

IVASS REGULATION NO. 18 OF 15 MARCH 2016

REGULATION CONCERNING THE APPLICATION RULES FOR DETERMINING THE TECHNICAL PROVISIONS AS REFERRED TO IN ARTICLE 36-BIS OF LEGISLATIVE DECREE NO. 209 OF 7 SEPTEMBER 2005 – CODE OF PRIVATE INSURANCE CONSEQUENT TO THE NATIONAL IMPLEMENTATION OF EIOPA GUIDELINES ON THE FINANCIAL REQUIREMENTS OF SOLVENCY II REGIME (1ST PILLAR REQUIREMENTS)

INSTITUTE FOR THE SUPERVISION OF INSURANCE

HAVING REGARD to Law No. 576 of 12 August 1982, on the reform of insurance supervision and the institution of ISVAP;

HAVING REGARD to article 13 of Decree Law No. 95 of 6 July 2012, converted into Law No. 135 of 7 August 2012, concerning urgent measures for the review of public spending with unchanged services to citizens and establishing IVASS;

HAVING REGARD to Legislative Decree No. 209 of 7 September 2005, introducing the Code of Private Insurance, as amended and supplemented by Legislative Decree No. 74 of 12 May 2015, implementing Directive No. 2009/138/EC on taking-up and pursuit of the business of insurance and reinsurance and, in particular, articles 36 *bis* - 36 *terdecies*, of the Code;

HAVING REGARD to the Commission Delegated Regulation (EU) 2015/35 of 10 October 2014, supplementing Directive No. 2009/138/EC on the taking-up and pursuit of the business of insurance and reinsurance, and in particular Chapter III;

HAVING REGARD to the Guidelines issued by EIOPA on contract boundaries;

HAVING REGARD to the Guidelines issued by EIOPA on the valuation of technical provisions;

HAVING REGARD to IVASS Regulation No. 3 of 5 November 2013 on the implementation of the provisions of Article 23 of Law No. 262 of 28 December 2005 concerning the procedures for the adoption of the regulatory and general acts of IVASS;

has adopted the following

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TITLE I GENERAL PROVISIONS

Art. 1 (Legislative sources)

1. This Regulation has been adopted in compliance with Articles 36-bis, paragraph 1, and 191, paragraph 1, letter b), number 2, of Legislative Decree No. 209 of 7 September 2005.

Art. 2 (Definitions)

1. For the purpose of this Regulation, the applicable definitions are those laid down by Legislative Decree No. 209 of 7 September 2005 and by Commission Delegated Regulation (EU) No. 2015/35 of 10 October 2014. In addition, the following definitions shall apply:
 - a) "Code": Legislative Decree No. 209 of 7 September 2005, as amended by Legislative Decree No. 74 of 12 May 2015;
 - b) "Delegated acts": Commission Delegated Regulation (EU) 2015/35 of 10 October 2014, supplementing Directive No. 2009/138/EC of the European Parliament and of the Council on the taking-up and pursuit of the business of insurance and reinsurance (Solvency II);
 - c) "Expert judgment": the judgment enacted in compliance with Article 2 of the Delegated acts;
 - d) "Corrected data" data changed based on adjustments;
 - e) "External data" data that do not derive from the direct experience of the undertaking;
 - f) "Biometric risk": the risk related to life events such as the risk of mortality, longevity, disability, morbidity;
 - g) "Line of business": the lines referred to in Article 80 of Directive 2009/138/EC, in Annex I of the Delegated acts;
 - h) "CARD": Agreement between insurers for direct compensation and the regulation of the reimbursements ensuing from damages as per Articles 141, 149 and 150 of Legislative Decree No. 209 of 7 September 2005 and Presidential Decree No. 254 of 18 July 2006;

Art. 3 (Scope)

1. This Regulation shall apply:
 - a) to insurance and reinsurance undertakings whose head offices are located in Italy;
 - b) to branches in Italy of insurance and reinsurance undertakings whose head offices are in a third Country;

TITLE II GENERAL PRINCIPLES AND APPLICATION RULES FOR THE CALCULATION OF TECHNICAL PROVISIONS

CHAPTER I – Recognition of the obligations

Art. 4

(Application consistent with provisions on contract boundaries)

1. The undertaking shall ensure that the provisions on the determination of contract boundaries, as defined under articles 17 et seq. of the Delegated acts and the present Regulation, are consistently and steadily applied to all insurance and reinsurance contracts, over time.

Art. 5

(Unilateral right and ability to compel)

1. Pursuant to Article 18 of the Delegated acts, the undertaking shall:
 - a) consider the unilateral nature of the right to terminate, reject or amend premiums or benefits payable under an insurance or reinsurance contract when neither the policyholder nor any third parties, with the exception of supervisory authorities and the governing bodies of the undertaking, may restrict the exercise of that right;
 - b) take account of its ability to compel a policyholder to pay a premium only if the policyholder's payment is legally enforceable.
2. In particular, as referred to in paragraph 1, letter a), the undertaking shall consider the case studies listed in Annex 1.

Art. 6

(Full reflection of the risk in the premium)

1. Pursuant to Article 18 of the Delegated acts, the undertaking shall:
 - a) when determining if the premiums fully reflect the risks covered, assess whether, at the moment at which either premiums or benefits can be amended, it has the right to amend premiums or benefits so that the expected present value of the future premiums exceeds the expected present value of the future benefits and expenses payable;
 - b) when assessing if the premiums fully reflect the risks covered, ensure that the portfolio consists of obligations for which the undertaking can amend premiums and benefits under similar circumstances and with similar consequences;
 - c) take into account any individual assessment of relevant features of the insured person that allow the undertaking to gather sufficient information in order to form an appropriate understanding of the risks associated with the insured person. In the case of contracts covering mortality risks or health risks similar to life insurance techniques, the individual risk assessment can be a self-assessment by the insured person or can include a medical examination or survey.

Art. 7

(Unbundling of the contract)

1. Pursuant to Article 18 of the Delegated acts, the undertaking shall:
 - a) determine if, at the signing date of a contract, it is possible to unbundle the contract and, at each valuation date, consider whether there has been any change which would affect the previous assessment;

- b) establish if it is possible to unbundle a contract by assessing whether two or more parts of the contract are clearly identifiable, and for which it is possible to define different sets of obligations and premiums attributable to each part;
- c) when an option or a guarantee provided by the contract covers more than one part of the contract, determine whether it is possible to unbundle it or whether it should be attributed entirely to the most relevant part of the contract;
- d) take account of all the parts in which the contract is unbundled.

Art. 8

(Identification of a discernible effect on the economics of a contract)

1. Pursuant to Article 18, paragraph 5 of the Delegated acts, the undertaking shall:

- a) in determining if the insurance coverage of an event or a financial guarantee has no discernible effect on the economics of a contract, take into account all potential future cash flows which may arise from the contract;
- b) consider a financial guarantee of benefits as having a discernible effect on the economics of a contract only if the guarantee is linked to the payment of future premiums and provides the policyholder, the beneficiary and those entitled to insurance benefits with a discernible financial advantage;
- c) consider the coverage of a specific uncertain event which adversely affects the insured person as having a discernible effect on the economics of the contract when the coverage provides a discernible financial advantage to the beneficiary.

Art. 9

(Estimation of obligations)

1. Pursuant to Article 18 of the Delegated acts, the undertaking shall:

- a) where at the signing date of the contract the details of the contract and the obligations covered are not available, estimate the boundaries of the contract using all available information in a manner consistent with the principles set out in this Regulation;
- b) revise the estimated assessment as soon as the information referred to in paragraph 1, letter a), is available.

Art. 10

(Reinsurance contracts)

1. For accepted reinsurance contracts, the undertaking shall apply the provisions of Article 18 of the Delegated acts independently from the boundaries of the underlying contracts to which the reinsurance contracts relate.

CHAPTER II - Data quality

Section I – Completeness and appropriateness of data

Art. 11

(Completeness of data)

1. Pursuant to Article 36-duodecies of the Code, the undertaking shall:

- a) ensure that the data used in the calculation of technical provisions cover a sufficiently long period of observations that characterise the reality being measured;
- b) to perform the calculation of premium provisions for non-life obligations, ensure that sufficient historical information is available on the total cost of claims and their actual trends at a sufficiently granular level;
- c) to perform the calculation of provisions for claims outstanding, ensure that sufficient data is available to allow for the identification of relevant patterns on the development of claims and, with sufficient granularity, to allow the analysis of such patterns within homogeneous risk group.

