Tracked changes in the technical specification

As background information, this document tracks the changes made to sections 5 and 6 of the technical specification for the holistic impact assessment to arrive at the technical specification for the complementary information request.

5. Technical specification of scenario 1

5.1. Risk-free interest rate term structures

5.1.1. Basic risk-free interest rates

24. For the valuation of insurance and reinsurance obligations the risk-free interest rate term structures set out in the file Technical Information should be used. These term structures were derived with the alternative extrapolation method specified in annex 2.6 of the consultation paper and take into account the implications from the DLT assessment set out in section 2.2.4.4.5 of that paper.[1]

25. For currencies where the Technical Information file does not provide term structures no change compared to the base case should be assumed.

5.1.2. Volatility adjustment

26. Participants which apply the VA should recalculate the VA applicable to their undertaking and use them to determine their solvency position. They should report about the VA calculation in the tab "Volatility adjustment".

27. Note that as part of EIOPA's tentative proposal for the design of the VA, the VA will consist of a permanent VA that can be increased by a macroeconomic VA. The macroeconomic VA is calculated as a country specific increase, which is triggered whenever the country risk corrected spread (measured on the basis of the national representative portfolio) is higher than both an absolute and a relative threshold. For further background please see option 7 in the consultation paper, paragraph 2.478 ff.

28. As at year-end 2019, the macroeconomic VA would not have been triggered for any country. Whether a macroeconomic VA would apply as at 30 June 2020 will only be determined in the first week after the launch of this information request. The technical specifications therefore set out the complete VA calculation, including the macroeconomic VA. Whether the macroeconomic VA should be calculated will be set out in the Technical Information file. Also note that the macroeconomic VA cannot be used in the dynamic VA (DVA) in internal models (see section 5.4.1.5 for details).

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[1] For the Swedish krona a different mean reversion parameter of 40% was used to derive the term structures. This reflects the higher speed of convergence used to derive the currently applicable risk-free interest rate term structures for that currency.

29. As the first step of the VA calculation, participants need to determine the relevant currencies of their liabilities. Information reported by currency shall cover the five most material currencies of the business[2]. These currencies should be selected in row 10. Row 12 reflects the value of the gross best estimate in the respective currency, but should be given in the reporting currency. For this purpose, the values of the best estimate liabilities should be based on the term structures with the alternative extrapolation method without VA and without transitional measures.

30. ow 11 reflects the value of the fixed income investments in the respective currency, but should be given in the reporting currency.

31. To determine the VA, the following input information is needed:

   - The risk-corrected spread of the representative portfolio of the relevant currency;

   - The scaling-factor for the relevant currency.

   Note that, within the calculation of the VA, the scaling-factor leads to an increase of the value of the VA. For details see paragraph 62.

32. The input data referred to in paragraph 31 are included in the Technical Information file provided by EIOPA for the complementary information request.

33. To determine the permanent VA by currency, the undertaking has to calculate the following two factors:

   - application ratio 4 (AR$_4$)

   - application ratio 5 (AR$_5$).

   The names of these application ratios are chosen in line with the options on the VA set out in the consultation paper.

Calculation of application ratio 4

34. The application ratio 4 aims to correct for mismatches in the fixed income assets and insurance liabilities in respect of duration and volume. For further background on this ratio, please cf. the consultation paper, paragraph 2.361 ff. The application ratio 4 is calculated as

$$AR_4 = \min\left\{\frac{PVBP\left(MV_{i,c}^{FI}\right)}{PVBP\left(BEL_{i,c}\right)}; 1\right\}$$

where

   - $MV_{i,c}^{FI}$ denotes the market value of undertaking's i investment in fixed income investments in currency c[4]; the fixed income investments should be identified on the basis of their CIC, according to the following table:

CIC third position	Asset class	Fixed income Assets

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[2] Where undertakings have only liabilities in one currency or business in a particular currency already makes up more than 90% of the business, it is sufficient to fill in column C, the others can be left blank. Where undertakings have liabilities in more than one currency, a reporting by currency is requested (where currencies are added in descending order of materiality) up and until the business reported exceeds the threshold of 90% or the maximum of five currencies is reached.

[4] Note that undertakings do not have to assign investments to either backing or not backing the liabilities when determining $MV_{i,c}^{FI}$, but only consider the investments in the currency of the liabilities.

1	Government bonds	Yes
2	Corporate bonds	Yes
3	Equity	No
4	Collective Investment Undertakings	For investment funds look through should be performed and fixed income assets within should be identified. If no look through is possible, only debt funds (CIC 42) are eligible
5	Structured notes	Only CIC 52 (structured notes mainly exposed to interest rate risk) and 54 (structured notes mainly exposed to credit risk)
6	Collateralised securities	Only CIC 62 (collateralised securities mainly exposed to interest rate risk) and 64 (collateralised securities mainly exposed to credit risk)
7	Cash and deposits	No
8	Mortgages and loans	Yes
9	Property	No

- $PVBP(BEL_{i,c})$ equals the price value of a basis point of the best estimate of the liabilities of undertaking i in currency c;

- $PVBP(MV_{i,c}^{FI})$ equals the price value of a basis point of the fixed income investments of undertaking i in currency c.

Note that the fixed income investments of the unit- and index-linked should be included in the calculation of the application ratio 4. This also holds for supranational bonds. But business valued as a whole is excluded, from the calculation.

