Bank of England PRA

IM.03 – Internal model outputs (non-life)

General comment

This document relates to the PRA's Supervisory Statements, SS25/15 'Solvency II: regulatory reporting, internal model outputs' and SS26/15 'Solvency II: ORSA and the ultimate time horizon – non-life firms'. It contains instructions that non-life firms are expected to follow when providing internal model outputs to the PRA.

For the purpose of these instructions:

- 'Firms' mean non-life insurance firms, Society of Lloyd's and each of its syndicates, and groups.
- 'Internal model' means full or partial internal model.
- 'One-year time horizon' is the basis on which the solvency capital requirement (SCR) is calculated under Solvency Capital Requirement – General Provisions 3.3 and 3.4.
- 'Ultimate time horizon' relates to risk over the time horizon of the run-off of the firm's obligations to its policyholders, including obligations relating to business planned to be written in the 12 months following the reporting reference date.
- 'Solvency II lines of business' refers to the lines of business in Technical Provisions – Further Requirements Annex 1.

Firms are expected to submit all of the templates 'IM.03.02' to 'IM.03.11' and 'MO.03.02' to 'MO.03.11' where relevant.

The internal model outputs firms are expected to provide in the templates 'IM.03.02' to 'IM.03.11' relate to the calculation of the SCR, ie to change in basic own funds over one-year time horizon. In particular, outputs in the non-life underwriting risk templates (reserve risk, premium risk, and catastrophe claim risk) should show modelled outputs of the future cash-flows from the reporting reference date estimated at one-year following the reporting reference date.

The internal model outputs firms are expected to provide in the templates 'MO.03.02' to 'MO.03.11' relate to risks over the ultimate time horizon. There is no template for the ultimate basis for 'Historical loss ratios' or 'Market Risk' because the firms will have already provided this information in its reporting of internal model outputs.

Please note that if a firm has stated in the Basic Information template 'IM.00.02.01 that the submission covers supervisory statement SS25/15 only, then the rest of the templates beginning with 'MO' are not relevant. Likewise, if the submission covers supervisory statement SS26/15 only, then the rest of the templates beginning with 'IM' are not relevant with the exception of 'IM.03.04.01', 'IM.03.07.01', 'IM.03.10.01' and 'IM.03.11.01'.

Unless stated otherwise, for each template:

- All 'monetary' amounts are to be reported in reporting currency units with no decimals with the exception of template 'IM.03.07.01 Market Risk' which is to be reported in units with two decimals.
- All 'percentages' are to be reported as per unit with four decimal places.

Template ID	Template Name	Template Description
IM.03.02.01	Reserve Risk Outputs – Own Lines, 1 Year Risk	Reserve risk outputs at the level of the lines of business used by the firm in its internal model on a one-year time horizon basis.
IM.03.02.02	Reserve Risk Outputs– Solvency II Lines, 1 Year Risk	Reserve risk outputs at the level of Solvency II lines of business on a one-year time horizon basis.
MO.03.02.01	Reserve Risk Outputs – Own Lines, Ultimate Risk	Reserve risk outputs at the level of the lines of business used by the firm in its model on an ultimate time horizon basis.
MO.03.02.02	Reserve Risk Outputs– Solvency II Lines, Ultimate Risk	Reserve risk outputs at the level of Solvency II lines of business on an ultimate time horizon basis.

Template ID	Template Name	Template Description
IM.03.03.01	Premium Risk Outputs – Own Lines, 1 Year Risk	Premium risk outputs at the level of the lines of business used by the firm in its internal model on a one-year time horizon basis.
IM.03.03.02	Premium Risk Outputs– Solvency II Lines, 1 Year Risk	Premium risk outputs at the level of lines of business based on Solvency II lines of on a one-year time horizon basis.
MO.03.03.01	Premium Risk Outputs– Own Lines, Ultimate Risk	Premium risk outputs at the level of the lines of business used by the firm in its model on an ultimate time horizon basis.
MO.03.03.02	Premium Risk Outputs– Solvency II Lines, Ultimate Risk	Premium risk outputs at the level of Solvency II lines of business on an ultimate time horizon basis.
IM.03.04.01	Premium Risk Outputs - Historical Premiums and Loss Ratios	Historical premiums and loss ratios by firm's own lines of business as estimated at the reporting reference date by accident year or underwriting year.
IM.03.05.01	Losses From Catastrophe Events - 1 Year Risk	Catastrophe risk outputs included in the internal model on a one-year time horizon basis. It includes high level summary of gross premiums, and sums insured by region, and split between direct insurance, reinsurance and retrocession. Also include a split of man-made perils into terrorism, cyber and other perils.
MO.03.05.01	Losses From Catastrophe Events - Ultimate Risk	Catastrophe risks outputs for man-made perils only on an ultimate time horizon basis. It includes a split of man-made perils into terrorism, cyber and other perils.
IM.03.06.01	Insurance Risk Outputs – Output Correlations Between Firms' Own Liens of Business – 1 Year Risk	Correlations between reserve and premium risk internal model outputs on a one-year time horizon basis at the level of the firm's own lines of business
MO.03.06.01	Insurance Risk Outputs – Output Correlations Between Firms' Own Liens of Business – Ultimate Risk	Correlations between reserve and premium risk model outputs on an ultimate time horizon basis at the level of the firm's own lines of business.
IM.03.07.01	Market Risk Outputs	Outputs related to risks arising from invested assets on the balance sheet at the reporting reference date on a one-year time horizon basis.
IM.03.08.01	Total Risk and Risk Module Output Distributions - 1 Year Risk	Outputs for: all risk categories combined, insurance risk (premium and reserve risk combined), reserve risk, premium risk, catastrophe risk, counterparty default risk, operational risk, other risks on a one-year time horizon basis.
IMR.03.08.01	Total Risk and Risk Module Output Distributions - 1 Year Risk (RFF)	As IM.03.08.01 but for RFF and matching adjustment portfolios.
MO.03.08.01	Total Risk and Risk Module Output - Distributions - Ultimate	Outputs for: all risk categories combined, insurance risk (premium and reserve risk combined), reserve risk, premium risk, catastrophe risk, counterparty default risk, operational risk, other risks on an ultimate time horizon basis.
MOR.03.08.01	Total Risk and Risk Module Output - Distributions – Ultimate (RFF)	As MO.03.08.01 but for RFF and matching adjustment portfolios.
IM.03.09.01	Risk Module Level Output Correlations - 1 Year Risk	Output correlations of the risk categories reported in IM.03.08.01.
MO.03.09.01	Risk Module Level Output Correlations -	Output correlations of the risk categories reported in MO.03.08.01

Template ID	Template Name	Template Description
	Ultimate Risk	
IM.03.10.01	Descriptions of Undertakings own lines of business (LoBs)	Descriptions of firm’s own lines of business reported in the premium and reserve risk templates IM.03.02.01 and IM.03.03.01. A mapping to the previous year’s firm’s own lines of business, and the current year’s allocation to Solvency II lines of business.
IM.03.11.01	Comment Sheet	The firm’s comments relating to the completion of the above templates.

Bank of England PRA

Lines of Business for Reserve and Premium Risk Templates (IM.03.02 to IM.03.03 & MO.03.02 to MO.03.03)

Aggregate (column C101)
The outputs reported at aggregate level should be after allowing for diversification between lines of business.

Firm's own lines of business (column C201)
Firms are expected to provide reserve and premium risk model outputs at the level of the lines of business used in their model.

Treatment of PPOs
In reserve risk,
- claims settled by PPOs should be reported in a separate firm's own lines of business,
- claims settled by PPOs relating to insurance contracts should be reported in a separate firm's own lines of business from those relating to accepted reinsurance contracts,
- claims to be settled by PPOs should be reported in either the firm's own lines of business, a separate firm's own lines of business or within the claims settled by PPOs lines of business,
- claims to be settled by PPOs relating to insurance contracts should be reported in a separate firm's own lines of business from those relating to accepted reinsurance contracts.
  In premium risk,
- claims to be settled by PPOs should be reported in the firm's own lines of business.

Claims to be settled by PPOs comprises of (i) reported by not settled PPOs, (ii) incurred by not reported PPOs, (iii) future claims to be settled by PPOs relating to business written prior to the reporting reference date, and/or (iv) future claims to be settled by PPOs relating to business planned to be written during the 12 months following the reporting reference date.

Treatment of other insurance obligations
Any of the following types of insurance obligations is expected to be reported in separate firm's own lines of businesses and should not overlap with any other lines of business already reported:
- obligations resulting from exposure to asbestos where the policyholder is subject to US jurisdiction (only relevant for reserve risk),
- obligations resulting from exposure to asbestos where the policyholder is subject to non-US jurisdiction (only relevant for reserve risk),
- obligations resulting from pollution damage or exposure to non-asbestos latent diseases (only relevant for reserve risk),
- obligations resulting from medical malpractice or medical negligence,
- obligations in a ring fenced fund. Businesses already reported under firm's own lines of business cannot overlap those firm's own lines of business from a ring fenced fund. Therefore if part of a firm's own lines of business is in a ring-fenced fund and part is not, the model outputs from the two parts should be reported in separate firm's own lines of businesses.
- obligations to which the firm intends to apply a matching adjustment when calculating the best estimate for the firm's own lines of business.
- obligations in a related undertaking. Businesses already reported under a firm's own lines of business in these tabs cannot overlap the solo undertaking in question and a related undertaking. Therefore, if part of a firm's own lines of business is written by the solo undertaking and part is written by an undertaking in which it holds a participation, the model outputs from the two parts should to be reported in separate firm's own lines of businesses.

Solvency II lines of business (columns C401 to C420)
Lines of business as per Technical Provisions – Further Requirements Annex 1:
1. Medical expense – classes 1 and 13 combined,
2. Income protection – classes 2 and 14 combined,
3. Workers' compensation – classes 3 and 15 combined,
4. Motor vehicle liability insurance – classes 4 and 16 combined,
5. Other motor insurance – classes 5 and 17 combined (this includes all motor claim types not covered within (4) above),
6. Marine, aviation and transport insurance – classes 6 and 18 combined,
7. Fire and other damage to property insurance – classes 7 and 19 combined,
8. General liability insurance – classes 8 and 20 combined),

9. Credit and suretyship insurance – classes 9 and 21 combined,
10. Legal expenses insurance – classes 10 and 22 combined,
11. Assistance – classes 11 and 23 combined,
12. Miscellaneous financial loss insurance – classes 12 and 24 combined,
13. Non-proportional health reinsurance – class 25,
14. Non-proportional casualty reinsurance –-class 26,
15. Non-proportional marine, aviation and transport reinsurance – class 27,
16. Non-proportional property reinsurance – class 28,
17. Non-life annuities including settled insurance PPO claims – classes 33 and 34 – this LoB includes the part of any claim settled with a periodic payment order (*applies to reserve risk only*),
18. Reinsurance accepted non-life annuities including settled reinsurance accepted PPO claims – Annex 1 classes 35 and 36. This LoB includes the part of any claim settled with a periodic payment order and accepted by the reinsurance undertaking (*applies to reserve risk only*).

Treatment of PPOs
In reserve risk,

- claims settled by PPOs should be reported in one of (18) or (20),
- claims to be settled by PPOs should be reported in one of (1) to (16).
  In premium risk,
- claims to be settled by PPOs should be reported in one of (1) to (16).

Treatment of premiums
All premium measures (whether gross or net of reinsurance, earned or written) should be gross of acquisition costs and exclude insurance premium tax (IPT).

Reserve Risk Templates, 1 Year Risk (IM.03.02.01, IM.03.02.02)

<table>
<tr><th colspan="2">ITEM</th><th>INSTRUCTIONS</th></tr>
<tr><td colspan="2">General comments</td><td>If risk category to which the premium provision at the reporting reference date is allocated is Premium Risk, then the information entered in the reserve risk templates relate to claim events that have occurred at the reporting reference date.

If risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk, then the information entered in the reserve risk templates relate to claim events that have occurred at the reporting reference date and future claim events relating to business written or recognised at the reporting reference date.

For IM.03.02.01 and MO.03.02.01 enter into Z0020 the own line of business name.</td></tr>
<tr><td>RES002</td><td>Types of cash-flows included in the output distribution of the sum of future net cash out-flows (including inflation)</td><td>List the types of cash-flows associated with the output distribution reported in row RES301 to RES330, RES501 to RES530 and RES701 to RES730, and describe the methodology used to model inflation in the cash-flows. The list of types of cash-flow:
• should be limited to types of cash-flows the firm includes in its best estimate calculation,
• should relate to both the net cash out-flows gross of reinsurance distribution and the net cash out-flows net of outward reinsurance distribution (eg we would expect the cash-flow type reinsurance recoverables to be in this list even though this cash-flow type would not apply to the net cash out-flows gross of reinsurance distribution),
• may exclude some cash-flows that the firm includes in its best estimate calculation. This item is to take into account where a firm does not explicitly model variation in all of its best estimate cash-flows.
• should include as a minimum the cash-flow types benefit and claim payments and reinsurance recoverables,
• should be specific as to any types of cash-flows in the list that are expenses (eg the list should state whether any expenses types of cash-flows in the list are: administrative expenses, investment management expenses, claims management expenses (allocated or attributable to specific claims), claim management expenses (unallocated), acquisition expenses),
• should be specific as to any types of cash-flows in the list that are reinsurance commissions or profit participations.