Art. 12
(Appropriateness of data)

1. Pursuant to Article 36-duodecies of the Code, the undertaking shall:

- a) ensure that the data of different time periods is used consistently;
- b) apply adjustments to historical data, if necessary, to increase its credibility and improve its quality as an input to determine more reliable estimates of technical provisions and to better align it with the characteristics of the portfolio being valued and with the future expected development of risks.

Section II - Review and validation of data quality

Art. 13
(Data checks)

1. For the purpose of the tasks assigned to the actuarial function as referred to in Article 272 of the Delegated acts, this function shall:

- a) assess the accuracy and completeness of the data at an appropriately granular level through a sufficiently comprehensive series of checks to meet the criteria defined in this Regulation and to allow the detection of any relevant shortcomings;
- b) take into account the conclusions of any relevant analyses performed in an external review, in which the data quality is examined in the context of the technical provision calculation;
- c) take into account the relationship between the conclusions of the analysis of data quality and the selection of methodologies to be applied to value the technical provisions;
- d) analyse the level of appropriateness of the data used to support the assumptions underlying the methodologies to be applied to value the technical provisions. If data does not adequately support the methodologies, the undertaking shall select an alternative methodology;
- e) assess whether the number of observations and granularity of available data is sufficient and adequate to meet the input requirement for the application of the methodology;
- f) take into account the source and intended use of data in the data validation process.

Art. 14

(Application of expert judgment)

1. The undertaking shall ensure that the use of expert judgment in evaluating the accuracy, the appropriateness and completeness of the data for the calculation of technical provisions, does not replace the appropriate collection, processing and analysis of data, but supplements these where required.

Art. 15

(Validation process)

1. For the purpose of the tasks as referred to in Article 272 of the Delegated acts, the actuarial function coordinates the assessment and validation of the data to be used in the assessment on the sufficiency of technical provisions.

2. The coordination task shall include at least the following:

- a) the selection of data to be used in the valuation, having regard to the criteria of accuracy, appropriateness and completeness of data, considering the methodologies which are most appropriate to be applied in the calculation. For this purpose, relevant tools should be used to check any material differences that may be found in data from a single year and within other relevant analysis;
- b) the reporting to the administrative body of any recommendations on the implementation of improvements in the internal procedures which are considered relevant to improve the compliance with the criteria as set out in letter a);
- c) the identification of the cases where additional external data is required;
- d) an assessment of the quality of external data, as performed for internal data, focusing on whether market data are required or when they should be used to improve the quality of internal data and if and how enhancements to the available data should be applied;
- e) an assessment of whether any adjustments need to be applied to available data, as part of actuarial best practice, to improve the goodness of fit and the reliability of the estimates resulting from actuarial and statistical provisioning methodologies based on these data;
- f) the recording of any relevant insights acquired in the assessment and validation process that may become relevant to the other steps of calculation of technical provisions, and that relate to the understanding of the underlying risks and also to the knowledge of the quality and limitations of available data.

Section III - Limitations of data

Art. 16

(Identification of the source of material limitations)

1. For the purpose of the tasks as referred to in Article 272 of the Delegated acts, the actuarial function assesses the accuracy, appropriateness and completeness of the data in order to identify any material limitations of the data.

2. If material limitations as referred to in paragraph 1 are identified, their sources must be identified.

Art. 17
(Impact of shortcomings)

1. In order to identify and assess the impact of any possible shortcomings that could affect the compliance with the data quality requirements as referred to in Article 19 of the Delegated acts, the actuarial function shall:
 - a) consider all available documentation related to processes and procedures of collection, storage and validation of data used for the valuation of technical provisions and, if necessary, collect specific information by contacting the personnel involved in these processes;
 - b) coordinate any relevant task that may be performed to assess the impact of the shortcomings identified on the available data to be used in the calculation of technical provisions to obtain findings on whether the available data should be used for the intended purpose or if alternative data should be sought.

Art. 18
(Data adjustments)

1. Where data deficiencies are identified according to Article 16, paragraph 1 of this Regulation, the actuarial function assesses whether the data quality, considering its purpose, can be improved by adjusting or supplementing it.
2. The undertaking shall implement adequate measures to overcome limitations of data arising from the exchange of information with business partners.
3. When external data is used, the undertaking shall ensure that data remain compliant with the quality standards laid down in this Regulation.
4. The undertaking shall decide whether it is possible to adjust data to overcome the shortcomings that affect the quality of the data and, where appropriate, determine what specific adjustments to introduce.
5. The undertaking shall ensure that the adjustments referred to in the previous paragraph are limited to the level strictly necessary to enhance compliance with the established criteria and do not distort the identification of trends and other characteristics of the underlying risks reflected in the data.

Art. 19
(Recommendations of the actuarial function)

1. For the purposes of the tasks as referred to in Article 272 of the Delegated acts, the actuarial function shall provide recommendations to the management body on the procedures to be performed in order to increase the quality and quantity of available data.
2. To accomplish the task referred to in paragraph 1, the actuarial function shall identify the sources of material limitations and propose possible solutions, considering their effectiveness and the time required for their implementation.

Art. 20
(Application of expert judgment upon material limitations)

1. Where there are material limitations to the data that cannot be remedied without undue complexity, the undertaking shall ensure that expert judgment is applied to overcome these limitations to ensure that technical provisions are appropriately calculated.

Art. 21

(Documentation of data limitations)

1. For the purposes of the tasks as referred to in Article 272 of the Delegated acts, the actuarial function shall document any limitations in data quality.
2. The documentation referred to in paragraph 1 shall include at least:
 - a) a description of the shortcomings and of the relevant causes, as well as any references to other documents where they were identified;
 - b) an explanation of the impact of the shortcomings in the calculation of technical provisions regarding its materiality and how it affects this process;
 - c) a description of the actions taken by the actuarial function to detect the shortcomings, whether or not in a complementary way with other possible sources and documents;
 - d) a description of how such situations can be remedied in the short term and any recommendations to improve the data quality in the future.

Section IV - Use of market data

Art. 22

(Use of market data)

1. Where liabilities directly depend on the trend of financial markets or the calculation of technical provisions requires the input of external data, the undertaking shall be able to demonstrate that the data supplied by third parties is more suitable for the assessment of technical provisions. Market data complement the internal data available.
2. Notwithstanding the level of dependencies of the liabilities on financial market conditions and the quality of the available internal data, the undertaking shall take into consideration the corresponding external benchmarks.
3. The external data used shall meet the data quality requirements set out in this Regulation and shall be considered in the overall assessment of the data quality.

Art. 23

(Conditions on market data)

1. For the purpose of the tasks referred to in Article 272 of the Delegated acts, the actuarial function shall assess the accuracy, appropriateness and completeness of the market data used.
2. For the purpose of the assessment referred to in paragraph 1, the actuarial function shall:
 - a) know and consider the reliability of the sources of the data used and the consistency and stability of the process of collecting and publishing information over time;

- b) consider the reliability of all the assumptions and adequacy of the relevant methodologies applied to derive data, including any adjustments or simplifications applied to the raw data and take into account whether any changes have been applied to the external data over time, if such changes relate to assumptions or associated methodologies or any other procedures for the collection of the external data used;
- c) assess the quality of available data comparing them with available industry or market data deemed comparable in accordance with Article 36-*bis*, paragraph 3, of the Code. Any significant deviations should be identified and understood. In this context, the actuarial function may refer to the specificities of the particular homogeneous risk group being valued.

CHAPTER III

Segmentation and unbundling of obligations accepted

Art. 24

(Segmentation of obligations stemming from health and non-life insurance contracts)

1. As part of the segmentation referred to in Article 36-novies of the Code, the undertaking shall ensure that insurance and reinsurance obligations stemming from non-life business are segmented to life lines of business where such obligations are exposed to biometric risks, and are valued using techniques that explicitly take into account the behaviour of the variables underlying such risks.
2. In the case of obligations arising from the contracts referred to in Article 20 of the Code, the undertaking shall ensure that these obligations are measured according to a technique similar to that of life insurance and therefore assigned to life lines of business.

Art. 25

(Change in the segmentation of non-life insurance obligations)

1. If, as a result of the occurrence of an insured event on obligations originally segmented into non-life lines of business, the obligation allocation changes and is therefore assigned to life lines of business, the undertaking, as soon as it has sufficient information to assess the obligation, shall use the actuarial techniques relative to life lines of business.