35. For the purpose of the data collection, where undertakings have already participated in the information request of EIOPA in autumn 2019 or in the information request for the holistic impact assessment and have already calculated the application ratio 4 as at year-end 2018 or 2019, they can use that application ratio also for this complementary information request provided that according to their assessment the application ratio 4 would not materially change for the reference date 30 June 2020. In this case, the undertaking should provide an explanation in its response.

36. Similarly, for the purpose of the data collection, where according to the undertaking's assessment the spread duration of the assets exceeds the duration of the liabilities and the volume of fixed income compares to the volume of the best estimate, the application ratio 4 can be set to 1. In this case, the undertaking should provide an explanation in its response.

Calculation of $PVBP(BEL_{i,c})$

37. The price value of a basis point of the best estimate of the liabilities should be calculated as a sensitivity with regard to the value of the VA. This means that $PVBP(BEL_{i,c})$ is calculated as the difference in the value of the best estimate[5] with and without applying the part of the VA that does not depend on the undertaking specific application ratios, including the macroeconomic component:

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[5] not including TP as a whole and net of reinsurance recoverables.

$$PVBP(BEL_{i,c}) = \frac{BEL_{i,c}(RFR_c) - BEL_{i,c}(RFR_c + GAR \cdot RC\_S\_c\_scaled)}{GAR \cdot RC\_S\_c\_scaled}$$

where

- RFR_c denotes the basic risk-free interest rate term structure for currency c
- $RFR + GAR \cdot RC\_S\_c\_scaled$ denotes the basic risk-free interest rate term structure, to which a volatility adjustment of size $GAR \cdot RC\_S\_c\_scaled$ is applied[6]

- $GAR \cdot RC\_S\_c\_scaled$ denotes the volatility adjustment before the application of undertaking specific ARs. It includes also the macroeconomic component (see paragraph 62 for further details). The term $RC\_S\_c\_scaled$ is equal to:

$$Scale_c \cdot RC\_S_c \pm \omega_j \cdot max(RC\_S_{c,j} \cdot Scale_{c,j} - 1.3 \cdot RC\_S_c \cdot Scale_c; 0)$$

- RC_S_c denotes the risk corrected spread of the reference portfolio in currency c and $RC\_S_{c,j}$ the risk-corrected spread of the reference portfolio for country j using currency c, where j is the country in which the participant is located.[7]
- GAR denotes the general application ratio. It is set to 85%.
- $Scale_c$ and $Scale_{c,j}$ are scaling factors for, respectively, the relevant currency and country reference portfolio bringing the weight of fixed income instruments to 1. For details see paragraphs 64 and 65

- ω_j is a component designed to ensure a gradual and smooth activation of the country component and mitigating the cliff effect. For details see paragraph 61.

38. To determine $PVBP(BEL_{i,c})$, a revaluation of the best estimate needs to be performed taking into account the effect of future discretionary benefits (i.e. including the loss-absorbing capacity of technical provisions). For the purpose of that calculation, asset values stay unchanged - no impact of a change in credit spreads on undertakings assets should be taken into account. Where an undertaking has liabilities denoted in several currencies, $PVBP(BEL_{i,c})$ should be determined separately for each currency. Please note that it is expected that all figures are entered in your reporting currency to the Excel template.

Calculation of $PVBP(MV_{i,c}^{FI})$

39. The price value of a basis point of the fixed income investments of the undertaking should be calculated based on the difference in their market value against current spreads and when spreads would have increased by the part of the VA that does not depend on the undertaking specific application ratio, i.e. $GAR \cdot Scale_c \cdot RC\_S_c$:

$$PVBP(MV_{i,c}^{FI}) = \frac{MV_{i,c}^{FI}(CS) - MV_{i,c}^{FI}(CS + GAR \cdot RC\_S\_c\_scaled)}{GAR \cdot RC\_S\_c\_scaled}$$

where CS denotes the current level of spreads. Note that all fixed income investments including government bonds need to be shocked.

40. The application ratio 4 is on this basis derived as a result.

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[6] i.e. $GAR \cdot RC\_S\_c\_scaled$ is applied as the current VA up to the last liquid point (LLP) and then extrapolated to the UFR.

[7] In order to simplify the application of the macroeconomic VA for this information request, no distinction between business written in county j and written outside of country j needs to be made.

Calculation of application ratio 5

41. The application ratio 5 intends to account for the illiquidity characteristics of liabilities in the valuation of technical provisions. For further background on this application ratio, please cf. the consultation paper, paragraph 2.396 ff. For the purpose of this information request, the application ratio 5 is calculated following a "bucketing approach" as described below.

42. Participants should determine application ratio 5 for each relevant currency, taking into account the characteristics of the undertaking's individual insurance obligations in that currency.

43. As the determination of illiquidity intends to assess the stability of insurance liabilities and is not expected to change materially over time, the calculation of AR_5 can be based on the information as at the previous year end. However, where the illiquidity of liabilities is expected to have changed materially since then, the determination of AR_5 should have regard to the information as at the reference date.

44. To determine AR_5 for life obligations, the following four steps have to be performed. For non-life obligations only the steps 3 and 4 are relevant.

45. Note that the liabilities of unit- and index-linked insurance should be included in the calculation of the application ratio 5. But business valued as a whole is excluded from the calculation.

