims inflation.

Chart 2: Prior year development (PYD) and inflation allowance as a percentage of undiscounted best estimate liabilities



* Of the 16 firms, three firms were not able to quantify the implicit allowances that have resulted from updating the parameters, assumptions, or case estimates feeding into the best estimate liabilities. One firm was not able to provide the explicit allowance. These firms have not been included in the calculations for the allowances. The inflation allowance figures reported could be higher or lower if these firms were able to quantify the allowance. Allowances are weighted averages. All figures were reported in GBP sterling. Prior year development is in respect of claims incurred for 2021 and prior years from YE21 to YE22 and has been

calculated as % of undiscounted best estimate liabilities as at YE21. Inflation allowance has been calculated as % of undiscounted best estimate liabilities as at YE22.

Simultaneously, all firms have been able to benefit from the increases in the risk-free rate reducing the discounted best estimate technical provisions. The benefit from the fall in the best estimate technical provisions across the market is greater than the claims inflation allowances applied to the technical provisions. Although we also note that the change in the risk-free rate also results in movements on the assets side of the balance sheet.

Underestimating future claims inflation assumptions can have a significant effect on the representation of a firm's financial strength:

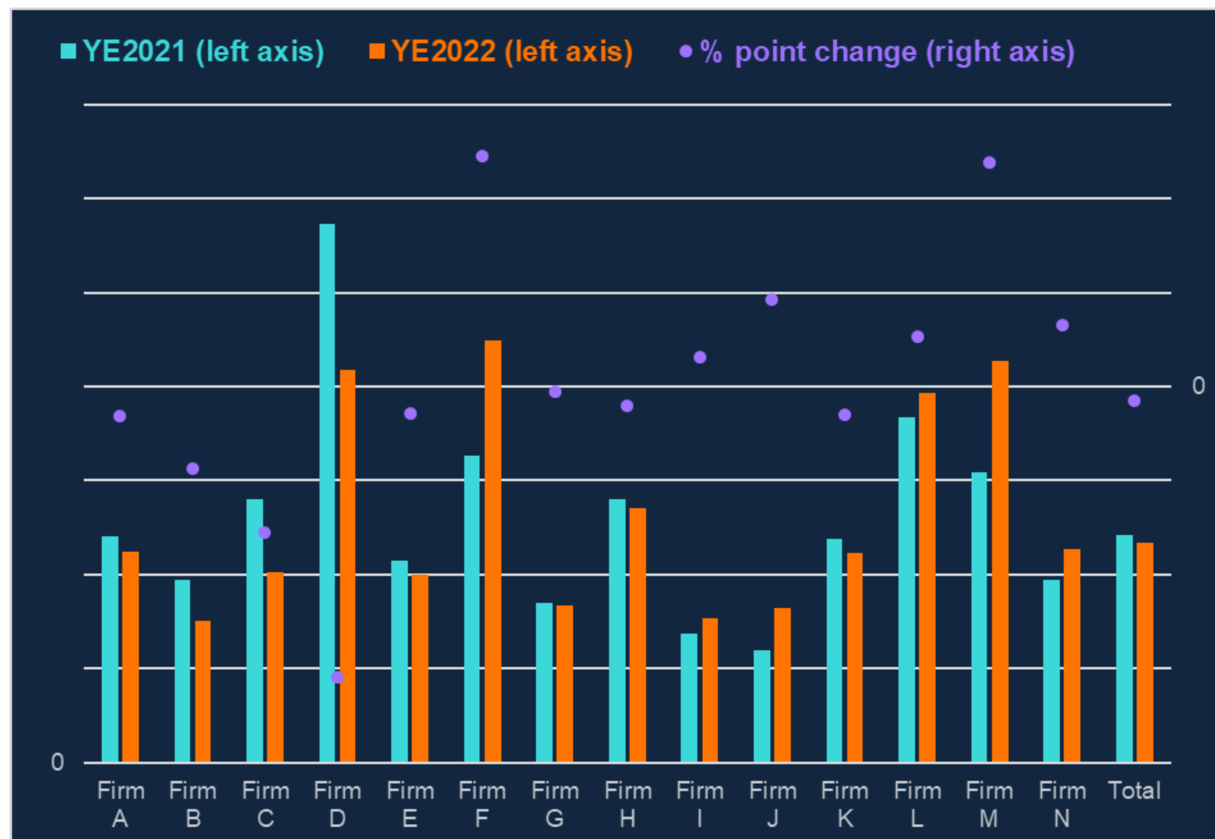
- Optimistic claims inflation assumptions result in lower technical provisions[11] and higher own funds.
- Lower provisions for claims outstanding leads to a lower SCR reserve risk charge for SF firms and some IM firms,[12] as can be seen in Chart 3 below.
- More optimistic claims inflation assumptions can also lead to inadequate pricing, inadequate business plans, and higher expected profit for the following year.
- This may, in turn, lead to a reduction in overall SCR for firms.

