BANK OF ENGLAND
PRUDENTIAL REGULATION AUTHORITY

Solvency II: PRA review of model change related processes, policies and reporting

1. In its Business Plan 2017/18, the Prudential Regulation Authority (PRA) set out that it would undertake work to streamline its Solvency II major model change and other applications processes without compromising the need for firms to continue to meet tests and standards of the regime.[1] As part of this assessment, the PRA has investigated:

    a. the time it has taken to assess model change applications approved since the implementation of Solvency II on 1 January 2016;

    b. how firms had completed the Common Application Package (CAP) when making model change applications; and

    c. how firms have defined model changes in model change policies.

2. The PRA has also reviewed quarterly (or more frequent) model change reporting.

Time taken to approve model change applications

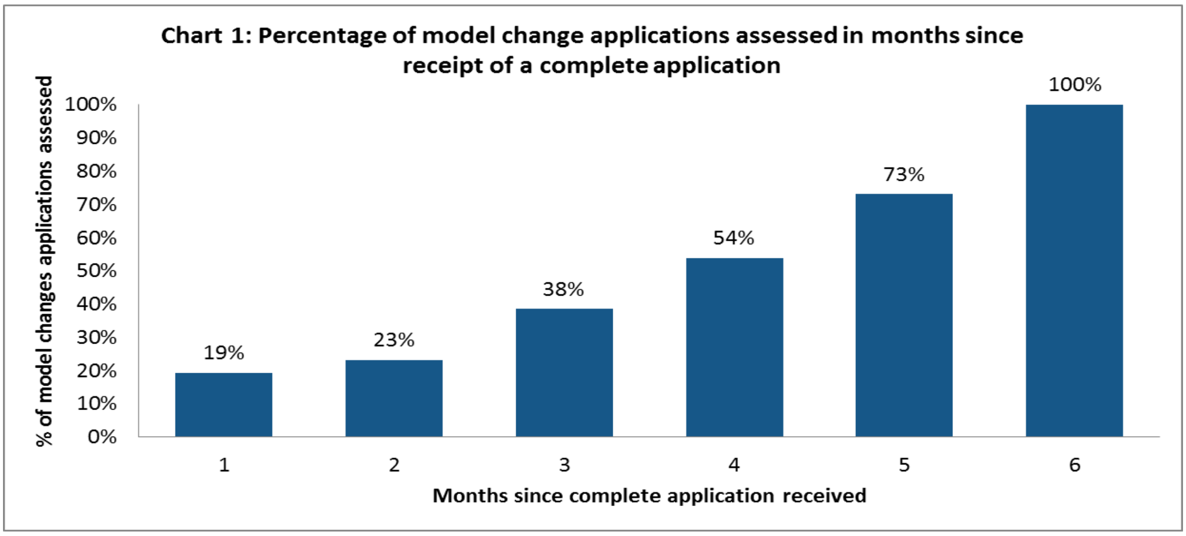
3. In the following text, a 'model change application' refers to any application for:

    a. a major change to an existing, approved internal model (either one or more individual major change(s) or major change triggered by an accumulation of minor changes);

    b. an extension of scope to an approved internal model; and/or

    c. a change to a firm's approved internal model change policy.

4. The PRA must give a decision on a model change application within six months of receipt of a complete application.[2] Between 1 January 2016 and 7 December 2017, the PRA approved 26 complete model change applications – all were assessed within six months, with the PRA taking an average of just under four months to reach a decision. Chart 1 provides a more detailed breakdown.



1 See page 39 of the PRA Annual Report and Accounts 1 March 2016-1 March 2017, available at www.bankofengland.co.uk/prudential-regulation/publication/2017/annual-report-2017.
2 As per Regulation 48(4) of the Solvency 2 Regulations 2015 (2015/575).

Completion of the Common Application Package (CAP) for major model change applications

5. The Common Application Package (CAP) for internal models was published by the European Insurance and Occupational Pensions Authority (EIOPA) on 4 December 2014.[3] The CAP aims to promote consistent supervisory practices for internal model applications, including the documentation and evidence required to comply with requirements relevant to the use of internal models. The CAP has become the standard across Europe for both new model approvals and model changes.