Step 1: Only life obligations - Assessment of surrender/cancellation options

46. Under this step, obligations contained in a homogeneous risk group (HRG) have to be classified according to their surrender/cancellation options.
    - Group 1:
        - HRGs where no obligations contain surrender or cancellation options
        - HRGs where no obligations include surrender or cancellation options where the take up of the surrender option or the cancellation of the contract can ever lead to a loss in own funds of the insurance or reinsurance undertaking
    - Group 2: All other HRGs

47. As a result of step 1, each HRG should be allocated to one of the two groups described above.

48. For the purposes of paragraph 46, all options should be considered for which an increase or a decrease in the option exercise rate results in payments arising earlier than expected. This should at least include all legal or contractual policyholder rights:
    - to fully or partly terminate or surrender the insurance cover[8];
    - to permit the insurance policy to lapse; and
    - to restrict or extend the length of the insurance cover.

Step 2: Only life obligations - Assessment of underwriting risks

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[8] For annuity obligations, this includes lump-sum options

49. Under this step, the relevance/materiality of specific underwriting risks is assessed. For this purpose, the change of the best estimate for each homogeneous risk group (HRG) within the undertaking is assessed with respect to the following standard formula risk sub-modules[9]:
    a) Mortality risk sub-module according to Art. 137 Delegated Regulation
    b) Risk of a permanent increase in lapse rates in the lapse risk sub-module according to Art. 142 Delegated Regulation
    c) Health mortality risk sub-module according to Art. 152 Delegated Regulation
    d) Risk of a permanent increase in SLT health lapse rates of the SLT health lapse risk sub-module according to Art. 159 Delegated Regulation

50. Where each of these risks has an impact of less than 5% on the best estimate, the liabilities in the homogeneous risk group are considered to have "low best estimate impact of underwriting risk" for the purpose of determining the illiquidity of liabilities.

51. The next steps have to be performed for all obligations including non-life obligations.

Step 3: All obligations - Bucketing of obligations

52. The following applies to each homogeneous risk group (HRG).

53. The insurance and reinsurance obligations belonging to a HRG of life obligations are classified as "category I" liabilities where:
    i.   the obligations of the HRG belong to group 1 (according to step 1) **and**
    ii. the obligations of the HRG are considered to have "low best estimate impact of underwriting risk" according to step 2

54. Where for a HRG of life obligations the insurance and reinsurance liabilities comply with condition ii but not condition i set out above, the liabilities in the HRG are classified as "category II" liabilities.

55. All other life obligations as well as all non-life insurance obligations are classified as "category III" liabilities.

56. This can be summarized as follows:

Illiquidity category	Criteria	Application factor
Category I – High illiquidity	• No surrender/cancellation options or where the take up of the surrender option or the cancellation of the contract can never lead to a loss in own funds for the insurer • Low best estimate impact mortality risk	100% ($AR_{5,I}$)

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[9] These standard formula shocks are also applied by internal model users.

Category II – Medium illiquidity	• Low best estimate impact of permanent increase in lapse rates • Low best estimate impact of mortality risk	75% ($AR_{5,II}$)
Category III – Low illiquidity	Contracts that do not fall into category I or II	60% ($AR_{5,III}$)

Step 4: All obligations - Determination of AR5

The final application ratio 5 (AR_5) is then determined by aggregating the application factors $AR_{5,I}$, $AR_{5,II}$ and $AR_{5,III}$.

AR_5 is a weighted average of the application factors that are allocated to the different illiquidity categories:

$$AR_5 = \max(\min(\frac{BE_I \cdot AR_{5,I} + BE_{II} \cdot AR_{5,II} + BE_{III} \cdot AR_{5,III}}{BE_I + BE_{II} + BE_{III}}; 100\%); 60\%)$$

where

- BE_I is the best estimate of the category I liabilities;
- BE_{II} is the best estimate of the category II liabilities and
- BE_{III} is the best estimate of the category III liabilities.

57. These best estimates are determined using the basic risk-free rates without the volatility adjustment and without transitionals, where the basic risk-free rate is the term structure based on the alternative extrapolation method.

Note that this formula also applies in case the best estimate for a category is negative. In this case the overall application ratio would be reduced and a smaller VA would finally apply.

58. The final application ratio 5 should be provided in row 30.

Calculation of the permanent VA

59. The permanent VA is finally determined on that basis and given in row 32. It is calculated as

$$VVA_{perm} = GAR \cdot AR_4 \cdot AR_5 \cdot Scale_c \cdot RC\_S_c$$

where

- GAR is the general application ratio
- AR_4 denotes the application ratio 4
- AR_5 denotes the application ratio 5
- $Scale_c$ denotes the scaling-factor for currency c
- RC_S_c denotes the risk-corrected spread of the representative portfolio for currency c

F.