Therefore, there can be a significant gearing effect in terms of the financial position of a firm where future claims inflation assumptions are optimistic. This gearing impact (on technical provisions, own funds, capital requirements, and profit) could result in a deterioration in solvency ratios if there is a need to react to claims inflation once it appears in the data. It can be seen in Chart 3 below that the reserve risk charge as a percentage of discounted net best estimate claims provisions has reduced for some firms between 2021 year-end and 2022 year-end, despite the additional uncertainty at 2022 year-end.

[11] For the 15 firms for whom we had available data for the best estimate gross technical provisions at 2022 year-end, these were 1.6% lower than as at 2021 year-end.

[12] Where models are based on technical provision volumes.

Chart 3: Reserve risk as a percentage of net best estimate claims provision (scales are intentionally omitted)



Depending on where a firm's best estimate future claims inflation assumptions are taken from within a plausible range of future expectations, a firm's IM may need to be updated such that the calculated SCR sufficiently covers tail-risk at a 1-in-200 level as taken to be the deviation from the selected best estimate and to ensure that the IM is consistent with the technical provisions.[13] Given the wide range of plausible claims inflation paths, it is important that functions within firms are joined up sufficiently to ensure that this relationship consistency is maintained, and the SCR held remains appropriate.

As noted in our letter to CEOs, setting out priorities for the supervision of life and general insurers in 2023,[14] 'in light of the multiple external uncertainties facing insurers, it is important that firms take proactive steps to assess the adequacy of their risk management and control frameworks…Given the central role that models play in

[13] Solvency Capital Requirement – Internal Models Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212835/08-06-2023.

[14] January 2023: https://www.bankofengland.co.uk/prudential-regulation/letter/2023/insurance-supervision-2023-priorities.

supporting risk assessments, we expect firms to reassure themselves of the continued validity of their models'.

Financial resilience and governance challenges in responding to claims inflation

Given that more economic inflation may pass through into claims settlement costs than is currently assumed, along with the modest size of increases in reserves that firms have introduced within the best estimate, there is a significant risk that the market may identify the need for further strengthening to prior years' reserves in future years.

We anticipate 2023 year-end to be more challenging for reserving teams. Strong interactions, communication, and feedback loops between functions should support reserving teams in setting appropriate reserve estimates. Having a firm-wide consensus as to how much claims inflation is expected to develop, in conjunction with a good understanding of how much claims inflation is already reflected in claim settlement costs and established case reserves, should support reserving teams to understand how much needs to be reserved to support expectations for further claims inflation development.

We are continuing to monitor and review how firms are preparing for and allowing for claims inflation in their reserves, claims, capital requirements, and underwriting/pricing, in line with our approach document which sets out our assessment of insurers against current and plausible future risks.[15] We would encourage all firms to review our findings and consider how each of the points may impact their firm during the mid-year reserving and capital assessment processes and beyond.