Art. 26

(Determining and assessing appropriateness of homogeneous risk groups)

1. In the calculation of technical provisions, and in particular in order to derive assumptions, the undertaking allocates the obligations into homogeneous risk groups.
2. A homogeneous risk group consists of a collection of policies with similar risk characteristics. The group is identified by taking into account an appropriate balance between the credibility of the data available to ensure the performance of reliable statistical analyses and the homogeneity of risk characteristics within the group.
3. The undertaking shall define homogeneous risk groups so that they are reasonably stable over time.
4. Where necessary, for the purpose of the definition of homogeneous risk groups, the undertaking shall take into account, inter alia, the following items:

- a) underwriting policy;
 - b) claims settlement pattern
 - c) risk profile of policyholders;
 - d) product features, in particular guarantees;
 - e) future management actions.
5. The undertaking shall ensure consistency between the homogeneous risk groups used to assess the amount of technical provisions gross of reinsurance and those used to evaluate reinsurance recoverables.
6. In identifying the homogeneous risk groups for the calculation of the provisions for unearned premiums and for claims outstanding, the undertaking shall consider both the nature of the underlying risks being evaluated together and the quality of existing data.
7. In identifying the homogeneous risk groups for the calculation of provisions for claims outstanding, the undertaking shall consider separately CARD and NO CARD claims classified under the line of business "Motor vehicle liability insurance" in Annex I of the Delegated acts. Data regarding CARD and NO CARD claims are sent with specific forms for submission of information to the supervisory authorities.
8. In identifying the homogeneous risk groups related to business line 30 (with profit insurance as referred to in Annex I, letter D of the Delegated acts), the undertaking shall consider the policies with the same characteristics in terms of guaranteed minimum interest rate and of the guarantee structure provided.

Art. 27

(Application of assumptions at the level of individual policies or grouped policies)

1. In order to calculate technical provisions and carry out cash flows projections, the undertaking shall apply assumptions, derived at the level of homogeneous risk groups, to individual policies or grouped policies. The grouped policies may be more granular than homogeneous risk groups.

Art. 28

(Unbundling of insurance or reinsurance contracts covering multiple risks)

1. If an insurance or reinsurance contract covers risks across different lines of business, unbundling of the obligations is not required if only one of the risks covered by the contract is material. In this case, the contractual obligations should be segmented according to the major risk driver.

Art. 29

(Granularity of segmentation)

1. The undertaking shall analyse whether the granularity of segmentation adequately reflects the nature of the risks. To this end, the undertaking shall take into account the rights of policyholders, beneficiaries and of those entitled to insurance benefits to take advantage from profit participation, as well as the options and guarantees embedded in the contracts and the relevant risk drivers.

CHAPTER IV

Assumptions underlying calculation of technical provisions

Art. 30

(Consistency of assumptions underlying calculation of technical provisions)

1. The assumptions used in the calculation of technical provisions shall be consistent with the assumptions, criteria and methods used by the undertaking for the determination of own funds and the Solvency Capital Requirement.

Art. 31

(Modelling biometric risk factors)

1. The undertaking shall assess whether a deterministic or stochastic method is suitable for modelling the uncertainty of biometric risk factors.
2. The undertaking shall take into account the duration of liabilities when assessing the adequacy of a method that neglects the expected future changes of biometric risk factors. The assessment of the adequacy of the method shall take into account the error introduced in the result by the method itself.
3. The undertaking shall assess the suitability of a method that presumes that the biometric risk factors are independent of any other variable taking into account the specificity of the risk factors. The assessment of the level of correlation shall be based on historical data and expert judgment.

Art. 32

(Expenses to be taken into account in the computation of the best estimate)

1. For the computation of the best estimate, in accordance with Article 31 of the Delegated acts, the undertaking that uses hedging programs shall perform the projection of cash flows also including the following expenses:
 - a) expenses for any hedging program to reduce risks even taking into account the possibility of turbulences in the financial markets or possible situations of illiquidity;
 - b) expenses for IT infrastructures, for staff performing the quantitative analyses, for the transactions of hedging instruments and for any outsourcing contracts.
2. For the computation of the best estimate, in accordance with Article 31 of the Delegated acts, it shall make the projection of cash flows, also including the expenses resulting from contracts between the undertaking and third parties, including the commissions paid to the sales networks and expenses regarding reinsurance. These expenses are taken into account based on the terms of the contract; in particular, the undertaking shall consider these expenses on the basis of the conditions present in the contracts signed with third parties, including agents and re-insurers.

Art. 33

(Availability of market data)

1. The undertaking shall assess the availability of relevant market data to estimate the expenses taking into account the representativeness of such data for the policy portfolio, as well as their credibility and reliability.

Art. 34

(Granularity of allocation of expenses)

1. The undertaking shall allocate expenses into homogeneous risks groups, a minimum by line of business, according to the segmentation of obligations used in the calculation of technical provisions.

Art. 35

(Apportionment of overheads)

1. The overheads referred to in Article 31 of the Delegated acts are allocated to the undertaking's business in a realistic, objective way and in a consistent manner over time based on the latest analyses on the operations conducted by the undertaking. To this end the undertaking shall identify appropriate expense drivers and relevant expense apportionment ratios.
2. Without prejudice to the proportionality assessment and the allocation criteria referred to in paragraph 1, the undertaking shall consider the overheads according to the simplification referred to in Annex 2 when the following conditions are met:
 - a) the undertaking pursues annually renewable business;
 - b) renewals must be reputed to the new business, according the boundaries of the insurance contract;
 - c) claims occur uniformly during the coverage period.

Art. 36

(Changing the approach to the split of overhead expenses)

1. Overheads are allocated to the existing and future business on a consistent basis over time. The allocation criterion is changed only if a different approach better reflects the current situation.

Art. 37

(Projection of cash flows relating to expenses)

1. The undertaking shall allocate expenses in the cash flow projections in line with the timing of the flows relating to the obligations taken on by the undertaking.
2. The undertaking shall establish assumptions about the evolution of expenses over time, including future expenses arising from the commitments made on or prior to the expiry date of the contract, which are appropriate to the nature of the expenses involved.
3. The undertaking, in line with the economic assumptions, shall also take into account the evolution of inflation.

Art. 38

(Simplifications in respect of expenses)

1. The undertaking shall assess the nature, scope and complexity of the risks underlying the expenses taking into account, inter alia, the uncertainty of future expense cash flows, any event that may change the amount, frequency and average cost of expense cash flows, the type of expenses and the degree of correlation between the different types of expenses.
2. The undertaking may use a simplification for the projection of expenses based on a model which uses the information on current and past expense loadings to project future expense loadings, including inflation.
3. If using the simplification referred to in paragraph 2, the undertaking shall:
 - a) analyse current and historical expenses, taking into account, among others, the factors that influence the expenses;
 - b) assess the proportionality of the expenses compared to the size and nature of the insurance portfolios.
4. The undertaking shall not apply the simplification referred to in paragraph 2 where expenses have substantially changed or are expected to cover only part of the expenses required to service the obligations acquired by the undertaking.

CHAPTER V

Treatment of financial guarantees and contractual options

Art. 39

(Charges for embedded options)

1. The undertaking shall explicitly consider the amounts charged to policyholders relating to embedded options.

Art. 40

(Appropriateness of assumptions for the valuation of options and financial guarantees)

1. The undertaking, in the valuation of the contractual options and financial guarantees referred to in Article 36-decies of the Code, shall use assumptions consistent with market data, current market practice, policyholder behavior, management actions and the specific characteristics of the undertaking's business.
2. In order to ensure that the assumptions used in the valuation of technical provisions are always realistic, even in relation to the impact of adverse market conditions and trends, the undertaking shall regularly update the assumptions referred to in paragraph 1 on the basis of all available information since the last calculation of technical provisions.

Art. 41

(Assumptions on policyholder behaviour)

1. The assumptions on policyholder behaviour referred to in Article 26 of the Delegated acts are founded in statistical and empirical evidence.
2. For the purpose of paragraph 1, the undertaking shall consider that the policyholders will exercise contractual options in a financially rational manner. For this purpose, the undertaking shall take into account the awareness of the policyholders with respect to the

value of the contractual options and their possible reactions to the changing financial situation of the undertaking.

CHAPTER VI

Future management actions and assumptions on future discretionary benefits

Art. 42

(Future management actions)

1. As part of the analyses referred to in Article 23 of the Delegated acts, the undertaking shall:
 - a) provide adequate justifications when future management actions are ignored on the grounds of materiality;
 - b) take into account the impact of the management actions taken on other assumptions within the valuation scenario. In particular, the undertaking shall take into account the effects of a management action on policyholder behaviour and on the related expenses;
 - c) take into account existing legal or regulatory constraints on the management action;
 - d) ensure that, for a given scenario, the assumed future management actions reflect the balance, which is consistent with the corporate planning, between the degree of competitiveness and the risk of dynamic lapses;
 - e) for indirect business, consider the future management actions of the cedant undertaking as the behaviour of the previous policyholder and estimate its technical provisions based on reasonable assumptions for the cedant's behaviour.