Calculation of the macroeconomic VA

60. The macro-economic VA is an additive component to the permanent VA, which depends on the level of the risk corrected (RC) spread in each country j, relatively to the currency RC spread. Its formula is the following:

$$VA_{macro,j} = GAR * AR_4 * AR_5 * \omega_j * max\big(RC\_S_{c,j} * Scale_{c,j} - 1.3 * RC\_S_c * Scale_c; 0\big)$$

where

- $Scale_{c,j}$ denotes the scaling-factor for country j using currency c;
- $RC\_S_{c,j}$ denotes the risk-corrected spread of the reference portfolio for country j using currency c;
- ω_j is a component designed to ensure a gradual and smooth activation of the country component and mitigating the cliff effect. It is equal to 0 when $RC\_S_{c,j}$ is below 60 bps and then increases linearly up to the point in which $RC\_S_{c,j}$ is equal or greater than 90 bps, where it assumes a value equal to 1. In formula:

$$\omega_j = \begin{cases} 0 & if\ RC\_S_{c,j} \le\ 60\ bps \\ \dfrac{RC\_S_{c,j} - 60}{30} & if\ 60\ bps < RC\_S_{c,j} \le 90\ bps \\ 1 & if\ RC\_S_{c,j} >\ 90\ bps \end{cases}$$

Calculation of the total VA

61. The total VA applicable for an undertaking i located in country j is:

$$VA_{perm}^i + VA_{macro,j}^i$$

Background on the derivation of risk-corrected spreads and scaling factors

62. The scaling-factor $Scale_c$ is determined as:

$$Scale_c = \frac{1}{w_{gov,c} + w_{corp,c}}$$

where

Deleted: or all currencies

Deleted: zero at the end of 2019. The VA therefore coincides with

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- $w_{gov,c}$ denotes the weight of the government bond portfolio in the representative portfolio for currency *c*; and

- $w_{corp,c}$ denotes the weight of the corporate bond portfolio in the representative portfolio for currency *c*

63. The country scaling-factor $Scale_{c,j}$ is determined as:

$$Scale_{c,j} = \frac{1}{w_{gov,j} + w_{corp,j}}$$

where

- $w_{gov,j}$ denotes the weight of the government bond portfolio in the national representative portfolio for country *j*; and

- $w_{corp,j}$ denotes the weight of the corporate bond portfolio in the national representative portfolio for country *j*

64. For the determination of the risk-corrected spreads RC_S_c and $RC\_S_{c,j}$ EIOPA computed the risk correction RC of a spread S as follows:

Deleted: spread

65. For government bonds issued by EEA countries, the risk correction is determined as

$$RC = 30\% \cdot \min(S^+, LTAS^+) + 20\% \cdot \max(S^+ - LTAS^+, 0)$$

where

- S denotes the average spread of government bonds in the respective sub-class[10] of government bonds in the representative portfolio for currency *c*;

- $S^+ = \max(S, 0)$ is the maximum of S and zero;

- $LTAS$ denotes the long-term average spread of government bonds in the respective sub-class of government bonds in the representative portfolio for currency *c;*

- $LTAS^+ = \max(LTAS, 0)$ is the maximum of the long-term average spread and zero.

66. For other fixed income investments in the representative portfolio, the risk correction is determined as

$$RC = 50\% \cdot \min(S^+, LTAS^+) + 40\% \cdot \max(S^+ - LTAS^+, 0)$$

where

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[10] Cf. section 8 in the technical documentation of the methodology to derive EIOPA's risk-free interest rate term structures

- S denotes the average spread of fixed income investments in the respective sub-class[11] within the representative portfolio for currency c;

- $S^+ = \max(S, 0)$ is the maximum of S and zero;

- $LTAS$ denotes the long-term average spread of fixed-income investments in the respective sub-class within the representative portfolio for currency c;

- $LTAS^+ = \max(LTAS, 0)$ is the maximum of the long-term average spread and zero.

5.2. Technical provisions

Undertakings should report on the values of their technical provisions in the tab "Technical provisions". This tab foresees a split into the various subcomponents of the technical provisions. Undertakings are also requested to report on the values of technical provisions whithout transitionals on technical provisions and interest rate and without volatility adjustment and without transitional measures, respectively (see columns F and G for the base case and columns J and K for scenario 1).

5.2.1. Risk margin

67. Risk margins should be calculated in accordance with the following modified calculation (compare Article 37 Delegated Regulation):

$$RM_{scenario} = CoC \cdot \sum_{t \geq 0} \frac{SCR(t) \times \max(\lambda^t, 0.5)}{(1 + r(t+1))^{t+1}} \quad , \text{ where } \lambda = 0.975$$

68. Where undertakings apply one of the simplifications for the calculation of the risk margin, which are detailed in the Technical Annex IV of the EIOPA Guidelines on the Valuation of Technical Provisions (EIOPA-BoS-14/166), the following adaptations should be made:

   a. Level (1) of the hierarchy of simplifications: approximate the individual risks or sub-risks within some or all modules and sub-modules to be used for the calculation of future SCRs

   Application of the λ^t parameter for each future SCR, as defined for the full calculation.

   b. Level (2) of the hierarchy of simplifications: approximate the whole SCR for each future year, e.g. by using a proportional approach

   Application of the λ^t parameter for each future SCR, as defined for the full calculation.

   c. Level (3) of the hierarchy of simplifications: estimate all future SCRs "at once", e.g. by using an approximation based on the duration approach

   Multiply the amount obtained with the simplification by a parameter $\lambda^{\frac{Duration}{2}}$.

   d. Level (4) of the hierarchy of simplifications: approximate the risk margin by calculating it as a percentage of the best estimate

   Multiply the amount obtained with the simplification by a parameter λ^1.

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[11] Cf. section 8 in the technical documentation of the methodology to derive EIOPA's risk-free interest rate term structures

69. These simplifications above should only be used if they are currently used by the undertaking and considered as appropriate simplifications.