Yours faithfully

Nylesh Shah
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[15] October 2018: **https://www.bankofengland.co.uk/-/media/boe/files/prudential-regulation/approach/insurance-approach-2018.pdf**.

ANNEX: Observations from our reviews

This annex sets out more detailed observations, which we include to support the high-level messages in the main letter.

Observations relating to the identification of claims inflation

- We observed that, of the firms that responded to our question regarding claims inflation crystalising in line with expectations, three noted claims inflation was above expectations, along with three more that noted it was above expectations on property lines. Four noted it was in line with expectations other than for property. Three thought it was below expectations. Three had not observed any evidence of claims inflation on their book.

- Motor insurers were able to provide the most clarity and detail as to understanding the precise source of the claims inflation (car values, repair costs, replacement car costs, supply chain challenges, and care/medical costs). Property insurers identified rebuild costs, raw materials, property undervaluation, and supply chain issues driving claims inflation. On other lines, the drivers of claims inflation that were identified were noted as being increases in wage costs (sometimes assessed at a more granular level) and increase in legal costs. Some firms were not able to identify specific drivers and linked their insights to general economic inflation or social inflation, this was mostly the case in lines of business where no claims inflation had yet been identified in claims data such as general casualty, financial, and professional indemnity lines.

- Firms were not yet able to perform explicit actual-versus-expected claims inflation comparisons or analysis of parameters such as frequency and severity that may help to identify inadequate inflation allowance.[16] Some firms explained that claims inflation or economic inflation is not a specific parameter that is specified in reserving analysis. Firms told us that they would generally do a traditional actual-versus-expected analysis and then consider claims inflation as a potential driver. More firms have begun to adopt an average cost per claims or severity/frequency approach to try to identify claims inflation trends.

- Where firms were yet to see evidence of claims inflation, they were relying on the outputs of regular reserving processes such as actual-versus-expected analysis or tracking the average cost per claim to highlight emerging trends. Some firms used off-the-shelf reserving software and/or machine learning techniques to identify and quantify the impact of mix changes and claims inflation trends.

[16] Conditions Governing Business Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212973/12-06-2023.

- Some firms appeared to have a more company-wide approach to claims inflation monitoring, for example some firms referred to having an 'Inflation Committee' or a cross-discipline team which monitors emerging trends with participants from various business functions. Other firms referred to the development of their 'house view of inflation'. This may enable firms to better monitor claims inflation than those who rely solely on standard actuarial reserving process for monitoring.

- Some firms found it helpful to refer to external information, including reviewing what competitors see in their portfolio on economic indices, referencing outside metrics (OECD, ECB, Moody's, and Bank of England) for economic indices projection estimates to compare/benchmark to the firm's own previous assumptions and other indices that track specific costs and services. However, some firms appeared to apply significant weight to a single external index, while also expressing concern about the credibility of the index.

- We noted that there was limited rationale provided for the absence of observed claims inflation on some classes. Some of the reasons given were fixed benefit policies, policies being priced upon sum insured or contract value, and the lag for economic inflation feeding into claims inflation. Some firms noted that for bodily injury claims, the stability to date relates to claims that are either driven by tariffs (which are not yet due to be updated) or subject to negotiation. Whiplash reforms have also helped with controlling/mitigating bodily injury claims.

Observations in relation to reserving approaches

Strengthening of prior reserves

- Some firms can apply or allocate claims inflation allowances down to specific lines of business, which may help them to monitor claims inflation and attribute reserve deterioration at a more detailed level. In doing this, these firms are more likely to be able to monitor how much of the claims inflation allowance they have created has been burned through. However, some firms applied claims inflation allowances arbitrarily and without technical justification.[17]

- Some firms were yet to perform a review of their case reserves and update them to allow for claims inflation, despite acknowledging that they had seen evidence of claims inflation coming through in claim settlement costs.[18]

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[17] Technical Provisions Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212679/12-06-2023**.

[18] Technical Provisions Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212670/12-06-2023**.