Art. 43

(Assumptions on future discretionary benefits)

1. In the valuation of the technical provisions, the undertaking shall take into account future discretionary benefits which are expected to be made, whether or not such payments are contractually guaranteed. For this purpose, the undertaking shall consider all legal and contractual restrictions, existing profit participation arrangements as well as any plans for the distribution of profits.
2. For the purpose of paragraph 1, the undertaking shall formulate assumptions on future discretionary benefits in an objective, realistic and verifiable way. The undertaking shall also consider the principles and practices adopted to provide insurance contracts with profit participation.
3. If the distribution of future discretionary benefits is related to the financial situation of the undertaking, the assumptions must reflect the interaction between the assets and liabilities of the undertaking.
4. The undertaking, when assessing the proportionality of any simplification used for the valuation of assumptions on future discretionary benefits, shall consider a comprehensive analysis of past experience, current practice and profit distribution mechanism.

TITLE III

METHODOLOGIES TO CALCULATE TECHNICAL PROVISIONS

CHAPTER I

Proportionality assessment

Art. 44 **(Proportionality principle)**

1. In assessing the proportionality of the method of calculating technical provisions referred to in Article 56 of the Delegated acts, the undertaking shall take into account the strong interrelation among the nature, scale and complexity of the risks underlying the obligations assumed by the undertaking.
2. The undertaking shall ensure that the actuarial function is able to explain the methods used to calculate the technical provisions, and why they have been selected.

Art. 45 **(Assessment of the nature and complexity of the risks)**

1. In order to determine if the method of calculating technical provisions is proportionate, the undertaking shall assess the nature and complexity of the risks underlying the portfolio of contracts in accordance with Article 56 of the Delegated acts.
2. For this purpose, where applicable, the undertaking shall take into account at least the following factors:
 - a) the degree of homogeneity of the risks;
 - b) the variety of the different sub-risks, or different components which the risk is comprised of;
 - c) the way in which these sub-risks are interrelated with one another;
 - d) the level of uncertainty inherent in the estimate of cash flows;
 - e) the nature of the occurrence or crystallisation of the risk, in terms of frequency and average cost;
 - f) the type of development of claims payments in time;
 - g) the extent of the potential loss, including the tail of claims distribution;
 - h) the type of business from which the risks originate, i.e. direct or reinsurance business;
 - i) the degree of dependency among different risk types, including the tail of the risk distribution;
 - j) the risk-mitigation instruments applied, if any, and their impact on the underlying risk profile.

Art. 46 **(Identification of complex risk structures)**

1. The undertaking shall identify the factors that indicate the presence of complex risks. These factors relate to at least the cases in which:
 - a) the cash flows are highly path-dependent;
 - b) there are significant non-linear interdependencies among different factors of uncertainty;

- c) the cash flows are materially affected by potential future management actions;
- d) risks have a significant asymmetric impact on the value of the cash flows, particularly if contracts include material options and guarantees, or if there are complex reinsurance contracts;
- e) the value of options and guarantees is affected by the policyholder behaviour;
- f) the undertaking uses a complex risk mitigation instrument;
- g) a variety of covers of different nature are bundled in the contracts;
- h) the contract terms are complex, especially in terms of deductibles, participations, inclusion and exclusion criteria of the cover.

Art. 47

(Assessment of scale of the risks)

1. In order to determine if the method of calculating technical provisions is proportionate, the undertaking shall assess the scale of the risks underlying the portfolio in accordance with Article 56 of the Delegated acts.
2. The undertaking shall identify and use an interpretation of the risk scale which is best suited to allow an objective and reliable assessment of the risk.
3. The system referred to in paragraph 2 uses a specific benchmark or reference level which leads to a relative rather than an absolute assessment. In this way the undertaking can consider the assessment of the range of the risk within an interval of values of the established benchmark.

Art. 48

(Granularity of materiality assessment)

1. For the purpose of calculating technical provisions, the undertaking shall identify the appropriate level at which the materiality assessment is to be carried out. For this purpose, the identification of the level can refer to individual homogeneous risk groups, individual lines of business or the business of the insurer as a whole.
2. In identifying the granularity level referred to in paragraph 1, the undertaking shall consider if a risk which is immaterial for the entire business of the insurer may have a significant impact within a smaller segment of the portfolio.
3. In identifying the granularity level referred to in paragraph 1, the undertaking shall also take into account the effects on own funds, solvency balance sheets and the Solvency Capital Requirement.

Art. 49

(Consequences of a material error identified in the proportionality assessment)

1. Where it is unavoidable for the undertaking to use a method of calculating technical provisions which leads to a material error, the undertaking shall:
 - a) document this situation and the material error;
 - b) consider the implications of the error on the reliability of the calculation of technical provisions and the solvency position of the undertaking;

- c) assess whether the material level of error is adequately addressed in the determination of the Solvency Capital Requirement and hence in the setting of the risk margin in technical provisions.

CHAPTER II

Methods applied for calculations of the technical provisions during the year

Art. 50

(Simplified calculation of technical provisions during the year)

1. For the purpose of the quarterly calculation of the Minimum Capital Requirement referred to in Article 47-ter of the Code, the undertaking may determine the technical provisions using simplifications, such as the one shown in Annex 3, subject to the proportionality assessment, in the quarterly calculations of technical provisions.

Art. 51

(Computation of the best estimate for quarterly technical provisions)

1. For the quarterly calculation of the best estimate of technical provisions, the undertaking may perform a roll-forward calculation, taking into account the cash flows that have occurred and the new obligations arisen during the quarter. The undertaking shall update the assumptions of the roll-forward calculation method when the actual versus expected analysis indicates that changes have occurred during the quarter.
2. For the quarterly roll-forward calculation of the best estimate of life technical provisions for index-linked, unit-linked, with-profit contracts or contracts with financial guarantees, the undertaking shall assess the sensitivity of the best estimate to the financial parameters by using the sensitivity analyses according to Article 272, paragraph 5, of the Delegated acts. The undertaking shall document the choice of the set of financial parameters and their ongoing adequacy to their portfolio of assets, as well as the relevance and accuracy of the sensitivity analysis.

CHAPTER III

Methodologies for the valuation of contractual options and financial guarantees

Art. 52

(Decision on methodology)

1. The undertaking shall assess the contractual options and financial guarantees on the basis of adequate, applicable and relevant actuarial and statistical methodologies taking into account the developments in actuarial sciences and generally accepted market practices. For this purpose, the undertaking shall take into account at least the following aspects:
 - a) nature, scale and complexity of the underlying risks and their interdependence during the term of the contracts;
 - b) possible insights into the nature of the options and guarantees and their main drivers;
 - c) a thorough examination of the need to include additional computational complexities;
 - d) justification of the appropriateness of the method.

Art. 53

(Methodologies for the valuation of contractual options and financial guarantees)

1. When considering the use of a closed formula approach or a stochastic approach for the assessment of contractual options and financial guarantees related to insurance and reinsurance contracts, the undertaking shall apply the principle of proportionality referred to in Article 56 of the Delegated acts.
2. If the methods referred to in paragraph 1 cannot be used, the undertaking may use a last-resort approach that consists of the following steps:
 - a) analysis of the characteristics of the option or the guarantee and its incidence on cash flows;
 - b) analysis of the amount the option or guarantee is expected to be in-the-money or out-of-the-money at the time of assessment;
 - c) determination of the cost of the option or guarantee that may vary over time;
 - d) estimate of the probability that the option or guarantee can become more or less expensive in the future.

CHAPTER IV
Economic Scenario Generators (ESG)

Art. 54

(Documentation of the ESG)

1. The undertaking shall provide, on request of IVASS, the following documentation of the ESG used:
 - a) the mathematical models on which the ESG is based and the reasons for this choice;
 - b) the assessment of quality of data used to generate the economic scenarios;
 - c) the calibration process;
 - d) the parameters resulting from the calibration process, in particular those corresponding to the volatility and the correlation of market risk drivers.

Art. 55

(Outsourcing of the ESG)

1. Notwithstanding the provisions of Article 30 septies of the Code and its implementing rules, in case of outsourcing, the undertaking shall:
 - a) adequately understand the mathematical models on which the ESG is based, and its calibration process, with particular emphasis on the methods and assumptions used, and its limits;
 - b) be promptly informed by the supplier regarding any material change to the generator.