5.3. Own funds

70. This section is only relevant for undertakings that use the matching adjustment.

71. The own funds of the whole undertaking will be calculated ignoring the adjustment prescribed in Art. 81 Delegated Regulation with regard to matching adjustment portfolios. That means the excess of assets over liabilities, obtained by comparing the restricted own-fund items within the matching adjustment portfolio and the notional Solvency Capital Requirement for the matching adjustment portfolio, should not be reduced.

5.4. Solvency Capital Requirement

5.4.1. Standard formula

5.4.1.1. Interest rate risk calibration

72. The interest rate risk sub-module should be calculated based on the interest rate shocks for scenario 1 set out in the file Technical Information. The shocks are derived in accordance with paragraphs 5.27 to 5.35 of the consultation paper.

73. For currencies where the Technical Information file does not provide interest rate shocks no change compared to the base case should be assumed.

5.4.1.2. Correlation between spread and interest rate risk

74. The SCR standard formula correlation parameter for interest rate risk (downward shock) and spread risk should be set to 0.25 instead of 0.5. The parameter for interest rate risk (upward shock) and spread risk should stay at 0. All other correlation parameters remain unchanged. In particular, the two-sided correlation in the market risk module according to Art. 164 Delegated Regulation remain unchanged.

5.4.1.3. Long-term equity investments

75. The calculation of the equity risk sub-module should take into account the Long Term Equity (LTE) provisions according to Article 171a of the Delegated Regulation. However, the criteria set out in the provisions are amended. Participants should assess the applicability of the amended criteria for the application of the LTE provisions and identify those equity that can be classified as LTE.

76. The calculation of the equity risk sub-module includes the Long Term Equity (LTE) provisions according to Article 171a of the Delegated Regulation.

77. In the tab "SF only - Equity risk" information is requested on the composition of the equity risk sub module. Information has to be reported in the base case (based on the existing requirements on equity risk and LTE) as well as under scenario 1 (with alternative requirements on the application of LTE as outlined below).

Information on the base case is collected in cells D13 to F33 and in cells D36 to F39, information on the equity risk under scenario 1 is collected in cells H13 to J33 and in cells H36 to J39.

78. For the purpose of applying LTE under scenario 1, participants should assess the applicability of the amended criteria for the application of the LTE provisions and identify those equity that can be classified as LTE.

79. The following table provides an overview of the current requirements compared to the amendments for the purpose of scenario 1:

Existing requirements (base case scenario)	Change in requirements that form the basis for scenario 1
1. For the purpose of this Regulation, a sub-set of equity investments may be treated as long-term equity investments if the insurance or reinsurance undertaking demonstrates, to the satisfaction of the supervisory authority, that all of the following conditions are met:	
a) the sub-set of equity investments as well as the holding period of each equity investment within the sub-set are clearly identified;	The requirement is changed as follows: the sub-set of equity investments is clearly identified;
b) the sub-set of equity investment is included within a portfolio of assets which is assigned to cover the best estimate of a portfolio of insurance or reinsurance obligations corresponding to one or several clearly identified businesses, and the undertaking maintains that assignment over the lifetime of the obligations;	No change
c) the portfolio of insurance or reinsurance obligations, and the assigned portfolio of assets referred to in point (b) are identified, managed and organised separately from the other activities of the undertaking, and the assigned portfolio of assets cannot be used to cover losses arising from other activities of the undertaking;	CNo change
d) the technical provisions within the portfolio of insurance or reinsurance obligations referred to in point (b) only represent a	Deletion of the requirement.

	part of the total technical provisions of the insurance or reinsurance undertaking;	
e)	the average holding period of equity investments in the sub-set exceeds 5 years, or where the average holding period of the sub-set is lower than 5 years, the insurance or reinsurance undertaking does not sell any equity investments within the sub-set until the average holding period exceeds 5 years;	The requirement is changed as follows: A policy for long term investment is set up for each long-term equity portfolio and reflects undertaking's commitment to hold the global exposure to equity in the sub-set of equity investment for a period that exceeds 5 years in average. Undertakings shall not use high frequency algorithmic trading techniques[13]. For the purpose of the information request, undertakings should consider if this policy is intended to be put in place.
f)	the sub-set of equity investments consists only of equities that are listed in the EEA or of unlisted equities of companies that have their head offices in countries that are members of the EEA;	No change
g)	the solvency and liquidity position of the insurance or reinsurance undertaking, as well as its strategies, processes and reporting procedures with respect to asset-liability management, are such as to ensure, on an ongoing basis and under stressed conditions, that it is able to avoid forced sales of each equity investments within the sub-set for at least 10 years;	The requirement is changed as follows: Where undertakings can demonstrate that either i. particular homogeneous risk groups (HRGs) of the life insurance and reinsurance liabilities belongs to category I as defined for the purpose of the calculation of the VA (see paragraph 53) and the Macaulay duration of the liabilities in this HRG exceeds 12 years or ii. a sufficient liquidity buffer is in place for the portfolio of non-life insurance and reinsurance liabilities and the assigned portfolio of assets; The sub-set of equity investments backing the liabilities identified in i. or ii. can be applied a risk charge of 22% provided the other conditions of this Article are met. The calculation of the liquidity buffer is outlined in paragraphs 82 to 85.
h)	the risk management, asset-liability management and investment policies of the insurance or reinsurance undertaking reflects the	An addition is made to the requirement: Those elements are reported in the ORSA of the undertakings.