- We observed some firms relying on averaging clauses and the expectation that claims inflation won't be apparent in the data because it sits with the insured. However, we note that the application of averaging clauses in the event of claims less than a total loss can be complex and challenging.

- Despite the claims inflation allowances applied and the prior year development in relation to claims inflation, the net ultimate loss ratios on prior years have generally improved between 2021 year-end and 2022 year-end, with the exception of the 2017 and 2018 years for non-motor firms.

Chart A.1: Net ultimate loss ratio for all lines of business – non-motor firms

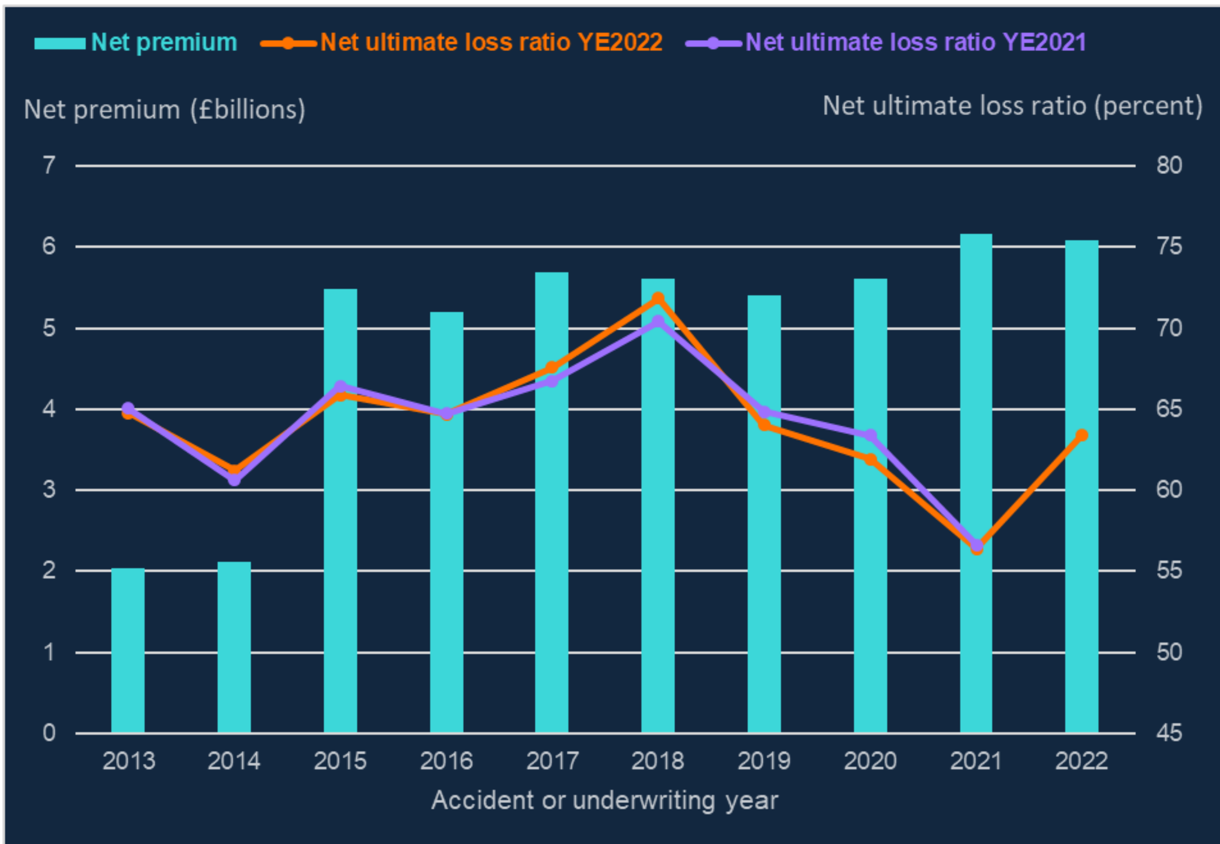
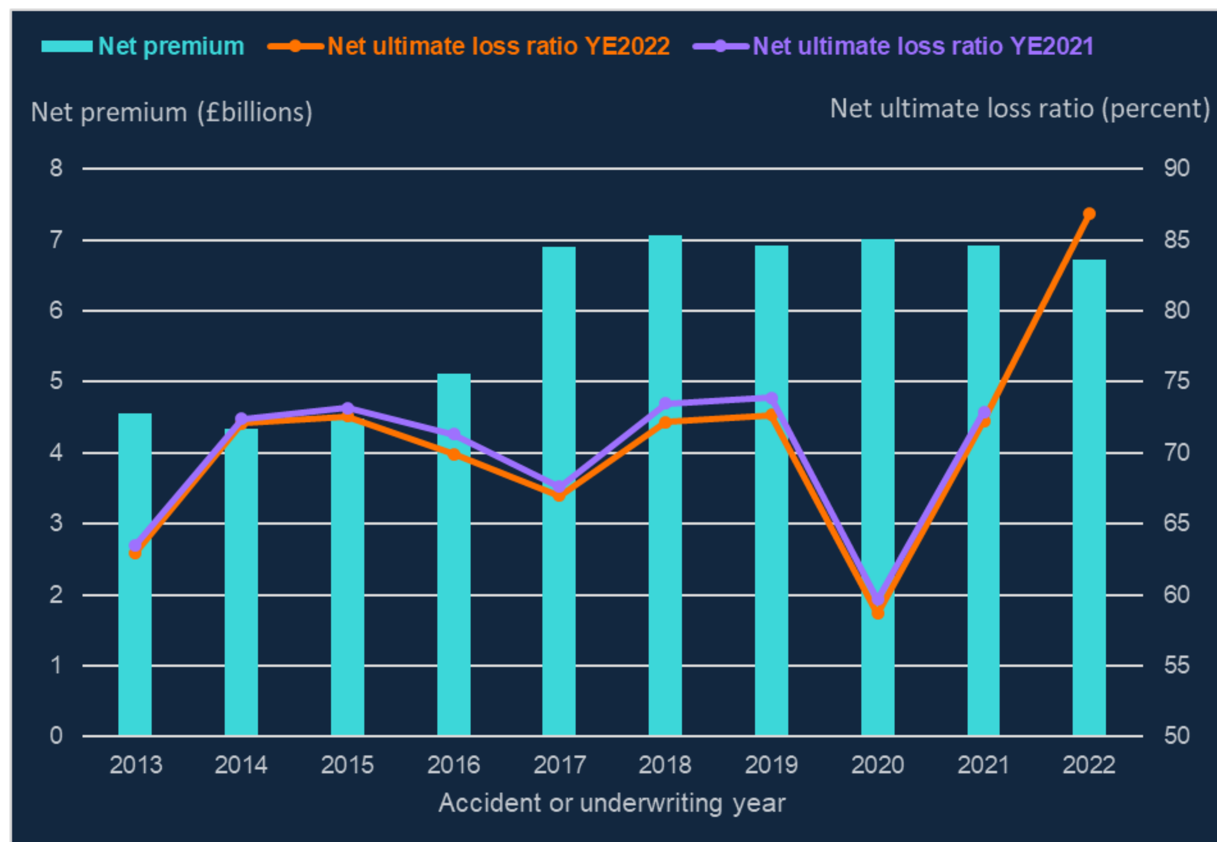