6. Some firms have proposed and agreed with the PRA, on a case-by-case basis, an approach to completing the CAP on a proportionate basis for model change applications while still meeting the intended purpose of the CAP. For example, some firms use colour coding within cells of the CAP spreadsheet to differentiate updates to the CAP. Others have listed their documents within the CAP spreadsheet but use a Word document to provide an explanation of how each of the requirements are met with these documents: this allows updates on the relevant entries (following a major model change) to be made with tracked changes.

7. The PRA encourages firms to consider an approach to completing the CAP for model change applications that is suitable for them and that will reduce the level of effort involved in maintaining the CAP.

How firms have defined model changes in model change policies

8. Model change policies are a key part of the internal model governance. Defining clearly what constitutes a model change is critical to the effectiveness of a model change policy. Under EIOPA's Guideline 6 on the use of internal models, model change policies should cover 'all relevant sources of change that would impact the Solvency Capital Requirement (SCR)'.[4] The PRA has examined the implementation of this guideline in 26 approved model change policies, and shows below the number of policies that had a clear definition for each identified source of model change. Note that the absence of a clear definition does not necessarily mean that this source of change was excluded from the scope of the model change policy.

9. The following sources of model change were defined in the policies reviewed (see also Chart 2):

    a. **Risk profile:** 25 firms mentioned a significant change in risk profile (eg as a result of a change in business strategy) as a source of model change.

    b. **Technical specification:** This category covers model design, methodology, parameters, expert judgement, data and operational aspects of the internal model. 25 of the policies stated that an alteration or update to the model design and/or model methodology were a source of model change. Similarly, 21 policies stated that a change in data is a source of model change. 18 policies state that alterations to parameters are a source of model change. 14 policies state that a change in expert judgement is a source of model change. Finally, 13 of the model change policies mention operational aspects as a source of model change (see Chart 3).

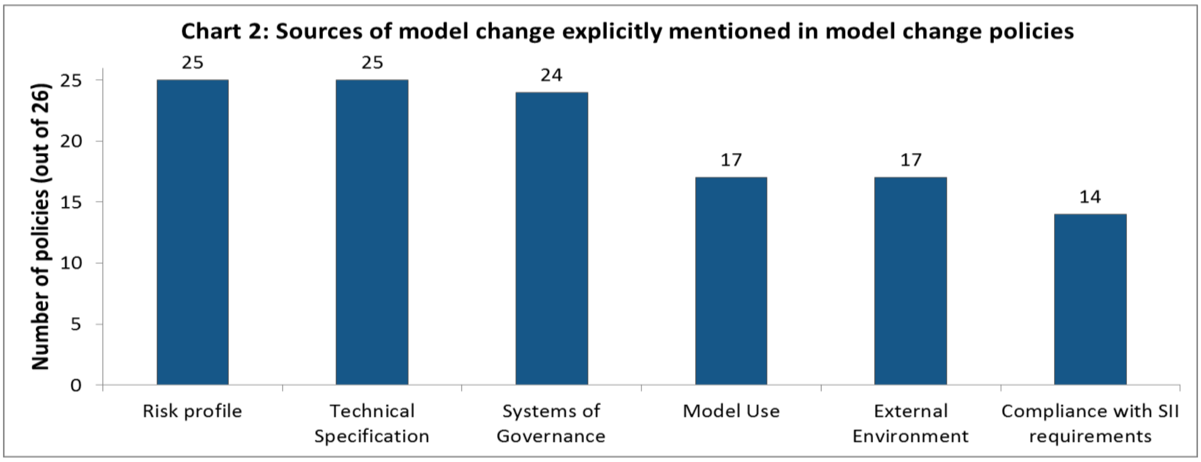
    c. **Systems of governance:** 24 firms mentioned the system of governance and its impact on the internal model or risk function as a source of model change.