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[13] High frequency algorithmic trading techniques in accordance with Article 4(1)(40) of the Directive 2014/65/EU.

undertaking's intention to hold the sub-set of equity investments for a period that is compatible with the requirement of point (e) and its ability to meet the requirement of point (g).	For the purpose of the data collection, no such report is requested.
	i) the sub-set of equity investments shall be properly diversified in such a way as to avoid excessive reliance on any particular issuer or group of undertakings and excessive accumulation of risk in the portfolio as a whole.
2. Where equities are held within collective investment undertakings or within alternative investment funds referred to in points (a) to (d) of Article 168(6), the conditions set out in paragraph 1 of this Article may be assessed at the level of the funds and not of the underlying assets held within those funds.	No change
3. Insurance or reinsurance undertakings that treat a sub-set of equity investments as long-term equity investments in accordance with paragraph 1 shall not revert back to an approach that does not include long-term equity investments. Where an insurance or reinsurance undertaking that treats a sub-set of equity investments as long-term equity investments is no longer able to comply with the conditions set out in paragraph 1, it shall immediately inform the supervisory authority and shall cease to apply Article 169(1)(b), (2)(b), (3)(b) and (4)(b) to any of its equity investments for a period of 36 months.';	No change
	4. Controlled intra-group equity investments shall be excluded from the sub-set of equity investments.

The liquidity buffer used for the purpose of criteria g) ii should be tested on the level of the whole non-life insurance and reinsurance liabilities. The liquidity buffer should be calculated on the basis of the assets backing the undertaking's non-life insurance and reinsurance obligations. Where the liquidity buffer as outlined in the following paragraph is bigger or equal than 1, all equity backing the non-life insurance and reinsurance obligations fall under the scope of the provisions of

Article 171a can apply a risk charge of 22% (provided that the other criteria set out above are met). Where the liquidity buffer is smaller than 1, no equity falls under the scope of Article 171a.

80. WUndertakings should provide more information on the calculation of the liquidity buffer identified for the purpose of criteria g) ii, irrespectively of whether they finally apply the provision to equity backing non-life obligations or not. The liquidity buffer for the purpose of criteria g) is to be calculated as follows:

$$\frac{HQLA}{BE\_portfolio}$$

- where the numerator are high-quality liquid assets (HQLA) backing the non-life liabilities, applying a liquidity haircut as defined below;

- the denominator is the non-life best estimate liabilities net of reinsurance.

81. HQLA is comprised of two categories of assets: "Level 1" and "Level 2" assets. Level 1 assets can be included without limit, while a haircut is applied to Level 2 assets which can comprise up to 40% of the stock of HQLA. Level 2 assets are further split into Level 2A and Level 2B. Level 2B assets cannot represent more than 15% of the stock of HQLA. The determination of the HQLA follows a two-step process: First, the haircut outlined in the following paragraph is applied. Secondly, the before mentioned limitations apply.

82. The list of HQLA for the purpose of the data collection is as follows.

	Item	Haircut
Level 1 assets	Cash and cash equivalent	0%
	Bonds and loans from:	0%
	• The European Central Bank	
	• EU Member States' central government and central banks denominated and funded in the domestic currency of that central government and the central bank	
	• Multilateral development banks referred to in paragraph 2 of Article 117 of Regulation (EU) No 275/2013	
	• International organisations referred to in Article 118 of Regulation (EU) No 275/2013	
Level 2A assets	Bonds and loans rated CQS 0 or 1, excluding those from financial institutions	15%

	onds and loans rated CQS 0 or 1, excluding those from financial institutions	
	Covered bonds rated CQS 0 or 1, excluding those emitted by a bank which is part of the same group	**50%**
	Qualifying RMBS	**50%**
	Bonds and loans rated CQS 2 or 3, excluding those from financial institutions	

5.4.1.3.1.   Sensitivity analyses on the LTE specification

83. To assess the sensitivity of the revised LTE provisions to changes in the requirements defined for Scenario 1, the following results should be reported in addition to the central specification defined in the previous paragraphs:

   a. Sensitivity A: Undertakings should assess the relevance of LTE provisions modifying criterion 1. g) i as follows:

   i.   particular homogeneous risk groups (HRGs) of the life insurance and reinsurance liabilities belongs to categories I or II as defined for the purpose of the calculation of the VA (see paragraph 53 and 54) and the Macaulay duration of the liabilities in this HRG exceeds 12 years.

   b. Sensitivity B: Undertakings should assess the relevance of LTE provisions disregarding the limits set on paragraph 84.

   c. Sensitivity C: Undertakings should assess the relevance of LTE provisions modifying paragraph 82 as follows:

   The liquidity buffer used for the purpose of criteria 1. g) ii should be tested on the level of the whole non-life insurance and reinsurance liabilities. The liquidity buffer should be calculated on the basis of the assets backing the undertaking's non-life insurance and reinsurance obligations.

   -   Where the liquidity buffer as outlined in the following paragraph is bigger or equal than 1, all equity backing the non-life insurance and reinsurance obligations fall under the scope of the provisions of Article 171a and can apply a risk charge of 22% (provided that the other criteria set out above are met).

   - Where the liquidity buffer as outlined in the following paragraph is bigger or equal than 0.75 but lower than 1, half of all equity backing non-life insurance and reinsurance obligations fall under the scope of the provisions of Article 171a and can apply a risk charge of 22% (provided that the other criteria set out above are met).

   - Where the liquidity buffer is smaller than 0.75, no equity falls under the scope of Article 171a.