Chart A.2: Net ultimate loss ratio for all lines of business – motor firms



* All figures were reported in GBP sterling. Currency exchange rate movements were not split out.
* The net premium is the net written premium or net earned premium. The net ultimate loss ratios are net of reinsurance. Figures are based on the firms' reporting basis.

Strengthening of premium provisions

- Numerous firms had applied additional uncertainty allowances within their best estimate premium provision and other firms made a specific allowance for claims inflation shocks in the 2022 initial expected loss ratios. However, some firms did not appear to make any consideration for the need to strengthen claims inflation assumptions in the premium provisions[19] or consider the need for an additional unexpired risk reserve in the company accounts.

[19] Technical Provisions Part of the PRA Rulebook: https://www.prarulebook.co.uk/rulebook/Content/Chapter/212670/12-06-2023.

Reserving methodologies and techniques

- We observed firms were performing actual-versus-expected analysis more frequently, in some cases more frequent than quarterly to ensure they had early sight of claims inflation developments. Another area of development was the consideration of severity (or average cost per claim) and frequency of claims separately to identify claims inflation trends.

- Some firms were tracking settled claims against prior assumptions or case reserves as an early indicator to assess potential claims inflation. Reserving actuaries then feed this back to the claims department to consider for other claims that have yet to settle.

- A small number of firms had adopted 'inflation-adjusted techniques' and others use scenario testing to establish the likely effect of claims inflation.

Future claims inflation assumptions on prior reserves

- Some firms were able to assess longer-term cash-flows by line of business and/or by country and apply claims inflation uplifts in a logical way to these future cashflows. However, some firms stated, with very limited or no justification, that they considered the case reserves or trends within the data, implying that sufficient prudence exists in existing reserves to absorb potential future claims inflation driven deteriorations.

Observations in relation to internal feedback loops

- Several firms indicated that they have made changes to their governance processes to improve the oversight of claims inflation risk, while other firms indicated that their existing governance processes were robust and able to facilitate discussions around claims inflation. The most common improvement that was developed was the establishment of a dedicated cross-functions forum.

- Some firms used this forum to establish a single view of claims inflation, to be used across the business, at an appropriately granular segmentation and with variation for different accident/underwriting/calendar years. Differences between claims inflation assumptions across the different segments and timings were clearly explained and understood.

- All firms stated that information on claims inflation was shared with the board, but only a small number of firms provided evidence of board challenge on claims inflation assumptions.

- Almost all firms engaged external expertise to provide an independent review of reserves to get a sense of market view and analysis of differences between the external independent assessment and the internal view.

- At this time where there is significant change in claim settlement costs, it is imperative that the reserving teams and the claims team communicate frequently and openly to ensure that an appropriate best estimate reserve is calculated. While our review evidences some examples of good communications, it was not always clear how this information from claims is used by the reserving team.

Observations in relation to reinsurance

Future reinsurance renewal assumptions

- Some firms stated that they carried out checks to confirm that the reinsurance renewals were in line with the assumed reinsurance terms. However, the majority of firms did not appear to perform these checks, and in the business plan assumed that future renewals would renew 'as is' (either on existing terms or ratings, existing terms with some allowance for market hardening, or in-line with the business plan). This could result in optimistic allowance for reinsurance recoveries.

Changes to reinsurance coverages

- Some firms stated that they had recently extended reinsurance programmes or coverages and, in some cases, this was specifically to mitigate against claims inflation.

Capital and modelling implications

- Firms reported to us that they had seen some basis risk emerging on reinsurance programmes where they contained indexation clauses. In some cases, this worked in favour of the insured and on other occasions, it was in favour of the reinsurer. Appropriate sensitivity and scenario testing of reinsurance arrangements may help firms to identify how this applies to them.

- Some firms ensure the capital model accurately reflects economic and market impacts at any given point in time. One firm stated specifically that they had updated the model for reinsurance retention levels and reinstatement assumptions, along with adding an additional claims inflation scaling factor into the capital model.

Observations in relation to capital requirements

- Most firms that use the SF to calculate the SCR did not do an assessment to understand if the increases in interest rates, economic inflation, and claims inflation affected the appropriateness of the SF calculation.[20] Many firms assumed SF had sufficient implicit allowance for claims inflation and changes in the economic outlook without conducting robust supporting analysis.[21] Some firms continue to compare the results of the SF to their capital model to assess the appropriateness of the calculation. Those firms that conducted scenario testing which included composite scenarios and looked at both one-year and ultimate view of risk may have a better understanding of the impact of claims inflation.