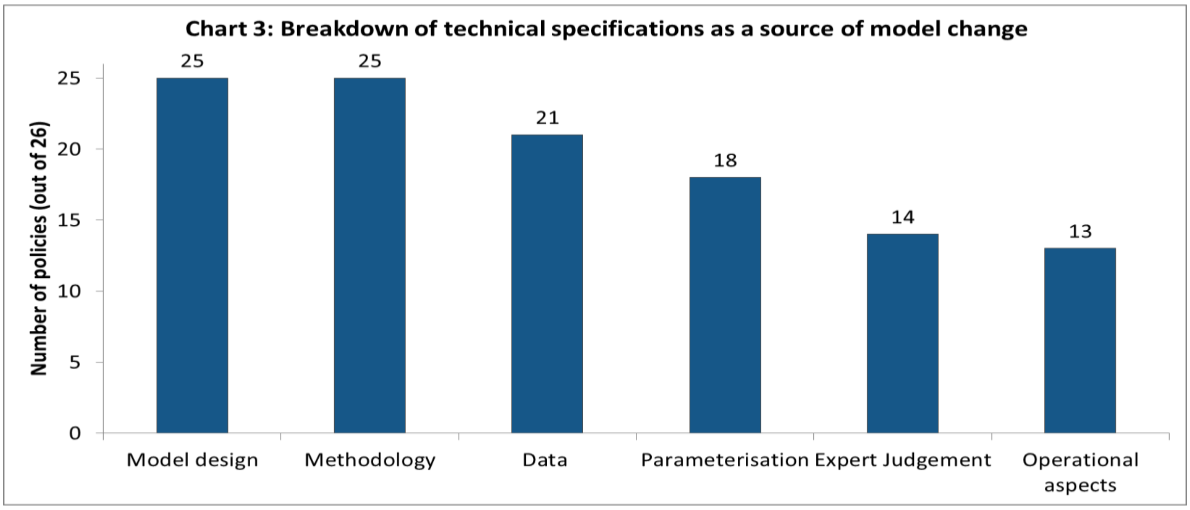
3 https://eiopa.europa.eu/Publications/Press%20Releases/2014-12-04%20Publication%20of%20CAP%20for%20internal%20models.pdf
4 https://eiopa.europa.eu/Publications/Guidelines/IM_Final_document_EN.pdf

d. **Model use:** 17 policies mentioned that change in use, eg any limitations identified by the model users or the business while using the model, may be a source of model change.

e. **External environment:** 17 policies mentioned the external environment or non-internal model changes which could materially affect the SCR as a source of model change.

f. **Compliance with Solvency II requirements:** 14 of the policies stated that any change that might impact the compliance of the internal model to the Solvency II internal model tests (including regulatory change) is a source of model change.





10. A number of policies excluded or partially excluded the following areas from the scope of their model change policy ie the following were not considered model changes:

a. **Model scope:** The inclusion of new elements, such as additional risks or business units, was excluded from the scope of the model change policies. This was treated as automatically requiring approval irrespective of the model change policy as per recital 3 of the Commission Implementing Regulation (EU) 2015/460[5] on internal models and EIOPA Guideline 6 and Guideline 10 on the use of internal models.

b. **Best estimate liabilities and own funds:** Valuation models and own funds methodology were excluded from the model change policy, unless they had a material impact on the internal model methodology and/or the SCR.

5 http://eur-lex.europa.eu/eli/reg_impl/2015/460/oj.

c. **Data updates:** Updates for new or revised data were not included as a model change, provided that the scope and integrity of the data is unaltered, the judgements underlying the choice of the data remain unchanged and that the updates do not change the inherent design, methodology, calibration or the operational aspects of the internal model or reflect a change in the risk profile.

11. While within the scope of the model change policy, a number of policies specified that model corrections would be treated as minor model changes. Model corrections were defined as correction of errors or differences between approved methodologies or processes and the implementation of the methodology or process.

12. As part of the supervisory process the PRA will engage with firms on a case by case basis on the effectiveness of their model change policy in light of experience to date.

Quarterly (or more frequent) model change reporting

13. Quarterly reports on model changes are received by the PRA from all internal model firms; however the timing of receipt of these reports varies between firms. Most firms report model changes within 5 weeks of the quarter end. We discuss this further in PRA Consultation Paper 27/17[6].

14. Further, the level of detail in the reports varies. A number of firms provide helpful details of all changes to the model, even in relation to elements not considered an internal model change, on an annual basis or more frequently.

December 2017

6 'Solvency II: Internal models update', December 2017: www.bankofengland.co.uk/prudential-regulation/publication/2017/solvency-ii-internal-models-update.