84. Data on these sensitivities is collected in cells D67 to G81 of the "SF only - Equity risk" tab.

5.4.1.4.   Diversification effects regarding matching adjustment portfolios

85. This section is only relevant for undertakings that use the matching adjustment.

86. The SCR of the whole company should be calculated considering 100% diversification benefits in matching adjustment portfolios, that is, SCR calculated applying full diversification benefits regarding the matching adjustment portfolios and the rest of portfolios.

Internal models

87. Please not the tabs "IM only – SCR details" and "IM only – VA details" need only to be completed by DVA users.

5.4.1.5. Volatility adjustment in internal models

88. This section is only relevant for internal models covering market and credit risk and including a "constant VA" (CVA) or "dynamic VA" (DVA).

CVA – canonical translation of new VA concept

89. Regarding CVA, changes to the VA translate in a canonical manner and beyond the data request as described above and relevant for all undertakings applying the VA, only additional information on market & credit risk is required as described in the paragraphs in the instruction relevant to DVA users.

DVA – background and motivation

90. With reference to EIOPA's 'Opinion on the supervisory assessment of internal models including a dynamic volatility adjustment' ('DVA'), EIOPA-BoS-17/366, 'DVA opinion' in the following, approaches to the DVA are classified as 'direct approaches', if designed with the ambition to closely replicate the EIOPA VA methodology. Approaches are classified as 'holistic', if deviating from closely modelling the EIOPA VA methodology with the aim to solve undesirable risk management incentives.

91. Furthermore, the DVA opinion introduces the so called "prudency principle". This principles requires, that any deviations from the VA methodology as described in the Solvency II Directive, the Delegated Regulation and EIOPA VA Methodology should be addressed in a way that the internal model produces an SCR guaranteeing a level of policyholder protection that is at least as high as if replicating the EIOPA VA Methodology. Concretely, this means that the undertaking shall demonstrate that its SCR is at least as high as if replicating the EIOPA VA Methodology.

92. In the call for advice the European Commission requested EIOPA to advice on whether or not to maintain the DVA in internal models and, in case of maintaining, to advice on criteria to improve harmonisation of the modelling. With respect to this request, EIOPA suggested the following principles in the consultation paper:

   a. No disincentives for risk and investment management, especially no 'overshooting' (or 'undershooting');

   b. DVA benefit should be risk sensitive, reflecting the risks present in assets and liabilities covered. In particular, there should be no full elimination of credit spread SCR, and the DVA benefit should reflect expected losses, unexpected credit risk (esp. migration & default) and other risk of the assets.

DVA – Enhancement of the prudency principle

93. The data collected with the information request supporting the public consultation on EIOPA's tentative advice, provided evidence that for some undertakings and

currencies the risk corrected spread as calculated on their own asset portfolio is materially lower than the risk corrected spread calculated on the reference portfolio relevant for this currency. The most likely reason identified are structural differences in the undertakings' own portfolios compared to the reference portfolios.

94. In certain cases the VA resulting from the reference portfolio was higher than the risk corrected spread of own assets. To counteract potential overshooting caused by such structural difference ('quality overshooting'), EIOPA considers to advice to enhance the 'prudency principle' as follows:

> For any DVA approach undertakings should demonstrate that the SCR is at least as high as if

> 1. Replicating the EIOPA VA methodology

> 2. Replicating the EIOPA VA methodology but calculating the risk corrected spread on basis of the undertaking's own asset portfolio.

> This principle should apply to any holistic DVA approach but also to any direct DVA approach.

DVA – Description of the data request

95. Changes to the baseline in accordance with EIOPA's tentative advice

> i. Under scenario 1 the DVA should be calculated as a 'direct DVA' under the VA regime of scenario 1 ('direct DVA(RefPF)' in the following). The corresponding SCR hat to be reported on the tab "Solvency Position" and on the tab "IM only – SCR details". [Deleted: If implementing]

> ii. Additionally the DVA should be calculated as a 'direct DVA' under the VA regime of scenario 1, but using the undertaking's own portfolio (instead of the relevant VA currency reference portfolio) to calculate the risk corrected spread, which is used as input for the VA under scenario 1 ('direct DVA(own PF)' in the following). [Deleted: If implementing]

> Please note:

> (1) Own funds have to be determined by applying the VA regime under scenario 1 to your technical provisions.

> (2) In the 'direct DVA(own PF)' calculation the switch to your own portfolio only concerns the SCR. But, in your simulations generating the distribution in your model, "t=0" has to be calculated also on your own asset portfolio to have a distribution consistent in all data points regarding the choice of the portfolio to determine the risk corrected spread.

> (3) In case you are using a holistic DVA approach it is not expected that your approach would be redesigned anticipating the VA regime under scenario 1. The holistic impact assessment does only attempt to estimate the lower bound of the SCR under the enhanced prudency principle. Thus you are requested to calculate 'direct DVA(RefPF)' and 'direct DVA(own PF)' irrespective of your current DVA approach. However, the template offers cells for an optional submission of values according to an adjusted holistic DVA model.

> Application ratios 4 and 5 should be treated as follows:

iii. Application ratio 4: Please determine a prudent estimate of application ratio 4 under your simulations and use this value as 'constant' parameter in your simulations. If considered necessary please differentiate between 'direct DVA(RefPF)' and 'direct DVA(own PF)'.

iv. Application ratio 5: Please use the value of application ratio 5 as determined for the calculation of technical provisions as constant parameter in your simulations. You need not to differentiate between 'direct DVA(RefPF)' and 'direct DVA(own PF)'.