Art. 56

(Generator calibration process)

1. The calibration process of an ESG used for a market consistent valuation is based on data relating to financial instruments from markets that are deep, liquid and transparent, in accordance with Article 1 of the Delegated acts and which reflect the market conditions at the time of valuation.
2. In cases where it is not possible to use data referred to in paragraph 1, the undertaking shall effect the generator calibration process by using data relating to financial instruments from markets other than those referred to in paragraph 1, paying attention to any distortions and ensuring that the adjustments intended to overcome these distortions are made in a deliberate, objective and reliable way.
3. The undertaking shall be able to demonstrate that the choice of the financial instruments used in the calibration process in accordance with paragraphs 1 and 2 is consistent with the characteristics of the insurance and reinsurance obligations under valuation.

Art. 57

(Tests of accuracy, robustness and market-consistency)

1. The undertaking shall assess regularly and at least annually, the accuracy, robustness and market-consistency of the ESG.
2. On request of IVASS, the undertaking shall demonstrate that the generator has the characteristics referred to in paragraph 1.
3. For the purposes of the valuation referred to in paragraph 1, the undertaking shall:
 - a) define a measure of the accuracy of the ESG that includes at least a Monte Carlo error analysis;
 - b) test the sensitivity of the valuation of some typical liabilities to the variation of some parameters of the calibration process to demonstrate its robustness;
 - c) perform, on the set of scenarios generated by the ESG, at least the following tests to demonstrate the market consistency:
 - I. calibration tests, verifying that the requirements referred to in Article 22, paragraph 3 of the Delegated acts are met;
 - II. Martingale tests for the asset classes that have been used in the calibration process of the ESG and for some simple investment strategies;
 - III. correlation tests, comparing the simulated correlations with the historical correlations.

Art. 58

(Random and pseudo-random number generators)

1. The undertaking shall ensure that the random and pseudo-random number generators used in an ESG are adequately tested.

Art. 59

(On-going appropriateness of the ESG)

1. The undertaking shall have adequate procedures in place to ensure that the ESG remains adequate for the calculation of technical provisions on an ongoing basis.

CHAPTER V

Calculation of the risk margin

Art. 60

(Methods to calculate the risk margin)

1. To calculate the risk margin the undertaking shall assess the need to carry out a full projection of all future solvency capital requirements to reflect the nature, scale and complexity of the risks underlying the obligations assumed by the undertaking in a proportionate manner.
2. Where it is assessed that there is no need according to paragraph 1, the undertaking may use alternative methods to calculate the risk margin, as long as they are sufficiently capable of capturing the risk profile of the undertaking.
3. Where simplifications are used to calculate the best estimate, the undertaking shall assess the consequent impact that the use of such methods may have on the methods available for the calculation of the risk margin, including the use of simplifications for the projection of future solvency capital requirements.

Art. 61

(Hierarchy of methods for the calculation of the risk margin)

1. The undertaking, when choosing the level of the hierarchy of the simplifications to calculate the risk margin, shall take into account the hierarchy indicated in Annex 4, ensuring that the level of complexity does not go beyond what is necessary in order to reflect proportionately the nature, scale and complexity of the risks underlying the commitments assumed by the reference undertaking referred to in Article 38 of the Delegated acts.
2. The undertaking shall apply the hierarchy in line with the framework established in the definition of the proportionality principle and with the need to properly assess risks.
3. Without prejudice to the valuation of proportionality and compliance with the provisions referred to in Article 58 of the Delegated acts the undertaking may use the simplifications referred to in Annex 4 to apply the hierarchy of the methods.

Art. 62

(Allocation of risk margin)

1. In cases where it is too complex to accurately calculate the contribution of the individual lines of business to the Solvency Capital Requirement during the life of the entire portfolio, the undertaking shall apply simplifications to allocate the risk margin to the individual lines of business which are proportionate to the nature, scale and complexity of the risks involved. The methods applied must be consistent over time.

CHAPTER VI

Calculation of technical provisions as a whole

Art. 63

(Calculation of technical provisions as a whole)

1. In the case where technical provisions are calculated as a whole in accordance with Article 40 of the Delegated acts, the undertaking shall consider if the future cash flows associated with the contracts can be replicated reliably using financial instruments. For this purpose, the undertaking shall assess that the cash flows of these financial instruments provide not only the same expected amount as the cash flows associated with the contracts, but also the same patterns of variability.

Art. 64
(Reliable replication)

1. The calculation of technical provisions as a whole is not allowed in the following cases:
 - a) one or more characteristics of the future cash flow, including its expected value, its volatility or other, depend on risks whose specific characteristics in the undertaking are not traceable in the instruments actively traded in financial markets;
 - b) information about the current prices are not readily available to the public due to the fact that one or more characteristics of the future cash flow depend to some extent on the development of undertaking-specific factors, such as expenses or acquisition costs;
 - c) one or more characteristics of the future cash flow depend on the development of factors external to the undertaking and for which there are no financial instruments for which reliable market values are observable.

Art. 65
(Short term disruptions)

1. When the active and transparent market of a particular financial instrument temporarily fails to meet the conditions of depth and liquidity, but the undertaking reasonably believes that they will be met within the following three months, it may use the prices observed during that period.
2. The undertaking shall assess that the use of these prices does not result in a material error in the valuation of technical provisions.

Art. 66
(Unbundling of obligations)

1. In cases where under the same contract a number of future cash flows exist that meet all the conditions in order to calculate the technical provisions as a whole, and other flows that do not meet some of these conditions, the undertaking shall carry out the calculation of technical provisions for that contract separately for each series of cash flows, performing the calculation as a whole for the first flow and as a calculation of the best estimate and risk margin for the second flow.
2. If there is a significant interdependency between the two sets of cash flows, the undertaking shall carry out separate calculations of the best estimate and the risk margin for the whole contract.

CHAPTER VII
Future premiums

Art. 67

(Future premium cash flows and debts owed by policyholders for premium receivable)

1. When calculating the best estimate, the undertakings shall identify the cash flows for future premiums in accordance with the contract boundaries at the valuation date, and shall include in the calculation of liabilities the cash flows for future premiums which fall due after the valuation date.
2. The undertakings shall enter in the solvency balance sheet debts owed by policyholders for premiums which are due by the valuation date until their collection.

CHAPTER VIII

Calculation of claims provisions

Art. 68

(Calculation of the provision for outstanding reported claims)

1. The undertaking shall set up the provision for outstanding reported claims without taking into account the following elements:
 - a) the provision for claims incurred but not reported at the closing of the financial year;
 - b) expenses not directly allocated to individual claims reported.
2. For the calculation of the provision referred to in paragraph 1, the undertaking may, among others, use one of the following methods:
 - a) methodology based on the number and average cost of claims outstanding;
 - b) estimate that is based on a separate analytical assessment of the cost of each claim (inventory provision).
3. The undertaking shall consider the use of the estimate referred to in paragraph 2, letter a) for lines of business characterised by a rapid settlement and a stable average cost, while the estimate referred to in paragraph 2, letter b) for lines of business characterised by a low number of claims and high variability of costs.

Art. 69

(Provisions for incurred but not reported claims)

1. The provision for incurred but not reported claims shall include the total amount of sums which are necessary to meet the payment of claims incurred in the current period or previous ones, but not yet reported at the date of valuation as well as the related settlement costs.
2. If the undertaking uses actuarial techniques to estimate the provision referred to in paragraph 1, it shall assess whether the assumptions behind the technique hold, or whether adjustments to development patterns are required to appropriately reflect the likely future development.

Art. 70

(Methods for the valuation of claims settlement expenses not directly allocated)

1. The undertaking may use the simplified calculation for the provision for claims settlement expenses based on the provisions outlined in Annex 5 when the following criteria are met:
 - a) expenses can reasonably be assumed to be proportionate to the technical provisions calculated as a whole;
 - b) the proportion referred to in the previous letter is stable in time and the costs are distributed evenly throughout the entire lifetime of the claims portfolio as a whole.

Art. 71

(Calculation of premium provisions)

1. The premium provisions at the valuation date include the valuation of all obligations recognised within the boundary of a contract, for all exposure to future claims events, where:
 - a) the cover has incepted prior to the valuation date;
 - b) the cover has not incepted prior to the valuation date, but the undertaking signed a contract providing the cover.
2. Without prejudice to the proportionality assessment and the provisions referred to in Article 36, paragraph 2 of the Delegated acts, the undertaking may apply the simplification referred to in Annex 6.
3. The undertaking shall ensure that, where the present value of future cash inflows exceeds the present value of future cash outflows, the premiums provision, excluding the risk margin, is negative.

