**Review Questionnaire**

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| **Declaration** |
| This document sets out the questionnaire for use in the IFoA Thematic Review on actuarial involvement in pricing for UK Home and Motor insurance. It is designed to cover a number of areas of the pricing process, exploring where actuaries are carrying out technical work, and where they are ultimately responsible for design and decision-making in relation to pricing. We appreciate that this is a process which is not the sole domain of actuaries, both in terms of underlying technical work and also decision-making and senior managerial responsibility. The IFoA is responsible for the regulation of actuarial work and this review seeks to explore how existing standards and guidance are being applied in this space, and importantly whether there are aspects that could be improved upon, in order to ensure members are appropriately supported in the work they carry out. Responses will also enable us to consider where potential enhancements to the current actuarial education and learning offering could be considered. |
| **Review Scope** |
| The scope of the review covers the UK market for Home and Motor insurance. The review aims to gather information on actuarial involvement at various stages in the end-to-end process, and in particular where technical work and decision-making influences the technical price and the eventual street price charged to customers. Key areas covered under the scope of the review are:* Responsibility for Pricing
* Pricing Factors
* Data and Modelling
* Customer Considerations
* Application of Actuarial Professional Standards and Technical Actuarial Standards

The output from the review will be a public report, with non-attributable conclusions and findings, and we will also seek to provide private, tailored feedback to participants. |
| **Questionnaire Guide and Definitions** |
| Please answer the questionnaire as fully as possible. We acknowledge that there are different operating models across the sector and that this will mean different levels of actuarial involvement across different elements of the pricing function and process. On that basis we would still value partial responses if that is what is felt appropriate or reasonable by any given participant.If there is more than one sufficiently autonomous firm/brand within your wider Group then if possible please provide separate responses for those. Where the approach is deemed to be fundamentally similar across firms within a Group then please complete the questionnaire on a Group basis.Where questions ask for a “who”, this is looking for a job title / senior management role (and not specific individual details).The following broad definitions for price are used:* **Technical (or risk) price** – the cost of servicing a contract, which will include some or all of expected cost of claim, servicing costs and cost of capital.
* **Street (or market) price** – the actual price quoted to customers, taking into account any additional propensity/demand/margin modelling.

The following broad definitions for type of work/activity are used:* **Analytical and Technical** – roles focused on data and modelling parts of the process
* **Decision and Influence** – managerial and/or director roles with specific pricing responsibilities, including communication/attendance at Executive Committee and Board level
* **Validation and Oversight** – 1st or 2nd line roles with specific responsibility for review and challenge of pricing activity, proposals and outcomes

The following definitions are taken from existing Actuarial guidance and standards:* APS X1 and APS X2 definition of **Actuarial Work***“Work undertaken by a Member in their capacity as a person with actuarial skills on which the intended recipient of that work is entitled to rely. This may include carrying out calculations, modelling or the rendering of advice, recommendations, findings, or opinions.”*
* TAS 100 definition of **technical actuarial work** is:*“work performed for a user:(1) where the use of principles and/or techniques of actuarial science is central to the work and which involves the exercise of judgement; or(2) which the user may reasonably regard as technical actuarial work by virtue of the manner of its presentation.”*
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| **Questionnaire Sections** |
| **1 Organisation Information** | **Home** | **Motor** |
| 1. Is the submission for a single firm or a Group? If a Group then please indicate the firms covered by the submission.
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| 1. What was the UK Gross Written Premium in 2019?
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| 1. What was the UK Claims Paid (before reinsurance) in 2019?
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| 1. Which of the following channels are material to your business? Please rank if possible.Direct / Price Comparison Websites / Brokers / Other (please specify)
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| **2 Responsibility for Pricing** | **Home** | **Motor** |
| 1. Who has overall responsibility for pricing within your organisation, and is that individual an actuary?
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| 1. Does your organisation have actuaries carrying out regulatory senior management function roles SMF20 (Chief Actuary) and SMF23 (Chief Underwriting Officer)?
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| 1. Are there different reporting lines for technical pricing and street pricing in your organisation? Does actuarial involvement in the 2 separate stages differ in terms of senior management?
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| 1. How many actuaries or actuarial students work in the Pricing function of your organisation? If possible and relevant please indicate splits between technical and street pricing activity for each of Home and Motor.
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| 1. What is the role of the Chief Actuary and the Actuarial Function in pricing? Is this in a 1st line or 2nd line capacity?

***Information request*** *– please could the Chief Actuary Annual Report to the Board be provided (or excerpt as it pertains to underwriting/pricing adequacy).* |  |  |
| 1. If the Actuarial Function sits in 1st line, what role does 2nd line play in pricing oversight, and does this involve actuaries?
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| 1. Who chairs the main Pricing Committee, or equivalent governance forum with pricing responsibility, within your organisation? Please provide roles of any actuary members of the committee (e.g. Head of Technical Pricing).
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| 1. How would you categorise the extent of the overall role of actuaries in pricing according to the following broad aspects?
* **Analytical and Technical**
* **Decision and Influence**
* **Validation and Oversight**

(use this scale as a guide – none / minimal / reasonable / significant)Please expand on this where it would help to clarify the response (e.g. where this differs between technical and street pricing). |  |  |
| 1. Does your organisation have a pricing strategy or philosophy document in place? If so, who owns this, and what is the extent of actuarial involvement?

***Information request*** *– please could the Pricing Strategy/Philosophy document, or similar be provided.* |  |  |
| **3 Pricing Factors** | **Home** | **Motor** |
| 1. What is the broad approach for selecting and analysing risk/rating or propensity/elasticity factors? To what extent is the rationale for factors documented and who owns this documentation?