Portfolio weights and scaling factor:

Scenario 1 includes the change of 'market value freeze' to 'cashflow freeze' for the VA methodology (see 2.4.4.3.1 of the consultation paper).

This implies a variation of weights of the portfolios under simulations.

Consequently you are requested to recalculate the weights and the scaling factor (see paragraph 62) within the portfolios used under 'direct DVA(RefPF)' and 'direct DVA(own PF)'.

If this cannot be implemented with reasonable effort for the purpose of this holistic impact assessment, please contact your national supervisory authority

Spread data to calculate the risk corrected spread:

It is expected that you use the spread data as included in your internal model.

This includes the LTAS used in the calculation of the risk corrected as described in paragraphs 63 to 66. As a reference of LTAS values please consider the file "EIOPA_RFR_20191231_PD_Cod.xlsx" as published with the EIOPA monthly RFR information for key date 30.06.2020.

Different form the algorithm used in the reference portfolio, also for EEA government bonds you are expected differentiate spread data by issuer as implemented in your internal model.

The method proposed by EIOPA does only include a flooring of the risk correction at zero, i.e. no increase of spreads due the risk correction. However, for the purpose of determining the VA in the HIA specification for valuation, standard formula and constant VA approaches in internal models also a flooring of the spreads was applied. In the dynamic VA in internal models, no flooring of negative spreads should be applied. The inconsistency to the VA used for valuation is accepted for the purpose of the HIA.

Supranational bonds should be allocated to the corporate portfolio, in the relevant CQS bucket, consistently with EIOPA's "Technical documentation of the methodology to derive EIOPA's risk-free interest rate term structures", paragraph 383.

96. Additionally to the total SCR figures requested on the tab "Solvency position" the following should be provided on market and credit risk:

a. Market & credit risk SCR [stand-alone]: 'Marginal risk' for financial instruments including credit migration and credit default risk; if this combined risk SCR cannot be provided with reasonable effort, please contact your national supervisory; in such cases an alternative might be to only provide the market and the credit spread risk as described below.

Deleted: porfolios

Deleted: 31.12.2019

b. Market risk SCR [stand-alone]: 'Marginal risk' for financial instruments except credit migration and credit default risk; if the latter components cannot be excluded with reasonable effort, please contact your national supervisory authority; in such cases an alternative might be to only provide the combined market and credit risk.

c. Credit spread risk SCR (or proxy) [stand-alone]: 'Marginal risk' for financial instruments, i.e. credit risk without migration and default.

97. Furthermore, please also provide the risk corrected spread as determined on your own asset portfolio in "t=0", i.e. as if using your own asset portfolio to determine the VA for technical provisions.

98. EIOPA is aware that DVA models in some case include margins like for example an application ratio lower than 65% to cater for model uncertainty. Although it is expected that such margins will also be needed in the future, for the purpose of this impact assessment, in the 'direct DVA(RefPF)' and 'direct DVA(own PF)' you are expected to not apply any margins of that kind, which are related to your current DVA approach.

ThePlease note that the macroeconomic VA is not allowed to be applied in the DVA framework.

DVA – Implementation of the data request in the reporting template

99. The tab "IM only - SCR details" is linked to paragraphs 95 and 96. In more detail:

a. Block "Base case - information based on QRT S.22.01.": Covers the figures in the official YE 2019 reporting. The figures here are expected to match with the figures in the block with the same title on the tab "Solvency position".

b. Block "Scenario 1 - SCR with direct DVA on VA currency reference portfolios": Covers figures under the 'direct DVA(RefPF)' as described in the first bullet point of paragraph 95. The figures here are expected to match to the figures in block "Scenario 1" on the tab "Solvency position".

c. 95. This block takes up the second SCR calculation as required under the enhanced prudency principle described in paragraph 94. The SCR under the enhanced prudency principle would be the maximum of the SCRs under block 2 and block 3.

d. Block "Optional: Scenario 1 - SCR with holistic approach amended to scenario 1": Entries here are optional and this block could be used if an undertaking would like to present a revised holistic approach, that would anticipate a changed 'volatility adjustment' regime, while the blocks 2 and 3 are both based on a direct DVA approach.

e. Paragraph 96 describes the meaning of lines 15 - 17 in the above four blocks.

100. The tab "IM only - VA details" requests data as sketched in paragraph 97. This is for analysis purposes only and should show the VA as it would result, if the VA for the Solvency II balance sheet under scenario 1 would not be determined based on the currency reference portfolios but based on the undertaking's own portfolio. The tab thus is a mirror image of the tab "Volatility adjustment". "IM only - VA details has to be filled additionally to the tab "Volatility adjustment" and serves the purpose to get an indication of the spread position of the undertaking's own portfolio compared to the currency reference portfolios and support the analysis of the SCR and considerations on the enhanced prudency principle.

6. Technical specification of scenario 2

101. The calculations under scenario 2 should be carried out in accordance with the specifications of scenario 1 set out in section 5, but without the recalibration of the interest rate risk sub-module of the SCR standard formula. Note that the adapted correlation should be taken into account in this scenario.

102. In scenario 2, the alternative RFR extrapolation curve similar to scenario 1 should be used.

103. Interest rate shocks in accordance with the current calibration of the interest rate risk sub-module are set out in the file Technical Information.