- Most IM firms have worked with their Economic Scenario Generator (ESG) providers to update the projections for economic indicators in the models in light of the recent market volatility. This has resulted in firms recognising a higher claims inflation volatility in their SCR.

- IM firms should ensure they validate the model on a regular basis.[22] Following update of the ESG in the IM, firms back-tested the 2022 economic inflation event and compared the resulting return period assumed by the model to their own expectations. Some firms used sensitivity testing to assess updated projections from the ESG and applied increases to the SCR in relation to increased economic risks. Firms that have good engagement with ESG providers may find it easier to validate the suitability of the ESG. Some firms also adjusted default ESG settings to reflect their internal view of economic indices projections.

- Firms used sensitivity tests and scenarios to assess how their ESGs were projecting consumer price inflation (CPI), wages, medical costs, and other economic indices. We did not see any evidence of how firms were validating how changes in the economic indices were expected to translate into claims inflation, when they expected the increases to materialise, or for how long. We did not see any evidence of stress or scenario tests that explored these assumptions, which can help to understand how economic inflation passes through to claims inflation. The stress and scenario testing of some firms may not be suitable to validate claims inflation assumptions. For example, some firms had no suitable composite tail scenarios which would affect the revised SCR.

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[20] Conditions Governing Business Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212972/12-06-2023**.
[21] Solvency Capital Requirement – General Provisions Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212754/12-06-2023**.
[22] Solvency Capital Requirement – Internal Models Part of the PRA Rulebook: **https://www.prarulebook.co.uk/rulebook/Content/Chapter/212838/12-06-2023**.

Observations in relation to risk management, and stress and scenario testing

- Firms continued to develop the range of stress and scenario tests to assess the risk from claims inflation. Some firms indicated they had used these scenarios to take pro-active or pre-emptive action to deal with claims inflation.

- Scenarios were being expanded to cover the whole of the balance sheet rather than look only at the impact of claims inflation on technical provisions. This enabled firms to review investment allocations and asses the overall impact of interest rate changes. Some firms introduced a new 'stagflation' scenario or similar to assess the longer-term impact of the downturn in the economy on their business.

- Scenarios were used to assess the adequacy of reserve margins or the incurred but not reported (IBNR), or in some cases were used to guide the setting of the reserve margins.

- However, many firms continued to consider a very narrow range of future scenarios, with a lack of range in terms of severity of claims inflation or duration of persistency of claims inflation. Some stress and scenario testing appeared to be at a holistic corporate level, or at a group level, without considering the specific impact on reserves within the UK regulated entity, the specifics of the entity, or the markets in which the entity operates.

Observations in relation to pricing and underwriting

- Firms' understanding of pricing in relation to claims inflation had developed over the past six to 12 months. Some firms have included the following practices:
    - considering the different impact of claims inflation on different layers of coverage and/or different heads of damage;
    - considering the impact of claims inflation on experience and exposure rate separately;
    - creating claims inflation indices internally that looked both at price index inflation and social inflation separately, and different indices by lines of business and territory – some firms appear to do this by using externally available economic indices and making assumptions for appropriate adjustments to reflect their risk profile;
    - consideration of calendar year effects of claims inflation on each future underwriting year;
    - allowing for claims inflation mitigants within contracts wording; and

- within technical pricing, adding additional loss ratio points to allow for economic and claims inflation uncertainties.

- However, we noted that some firms were still:
  - assuming no claims inflation impact on policies where there was a specified sum insured – this alone would not allow for the increases in the cost of claims that settle for amounts below the specified sum insured;
  - only reviewing claims inflation assumptions annually – in a fast-changing economic environment this could lead to under-pricing and anti-selection in competitive markets; and
  - making limited effort to quantitatively monitor claims inflation within pricing –therefore, claims inflation does not appear to be explicitly priced and monitoring relies on significant subjective judgement.