The description of methodology used to model inflation in the cash-flows should be one from the following closed list:
1. no explicit modelling of inflation,
2. same inflation term structure in all scenarios generated by the internal model (ie deterministic inflation) –if so provide brief statement of the inflation term structure used,
3. inflation term structure can differ over the scenarios generated by the internal model (ie stochastic inflation) – if so provide brief statement of the method used to generate scenarios of inflation.</td></tr>
<tr><td>Z0020/ C201</td><td>Line of Business (firm’s own)</td><td>List the lines of business used by the firm in the internal model as per instructions ‘Firm’s own line of business’ in previous pages.</td></tr>
<tr><td>RES201 / C101, C201, C401 to C420;</td><td>Reserve duration – gross of reinsurance</td><td>The reserve duration is the mean duration of future net cash out-flows gross of reinsurance relating to claim events the firm allocates to reserve risk for all lines of business in aggregate and for each individual lines of business.

It ignores discounting and is defined as:</td></tr>
</table>

ITEM		INSTRUCTIONS
		$\frac{\sum_{\text{all } i}(\text{expected net cash outflows in year } i) * i}{\sum_{\text{all } i}\ \text{expected net cash outflows in year } i}$ where: • net cash out-flows in year i are cash out-flows less cash in-flows and comprise of the types of cash-flows used in the calculation of the best estimate, • expected net cash out-flows in year i is the probability weighted average of net cash out-flows in year i relating to claim events the firm allocates to reserve risk, • net cash out-flows in year i are gross of reinsurance. *i* is the year following the reporting reference date. Thus if the reporting reference date is 31Dec2016, *i* = 1 is the 2017 calendar year, *i* =2 is the 2018 calendar year, until all benefit payments and claims are run-off. For clarification the probability weighted average of net cash out-flows in year *i*, should be: $\frac{\sum_{all\ k}(\text{net cash outflows year } i \text{ in scenario } k)\ *\ (\text{probability of scenario } k \text{ occurring}}{\sum_{all\ k}(\text{probability of scenario } k \text{ occurring})}$ The reserve duration for all lines of business in aggregate should exclude cash-flows for annuities stemming from non-life contracts (ie from settled PPO claims).
RES401 / C101, C201, C401 to C420	Reserve duration – net of reinsurance	As per RES201 but net of reinsurance. It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
RES202 / C101, C201, C401 to C420;	Best estimate provision for claims outstanding discounted - gross	The gross best estimate provision for claims outstanding (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for all lines of business in aggregate, and for each individual lines of business. The aggregate should be sum of the individual lines of business.
RES402 / C101, C201, C401 to C420	Best estimate provision for claims outstanding discounted - net	As per RES202 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, special purpose vehicles (SPV) and finite reinsurance). It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
RES203 /, C401 to C416;	Best estimate provision for claims outstanding undiscounted - gross	The undiscounted sum of future cash-flows that comprise the provision for claims outstanding gross of outwards reinsurance (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for each individual lines of business apart from lines of business containing PPO claims. This row does not apply to all lines of business in aggregate.
RES403 / C201, C401 to C416	Best estimate provision for claims outstanding undiscounted - net	As per RES203 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, SPVs and finite reinsurance). It ignores non-recovery of reinsurance and not be adjusted for reinsurance credit risk.
RES204 / C101, C201, C401 to C420;	Best estimate premium provision discounted - gross	This row is only to be reported if risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk. The gross best estimate premium provision (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for all lines of business in aggregate and for each individual lines of business. The aggregate should be sum of the individual lines of business.
RES404 / C101, C201 t, C401 to C420;	Best estimate premium provision discounted - net	As per RES204 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, SPVs and finite reinsurance). It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
RES205 / C201, C401 to C416;	Best estimate premium provision - undiscounted - gross	. This row is only to be reported if risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk. The undiscounted sum of future cash-flows that comprise the premium provision gross of outwards reinsurance (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for each

ITEM		INSTRUCTIONS
		individual lines of business apart from lines of business containing PPO claims. This row does not apply to all lines of business in aggregate.
RES405 / C201, C401 to C416;	Best estimate premium provision - undiscounted - net	As per RES205 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, SPVs and finite reinsurance). It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
RES206 / C101, C201, C401 to C420	Best estimate expenses (allocated) gross	Allocated expenses refer to claims handling expenses which can be allocated to specific claims. Here we expect expenses related to the claims modelled within reserve risk. Allocated expenses should be provided by each line of business and in aggregate. The gross expenses should not include outward reinsurance costs.
RES406 / C101, C201, C401 to C420	Best estimate expenses (allocated) - net	Allocated expenses refer to claims handling expenses which can be allocated to specific claims. Here we expect expenses related to the claims ~~you have~~ modelled within reserve risk. Allocated expenses should be provided by each line of business and in aggregate. The net expenses include outward reinsurance costs.
RES207 / C101	Best estimate expenses (unallocated) - gross	Unallocated expenses refer to all claims handling expenses which are not included in allocated expenses ie which cannot be allocated to specific claims. Again, here we expect expenses related to the claims ~~you have~~ modelled within reserve risk. Although it may be possible to apportion such expenses to lines of business, we only request these expenses to be reported across all lines of business in aggregate. The gross expenses should not include outward reinsurance costs.
RES407 / C101	Best estimate expenses (unallocated) - net	Unallocated expenses refer to all claims handling expenses which are not included in allocated expenses ie which cannot be allocated to specific claims. Again, here we expect expenses related to the claims ~~you have~~ modelled within reserve risk. Although it may be possible to apportion such expenses to lines of business, we only request these expenses to be reported across all lines of business in aggregate. The net expenses should include outward reinsurance costs.
RES301 to RES330 / C101, C201, C401 to C420	Gross reserve risk model outputs - undiscounted	The undiscounted gross of reinsurance output distribution of the future net cash out-flows relating to claims events the firm allocates to reserve risk on an one-year time horizon basis as at the reporting reference date. Cash out-flows should be those listed in RES002. If the cash out-flows relating to PPOs are unavailable on an undiscounted basis, then include them on the discounted basis. Output distribution should be reported for all lines of business in aggregate (column C101), each firm's own lines of business (column C201) and each Solvency II lines of business (column 401 to C420). For the mean of the output distribution, the aggregate should be the sum of the means from each firm's own lines of business. Metrics to be reported are: mean, standard deviation, minimum simulated value, maximum simulated value and the percentiles – 0.1th, 5th, 10th, 15th, 20th, 25th, 30th, 35th, 40th, 45th, 50th, 55th, 60th, 65th, 70th, 75th, 80th, 85th, 90th, 95th, 96th, 97th, 98th, 99th, 99.5th, 99.9th. Eg if the mean of the output distribution is £110 and the 96th percentile of the output distribution is £152, then £110 should be reported in RES301 and £152 should be reported in row RES324. It should not report the output distribution deviation from the mean (ie do not report 42 or 38.18% in row RES324).
RES501 to RES530 / C101, C201, C401 to C420	Net reserve risk model outputs - discounted	As per rows RES301 to RES330 but: • The net cash out-flows are to be net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk) and on a discounted basis.

ITEM		INSTRUCTIONS
RES701 to RES730 / C101, C201, C401 to C420	Net reserve risk model outputs - undiscounted.	As per rows RES301 to RES330 but: • The net cash out-flows are to be net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk).

Reserve Risk Templates, Ultimate Risk (MO.03.02.01 and MO.03.02.02)

ITEM	INSTRUCTIONS
General comments	As per templates 'IM.03.02.01 and IM.03.02.02' but on an ultimate time horizon basis.

Premium Risk Templates, 1 Year Risk (IM.03.03.01, IM.03.03.02)

ITEM		INSTRUCTIONS
General comments		If risk category to which the premium provision at the reporting reference date is allocated is Premium Risk, then the information entered in the premium risk templates relate to future claim events relating to business written or recognised at the reporting reference date plus future claim events relating to business planned to be written or recognised in the 12 months following the reporting reference date. If risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk, then the information entered in the premium risk templates relate to future claim events relating to business planned to be written or recognised in the 12 months following the reporting reference date.
PRE002	Types of cash-flows included in the output distribution of loss ratios (including inflation) - numerator	List the types of cash-flows included in the numerator of the loss ratio in the output distribution reported in rows PRE301 to PRE320 and PRE501 to PRE541, and describe the methodology used to model inflation in the cash-flows. This list of types of cash-flows: • should be limited to types of cash-flows the firm includes in its best estimate calculation, • should relate to both the loss ratio gross of reinsurance distribution and the loss ratio net of outward reinsurance distribution (eg we would expect the cash-flow type reinsurance recoverables to be in this list even though this cash-flow type would not apply to the numerator of the loss ratio in the loss ratio gross of reinsurance distribution), • may exclude some cash-flows that the firm includes in its best estimate calculation. This item is to take into account where a firm does not explicitly model variation in all of its best estimate cash-flows. • should as a minimum include the cash-flow types: benefit and claim payments and reinsurance recoverables. • should include cash in-flow premiums only if these are included in the numerator of the modelled loss ratios (this could be the case if the firm includes premium provision at the reporting reference date in premium risk), and exclude cash in-flow premiums only if these are not included in the numerator of the modelled loss ratios, • should include cash out-flow reinstatement premiums to reinsurers only if these are included in both the numerator and denominator of the modelled loss ratios, • should be specific as to any types of cash-flows in the list that are expenses (eg the list should state whether any expenses types of cash-flows in the list are: administrative expenses, investment management expenses, claims management expenses (allocated or attributable to specific claims), claim management expenses (unallocated), acquisition expenses), • should be specific as to any types of cash-flows in the list that are reinsurance commissions and profit participations. The description of methodology used to model inflation in the cash-flows included in the numerator of the loss ratio should be one from the following closed list: 1. no explicit modelling of inflation, 2. same inflation term structure in all scenarios generated by the internal model (ie deterministic inflation) – if so provide brief statement of the inflation term structure used, 3. inflation term structure can differ over the scenarios generated by the internal model (ie stochastic inflation) – if so provide brief statement of the

ITEM		INSTRUCTIONS
		method used to generate scenarios of inflation.
PRE003	Types of cash-flows included in the output distribution of loss ratios (including inflation) - denominator	As per PRES002, but relates to the denominator of the loss ratio and the list of types of cash-flows: • should relate to both the loss ratio gross of reinsurance distribution and the loss ratio net of outward reinsurance distribution (eg we would expect cash out-flow outward reinsurance premium to be in this list even though this cash-flow type would not apply to the denominator of the loss ratio in the loss ratio gross of reinsurance distribution), • should as a minimum include the cash-flow types: premiums net cash in-flows and outward reinsurance premium net cash out-flows, • should specify whether premiums net cash in-flows include or exclude commissions or brokerage, • should include cash out-flow reinstatement premiums to reinsurers only if these are included in both the numerator and denominator of the modelled loss ratios, • should include reinsurance commissions and profit participations only if these are included in the denominator of the modelled loss ratios, and exclude reinsurance commissions and profit participations only if these are not included in the denominator of the modelled loss ratios. The description of methodology used to model inflation in the cash-flows included in the denominator of the loss ratio should be one from the following closed list: 1. no explicit modelling of inflation, 2. same inflation term structure in all scenarios generated by the internal model (ie deterministic inflation) – if so provide brief statement of the inflation term structure used, 3. inflation term structure can differ over the scenarios generated by the internal model (ie stochastic inflation) – if so provide brief statement of the method used to generate scenarios of inflation.
Z0020/ C201	Line of Business (firm's own)	Drop down to select the line of business from Own LoB 1 to Own LoB 100. The description for these lines are to be given in 'IM.03.10.01'.
PRE201 / C101, C201, C401 to C416	Claims duration – premium risk – gross of reinsurance	The mean duration of future benefits and claims net cash out-flows gross of reinsurance relating to claim events and business the firm allocates to premium risk for all lines of business in aggregate and for each individual LoB. It ignores discounting and is defined as: $\frac{\sum_{\text{all } i}(\text{expected net cash outflows in year } i) * i}{\sum_{\text{all } i} \text{expected net cashflows in year } i}$ where: • net cash out-flows in year i are cash out-flows less cash in-flows and comprises the future benefits and claims net cash out-flows in year i • expected net cash out-flows in year i is the probability weighted average of future benefits & claims net cash out-flows in year i (from the Reference Date) relating to the claim events and business the firm allocates to premium risk. • net cash out-flows in year i is gross of reinsurance • *i* is the year following the reference date. Thus if the reference date is 31Dec2016, i = 1 is the 2017 calendar year, i =2 is the 2018 calendar year, until all future benefit payments and claims are fully run-off. For clarification the probability weighted average of net cash out-flows in year i, should be: $\frac{\sum_{all\ k}(\text{net cash outflows year } i \text{ in scenario } k) \ * \ (\text{probability of scenario } k \text{ occurring}}{\sum_{all\ k}(\text{probability of scenario } k \text{ occurring})}$