Art. 72

(Considerations for claims costs projections)

1. The undertaking shall adequately assess the claims cash flows included in the premium provision. For this purpose, it shall take into account the expected incidence of the cost of future claims, including the assessment of the probability of infrequent and particularly expensive claims and latent claims.

Art. 73

(Uncertainty of policyholder behaviour)

1. For the purpose of the premium provisions valuation, the undertaking shall take into account the possibility that policyholders may exercise the contractual options to extend, renew, cancel or terminate the contract before the end of the cover term provided.

CHAPTER IX

Calculation of Expected Profits in Future Premiums (EPIFP)

Art. 74

(Separation of insurance obligations)

1. For the purpose of the calculation referred to in Article 260 of the Delegated acts, the undertaking shall split the obligations undertaken into those attributable to premiums already paid and those attributable to the premiums receivable in the future regarding existing contracts.

Art. 75
(Assumptions used to calculate EPIFP)

1. For the purpose of calculating technical provisions without risk margin under the assumption that the premiums regarding existing contrasts that are expected to be received in the future are not received, the undertaking shall apply the same actuarial method used to calculate the technical provisions without risk margin with only the following changed assumptions:
 - a) policies should be treated as though they continue to be in force rather than being considered as surrendered;
 - b) regardless of the legal or contractual terms applicable to the contract, the calculation shall not include penalties, reductions or any other type of adjustment to the actuarial valuation of technical provisions without risk margin, as if the policy continued to be in force.

CHAPTER X
Methodologies to calculate recoverables from reinsurance contracts and special purpose vehicles

Art. 76
(Future reinsurance contracts)

1. For the calculation of recoverables from reinsurance contracts, the undertaking shall recognize the cash flows attributable to the subscription of future reinsurance contracts covering obligations already recognized in the solvency balance sheet in cases where it would replace expiring reinsurance arrangements and, as long as it would fulfil the following conditions:
 - a) the undertaking has established a written policy on the replacement of the reinsurance arrangement;
 - b) the replacement of the reinsurance arrangement does not exceed quarterly frequency;
 - c) the replacement of the reinsurance arrangement is not conditional on any future event that is outside the undertaking's control. Where the replacement of the arrangement is conditional on any future event under the undertaking's control, then the conditions should be clearly documented in the written policy referred to in letter a);
 - d) the replacement of the reinsurance arrangement is realistic and consistent with the undertaking's current business strategies and practices, a condition verified through a comparison with the replacements adopted previously by the undertaking;
 - e) the risk that the reinsurance arrangements cannot be replaced due to capacity constraints is immaterial;
 - f) the undertaking has made a reasonable estimate of the future reinsurance premium to be paid which reflects the risk that the cost of replacing the existing reinsurance arrangements may increase;
 - g) the replacement of the reinsurance arrangement does not conflict with the requirements that apply to future management actions referred to in Article 236 of the Delegated acts.

Art. 77

(Simplified calculation of recoverables from reinsurance contracts and special purpose vehicles
- premium provisions)

1. In case of recourse to the simplified calculation referred to in Article 57 of the Delegated acts, the undertaking shall apply the factors resulting from the ratio between the amounts gross and net of reinsurance.
2. The two factors referred to in paragraph 1 consist of:
 - a) a factor to be applied to the cash outflows, based on the examination of the historical data of claims, considering the reinsurance program applicable in the future;
 - b) a factor to be applied to the cash inflows, based on the amounts of related premiums, gross and net of reinsurance that are expected to be received and paid.
3. Without prejudice to the provisions referred to in paragraphs 1 and 2 and the proportionality assessment, undertakings can apply the simplifications outlined in Annex 7.

Art. 78

(Simplified calculation of recoverables from reinsurance contracts - provision for claims outstanding)

1. Amounts recoverable from reinsurance contracts for the calculation of the provision for claims outstanding must be calculated using gross-to-net techniques different for each accident year or for each underwriting year not finally developed.
2. The calculation referred to in paragraph 1 is conducted by the undertaking for a given line of business or, where appropriate, for homogeneous risk group.
3. Without prejudice to the provisions referred to in paragraphs 1 and 2 and the proportionality assessment, undertakings can apply the simplifications outlined in Annex 7.

Art. 79

(Simplified calculation of the counterparty default adjustment)

1. The undertaking has the right to use simplified calculations referred to in Article 61 of the Delegated acts on the assumption that the probability of default of the counterparty realistically remains constant over time.
2. The undertaking shall assess whether the assumption referred to in paragraph 1 is realistic, taking into account the credit quality step of the counterparty and the modified duration of recoverables from reinsurance contracts and special purpose vehicles.

CHAPTER XI

General principles in respect of methodologies to calculate technical provisions

Art. 80

(Projection period of cash flows)

1. When assessing whether the projection period and the timing of cash flows during the year used in the calculation of technical provisions are proportional, the undertaking shall consider at least the following characteristics:

- a) the degree of homogeneity of the cash flows;
- b) the level of uncertainty, i.e. the extent to which future cash flows can be estimated;
- c) the nature of the cash flows.

TITLE IV VALIDATION

Art. 81

(Technical provisions validation)

1. For the purpose of the tasks referred to in Article 272 of the Delegated acts, the actuarial function:
 - a) ensures that the validation process is proportionate, considering the significance of the impact, taken both in isolation and in combination of assumptions, approximations and methodologies on the value of technical provisions;
 - b) considers which validation approaches and processes are most appropriate depending on the characteristics of the liability and intended use for the approach or process;
 - c) ensures that the validation process covers the quantitative and qualitative aspects and goes beyond a comparison of estimates with outcomes. For this purpose it also includes the qualitative aspects, such as the assessment of controls, documentation, interpretation and communication of outcomes;
 - d) performs a regular and dynamic process in which it periodically refines validation approaches to incorporate experience gained from carrying out the previous validations and in response to changing market and operating conditions.

Art. 82

(Comparison between historical data and the assumptions used)

1. The comparison between market data and trends with data coming from experience is part of the validation process.
2. For the purpose referred to in paragraph 1, the actuarial function:
 - a) identifies the total deviation between expected and actual claims experience;
 - b) splits the total deviation into its main sources and analyses the reasons behind the deviation.
3. If the deviation referred to in paragraph 2 does not seem to be a temporary irregularity, the actuarial function formulates recommendations to the administrative body on possible changes to the model or assumptions used.

Art. 83

(Comparison against market data for contracts with options and guarantees)

1. The undertaking shall assess whether there is a range of market instruments available to approximately replicate the contracts with embedded options and guarantees. If available,

the price of such portfolios should be compared with the value of the technical provisions, calculated as the sum of the best estimate and the risk margin.

TITLE V FINAL PROVISIONS

Art. 84 (Publication and entry into force)

1. This Regulation is published in the Official Journal of the Italian Republic and in IVASS Bulletin and website.
2. This Regulation shall enter into force the day following its publication in the Official Journal of the Italian Republic.

ANNEX 1

LIMITS TO THE UNILATERAL PRACTISE BY THE UNDERTAKING OF THE RIGHT TO TERMINATE, REJECT OR MODIFY THE PREMIUMS OR SERVICES OF AN INSURANCE OR REINSURANCE CONTRACT.

- a) In case, to make effective the change of premiums and services, the undertaking is required to obtain an external assessment in accordance with the law or with the terms and conditions of another agreement external to the contract, it shall consider limited its own unilateral right only if the external assessment attributes to the policyholder or third parties the right to interfere with the exercise of this right.
- b) The undertaking shall not consider the reputational risk or competitive pressures as limits of the unilateral right.
- c) The undertaking shall assume that the national laws limit its own unilateral right only if such laws restrict this right or give to the policyholder or third parties the right to limit it.
- d) The undertaking shall not have the unilateral right to change the premiums or services due according to the contractual terms, if the premiums or services depend solely on the decisions of the policyholder or the beneficiary.
- e) The undertaking shall not have the unilateral right to terminate the contract or reject the premiums due according to the contractual terms if the exercise of this right, as specified in the terms and conditions of the contract, is subject to the occurrence of a claim event.