***Information request*** *– please could examples of such documentation, or excerpts be provided.* |  |  |
| 1. What is the approach to explaining and communicating pricing factors (risk/rating or propensity/elasticity) to Senior Management and the Board?
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| 1. How is climate change reflected in risk/rating factors, either through changes in physical risk factors or behavioural factors?
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| 1. What is the role of actuaries in your organisation with respect to the factors part of the process?

Please expand in terms of the definitions used in 2h above if possible (i.e. analytical/technical, decision/influence etc.) |  |  |
| **4 Data, Methodology and Models** | **Home** | **Motor** |
| 1. What data sources are typically used for pricing? (e.g. internal only, internal and specific external providers, wider external data)
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| 1. What methodologies are typically used? (e.g. GLM, data science, machine learning techniques). Please expand where possible, including any differences between technical and street pricing approaches.

***Information request*** *– please provide examples of data and/or model methodology documentation.* |  |  |
| 1. To what extent does your organisation use internally developed software (including open source) versus 3rd party vendor models?
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| 1. What documentation exists to support and validate data and model choices, and outcomes?

***Information request*** *– please provide examples of data and/or model validation documentation.* |  |  |
| 1. In relation to data sources and modelling what key developments have taken place in (say) the last 3 years, and what changes do you expect in the next 3 years?
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| 1. What is the level of involvement of actuaries in data analysis and or modelling activity for pricing (once again using criteria outlined in 2h above)?

How does this compare to other specialists (e.g. data scientists, technical underwriters, climatologists, analysts)? |  |  |
| 1. What challenges have you faced or would envisage with a move to more complex data science or machine learning techniques, and the potential risk of less transparency of how pricing models produce outcomes?
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| **5 Customer Considerations** | **Home** | **Motor** |
| 1. How is customer fairness monitored and governed for pricing, and who has this responsibility?
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| 1. Are there any significant differences in pricing methodology for old and newer products, or for different channels? If so what are the key drivers for this (e.g. level of underlying risk, market price competition, differences in underlying systems)?
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| 1. What controls are in place to analyse potential detriment to vulnerable customers, or indirect issues relating to protected characteristics, through the use of certain factors within pricing?
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| 1. To what extent are actuaries involved in fairness and product design aspects of the pricing process, in particular thinking about Decision/Influence or Oversight roles?
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| **6 Application of Actuarial Standards and Guidance** | **Home** | **Motor** |
| 1. Which aspects of pricing activity are considered “actuarial work” (in line with APS X1 and X2 definition) within your organisation (independent of senior manager responsibilities and reporting lines)?
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| 1. Which aspects of pricing work are considered to be covered by Technical Actuarial Standards (TAS 100 and 200) within your organisation?
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| 1. Are any aspects of pricing work at your organisation subject to Peer Review, including Independent Peer Review, in line with Actuarial Professional Standard X2 (APS X2)?
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| 1. To what extent do you think that current TAS and APS are relevant and applicable to aspects of pricing work? Are there improvements to the current standards that would enhance their relevance and applicability?

***Information request*** *– if there are examples of documents subject to TAS100/200 and/or APS X2, not already covered by documentation requests above then please supply examples.* |  |  |
| **7 Areas of Interest or Concern** | **Home** | **Motor** |
| Please indicate any other specific areas of interest or concern in relation to actuarial involvement in pricing for UK Home or Motor Insurance which you would like to raise as part of the response to this review. This will provide additional insight to the IFoA Review Team in assessing conclusions and outcomes from the review, in particular in the areas of education/training and standards/guidance. |  |  |
| **Request for Documentation** |
| We have requested certain documentation examples throughout the questionnaire. For clarity and completeness these examples are repeated below. We appreciate that there may be commercial concerns around confidentiality and intellectual property. We would reiterate the confidential nature of our review and that the ability for us to review material for additional context and understanding will, we believe, enable us to provide clearer conclusions and feedback from the review. Supply of material should be subject to appropriate redaction and we are happy to receive excerpts of relevant documents where context remains clear. We would be happy to discuss any particular concerns with participants, and would also accept partial submissions in this respect. |
| **Documentation Request** | **Rationale** |
| Chief Actuary Annual report | The underwriting/pricing adequacy section of this report is a common example of actuarial function input to the pricing process. This is also an example of actuarial input at a Board level. |
| Pricing Strategy/Philosophy | Provides an overarching view of the approach to pricing. The review seeks to understand the extent of actuaries’ involvement in drafting and reviewing of this key document. |
| Risk/Rating Factor selection and rationale document | Where such a document, or similar, exists (e.g. Underwriting manual) the review seeks to understand the extent of actuaries’ involvement in drafting and reviewing of this. |
| Data and/or Model methodology/validation documentation | This is a key area of potential involvement for actuaries utilising core actuarial skills. The review again seeks to consider actuaries involvement, and also the extent to which such activity/documentation is deemed to fall under scope of APS and TAS. High-level examples are sufficient for this aspect of the review. |
| Examples of TAS100/200 and/or APS X2 application | To consider examples where organisations currently apply Actuarial standards and guidance. |
| **Thank you and Next Steps** |
| Thank you for your participation. We use the information you supply to assist with our review of actuarial work as described above. Any personal data provided to the IFoA will be processed in accordance with UK data protection law and in line with the IFoA’s [Privacy Policy](https://www.actuaries.org.uk/privacy-policy). The next step is to complete the Submission Form, attaching this Questionnaire and supporting documents, before proceeding to upload the Submission Form to your Egress folder. If you have any questions, please get in touch with the IFoA Thematic Review Team by emailing reviews@actuaries.org.uk. |