ITEM		INSTRUCTIONS
		In column C101, claims duration for all LoBs in aggregate excludes cash-flows for claims settled with PPO.
PRE401	Claims duration – premium risk – net of reinsurance	As per PRE201 but is net of reinsurance. It ignores non-recovery of reinsurance.
PRE203 / C101, C201, C401 to C416	Written premium planned in the 12 months following the Reference Date – gross	Planned written premium gross of reinsurance is to be reported for all LoBs in aggregate and for each individual lines of business, and should include premium planned to be written within the 12 months following the reference date via binder agreements either signed before or after the reference date. Binder premium planned to be written after the 12 months following the reference date should be excluded. Written premiums shall comprise all that which comes under the definition of premiums written in Article 1 paragraph 11 of Delegated Regulations (EU) 2015/35 supplementing Directive 2009/138/EC relating to business planned to be written or recognised in the 12 months following the reporting reference date.
PRE403 / C101, C201, C401 to C416	Written premium planned in the 12 months following the Reference Date – net	As per PRE203 but net of reinsurance.
PRE204 / C101, C201, C401 to C416	Written unearned premium at the Reference Date - gross	This row is only to be reported if risk category to which the premium provision at the reporting reference date is allocated is Premium Risk. Written unearned premium gross of reinsurance is to be reported for all lines of business in aggregate and for each individual lines of business.
PRE404 / C101, C201, C401 to C416	Written unearned premium at the Reference Date - net	As per PRE204 but net of reinsurance.
PRE205 / C101, C201, C401 to C416;	Best estimate premium provision discounted - gross	This row is only to be reported if risk category to which the premium provision at the reporting reference date is allocated is Premium Risk. The gross best estimate premium provision (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for all lines of business in aggregate and for each individual lines of business. The aggregate should be the sum of the individual lines of business.
PRE405 / C101, C201, C401 to C416;	Best estimate premium provision discounted - net	As per PRE205 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, SPVs and finite reinsurance). It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
PRE206 / C201, C401 to C416;	Best estimate premium provision - undiscounted - gross	This row is only to be reported if risk category to which the premium provision at the reporting reference date is allocated is Premium Risk. The undiscounted sum of future cash-flows that comprise the premium provision gross of outwards reinsurance (ie before allowing for recoverables from reinsurance, SPVs and finite reinsurance) is to be reported for each individual lines of business apart from lines of business containing PPO claims. This row does not apply all lines of business in aggregate.
PRE406 / C201, C401 to C416;	Best estimate premium provision - undiscounted - net	As per PRE206 but net of outward reinsurance (ie after allowing for recoverables from reinsurance, SPVs and finite reinsurance). It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
PRE207 / C101, C201, C401 to C416	Best estimate expenses (allocated)- gross	Allocated expenses refer to claims handling expenses which can be allocated to specific claims. Here we expect such expenses related to the claims modelled within premium risk. Allocated expenses should be provided by each line of business and in aggregate. The gross expenses should not include outward reinsurance costs.
PRE407 / C101,	Best estimate	Allocated expenses refer to claims handling expenses which can be allocated

ITEM		INSTRUCTIONS
C201, C401 to C416	expenses (allocated)- net	to specific claims. Here we expect such expenses related to the claims modelled within premium risk. Allocated expenses should be provided by each line of business and in aggregate. The net expenses include outward reinsurance costs.
PRE208 / C101	Best estimate expenses (unallocated) - gross	Unallocated expenses refer to all claims handling expenses which are not included in allocated expenses ie which cannot be allocated to specific claims. Again, here we expect such expenses related to the claims modelled within premium risk. Although it may be possible to apportion such expenses to lines of business, we only request these expenses to be reported across all lines of business in aggregate. The gross expenses should not include outward reinsurance costs.
PRE408 / C101	Best estimate expenses (unallocated) - net	Unallocated expenses refer to all claims handling expenses which are not included in allocated expenses ie which cannot be allocated to specific claims. Again, here we expect such expenses related to the claims modelled within premium risk. Although it may be possible to apportion such expenses to lines of business, we only request these expenses to be reported across all lines of business in aggregate. The net expenses should include outward reinsurance costs.
PRE209 / C101, C201, C401 to C416	Business plan LR - gross	Business plan claims ratio gross of reinsurance is to be reported for all LoBs in aggregate (*column C101*) and for each individual LoB for all: ➢ non-catastrophe claims (*in part 1 of each column*), ➢ catastrophe claims (*in part 2 of each column*), and ➢ non-catastrophe and catastrophe claims combined (*~~in~~ part 3 of each column*). The business plan claims ratio is the ratio of ***C***/***P***, where ***C*** is the sum of future (from the reporting reference date) benefit and claim payments gross of reinsurance on an undiscounted basis in the business plan and ***P*** is gross premium in the business plan. ***P*** is the same for each of the three business plan loss ratios reported in parts 1, 2 and 3 of each column. Catastrophe claims in the numerator of the business plan catastrophe claims ratio are claims that the firm categorises as catastrophe claims (whether caused by meteorological or geological forces such as windstorm or an earthquake, or by man-made actions) for business planning purposes. Non-catastrophe claims are claims that are not classed as catastrophe claims. Catastrophe claims reported in part 2 of each column should only be caused by those events included in the information reported on the catastrophe risk template.
PRE409 / C101, C201, C401 to C416	Business plan LR - net	As per PRE209 but net of reinsurance. It ignores non-recovery of reinsurance and adjustments for reinsurance credit risk.
PRE301 to PRE330 / C101, C201, C401 to C416	Premium risk model outputs - undiscounted - gross.	Firms are expected to provide specified measures of the output distribution of gross loss ratios for all lines of business in aggregate (*column C101*), for each entity LoB (*column C201 to C300*), and for each Solvency II lines of business (*columns C401 to C416*). In each of these columns firms are expected to provide the specified measures of the output distribution of gross loss ratios for: ➢ non-catastrophe claims (*in part 1 of each column*), ➢ catastrophe claims (*in part 2 of each column*), ➢ non-catastrophe and catastrophe claims combined (*in part 3 of each column*). The gross claims ratio is the ratio of ***C***/***P***, where: • ***C*** is the estimate as at one-year following the reporting reference date of the sum of future (from the Reference date) net cash out-flows, including those contained in the premium provision at the end of the 12 month period following the reporting reference date, of the types listed in item PRE002 above, gross of reinsurance on an undiscounted basis. The net cash out-

<table>
<tr><th colspan="2">ITEM</th><th>INSTRUCTIONS</th></tr>
<tr><td></td><td></td><td>flows in C should:
➢ relate to future claim events from business planned to be written in the 12 months following the reference date plus future claim events from written unearned business at the reporting reference date; if risk category to which the premium provision at the reporting reference date is allocated is Premium Risk; or
➢ relate to future claim events from business planned to be written in the 12 months following the reference date; if risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk.
If the sum of future net cash out-flows relating to future claim events that will be settled by periodic payment orders (PPOs) or structured settlements is not available on an undiscounted basis, then the sum of these cash out-flows are to be included in these rows on a discounted basis.
• P is gross premium. P should comprise the net cash in-flows of the types listed in item PRE003 above and (in order to be consistent with C):
➢ include premiums cash in-flow from business planned to be written in the 12 months following the reporting reference date plus unearned premium at the reporting reference date, if risk category to which the premium provision at the reporting reference date is allocated is Premium Risk; or
➢ include premiums cash in-flow from business planned to be written in the 12 months following the Reporting Reference date, if risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk.
In the distribution of non-catastrophe gross loss ratios reported in part 1 of each column the net cash out-flows in C should relate only to claims that are not catastrophe claims.
In the distribution of catastrophe gross loss ratios reported in part 2 of each column the net cash out-flows in C should relate only to catastrophe claims.
For the purpose of the gross loss ratios reported in parts 1 and 2 of each column, catastrophe claims are claims arising from any of the perils reported in the template ‘IM.03.06.01 Catastrophe Risk’.
In the distributions of gross loss ratios reported in parts 1, 2 and 3 of each column, the P is the same for each of the three distributions.
The distribution of gross loss ratios reported in part 3 of each column can allow for diversification effects between non-catastrophe claims and catastrophe claims.
The measures of the output distribution of gross loss ratios to be reported in parts 1, 2 and 3 of each column are: mean, standard deviation, minimum simulated value, maximum simulated value and the following percentiles – 0.1th, 5th, 10th, 15th, 20th, 25th, 30th, 35th, 40th, 45th, 50th, 55th, 60th, 65th, 70th, 75th, 80th, 85th, 90th, 95th, 96th, 97th, 98th, 99th, 99.5th, 99.9th.

†The distribution is an estimate at one-year following the reference date of future (from the Reference Date) net cash-out-flows because the SCR is a one-year time horizon measure.</td></tr>
<tr><td>PRE501 to PRE530 / C101, C201, C401 to C416</td><td>Premium risk model outputs - discounted - net</td><td>As per rows PRE301 to PRE330:
• Loss ratios are net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk) and the numerator of the ratio is to be on a discounted basis.</td></tr>
<tr><td>PRE701 to PRE730 / C101, C201, C401 to C406</td><td>Premium risk model outputs - undiscounted - net</td><td>As rows PRE301 to PRE330 but:
• Loss ratios are net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk) and the numerator of the ratio is to be on an undiscounted basis.</td></tr>
</table>

ITEM		INSTRUCTIONS
PRE601		, If risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk,firms are expected to provide a brief explanation of how future catastrophe claim events in the premium provision have been allowed for in the outputs reported on the templates ‘IM.03.02.01, IM.03.02.02, MO.03.02.01, MO.03.02.02 Reserve Risk’.

Premium Risk Templates, Ultimate Risk (MO.03.03.01 and MO.03.03.02)

ITEM		INSTRUCTIONS
General comments		As per template 'IM.03.03.01 and IM.03.03.02' but on an ultimate time horizon basis, and with the following differences
PRE203 / C101, C201 to C300, C401 to C416	Written premium planned in the 12 months following the Reference Date – gross	Planned written premium gross of reinsurance is to be reported for all LoBs in aggregate and for each individual lines of business, and should include premium planned to be written via binder agreements either signed before the reference date or within the 12 months after the reference date. Note this should include premium to be written after the 12 months following the reference date via binder agreements signed within the next 12 months. Written premiums shall comprise all that which comes under the definition of premiums written in Article 1 paragraph 11 of Delegated Regulations (EU) 2015/35 supplementing Directive 2009/138/EC relating to business planned to be written or recognised in the 12 months following the reporting reference date.
PRE403 / C101, C201 to C300, C401 to C416	Written premium planned in the 12 months following the Reference Date – net	As per PRE203 but net of reinsurance.
PRE301 to PRE330 / C101, C201 to C300, C401 to C416	Premium risk model outputs - undiscounted - gross.	C and P used to calculate claims ratio should also include cash out-flows and premium in-flows that relate to business written after the 12 months following the reference date but attached to binder agreements signed within the 12 months following the reference date.
PRE501 to PRE530 / C101, C201 to C300, C401 to C416	Premium risk model outputs - discounted - net	As per rows PRE301 to PRE330: Loss ratios are net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk) and the numerator of the ratio is to be on a discounted basis.
PRE701 to PRE730 / C101, C201 to C300, C401 to C406	Premium risk model outputs - undiscounted - net	As rows PRE301 to PRE330 but: • Loss ratios are net of reinsurance (ignoring any non-recovery of reinsurance and adjustment for reinsurance credit risk) and the numerator of the ratio is to be on an undiscounted basis.