SIMPLIFICATIONS FOR OVERHEADS ALLOCATION

Recurring overheads are defined as follows:

$$ROA_t = RO_{last} \left(\frac{RO_{next}}{RO_{last}} \right)^{\frac{t}{12}} * \frac{s + 13 - t}{12 * (s + 12)}$$

where:

s: duration forecast in months to completely liquidate any obligation arising from the insurance contract, from the beginning of the insurance cover

t = 1,..., 12: month of the projection period

RO_{last} : recurring overheads observed during the last 12 months

RO_{next} : recurring overheads expected for the next 12 months

ROA_t : recurring overheads attributable to month t

ANNEX 3

Simplified calculation for risk margin during the year

If the ratio between the risk margin and the hedging, net of reinsurance, remains stable during the year, the undertaking can calculate the risk margin ($CoCM(t)$) in any intermediate date of the financial year following the year of assessment using the following formula:

$$CoCM(t) = CoCM(0) \frac{BE_{Net}(t)}{BE_{Net}(0)}, \quad 0 < t < 1$$

where:

$CoCM(0)$: risk margin calculated at time $t=0$ for the (re)insurance obligations portfolio of the reference undertaking referred to in Article 38 of the Delegated acts

$BE_{Net}(t)$: hedging of technical provisions, net of reinsurance, evaluated at the time $t \geq 0$ for the (re)insurance obligations portfolio of the reference undertaking referred to in Article 38 of Delegated acts.

HIERARCHY OF METHODS AND SIMPLIFICATIONS FOR RISK MARGIN

Hierarchy of methods

The undertakings use the following hierarchy as a decision basis regarding the methods to be used to project future Solvency Capital Requirements:

Method 1) - Generate approximations of single risks or sub-risks within some or all modules and sub-modules to be used to calculate the future Solvency Capital Requirements referred to in Article 58, letter a), of the Delegated acts.

Method 2) - Generate approximations of the entire Solvency Capital Requirement, for each future year referred to in Article 58, letter a), of the Delegated acts, using, among other things, the ratio between the best estimate of that future year and the best estimate at the assessment time. This method is inappropriate when there are better estimates with negative values at the valuation date or at the following ones. This method takes into account the expiry date and the run-off model of the obligations net of reinsurance. Consequently, it is advisable to consider how the hedging of the technical provisions was calculated, net of reinsurance.

Moreover, it is advisable to consider if the assumptions regarding the risk profile of the undertaking can be considered unchanged over time. For this purpose, with reference to the components set out in art. 38, paragraph 1, letters i) and j) of the Delegated acts, the undertaking shall consider:

- a) as regards all underwriting risks, if the composition of the sub-risks in the underwriting risk is the same
- b) as regards the counterparty default risk, if the average credit standing of re-insurers and special purpose vehicles is the same;
- c) the market risk referring to the best net estimate, if significant, is the same;
- d) as regards the operational risk, it is necessary to consider if the percentage of the share of re-insurer obligations and the share of the special purpose vehicles is the same;
- e) that the loss-absorbing capacity of technical provisions in relation to the net best estimate is the same.

If some or all of these assumptions are not valid, the undertaking shall make at least a qualitative assessment of the level of materiality of the deviation from the assumptions. If the impact of the deviation is not significant compared to the risk margin as a whole, it is possible to use this method. Otherwise, the undertaking shall revise the formula in an appropriate manner or uses a more sophisticated method.

Method 3) - Generate approximations of the discounted sum of all future Solvency Capital Requirements in one step, without approximations of SCR for each future year separately, as referred to in Article 58, letter b), of the Delegated acts, using, among others, the modified duration of insurance liabilities as proportionality factor.

When deciding on the application of a method based on the modified duration of insurance liabilities, it is necessary to pay attention to the value of the modified duration to avoid meaningless results for the risk margin.

This method takes into account the expiry date and the run-off model of the obligations net of reinsurance.

Consequently, it is advisable to consider how the hedging of the technical provisions was calculated, net of reinsurance.

Moreover, it should be considered if the assumptions regarding the risk profile of the undertaking can be considered unchanged over time. To this end, it is advisable that the undertaking consider, for the Basic Solvency Capital Requirement, that the composition and proportions of the risks and sub-risks do not remain unchanged over the years. With reference to the components set out in art. 38, paragraph 1, letters i) and j) of the Delegated acts, it is advisable for the undertaking to consider:

- a) as regards the Basic Solvency Capital Requirement, if the proportion of the risks and sub-risks does not change over the years;
- b) as regards the counterparty default risk, if the average credit standing of re-insurers and the special purpose vehicles remains the same;
- c) as regards the operational risk and the counterparty default risk, if the modified duration of the same for net obligations and gross reinsurance;
- d) if the market risk regarding the net best estimate, if significant, remains unchanged over time;
- e) that the loss-absorbing capacity of technical provisions in relation to the net best estimate remains the same over time.

If the undertaking intends to use this method, it shall assess how much these assumptions are fulfilled. If some or all of these assumptions are not valid, the undertaking should make at least a qualitative assessment of the level of materiality of the deviation from the assumptions. If the deviation impact is not significant compared to the risk margin as a whole, it is possible to use this method.

Otherwise, the undertaking shall revise the formula in an appropriate manner or uses a more sophisticated method.

Method 4) - Generate approximations of the risk margin by calculating it as a percentage of the hedging.

According to this method, the risk margin is calculated as a percentage of the hedging of the technical provisions, net of reinsurance at the assessment time.

In defining the percentage to use for a given line of business, the undertaking shall take into account that this percentage increases if the modified duration of insurance liabilities increases. The use of this method is subject to the demonstration that no more sophisticated method for the calculation of the risk margin, reported in the hierarchy, can be applied.

If the undertaking uses this method for the calculation of the risk margin, it shall justify and report the logic adopted to identify the percentages used by the area of activity. The justifications and logic used consider all the specific characteristics of the contract portfolios subjected to assessment. The undertakings should not use this method in case of negative values for the best estimate.

SIMPLIFICATIONS

The use of a simplification does not allow to disregard all significant risks other than the risk of rate of interest and not to quantify these hedgable risks in the calculation of the risk margin. In cases where the undertakings immunize their own financial guarantees, it will be often present a significant market risk. This could include, for example, a detection or timing error. Also, if an immunization plan has been defined on the basis of the future policyholder behaviour, any deviations from this expectation on the future policyholder behaviour may be an example of material market risk.

Method 1

Life underwriting risk

The simplifications allowed for SCR-calculations in respect of mortality, longevity, disability risk, expense risk, revision risk and catastrophe risk over to the risk margin calculations.

Health underwriting risk

The simplifications allowed for SCR-calculations in relation to the lapse risk for health mortality, health longevity, medical expense disability-morbidity, income protection disability-morbidity, health insurance expense, health lapse risk managed such as life insurance also apply in the risk margin calculations.

Non-life underwriting risk

The calculation of the future SCRs regarding the premium and reserve risk can be simplified if the renewals and future assets are not taken into account. In detail:

- if the volume of premiums in a generic year t is small compared to the volume of provisions, the volume of premiums for the same year t can be set at 0. An example would be an activity not made up any long-term contract, where the premium volume can be set to 0 for all future years t where $t \geq 1$.
- if the premium volume is zero, the capital requirement for non-life subscriptions can be approximated by the following formula:

$$3 \sigma_{(res,mod)} \cdot PCO_{Net}(t),$$

where:

$3 \sigma_{(res,mod)}$: aggregate standard deviation for reserve risk
 $PCO_{Net}(t)$: best estimate of claims outstanding provisions, net of reinsurance in the year t .

The aggregate standard deviation for the reserve risk $\sigma_{(res,mod)}$ can be calculated using the aggregation procedure set out in Article 117 of the Delegated acts, assuming that all the amounts regarding the premium risk are zero.

As a further simplification, it can be assumed that the standard deviation estimates for the premium and reserve risk, which are specific of the undertaking, remain unchanged over time.

In addition, the contribution of the catastrophic risk to the underwriting risk is taken into account only with regard to insurance contracts in force in $t = 0$.

Counterparty default risk

The capital requirements of counterparty default risk regarding transfers under reinsurance can be calculated directly from the definition for each segment and year. If the exposure to default of the re-insurers does not vary significantly over the years of development, the capital requirements can be approximated by applying the share of the best estimates of the re-insurers to the level of the relative capital requirement observed in year 0.

According to the standard formula, the risk of counterparty default for reinsurance transfers is assessed for the entire portfolio and not for separate segments. If the default risk in a segment is considered similar to the overall default risk or if the default risk in a segment is negligible, risk capital requirements may be obtained by applying the portion of best estimates conducted by the re-insurers at the level of total capital requirements for default risk of re-insurers in the year 0.

Method 2

The use of simplifications that belong to this level of hierarchy is generally based on the assumption that the future SCR_{RU} for a given line of business are proportional to the best estimate of the technical provisions for this line of business, for every reference year. The proportionality factor is given by the ratio between the current SCR and the best current estimate of the technical provisions for the same line of business.