Historical Loss Ratios Template (IM.03.04.01)

ITEM		INSTRUCTIONS
General comments		Firms are expected to report the historical premiums and loss ratios on a consistent basis as how the premium risk is modelled. If risk category to which the premium provision at the reporting reference date is allocated is Premium Risk, this means the premium provision is modelled in premium risk and often implies the internal model operates on an accident year basis, and therefore the historical loss ratios should be reported on an accident year basis. If risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk, this means the premium provision is modelled in reserve risk and often implies the internal model operates on an underwriting year basis, and therefore the historical loss ratios should be reported on an underwriting year basis.
HLR201 to HLR220; HLR301 to HLR320; HLR501 to HLR520; HLR601 to HLR620	Historical premiums	For the year up to and including the reporting reference date ("N") and for each of the preceding 19 years provide the following for all lines of business in aggregate and for each of the firm's own line of business used in the premium risk part of its models: • gross premium written in that year (*rows HLR201 to HLR220*), • gross premium earned in that year (*rows HLR301 to HLR320*), • net of reinsurance premium written in that year (*rows HLR501 to HLR620*), and • net of reinsurance premium earned in that year (*rows HLR701 to HLR720*). The premium should be gross of commission. For years where premium is not fully developed, the estimated (at the reporting reference date) ultimate premium for the year should be provided.
HLR401 to HLR420; HLR701 to HLR720	Historical claims ratios	For the year up to and including the reporting reference date ("N") and for each of the preceding 19 years provide the following for all lines of business in aggregate and for each of the firm's own line of business used in the premium risk part of its models: • gross ultimate undiscounted claims ratios as estimated at the reporting reference date (*rows HLR401 to HLR420*), and • net of reinsurance ultimate undiscounted claims ratios as estimated at the reporting reference date (*rows HLR701 to HLR720*). The basis used for reporting the historical loss ratio should be consistent with how the premium risk is modelled. If risk category to which the premium provision at the reporting reference date is allocated is Premium Risk, this means the premium provision is modelled in premium risk and often implies the internal model operates on an accident year basis, and therefore the historical loss ratios should be reported on an accident year basis. • The numerator of the claims ratio for a year is the estimate (at the reference date) of the ultimate benefit payments and claims (including IBNR claims) relating to claim events that occurred in the year. • The denominator of the claims ratio for a year is the earned premium for the year as reported in row HLR301 to HLR320 (if gross) or in row HLR601 to HLR620 (if net) for the year. • If risk category to which the premium provision at the reporting reference date is allocated is Reserving Risk, this means the premium provision is modelled in

ITEM		INSTRUCTIONS
		reserve risk and often implies the internal model operates on an underwriting year basis, and therefore the historical loss ratios should be reported on an underwriting year basis .The numerator of the claims ratio for a year is the estimate (at the reporting reference date) of the ultimate benefit payments and claims (including IBNR claims) relating to business written in the year. • The denominator of the claims ratio for a year is the written premium for the year as reported in row HLR201 to HLR220 (if gross) or in row HLR501 to HLR520 (if net) for the year.

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Catastrophe Risk Template, 1 yr (IM.03.05.01)

ITEM	INSTRUCTIONS
General comments	A partial internal model firm that calculates the entire catastrophe risk module of its SCR (natural and man-made catastrophes) using Standard Formula does not expect to complete the templates. In this template, firms are expected to provide catastrophe risk model outputs by peril modelled. Catastrophe risk model is defined for the purposes of this Template as any calibrated tool (internal to the firm or vendor) that quantifies the financial impacts of catastrophe risk. Catastrophe losses relate to a single event that give rise to claims on several insurance policies. In this template: • no distinction is expected between property and non-property business. • no distinction is expected between losses from direct insurance and losses from reinsurance business. • gross and net mean gross and net of all reinsurance. • natural catastrophe perils are geophysical, climatological, hydrological, or meteorological events such as earthquake, wildfire, flood, or windstorm. • man-made catastrophe perils are those other than natural catastrophes, such as: ➢ a transport vehicle accident; ➢ negligent action causing or facilitating individuals to contract a disease; ➢ negligent action causing or facilitating a financial trading loss when economic conditions are adverse or when financial markets are experiencing adverse conditions (as opposed to financial loss arising from physical loss or damage to property, or injury or illness); ➢ human attack with weapons. • Losses from both natural and man-made catastrophes should include non-modelled risks. Non-modelled risks are the losses that stem from catastrophe events but are not accounted within the catastrophe models used by firms to assess their financial impacts (eg losses not allowed in an external vendor model). A financial loss that is ‘within scope of the firm’s catastrophe risk modelling’ is a loss that is covered in the catastrophe risk part of the firm’s internal model and is not covered within the modelling of attritional or large losses in the premium risk part of the firm’s model. • Where possible, losses from man-made catastrophes should be split between terrorism, cyber and other. If this split is not available at present, total man-made losses should be entered in the “other” column *(C303). • all amounts are to be reported undiscounted.

CAT202 to CAT204, CAT301 to CAT302, CAT304 to CAT311	Catastrophe risk model output relating to specific cat perils	Firms are expected to report model outputs for each of the following perils: i. All catastrophe perils / territories in aggregate (natural and man-made catastrophe perils) (*column C101*) ii. All natural catastrophe perils in aggregate (*column C102*) iii. All man-made catastrophe perils in aggregate (*column C103*) iv. US Hurricane, including Gulf of Mexico and Caribbean (*column C201*) v. US Earthquake (*column C202*) vi. US Convective Storm (*column C203*) vii. Japanese Typhoon (*column C204*) viii. Japanese Earthquake (*column C205*) ix. Australian Windstorm (*column C206*) . European Windstorm (*column C207*) i. European Earthquake (*column C208*) ii. UK Flood (*column C209*) xiii. South American Earthquake (*column C210*) xiv. All other natural catastrophe perils in aggregate (*column C212*) • if any of the perils to be reported in columns C201 to ~~C211~~ C210 are not applicable to a firm, the firm should leave the column for that peril blank. • In 'Description of other perils' (cell R0010/C0010), firms should provide details of what have been included in the 'all other natural perils in aggregate' (Column C212). • The outputs for each of the perils listed in (i) to (xiv) above should include all losses that may arise from the peril regardless of whether the losses are or are not explicitly covered by the firm's use of existing catastrophe models. Additional columns C301, C302 and C303 are included to capture man-made cat losses split between terrorism, cyber and other perils.
CAT202	Commercially available vendor model used for each catastrophe peril (if applicable)	This row is not applicable for columns C101 to C103, nor for columns C212 or C301 to C303 For each peril select from the drop down box the commercially available vendor model used to model the peril. The commercial vendor models available for selection in the row are: Fathom; Impact Forecasting; JBA; KatRisk; KCC; RMS; Verisk; Blended, OTHER; N/A. If a firm uses combinations or blends of vendor models, or 'OTHER', an explanation of the combination or blended approach or the "OTHER" model used should be provided in CAT203.
CAT203	Commercially available vendor model name and version used (if applicable)	This row is not applicable for columns C101 to C103, nor for columns C212 or C301 to C303 For each peril report in this row the commercially available vendor model name and version used to model the peril, and details of any deviations from or adjustments to proprietary version. Example: RMS version<xx>, <undertaking's own view of hazard frequency or vulnerability>; Verisk version<xx>; Corelogic version<xx>.

CAT204	Summary of adjustments made to the vendor model (including selection of options and switches)	This row is not applicable for columns C101 to C103, nor for columns C212 or C301 to C303 For each peril report any adjustments or changes made by the firm to default options set in the vendor model and version specified in row CAT203. Report both the option in question and what the adjustment or change is. Examples of default options that could be changed by a user, and what the change might be, are: Demand Surge switched from on to off, Storm Surge switched from on to off, Post Loss Amplification switched from on to off, EU WS Clustering switched from on to off, Fire Following switched from on to off, Hurricane Rates Catalogue frequency from long term rate to short / medium / other rate, Warm Sea Surface Temperature Catalogue from long to short / medium /other, or any others.
CAT301 to CAT311 / C101 to C103, C201 to C211, C301 to C303	Model Outputs for each peril relating to property and non-property business in aggregate	For each peril specified measures of the following output distributions produced by the model are expected to be provided: • gross occurrence loss to all business – ie insurance and reinsurance business in aggregate (*column C<xxx>.5*), • gross aggregate loss to all business (*column C<xxx>.6*), • net occurrence loss to all business (*column C<xxx>.7*), • net aggregate loss to all business (*column C<xxx>.8*). (*Where column C<xxx> refers to the peril in question – eg column C202 is the US Earthquake peril, column C301 is the first of the ‘own defined’ natural catastrophe perils.*) The specified measures are: mean; standard deviation; 90th, 96th, 98th, 99th, 99.5th, 99.6th, 99.8th, 99.9th percentiles.
		Occurrence loss is the largest loss from a single future occurrence of the peril that impacts policies that have been written by the balance sheet date or are planned to be written in the 12 months following the balance sheet date. Aggregate loss is the sum of all losses from future occurrences of the peril that impacts policies that have been written by the balance sheet date or are planned to be written in the 12 months following the balance sheet date. The model outputs, which relate to aggregate business, can allow for diversification between property and non-property within the peril.

~~C601 to C616~~ CAT601 to CAT615	Split of business between geographic territories	The total gross written premium income and total insured value split by territory. It is acknowledged that not all of these exposure measures relate specifically to cat exposed business. Where there is exposure to more than one peril in any such region, gross premium income should be the total for all perils, and total insured value should be for the peril with the largest exposure figure. Premiums and sums insured are split between a list of broad-based regions in which the risk lies, including 4 US regions which are used by EIOPA. The regions used are: UK, Europe ex UK, North East US, South East US, Mid-West US, Western US, Caribbean, South America, Australia, Rest of World, and a catch-all “unallocated” category for premiums and insured values which cannot be allocated to any of the other regions. Because reinsurance contracts may cover a number of regions, the split of premiums and total insured value for inward reinsurance business is broader still, with allocation between five regions: UK, Europe ex UK, North America, Rest of World, and a catch-all unallocated. Total gross written premium (ie the sum of items in C601 to C615) should be consistent with the totals shown on the template ‘IM.03.03.01 Premium Risk’.
~~C701 to C703~~ CAT701 to CAT703	Split of business between direct insurance, reinsurance and retrocession	Approximate split of gross written premium income between these three types of business. Proportions can be rounded to nearest 1% or nearest 10%.

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Catastrophe Risk Templates, Ultimate (MO.03.05.01)

ITEM	INSTRUCTIONS
General comments	As per template 'IM.03.05.01' but on an ultimate time horizon basis. If one –year and ultimate losses are stated to be the same as IM.03.05.01 (R0010/C0010), this template need only be completed for man-made cat losses.

Insurance Risk Output Correlations Template (IM.03.06.01)

<table>
<tr><th colspan="2">ITEM</th><th>INSTRUCTIONS</th></tr>
<tr><td colspan="2">General comments</td><td>In this template firms are expected to report the model output correlations between its own lines of business:
• Gross of reinsurance, undiscounted, linear correlations (rows R100 to R299);
• Gross of reinsurance, undiscounted, rank correlations (rows R300 to R499);
• Net of reinsurance, discounted, linear correlations (rows R500 to R699);

It allows output correlations between:
• Up to 100 reserve risk LoBs (ie between reserve_risk _LoB$_i$ and reserve_risk_LoB$_j$, where i =2 to 100, j = 1 to i-1);
• Up to 100 reserve risk LoBs and up to 100 premium risk LoBs (ie between premium_risk _LoB$_i$ and reserve_risk_LoB$_j$, where i,j = 1 to 100);
• Up to 100 premium risk LoBs (ie between premium_risk _LoB$_i$ and premium_risk_LoB$_j$, where i =2 to 100, j = 1 to i-1).

The lines of business are those used in a firm’s internal model and refer to those used in the premium and reserving risk ‘Own Lines’ sheets. Therefore when completing these ‘Own Lines’ sheets do not leave any spaces between columns.</td></tr>
<tr><td>R100 to R299</td><td>Premium and Reserve risk gross undiscounted output correlations between entity LoBs – linear</td><td>The gross undiscounted output linear correlation coefficients between reserve_risk _LoB$_i$ and reserve_risk_LoB$_j$, (i =2 to 100, j = 1 to i-1) are to be:
• Reported in rows R<99+i> to R199 and columns C100 to C<99+j>. (For example the output correlation coefficient between reserving classes 17 and 14 would be reported at row R116 and column C113.)
• Calculated from the simulations produced by the model that underlies the outputs reported in the ‘reserve risk Entity LoB’ sheet at rows RES301 to RES332 and the column for LoBs i and j.

The gross undiscounted output linear correlation coefficients between premium_risk _LoB$_i$ and reserve_risk_LoB$_j$, (i,j = 1 to 100) are to be:
• Reported in rows R<199+i> to R299 and columns C100 to C<99+j>. (For example the output correlation coefficient between premium risk class 9 and reserve class 23 would be reported at row R208 and column C122.)
• Calculated from the simulations produced by the model that underlies the outputs reported in the ‘reserve risk Own Lines’ sheet at rows RES301 to RES332 for LoB i and the simulations produced by the model that underlies the outputs reported in the ‘premium risk Own Lines’ sheet at rows PRE301 to PRE332 and the ‘All Claims in class’ column for LoB j.

The gross undiscounted output linear correlation coefficients between premium_risk _LoB$_i$ and premium_risk_LoB$_j$, (i =2 to 100, j = 1 to i-1) are to be:
• Reported at rows R<199+max(i,j)> to R299 and columns C<199+min(i,j)> to C299. (For example the output correlation coefficient between premium risk class 5 and premium risk class 20 would be reported at row R219 and column C204.)
• Calculated from the simulations produced by the model that underlies the outputs reported in the ‘premium risk Own Lines’ sheet at rows PRE301 to PRE332 and the ‘All Claims in class’ column for LoBs i and j.

The linear correlation coefficients expected are the Pearson Product-Moment Correlation Coefficients.</td></tr>
<tr><td>R300 to R499</td><td>Premium and Reserve risk gross undiscounted</td><td>As per R100 to R299, but the outputs are rank correlation coefficients.
The rank correlation coefficients expected are Spearman Rank Correlation Coefficients (or spearman Rho or the Pearson Product-Moment Correlation</td></tr>
</table>

ITEM		INSTRUCTIONS
	output correlations between entity LoBs – rank	Coefficients between the ranked output simulations).
R500 to R699	Premium and Reserve risk net discounted output correlations between entity LoBs – linear	As per R100 to R299, but the outputs are net of reinsurance and discounted.

Insurance Risk Output Correlations Template, Ultimate (MO.03.06.01)

ITEM	INSTRUCTIONS
General comments	As per template 'IM.03.06.01', but on an ultimate time horizon basis.

Market Risk Template (IM.03.07.01)

ITEM		INSTRUCTIONS
General comments		A partial internal model firm that calculates the entire market risk module of its SCR using Standard Formula is not required to complete the market risk template~~s~~. The purpose of this market risk template is for firms to report specific modelled outputs within their market risk category. All invested assets shown in the firm's Solvency II balance sheet at the reporting reference date should be included. (For avoidance of doubt do not exclude surplus assets at the reference date from the market risk model outputs reported in these templates). Where this is not possible, in the Comments Sheet tab, please provide an explanation and state the materiality of assets excluded. Unless instructed otherwise percentile points in the market risk templates are outputs from a monotonically increasing distribution. ie the 99.5 percentile is to be a 99.5 percentile adverse output (ie the estimated likelihood of an outcome more adverse than the 99.5 percentile is 0.5%), the 0.5 percentile is to be a 0.5 percentile favourable output (ie the estimated likelihood of an outcome more favourable than the 0.5 percentile is 0.5%). All outputs reported on the market risk template relate only to assets included in reporting template IR.02.01.01 at items: • 'Investments (other than assets held for index-linked and unit-linked contracts)' – rows R0070 to R0210; • Loans and mortgages – rows R0230 to R0260; • 'Cash and cash equivalents' – row R0410; and • 'Any other assets, not elsewhere shown' – row R0420. In particular pension schemes assets are ~~not~~ to be not included in outputs reported on the market risk template.
Z0010	Material currency	Identify the ISO4217 alphabetic code of each currency to be reported. The currencies to be reported are the firm's largest, second largest and third largest currencies that are not the reporting currency. The three largest currencies are determined by the Solvency II value in the reporting currency of financial investments held at the reporting reference date in the currency in question. If the firm's financial investments are in fewer than the reporting currency and three other currencies, report the code of each non-reporting currency in which financial investments are held. For the purpose of deriving the three largest currencies that are not the reporting currency, financial investments comprises of only: • investments reported on reporting template IR.02.01.01 at items 'Investments (other than assets held for index-linked and unit-linked contracts)' but excluding 'Derivatives', and • 'Cash and cash equivalents' ie {IR.02.01.01, R0070 but excluding R0190 and R0410}.

ITEM		INSTRUCTIONS
IRZ0020	Currency – materiality order	The materiality order of each currency stated in Z0010. Eg if a firm's largest, second largest and third largest currencies that are not the reporting currency measured by Solvency II value in the reporting currency of financial investments, excluding derivatives, and cash held at the reporting reference date are respectively USD, EUR, JPY, then where: 'USD' is entered at Z0010, enter "1" at Z0020; 'EUR' is entered at Z0010, enter "2" at Z0020; 'JPY' is entered at Z0010, enter "3" at Z0020.
MKT005	Market risk – ESG vendor	Enter: • Vendor's name if using a third-party vendor Economic Scenario Generator (ESG). • 'In-house model' if using your own built in-house ESG. • Combination and the vendor's name if using a combination of third-party vendor ESG and in-house model (in the Comments Sheet state which part of the model uses the third-party ESG and which part of the model uses the in-house model). • 'N/A' if no ESG is used.
MKT006	Market risk – change to ESG default settings	List changes that have been made to the default ESG settings. This could be setting changes, calibration changes or other modifications made to the vendor default settings to ensure the ESG is appropriate to your risk profile. Enter 'n/a' if in-house ESG used or no ESG used.
C101	Value at reporting reference date	For rows MKT201 to MKT214 the Solvency II value at the reporting reference date of specified assets is to be reported. For other rows the quantum in question at the reference date is to be provided. (Eg in MKT401, provide the risk free zero coupon GBP bond spot rate Term 1 in C101; in MKT601, provide the AAA rated HBP ZCB spot rate spread (over RF) Term 1 in C101.)
C201 to C221	Statistics of distributions output by the model	Provide the statistic specified in each column for the model output distribution specified in each row. For the percentile statistics (C205 to C221) - • If the distribution specified in a row is 'increase in '<a specified quantum>': it should be the case that the max increase (provided in C205) >= the 99.9th percentile increase (provided in C206) >= the 99.5th percentile increase (provided in C207) … the 0.1th percentile increase (provided in C220) >= the min increase (provided in C221). If an increase at a particular percentile is negative (ie the quantum in question decreases at this percentile of the distribution) a negative amount should be provided. • For rows MKT101 to MKT109: provide the distribution of reduction in basic own funds (BOF) for the risk category in question. (Eg row MKT102 is the distribution of reduction in BOF from interest rate risk only.) The max reduction in BOF (provided in C205) >= the 99.9th percentile reduction in BOF (provided in C206) >= the 99.5th percentile reduction in BOF (provided in C207) … the 0.1th percentile reduction in BOF (provided in C220) >= the min reduction in BOF (provided in C221). If a reduction in BOF at a particular percentile is negative (ie BOF increase at this percentile of the distribution) a negative amount should be provided.
C301	Comments	For rows MKT101 to MKT110 column C301 should include: • A brief definition or explanation of the relevant market risk category in the

ITEM		INSTRUCTIONS
		firm's model. (Eg MKT101 / C301 should contain a brief definition or explanation of overall market risk used in the firm's model, MKT102 / C301 should contain a brief definition or explanation of interest rate risk used in the firm's model). For other rows this column should contain commentary as prescribed in the instructions.
Rows MKT101 to MKT110	In rows MKT101 to MKT110 respectively firms should provide the expected model outputs for each of the following categories of market risk: 1) Market risk overall (row MKT101), 2) Interest rate risk (row MKT102), 3) Inflation risk (row MKT103), 4) Credit Spread risk (row MKT104), 5) Investment Credit default / transition risk (row MKT105), 6) Equity risk (row MKT106), 7) Property risk (row MKT107), 8) Currency risk (row MKT108), 9) Other market risks (row MKT109), and 10) Derivatives risk (row MKT110). The following is expected: • The output distribution reported for each of the above market risk categories (1) to (9) should be the reduction in basic own funds over a one-year time horizon from only the factors that constitute that market risk category in the firm's model. (For derivatives risk, see instructions for MKT110 below.) • A reduction in basic own funds is to be shown as a positive number and an increase in basic own funds is to be shown as a negative number. (This might not apply to derivatives risk, see instructions for MKT110 below.) • The 99.5th percentile of the distribution should be a reduction in basic own funds that has an estimated likelihood of being exceeded of ½%. (This might not apply to derivatives risk, see instructions for MKT110 below.) • A negative mean (column C201) would mean that the expected reduction in basic own funds from only the factors that constitute that market risk category in the firm's model is a negative reduction (ie an increase in basic own funds). (This might not apply to derivatives risk, see instructions for MKT110 below.) The model outputs to be reported in columns C201 to C203 and C205 to C221 respectively are: mean; standard deviation; and the following percentiles – maximum simulated value, 99.9%, 99.5%, 99%, 97.5%, 95%, 90%, 75%, 50%, 25%, 10%, 5%, 2.5%, 1%, 0.5%, 0.1%, minimum simulated value. Each of these outputs are to be monetary amounts. The information to be reported in column C301 is to include, but is not limited to: • explanations for why an instruction is not followed. (For example if an instruction asks for outputs before any allowance for derivatives or hedging instruments but the model does not produce this, then provide an explanation in column C301). • explanations of whether the model produces outputs that combine two or more of the sub-modules listed above. • explanations for why any of columns C201 to C221 are left blank for one (or more) of the rows. (Eg if all the firm's assets and liabilities were entirely in GBP, currency risk would not be applicable to the firm, and for row MKT108 columns C201 to C221 would be left blank and an explanation would be provided in C301.)	
MKT101	Model outputs of overall market risk	Firms are expected to provide specified items from the output distribution of losses from only the factors that constitute the firm's market risk. This output distribution is to: • include the impact of derivatives and hedging instruments, • be after diversification among different market risk types,

ITEM		INSTRUCTIONS
		• be before diversification with other non-market risk categories (eg premium risk).
MKT102	Model outputs of interest rate risk	Firms are expected to provide specified items from the **standalone*** output distribution of **losses** from only the factors that constitute interest rate risk in the firm's model. (*'standalone' meaning before diversification with the other market risk types and before allowing for derivatives and other hedging instruments). The impact of changes to the risk-free yield curve on liabilities is part of interest rate risk, not insurance risk. If a firm's model uses different interpretation for interest rate risk, this should be explained briefly in column C301.
MKT103	Model outputs of inflation risk	Firms are expected to provide specified items from the **standalone*** output distribution of **losses** from only the factors that constitute inflation risk in the firm's model. (*'standalone' is defined under MKT102 above.) Inflation risk is the effect of inflation on changes in the value of assets. It does not refer to risk related to claims inflation which should be included under insurance risk. If a firm's model uses a different interpretation of inflation risk in its model, this should be explained briefly in column C301. The measure(s) of inflation used in the firm's modelling of inflation risk should be provided briefly in column C301. (Examples of measures of inflation are: Retail Price Index, Consumer Price Index, various producer price indices, various service producer price indices.) If inflation risk is not modelled explicitly, state this in column C301 and leave columns C201 to C221 blank
MKT104	Model outputs of credit spread risk	Firms are expected to provide the **standalone*** output distribution of **losses** from only the factors that constitute credit spread risk in the firm's model. (*'standalone' is defined under MKT102 above.) The explanations provided in column C301 should include: • Which of the following risks (or combinations of the following risks) are included in this row: a) corporate spreads widening, b) sovereign spreads widening, c) corporate bond rating downgrades, d) sovereign bond rating downgrades, e) corporate bond defaults, f) sovereign bond defaults, g) other (please describe). • The definitions of spread used in the model (eg option adjusted spread (bid), z-spread (offer)). • The base of the spread (eg difference between bond yields and risk-free yields, or between bond yields and sovereign bond yields.)
MKT105	Model outputs of rating downgrade and investment credit default risk	Firms are expected to provide specified items from the **standalone*** output distribution of **losses** from only the factors that constitute rating downgrade and investment credit default risk in the firm's model. (*'standalone'.) The explanation provided in column C301 should include which of the following risks (or combinations of the following risks) are included in this row: a) None (because rating downgrade risk and investment credit default are both included with credit spread risk reported in row MKT104) – in this case this columns C201 to C221 of this row should be left blank. b) Rating downgrade of corporate bond risk. c) Rating downgrade of sovereign bond risk d) Corporate bond default.