Using a representative example of a proportional method, the SCR of the undertaking, as referred to in Art. 38 of Delegated acts, for the year t could be set as follows:

$$SCR_{RU}(t) = SCR_{RU}(0) \cdot \frac{BE_{Net}(t)}{BE_{Net}(0)} \quad t = 1, 2, 3, \dots$$

where:

$SCR_{RU}(t)$: The SCR calculated at time $t \geq 0$ for the (re)insurance obligations portfolio of the reference undertaking as referred to in Art. 38 of the Delegated acts;

$BE_{Net}(t)$: the best estimate of the technical provisions, net of reinsurance evaluated at the time $t \geq 0$ for the (re)insurance obligations portfolio of the reference undertaking as referred to in Art. 38 of the Delegated acts.

The simplification described above can also be applied at a more granular level, that is, for the individual modules and/or sub-modules. In this case, however, the number of calculations to be performed will be generally proportional to the number of modules and sub-modules for which this simplification is applied; also, consider if a more detailed calculation as described above will lead to a more accurate estimate of future SCR_{RU} to be used in the calculation of the risk margin.

Method 3:

As far as life insurance, the modified duration approach implies that the risk margin $CoCM$ could be calculated using the following formula:

$$CoCM = CoC \cdot Dur_{Mod}(0) \cdot \frac{SCR_{RU}(0)}{(1 + r_1)}$$

where:

$SCR_{RU}(0)$: SCR calculated at time $t=0$ for the (re)insurance obligations portfolio of the reference undertaking as referred to in Art. 38 of the Delegated acts;

$Dur_{Mod}(0)$: the modified duration of the obligations of the (re)insurance undertaking reference as referred to in Art. 38 of Delegated acts, net of reinsurance at $t=0$

CoC : Cost-of-Capital rate

If $SCR_{RU}(0)$ it includes the significant risks that will not exist throughout the entire duration of the portfolio, the calculation can often be improved:

- excluding these risks from $SCR_{RU}(0)$ for the above calculation;
- by calculating separately the contribution of these secondary risks to the risk margin;
- aggregating the results (while allowing diversification, where possible).

Method 4:

According to this simplification, the $CoCM$ risk margin is calculated as a percentage of the hedging of the technical provisions, net of reinsurance in $t=0$, i.e.:

$$CoCM = \alpha_{lob} \cdot BE_{Net}(0)$$

where:

$BE_{Net}(0)$ the best estimate of the technical provisions, net of the reinsurance evaluated at the time $t=0$ for the (re)insurance obligations portfolio of the undertaking for a give line of business

α_{lob} specific percentage by line of business

ANNEX 5

SIMPLIFICATIONS FOR CLAIMS SETTLEMENT EXPENSES

This simplification, based on the estimate of claims settlement expenses as a percentage of total claims provision, is calculated using the following formula applied to each line of business:

$\text{Reserve for indirect settlement expenses} = R \cdot (\text{IBNR} + t_o \cdot \text{PCO_reported})$
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where:

R : simple or weighted average of R_i for a sufficient period of time

R_i : (claims settlement expenses paid) / (gross claims + subrogation)

IBNR: IBNR provisions

t_o : predefined percentage of claims provision

PCO_reported: outstanding claims provision gross of reinsurance

SIMPLIFICATION FOR THE PREMIUM RESERVE

This simplification to obtain the best estimate of provision for unearned premiums is based on the estimation of the *Combined Ratio* of line of business in question. The following input information is required:

- a) estimate of the *Combined Ratio* for the line of business during the premiums provision run-off;
- b) present value of future premiums for the underlying obligations (insofar as the future premiums are within the contractual limits);
- c) measure of the volume of unearned premiums; this refers to the activity started at the valuation date and represents the premiums for that business started, minus the premiums that have already been acquired in respect of such contracts (determined on a *pro rata temporis basis*)

The best estimate is derived from the input data as follows:

$BE = CR * VM + (CR-1) * PVFP + AER * PVFP$

where:

- BE:** the best estimate of the premiums provision.
- CR:** estimate of the Combined Ratio for line of business gross of acquisition expenses, in other words $CR = (\text{claims} + \text{expenses related to claims}) / (\text{premiums earned before acquisition expenses})$
- VM:** measure of volume for unearned premiums. It refers to the business started at the valuation date and represents the premiums for that business started, minus the premiums that have already been acquired in view of such contracts. This measure should be calculated gross of acquisition expenses.
- PVFP:** present value of future premiums (actualised using the mandatory term structure of risk-free interest rates), gross of fees.
- AER:** estimate of the coefficient of the acquisition expenses by line of business.

The Combined Ratio for a year of occurrence is defined as the ratio between expenses and claims occurring in a particular line of business or homogeneous risk groups and premiums acquired, where:

- the earned premiums should exclude prior year adjustment;
- the expenses should be all those attributable to premiums acquired with the only exception of expenses for claims;
- claims that have occurred should exclude the run-off result, i.e. they should represent the total losses occurred in year y for claims paid (including the cost of the claims) during the year and provisions constituted at the end of the year.

Alternatively, if more feasible, the Combined Ratio for an accident year can be considered as the sum of the Expense Ratio and claims-premiums ratio, where:

- the *Expense Ratio* is the ratio of the expenses (excluding expenses for claims) and subscribed premiums; and expenses are those attributable to the subscribed premiums

- the claims-premiums ratio for an accident year in a given line of business or homogeneous risk groups should be determined as the coefficient of the ultimate cost of claims incurred on acquired premiums.

ANNEX 7

SIMPLIFIED CALCULATION OF RECOVERABLES FROM REINSURANCE CONTRACTS AND SPECIAL PURPOSE VEHICLES

With regard to provisions for claims outstanding:

1) Simplification *gross to net* based on provisions for reported claims still to be paid

This simplification uses the ratio between net and gross provisions of an A (NPA GPA) portfolio to assess the net provisions of another portfolio B (NPB) based on the observable gross provisions of portfolio B (GPB):

$GN = NPA/GPA$

where NPA and GPA are, respectively, the net and gross provisions of portfolio A.

This simplification is then applied to calculate the net provisions for portfolio B:

$NPB = GN * GPB$

The following criteria must be met in order to apply this simplification:

- The reference portfolio (A) is similar to the portfolio (B) for which the simplification is used
- the ratio (GN) is established by means of credible data. This requires a historic series of data at least equal in duration to two years.

The reinsurance transfers vary with the size, financial solidity and risk aversion of an undertaking, so you must take special care when applying a coefficient of net on gross derived from another reference portfolio. This approach can therefore only be used in cases where it is known that the reference portfolio has a very similar nature to that of their own portfolio. Even in such a case, however, the percentage of the sale of non-proportional reinsurance will depend strongly on the actual occurrence of large losses and will therefore be considerably unpredictable.

2) Simplification *gross to net* based on cumulative claims paid (cumulative cash flows)

This simplification produces an estimate of net provisions for claims outstanding using gross provisions for claims in combination with an estimate of reinsurance covers for the individual accident years.

The rationale for the use of this simplification it is noticed that for past accident years, the reinsurance structure of a single year is known and (probably) will not be changed retroactively. Therefore, a comparison of net over gross cumulated cash flows by area of activity - differentiated by accident year - may be used to derive an estimate of the impact of proportional and non-proportional reinsurance for the single accident year (i.e. a gross-to-net simplification for the single accident year).

For each business line, the gross to net simplifications for accident years not definitively developed (GNI) are established as follows:

$$GNI = \frac{A_{Net,i,n-i}}{A_{Gross,i,n-i}}$$

Where: $A_{Gross,i,n}$ and $A_{Net,i,n}$ represent, respectively, the cumulative claims paid gross and net of reinsurance and n is the latest accident year with observed values of these cash flows ($i \leq n$).

These simplifications are then used to calculate the net provision for claims outstanding for the individual accident years, i.e.:

$$PCO_{Net,i} = GNI * PCO_{Gross,i}$$

where $PCO_{Gross,i}$ and $PCO_{Net,i}$ represent, respectively, the gross and net provisions for claims outstanding for the accident year i .

In order to apply this simplification, both gross and net cumulative paid claims (gross and net cash flows) per accident year need to be available for each area of business.

With regard to the **premiums provisions**

The gross to net simplifications regarding the claims provisions according to previous paragraph 2) can also be used for calculating the recoverable amounts in relation to the premiums provisions, in other words, claims provisions covered, but not yet occurred in the year in progress ($i=n+1$), using the anticipation in calculating of the proportional part of the reinsurance cover for the aforesaid year.