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		e) Sovereign bond default risk.
MKT106	Model outputs of equity risk	Firms are expected to provide specified items from the **standalone*** output distribution of **losses** from only the factors that constitute equity risk in the firm's model. (*'standalone' is defined under MKT102 above.) If a firm does not hold any equities, state this in column C301 and leave columns C201 to C221 blank. The explanation provided in column C301 should include whether: • The output distribution of losses reported for equity risk covers equity volatility (as well as fall in value of equities). • The modelled reduction in equity values is instantaneous or over a specified period of time.
MKT107	Model outputs of property risk	Firms are expected to provide specified items from the **standalone*** output distribution of **losses** from only the factors that constitute property risk in the firm's model. (*'standalone' is defined under MKT102 above.) If a firm does not hold any property investments, state this in column C301 and leave columns C201 to C221 blank. The explanation provided in column C301 should include whether property risk in the firm's model covers property volatility (as well as risk of fall in value of property).
MKT108	Model outputs of currency risk	Firms are expected to provide specified items from the standalone* output distribution~~s~~ of losses from only the factors that constitute currency risk in the firm's model. (*'standalone' meaning before diversification with the other market risk types and before allowing for derivatives and other hedging instruments that impact the effect on the firm of changes in foreign exchange rates.) If a firm's entire assets and liabilities are in a single currency, state this in column C301 and leave columns C201 to C221 blank The impact of changes to foreign exchange rates on liabilities is part of currency risk, not insurance risk. If a firm's model uses a different interpretation of currency risk in its model, the interpretation used should be explained in column C301.
MKT109	Model outputs of other market risks	Firms are expected to provide specified items from the standalone* output distribution of losses from the factors that constitute market risk in the firm's model and have not been included in the distributions reported in rows MKT102 to MKT108 above. (*'standalone' is defined under MKT102 above.) If a firm considers it has zero other market risks, state this and the reasons(s) why in column C301 and leave columns C201 to C221 blank.
MKT110	Model outputs of derivatives risk	Firms are expected to provide the **impact** of the application of derivative instruments on the total market risk. For example, if the total market risk value is £1,000,000 absent of these instruments and £900,000 after applying these instruments at the 99.5^{th} percentile, then please enter -£100,000 at the 99.5^{th} percentile for the derivatives risk. This distribution may **not** be monotonic as derivatives can impact changes in asset values in different ways at the different percentiles of the overall market risk distribution. If a firm does not hold any derivative instruments, state this in column C301

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		and leave columns C201 to C221 blank.
MKT201	Property (other than for own use)	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Property (other than for own use)'(R0080), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '9 – Properties'. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Property (other than for own use)'(R0080), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '9 – Properties'; and • {MKT201, C101}
MKT202	Holdings in related undertakings, including participations	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, Holdings in related undertakings, including participations'(R0090), C0010}. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Holdings in related undertakings, including participations'(R0090), C0010}; and • {MKT202, C101}
MKT203	Equities	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Equities'(R0100), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '3L – Listed equity' or '3X – Unlisted equity'. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Equities'(R0100), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '3L – Listed equity' or '3X – Unlisted equity'; and • {MKT203, C101}
MKT204	Government bonds	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Government Bonds'(R0140), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '1 – Government bonds'. In column C301 provide an explanation of any difference between the value reported in: • reporting templates : {IR.02.01.01, 'Government Bonds'(R0140), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '1 – Government bonds'; and • {MKT204, C101}

<table>
<tr><th colspan="2">ITEM</th><th>INSTRUCTIONS</th></tr>
<tr><td>MKT205</td><td>Corporate bonds</td><td>In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at:
{Balance sheet template IR.02.01.01, 'Corporate Bonds'(R0150), C0010}; or
{Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '2– Corporate bonds'.
In column C301 provide an explanation of any difference between the value reported in:
reporting templates : {IR.02.01.01, 'Corporate Bonds'(R0150), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '2– Corporate bonds'; and
{MKT205, C101}</td></tr>
<tr><td>MKT206</td><td>Structured notes</td><td>In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at:
{Balance sheet template IR.02.01.01, 'Structured notes'(R0160), C0010}; or
{Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '5 – Structured notes'.
In column C301 provide an explanation of any difference between the value reported in:
reporting templates : {IR.02.01.01, 'Structured notes'(R0160), C0010} plus sum of {IR.06.03.01, 'Total amount' (C0060)} over all rows where 'underlying asset category' (C0030) is '5 – Structured notes'; and
{MKT206, C101}</td></tr>
<tr><td>MKT207</td><td>Collateralised securities</td><td>In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at:
{Balance sheet template IR.02.01.01, 'Collateralised securities'(R0170), C0010}; or
{Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '6 – Collateralised securities'.
In column C301 provide an explanation of any difference between the value reported in:
reporting templates : {IR.02.01.01, 'Collateralised securities'(R0170), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '6 – Collateralised securities'; and
{MKT207, C101}</td></tr>
<tr><td>MKT208</td><td>Derivatives</td><td>In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at:
{Balance sheet template IR.02.01.01, 'Derivatives'(R0190), C0010}; or
{Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is 'A', 'B', 'C', 'D', or 'E'.
In column C301 provide an explanation of any difference between the value reported in:
reporting templates : {IR.02.01.01, 'Derivatives'(R0190), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying</td></tr>
</table>

ITEM		INSTRUCTIONS
		asset category' (C0030) is 'A', 'B', 'C', 'D', or 'E'; and • {MKT208, C101}
MKT209	Deposits other than cash equivalents	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Deposits other than cash equivalents'(R0200), C0010}. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Deposits other than cash equivalents'(R0200), C0010}; and • {MKT209, C101}.
MKT210	Other investments	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Other investments'(R0210), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '0 – Other investments (including receivables)'. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Other investments'(R0210), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '0 – Other investments (including receivables)'; and • {MKT210, C101}.
MKT211	Other loans and mortgages	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and are included in the reporting templates at: • {Balance sheet template IR.02.01.01, 'Other loans and mortgages'(R0260), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '8 – Mortgages and loans'. In column C301 provide an explanation of: a) Any difference between value reported in: • reporting templates: {IR.02.01.01, 'Other loans and mortgages'(R0260), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '8 – Mortgages and loans'; and • {MKT211, C101}. b) The amount included in in reporting template {IR.02.01.01, 'Other loans and mortgages'(R0260), C0010} which is attributable to a counterparty that is the ultimate parent of the firm or a counterparty whose ultimate parent is also the ultimate parent of the firm. c) The amount included in {MKT211, C101} which is attributable to a counterparty that is the ultimate parent of the firm or a counterparty whose ultimate parent is also the ultimate parent of the firm.
MKT212	Cash and cash equivalents	In column C101 provide the Solvency II value at the reference date of cash and cash equivalents that are within scope of the model and is included in the reporting templates at:

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		• {Balance sheet template IR.02.01.01, 'Cash and cash equivalents'(R0410), C0010}; or • {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '7 – Cash and deposits'. In column C301 provide an explanation of any difference between the value reported in: • reporting templates: {IR.02.01.01, 'Cash and cash equivalents'(R0410), C0010} plus sum of {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '7 – Cash and deposits'; and • {MKT212, C101}

MKT213	Collective investment undertakings	In column C101 provide the Solvency II value at the reference date of investments that are within scope of the model and is included in the reporting templates at:
		• {Collective investment undertakings template IR.06.03.01, C0060} where 'underlying asset category' {IR.06.03, C0030} is '4 – Collective Investment Undertakings'.
		
		In column C301 provide an explanation of:
		a) Any difference between:
		  • The sum of the values reported in reporting templates {IR.06.03.01, 'Total amount'(C0060)} over all rows where 'underlying asset category' (C0030) is '4 – Collective Investment Undertakings'; and
		  • {MKT213, C101}
		b) How this asset class is modelled (eg if the assets reported in {MKT2013, C101} were treated as a particular asset type in the model, an explanation of what that asset type is).

MKT214	Total assets within scope of market risk	The Solvency II value of all assets within scope of the model. This should equal the sum of the Solvency II values reported at rows MKT201 to MKT213.
MKT215	Asset duration (total portfolio)	This row applies to all the undertaking's "relevant assets". Weighted average duration of future assets cash flows at the reporting reference date is defined as: $\frac{\sum_{\text{all } i}(\text{actual [undiscounted] cash flow from "relevant assets" at time } i) * i}{\sum_{\text{all } i} \text{actual [undiscounted] cash flow from "relevant assets" at time } i}$ Where: • "Relevant assets" are those for which the item 'duration' is reported in Reporting template IR.06.02.01.
MKT216	Best estimate duration (total portfolio)	This row applies to all the undertaking's best estimate cash-flows. Weighted average duration of the future cash flows on which the best estimate at the reporting reference date is based is defined as: $\frac{\sum_{\text{all } i}(\text{actual [undiscounted] best estimate net of reinsurance cash flow at time } i) * i}{\sum_{\text{all } i}(\text{actual [undiscounted] best estimate net of reinsurance cash flow at time}) \ i}$ Where: • best estimate cash-flows are those included in reporting template IR.02.01.01 at column C0010 and rows: R0530, R0540, R0570, R0580, R0620, R0630, R0660, R0670 relating to non-life obligations and annuities stemming from non-life insurance and reinsurance contracts.
MKT217	PV100	The proportional change in the excess of assets over liabilities (the quantum reported on reported templates at {IR.02.01.01, R1000, C0010}) from an

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		increase in the risk-free yield curve from that at the reference date at all durations (ie parallel shift in the risk-free yield curve) of one hundred basis points (ie if at a point on the yield curve the risk-free rate is 1.783%, an increase of one hundred basis points would result in a risk-free rate of 2.783%). The risk-free yield curve at the reference date is the 'Basic RFR curves NO volatility adjustment' published by EIOPA at the reference date for the: ➢ Euro if the reporting currency is EUR, or ➢ The country pertaining to the reporting currency (eg United Kingdom if the reporting currency is GBP, United States if the reporting currency is USD, Japan if the currency is JPY, etc). In column C301 state any asset or liability items that have been excluded from the PV100 calculation (using the descriptions of asset and liability items in reporting template IR.02.01.01).
MKT218	Total invested assets	The Solvency II value of total invested assets that is reported under 'Investments (other than assets held for index-linked and unit-linked contracts)', 'Cash and cash equivalents' and 'Any other assets, not elsewhere shown' reported on the reporting template IR.02.01.01.
MKT219	Total best estimate technical provisions	The best estimate technical provisions at the reference date converted to GBP. This should be not materially different to the amount reported at reporting templates: • IR.17.01.01 at row R0270 and column C0180 plus • IR.12.01.01 at row R0090 and column C0090 If there is a material difference this should be explained in column C301.
MKT301 to MKT306 MKT401 to MKT408; MKT421 to MKT426; MKT441 to MKT446; MKT461 to MKT466 MKT501 to MKT505; MKT601 to MKT626; MKT651 to MKT675 MKT701 to MKT725; MKT751 to MKT775; MKT791 to MKT796; MKT801 to MKT805; MKT901 to MKT906; MKT921 to MKT926; MKT941 to MKT946;	Outputs for specific risks	For the output distributions referred to in each of these rows firms are expected to provide, in columns C101, C102 (if applicable), C201 (if applicable), and C205 to C221, the following items: • The value at the reference date that is the base for the output distribution in question [*at column C101*]. Eg If the output distribution in question is: ➢ Increase in risk-free zero coupon bond spot yield of term N, then in column C101 enter the risk-free zero coupon bond spot yield of term N at the reference date. ➢ Increase in [AAA, AA, A, BBB or B] rated ZCB spot rate spread (over RF) of term N, then in column C101 enter the [AAA, AA, A, BBB or B] rated ZCB spot rate spread (over RF) of term N at the reference date. ➢ Increase in spread of swaps over gilts spot rate of term N, then in column C101 enter spread of swaps over gilts spot rate N at the reference date. ➢ Relative increase in exchange rate to GBP, then in column C101 enter the exchange rate to GBP at the reference date. • Mean, standard deviation and of the output distribution [*columns C201, C202, respectively*]. • Maximum and minimum values in the output distribution [*columns C205 and C221 respectively*]. • The following percentiles of the output distribution: 99.9%, 99.5%, 99%, 97.5%, 95%, 90%, 75%, 50%, 25%, 10%, 5%, 2.5%, 1%, 0.5%, 0.1% [*columns C206 to C220 respectively*]. • The mean, standard deviation, maximum, minimum and above percentiles of the output distribution are all to be in the same format. Eg if the output distribution is the increase in a risk free rate expressed as a percentage point increase, the mean the maximum and the 95th percentile etc are all to be

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MKT961 to MKT966		expressed in the format of a percentage point increase. Where an increase is to be reported it is to be expressed as an absolute quantum of the increase from the base value reported at column C101 (unless otherwise stated). For example if the risk-free zero coupon bond spot yield of term T at the reference date is 4.00% and the output distribution of the risk-free zero coupon bond spot yield of term T at time t=1 [or at the reference date immediately after an instantaneous change] has a: • mean of 3.80%, • 90th percentile of 5.00%, • 2.5th percentile of 2.30% then the base value reported at column C101 is 4.00% and • the mean increase reported at column C201 is minus 0.20% (-0.20%), • the 90th percentile increase reported at column C208 is +1.00%, • the 2.5th percentile increase reported at column C217 is minus 1.70% (-1.70%). If an item referred to in one of these rows is not modelled, columns C101, C102, C201 to C221 should left blank and an explanation that the item is not modelled provided in column C301.
MKT301	Well diversified equity portfolio total annual return	This row is only expected to be reported if the firm writes life as well as non-life business. Well diversified equity portfolio total annual return.
MKT302	Equity volatility 1 year	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in equity volatility 1 year at the money (ATM) put option. At the money (rows MKT302, MKT303, MKT306) is defined as: Strike = 1 * Spot * exp[(r(t) – q)t] for a t-year option where: • r(t) is continuously compounded t-year interest rate, and • q is continuously compounded dividend (q>0 for a price index such as FTSE, q=0 for a total return index). (ie a forward strike of 1).
MKT303	Equity volatility 10 year	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in equity volatility 10 year ATM put option. (For definition of ATM see MKT302.)
MKT304	Property commercial portfolio total annual return	This row is only expected to be reported if the firm writes life as well as non-life business. Property commercial portfolio total annual return.
MKT305	Property residential total annual return	This row is only expected to be reported if the firm writes life as well as non-life business. Property residential portfolio total annual return.
MKT306	Property volatility 10 year	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in property volatility 10 year ATM option. (For definition of ATM see MKT302.)
MKT401 to		These rows relate to the currency that is the reporting currency

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MKT406, MKT409		
MKT401	interest rate risk term 1	Increase in risk-free zero coupon bond spot yield Term 1. The increase in risk free zero coupon bond yields is the increase in risk free annualised continuously compounded rate from best estimate of the risk free spot yield for a zero coupon bond of term T years as specified, eg best estimate swap-based risk free rate = 4.00%, 90th percentile risk free rate = 5.00%, 90th percentile increase in risk free rate from best estimate = +1.00%.
MKT402	interest rate risk term 2	Increase in risk-free zero coupon bond spot yield Term 2.
MKT403	interest rate risk term 5	Increase in risk-free zero coupon bond spot yield Term 5.
MKT404	interest rate risk term 10	Increase in risk-free zero coupon bond spot yield Term 10.
MKT405	interest rate risk term 15	Increase in risk-free zero coupon bond spot yield Term 15
MKT406	interest rate risk term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm’s SCR includes an amount for risk relating to pension scheme obligations. Increase in risk-free zero coupon bond spot yield Term 25.
MKT409	interest rate risk term 40	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm’s SCR includes an amount for risk relating to pension scheme obligations. Increase in risk-free zero coupon bond spot yield Term 40.
MKT407	GBP IAS19 discount rate – risk free component	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in risk free rate component of IAS19 discount rate.
MKT408	Implied interest rate volatility	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in implied GBP interest rate volatility on 5 X 15 ATM swaption. This is a swaption with an expiry of 5 years based on a swap with a maturity of 15 years.
MKT421 to MKT42~~6~~7		As per MKT401 to MKT406 and MKT409 but: • MKT421 to MKT427 relate to the currency entered at item Z0010 for each of the three most material currencies that are not the reporting currency. • If no currencies are entered at item Z0010 these rows are not expected to be completed. • MKT426 and MKT427 are only expected to be completed if: ➢ the firm has obligations to pay claims settled by PPOs in the currency entered at item Z0010, or ➢ the firm’s SCR includes an amount for risk relating to pension scheme

ITEM		INSTRUCTIONS
		obligations denominated in the currency entered at item Z0010.
MKT501	Implied inflation term 2	This row is only expected to be reported if the firm writes life as well as non-life business and relates only to GBP denominated assets. Increase in market implied inflation spot rate Term 2. The increase in market implied inflation spot yields is the increase in best estimate of the implied inflation spot yield for a zero coupon bond of term T years as specified. Eg best estimate implied inflation spot rate = 2.00%, 90^{th} percentile implied inflation spot rate = 3.00%, 90^{th} percentile increase from best estimate of implied inflation spot rate = +1.00%. At column C101 report the implied inflation spot rate for the respective term at the reference date.
MKT502	Implied inflation term 5	This row only expected to be reported if the firm writes life as well as non-life business and relates only to GBP denominated assets. Increase in market implied inflation spot rate Term 5.
MKT503	Implied inflation term 10	This row only expected to be reported if the firm writes life as well as non-life business and relates only to GBP denominated assets. Increase in market implied inflation spot rate Term 10.
MKT504	Implied inflation term 15	This row only expected to be reported if the firm writes life as well as non-life business and relates only to GBP denominated assets. Increase in market implied inflation spot rate Term 15.
MKT505	Implied inflation term 25	This row only expected to be reported if the firm writes life as well as non-life business and relates only to GBP denominated assets. Increase in market implied inflation spot rate Term 25.
MKT601 to MKT625, MKT627 to MKT631		These rows relate to the currency that is the reporting currency
MKT601	AAA spread term 1	Increase in AAA rated ZCB spot yield spread (over RF) Term 1. The increase in spot yield spreads is the increase from best estimate of the spread (expressed as an annualised rate) for an [AAA etc]-rated zero coupon bond of term T years as specified. eg best estimate spread = 3.00%, 90th percentile spread = 5.00%, 90^{th} percentile increase in spread from best estimate = +2.00%. Rows MKT601 to MKT625, MKT627 to MKT631 should: • Though expressed as a spread widening, capture the combined impact of spread widening, migrations and default. • Take account of any modelled diversification between other ratings and terms in the same currency. Therefore where necessary, these rows should show the percentiles of spread increases after allowing for such diversification. In other words, at any given percentile, applying the stresses in rows MKT601

ITEM		INSTRUCTIONS
		to MKT625, MKT627 to MKT631 simultaneously to the firm's own portfolio of assets in the specified currency should give the same impact as if the asset-side credit risk losses had been calculated using the firm's internal model (allowing for diversification between different ratings and terms in the same currency).
MKT602	AAA spread ter1m 2	Increase in AAA rated ZCB spot yield spread (over RF) Term 2.
MKT603	AAA spread term 5	Increase in AAA rated ZCB spot yield spread (over RF) Term 5.
MKT604	AAA spread term 10	Increase in AAA rated ZCB spot yield spread (over RF) Term 10.
MKT605	AAA spread term 15	Increase in AAA rated ZCB spot yield spread (over RF) Term 15.
MKT627	AAA spread term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Increase in AAA rated ZCB spot yield spread (over RF) Term 25.
MKT606	AA spread term 1	Increase in AA rated ZCB spot yield spread (over RF) Term 1.
MKT607	AA spread term 2	Increase in AA rated ZCB spot yield spread (over RF) Term 2.
MKT608	AA spread term 5	Increase in AA rated ZCB spot yield spread (over RF) Term 5.
MKT609	AA spread term 10	Increase in AA rated ZCB spot yield spread (over RF) Term 10.
MKT610	AA spread term 15	Increase in AA rated ZCB spot yield spread (over RF) Term 15.
MKT628	AA spread term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Increase in AA rated ZCB spot yield spread (over RF) Term 25.
MKT611	A spread term 1	Increase in A rated ZCB spot yield spread (over RF) Term 1.
MKT612	A spread term 2	Increase in A rated ZCB spot yield spread (over RF) Term 2.
MKT613	A spread term 5	Increase in A rated ZCB spot yield spread (over RF) Term 5.
MKT614	A spread term 10	Increase in A rated ZCB spot yield spread (over RF) Term 10.
MKT615	A spread term 15	Increase in A rated ZCB spot yield spread (over RF) Term 15.
MKT629	A spread term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Increase in A rated ZCB spot yield spread (over RF) Term 25.
MKT616	BBB spread term 1	Increase in BBB rated ZCB spot yield spread (over RF) Term 1.
MKT617	BBB spread term 2	Increase in BBB rated ZCB spot yield spread (over RF) Term 2.
MKT618	BBB spread term 5	Increase in BBB rated ZCB spot yield spread (over RF) Term 5.
MKT619	BBB spread term 10	Increase in BBB rated ZCB spot yield spread (over RF) Term 10.

ITEM		INSTRUCTIONS
MKT620	BBB spread term 15	Increase in BBB rated ZCB spot yield spread (over RF) Term 15.
MKT630	BBB spread term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Increase in BBB rated ZCB spot yield spread (over RF) Term 25.
MKT621	B spread term 1	Increase in B rated ZCB spot yield spread (over RF) Term 1.
MKT622	B spread term 2	Increase in B rated ZCB spot yield spread (over RF) Term 2.
MKT623	B spread term 5	Increase in B rated ZCB spot yield spread (over RF) Term 5.
MKT624	B spread term 10	Increase in B rated ZCB spot yield spread (over RF) Term 10.
MKT625	B spread term 15	Increase in B rated ZCB spot yield spread (over RF) Term 15.
MKT631	B spread term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Increase in B rated ZCB spot yield spread (over RF) Term 25.
MKT626	GBP IAS19 discount yield – credit spread component	This row is only expected to be reported if the firm writes life as well as non-life business. Increase in risk credit spread component of IAS19 discount yield.
MKT651 to MKT680		As per MKT601 to MKT625, MKT627 to MKT631 but for each of the three most material currencies entered at Z0010.
MKT791	Gilt swap spread risk term 1	Increase in spread of swaps over gilts spot yield for Term 1. The increase in spread of swaps over gilts is the increase from best estimate of the spread ~~for~~ between swaps and gilts for term T years. Where the swap rate is higher/lower than the gilt rate, the difference should be set as positive/negative. This should be the difference between the two zero coupon yield curves implied by swap rates and gilt prices (as opposed to difference between swap rates and redemption yields for coupon bearing gilts), eg best estimate spread = 1.00%, 90th percentile spread = 1.40%, 90th percentile increase in spread of swaps over gilts from best estimate = +0.40%. In column C101 the spread of swaps over gilts at the reference date is to be reported.
MKT792	Gilt swap spread risk term 2	Increase in spread of swaps over gilts spot yield for a term of 2 years.
MKT793	Gilt swap spread risk term 5	Increase in spread of swaps over gilts spot yield for a term of 5 years.
MKT794	Gilt swap spread risk term 10	Increase in spread of swaps over gilts spot yield for a term of 10 years.
MKT795	Gilt swap spread risk term 15	Increase in spread of swaps over gilts spot yield for a term of 15 years.

ITEM		INSTRUCTIONS
MKT796	Gilt swap spread risk term 25	This row is only expected to be reported if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes pension scheme obligation risk. Increase in spread of swaps over gilts spot yield for a term of 25 years.
MKT801	Material currency: Exchange rate to reporting currency	At column C101 report the relevant currency exchange rate at the reporting reference date for the conversion of the reporting currency to each of the currencies reported in Z0010. For example, if the reporting currency is GBP and a currency reported in Z0010 is USD and the USD to GBP exchange rate at the reporting reference date is £1= $1.5608 enter 1.5608 (and do not enter 0.6407). At columns C201 and C205 to C221 enter the relative increase from best estimate of the exchange rate of the reporting currency to the currency reported in Z0010 (expressed as a percentage). Eg reporting currency is GBP, currency reported at Z0010 is EUR, best estimate exchange rate is £1=€1.14, 90th percentile exchange rate is £1=€1.54, the mean (reported at column C101) is 1.14, 90th percentile increase from best estimate (reported at column C211) is +35% (=(1.54-1.14)/1.14).
MKT901 to MKT905	Inflation spot yields	Provide in columns C201 to C221 the specified model outputs of ~~GBP~~ inflation spot yields for the reporting currency over terms 1, 2, 5, 10 and 15 years. (Inflation spot yield over term N is the annualised inflation per annum over the N years from the reporting reference date.) If the model outputs more than one inflation measure, provide inflation spot yields for the measure of inflation used to derive scenarios of changes in Solvency II balance sheet asset values. (Eg if reporting currency is GBP and the model outputs GBP retail price index (RPI) and cost price index (CPI) inflation measures, and the RPI is used to derive values of index linked bonds or equities, and the CPI is used to derive claim cost inflation, then the inflation spot yields provided should be RPI spot yields.) The expected model outputs are: mean; standard deviation; and the following percentiles – maximum simulated value, 99.9%, 99.5%, 99%, 97.5%, 95%, 90%, 75%, 50%, 25%, 10%, 5%, 2.5%, 1%, 0.5%, 0.1%, minimum simulated value.
MKT906	Inflation spot yields	This item is only expected to be completed if: • the firm has obligations to pay claims settled by PPOs, or • the firm's SCR includes an amount for risk relating to pension scheme obligations. Provide in columns C201 to C221 the specified model outputs of inflation spot yields for the reporting currency over term 25 years. (spot yield over term N is the annualised inflation per annum over the N years from the reporting reference date.) If the model outputs more than one inflation measure, provide inflation spot yields for the measure of inflation used to derive scenarios of changes in Solvency II balance sheet asset values. The expected model outputs are: mean; standard deviation; and the following percentiles – maximum simulated value, 99.9%, 99.5%, 99%, 97.5%, 95%, 90%, 75%, 50%, 25%, 10%, 5%, 2.5%, 1%, 0.5%, 0.1%, minimum simulated value.

ITEM		INSTRUCTIONS
MKT907	Inflation measure	Provide a description of the measure of inflation for the reporting currency used in the outputs provided in rows MKT901 to MKT906 (and if applicable MKT907).
MKT908	Other inflation measures	List any inflation measures, in addition to that provided in row MKT907, that are outputs of the model.
MKT921 to MKT926	Inflation spot yields for most material currencies that are not the reporting currencies	As per MKT901 to MKT906 but for each of the three most material currencies entered at Z0010. If no currencies are entered at Z0010, these rows can be left blank. Row MKT926 is only expected to be completed if: • the firm has obligations to pay claims settled by PPOs in the currency entered at item Z0010, or • the firm’s SCR includes an amount for risk relating to pension scheme obligations denominated in the currency entered at item Z0010.

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Total Risk and Risk Module Output Distributions Template, 1 yr (IM.03.08.01)

ITEM		INSTRUCTIONS
General comments		This template does not apply to internal model groups. In this tab firms are expected to report their internal model outputs for all quantifiable risks combined (*column C101*) and for each of the following: • Non-life underwriting risk (including that from health insurance and reinsurance obligations included in non-life lines of business – ie lines of business set out in Delegated Regulation (EU) 2015/35 Annex I sections A to C) (*column C102*), • Reserving risk (including that from health insurance and reinsurance obligations included in non-life lines of business – ie lines of business set out in Delegated Regulation (EU) 2015/35 Annex I sections A to C) (*column C103*), • Premium risk including catastrophe risk (including that from health insurance and reinsurance obligations included in non-life lines of business – ie lines of business set out in Delegated Regulation (EU) 2015/35 Annex I sections A to C - and including health catastrophe risks) (*column C104*), • Market risks (*column C105*), • Counterparty default risk (*column C106*), • Operational risk (*column C107*), • Other risks (*column C108*), • Aggregated reserving risk and premium risk output distributions – gross of reinsurance and undiscounted (*column C201*), • Aggregated reserving risk and premium risk output distributions – net of reinsurance (*column C202*), • Net combined ratio distribution – undiscounted (*column C203*) • Net combined ratio distribution – discounted (*column C204*) For partial internal model then: • Column C101 should not be reported. • Each column C102 to C108 is reported only if the component(s) of the SCR relating to the risk category in question is (are) not fully calculated by internal model (eg column C105 is reported only if all the market risk components in the SCR are calculated by the internal model). • Columns C201and C202 are reported only if both columns C103 and C104 are reported. • Columns C203 and C204 are reported only if column C104 is reported This template is to be reported separately for: • the firm in total, and • each ring-fenced fund in the firm.
TRD002	Portfolio	State whether the output distribution reported on this template relate to: • The solo undertaking in total, or • A ring-fenced fund (to be identified in this cell.)
TRD003	Definition of total risk	Firms are expected to provide the definition of the distribution of the outputs of total risk reported in column C101. If the firm has (or is applying for) approval to calculate its SCR using a full internal model, the output distribution reported for total risk should be the reduction in basic own funds over the one-year period since the reference date before taking into any: • Capital requirement for business operate in accordance with Art. 4 of Directive 2003/41/EC (transitional), • Capital add-ons, • Loss absorbing capacity of technical provisions,

ITEM		INSTRUCTIONS
		• Loss absorbing capacity of deferred taxes, • Notional SCRs. A reduction in basic own funds is to be shown as a positive number and an increase in basic own funds is to be shown as a negative number. (ie the 99.5th percentile of the distribution should be a reduction in basic own funds that has an estimated likelihood of being exceeded of ½%). If a firm is using a different definition of the output distribution reported for total risk, the difference should be explained. For a partial internal model, 'partial internal model' should be entered for this item.
TRD004	Definition of market risk	Firms should provide the definition of the distribution of the outputs of market risk reported in column C105. The definition should be the same as that reported on template 'IM.03.07.01' at row MKT101 and column C301. If there is a difference, an explanation of that difference is to be provided here.
TRD005	Components of 'other risk'	Describe what is included in the 'Other risks' category. In particular state if pension obligation risk is included in this category. The 'other' risks category should include adjustments for risks not explicitly modelled within the other categories eg adjustment for model risk or parameter risk. For a full internal model, the 'other risk' category should also include that part of total risk (ie that part of the reduction in basic own funds over the one-year period since the reference date – see TRD003 above) due to change in the risk margin over the one-year period since the reference date.
TRD101 to TRD132 / C101 to 108, C201 to C204	Total risks model outputs and risk module model outputs	Firms are expected to provide in these rows specified model outputs for all quantifiable risks combined and for the risk sub-modules listed in the general comments instructions for this template. The specified model outputs are: mean; standard deviation; and the following percentiles are - minimum simulated value, 0.1%, 5%, 10%, 15%, 20%, 25%, 30%, 35%, 40%, 45%, 50%, 55%, 60%, 65%, 70%, 75%, 80%, 85%, 90%, 95%, 96%, 97%, 98%, 99%, 99.5%, 99.9%, maximum simulated value. If the firm's internal model does not produce a full output distribution for a risk category listed in general comments above, then for the column in question: • Enter 'full model output distribution not produced' in row TRD104; • Report the entries in the other rows on a best efforts basis, entering 'n/a' if the expected output is not available.
TRD101 to TRD132 / C101	Total risks model outputs	For a full internal model, the output distribution for total risk reported in these cells should be the distribution for which the 99.5th percentile (ie the amount reported at row TRD130 and column C101) corresponds to SCR excluding capital add-on (derived from template IR.25.04.01 R0460 / C0010 less R0482 / C0010) if the firm calculates its SCR by full internal model. For a partial internal model, this item should not be provided. The output distribution for total risk reported in these cells should be consistent with the definition reported.
TRD101 to TRD132 / C102	Non-Life underwriting risks model outputs	The output distribution is the sum of the movements in the Balance Sheet items that relate specifically to insurance (underwriting) activity. These include cash-flows of premiums, claims, expenses, commissions as well as changes in Technical Provisions such as changes in: claims provisions, premium provision including BBNI, risk margin, ENIDs and other related Balance Sheet items. These figures should be on a Solvency II consistent basis. For partial internal model, this item is reported only if both columns C103 and C104 are reported. Otherwise this item should be reported.

ITEM		INSTRUCTIONS
TRD101 to TRD132 / C103	Reserve risk model outputs	The output distribution should be: • net of outward reinsurance, and • on a discounted basis. This item is reported only if all the components in the SCR relating to reserve risk are calculated by internal model. Otherwise this item should be reported.
TRD101 to TRD132 / C104	Premium risk (including CAT) model outputs	The output distribution should be: • net of outward reinsurance, and • on a discounted basis. For partial internal model, this item is reported only if all the components in the SCR relating to premium (including catastrophe) risk are calculated by internal model. Otherwise this item should be reported.
TRD101 to TRD132 / C105	Market risks model outputs	The output distribution should be the same as that reported at row MKT101 and columns C201 to C221 in the market risk template. If there are any differences, firms are expected to provide an explanation of the difference in the information provided at ten TRD003 (ie the definition of market risk provided on this template at item TRD003 should include an explanation of any difference between the market risk distribution provided at column C105 on this template and the output distribution provided at row MKT101). For partial internal model, this item is reported only if all the components in the SCR relating to market risk are calculated by internal model. Otherwise this item should be reported.
TRD101 to TRD132 / C106	Counterparty default risks model outputs	The output distribution is to cover risks arising from counterparty defaults on Type 1 and Type 2 exposures as defined in Delegated Regulation (EU) 2015/35 article 189(2) and(3) and from valuation changes. For partial internal model, this item is reported only if all the components in the SCR relating to counterparty default risk are calculated by internal model. Otherwise this item should be reported.
TRD101 to TRD132 / C107	Operational risks model outputs	The output distribution is to cover risks that the firm allocates to operational risks. For partial internal model, this item is reported only if all the components in the SCR relating to operational risk are calculated by internal model. Otherwise this item should be reported.
TRD101 to TRD132 / C108	Other risks model outputs	The output distribution reported for ‘other risks’ is to cover risks not covered in columns C103 to C107 above. For partial internal model, this item should not be reported. Otherwise this item should be reported. If there are no ‘other risks’ in the SCR, enter ‘n/a’ at row TRD101 column C108, and leave rest of column C108 blank.
TRD101 to TRD132 / C201	Sum of reserving and premium risk - gross	The output distribution is the sum of gross undiscounted reserve risk and gross undiscounted premium risk distribution. Reserve risk distribution is the aggregate of all lines of business reserve distribution provided in reserve risk tab. If premium provision in included in reserve risk, then premium risk distribution is the aggregate of all lines of business written premium distribution multiplied by the aggregate loss ratio distribution. If premium provision is included in premium risk, then it is the distribution of written premium plus UPR multiplied by the aggregate loss ratio distribution, as provided in premium risk tab. This is different from C102 because it is not discounted and does not include expenses (depending on cashflows specified in RES002 and PRE002) nor changes in the other relevant Balance Sheet items.

ITEM		INSTRUCTIONS
TRD101 to TRD132 / C202	Sum of reserving and premium risk - net	As per C201, but net of reinsurance and discounted basis.
TRD101 to TRD132 / C203	Net combined ratio - undiscounted	The output distribution is the net combined ratio on an undiscounted basis. The numerator and denominator of the net combined ratio should be consistent with the premium risk (including catastrophe risk) output distribution provided in column C104 though the combined ratio distribution should include ULAE in the numerator and commission in the denominator. In particular if the premium provision at the reporting reference date is included in / excluded from the premium risk (including catastrophe risk) output distribution, it should be likewise included in / excluded from the net combined ratio distribution.
TRD101 to TRD132 / C204	Net combined ratio - discounted	As per C203 but on a discounted basis at the yields of the basic risk-free interest yield term structure applicable at the reporting reference date.

Total Risk and Risk Module Distributions Template, Ultimate (MO.03.08.01)

ITEM	INSTRUCTIONS
General comments	As per template ‘IM.03.08.01’ but on an ultimate time horizon basis.

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Risk Module level Output Correlations Template, 1 yr (IM.03.09.01)

ITEM		INSTRUCTIONS
General comments		This template does not apply to internal model groups. In this template firms are expected to report output correlations between the risk categories for which model outputs are reported in the total risks distributions template.
TRC101 to TRC107, COL101 to COL107	Total risk output correlations	The output linear correlations coefficients between pairs of risks on an one-year time horizon basis. At row TRC102 report the model output correlations between premium risk and: • reserving risk (column C101) At row TRC104 report he model output correlations between market risk and: • Reserving risk (column C101) • Premium risk (column C102) • Non-Life underwriting risk (column C103) At row TRC105 report the model output correlations between total counterparty default risk and: • Reserving risk (column C101) • Premium risk (column C102) • Non-Life underwriting risk (column C103) • Market risk (column C104) At row TRC106 report he model output correlations between operational risk and: • Reserving risk (column C101) • Premium risk (column C102) • Non-Life underwriting risk (column C103) • Market risk (column C104) • Total counterparty default risk (column C105) At row TRC107 report he model output correlations between other risks and: • Reserving risk (column C101) • Premium risk (column C102) • Non-Life underwriting risk (column C103) • Market risk (column C104) • Total counterparty default risk (column C105) • Operational risk (column C106) If the entry at row TRD005 is ‘none’, row TRC107 is to be left blank.

Risk Module level Output Correlations Template, Ultimate (MO.03.09.01)

ITEM	INSTRUCTIONS
General comments	As per template ‘IM.03.09.01’ but on an ultimate time horizon basis.

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Undertaking LoB Description Template (IM.03.10.01)

ITEM		INSTRUCTIONS
R0001 to R0100 / C0010, R0100 to R0200 / C0009	Name of LoB	The name of each firm's own line of business as included in templates 'IM.03.02.01 Reserve Risk' and 'IM.03.03.01 Premium Risk'.
R0001 to R0100 / C0010, R0100 to R0200 / C0010	Description of LoB	A description of each firm's own line of business as included in templates 'IM.03.02.01 Reserve Risk' and 'IM.03.03.01 Premium Risk'. For example, retail or commercial; UK or other; includes or exclude claims settled by PPOs; include or exclude claims to be settled by PPOs. If a firm's own line of business includes claims to be settled by PPOs, please indicate which of the following are included: (i) reported but not settled PPO claims, (ii) incurred but not reported PPO claims, (iii) future claim events to be settled by PPO relating to business written prior to the reporting reference date.
R0001 to R0100 / C0020, R0101 to R0200 / C0020	Exact name in previous year's IMO	For each firm's own line of business reported in the current year, name the same line of business exactly as reported in the previous year's IMO. Leave blank for new lines of business that did not exist in the previous year. Leave blank for lines that are newly defined as a result of a change in granularity (split / merge) from the previous year but note the details in 'Description of LoB'.
R0001 to R0100 / C0030 to C0220, R0101 to R0200 / C0030 to C0180	Allocation to SII LoBs	For each firm's own line of business reported in the current year, assign percentages to how they are allocated to each Solvency II lines of business for reserve risk *(IM.03.10.01.01)* and premium risk *(IM.03.10.01.02)* separately.

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Comments Sheet Template (IM.03.11.01)

ITEM	INSTRUCTIONS
Reserve Risk & Premium Risk Templates	Explain how the outputs have been reported in the templates 'IM.03.02 to IM.03.03 & MO.03.02 to MO.03.03', in particular: • where aggregate distributions include losses beyond those included within the individual lines of business, eg PPOs, ENIDs. • whether allocated expenses are included within underlying lines of business distributions. • whether unallocated expenses are included in the aggregate distributions. • whether there are items include in the one-year time horizon basis but excluded from the ultimate time horizon basis and vice versa. • differences between one-year time horizon and ultimate time horizon mean loss ratios from the model for premium risk. • differences between the business plan and mean loss ratios from the model for premium risk.
Total Risk Templates	Explain how the outputs have been reported in the templates 'IM.03.08.01 & MO.03.08.01', in particular: • where there is a difference between the total risk result on the one year basis and the SCR submitted in the year end reporting templates, eg currency conversion between the reporting currency in reporting templates and GBP, capital add-on, pensions. • where there is a difference in the distribution used between the reserve/premium risk aggregate net discounted distribution and the distribution on the total risk tab, eg expenses, quota share reinsurance.