Chapter 1

Commission Delegated Regulation (EU) 2017/653

ANNEX IV PERFORMANCE SCENARIOS

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Number of scenarios

(1) The four performance scenarios under this Regulation which shall show a range of possible returns, shall be the following:

(a) a favourable scenario;

(b) a moderate scenario;

(c) an unfavourable scenario;

(d) a stress scenario.

(2) The stress scenario shall set out significant unfavourable impacts of the product not covered in the unfavourable scenario referred to in point 1(c) of this Annex. The stress scenario shall show intermediate periods where those periods would be shown for the performance scenarios under point 1(a) to (c) of this Annex.

(3) An additional scenario for insurance-based investment products shall be based on the moderate scenario referred to in point 1(b), where the performance is relevant in respect of the return of the investment.

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Calculation of scenario values for the recommended holding period

(4) The scenario values under different performance scenarios shall be calculated in a similar manner as the market risk measure. The scenarios values shall be calculated for the recommended holding period.

(5) The unfavourable scenario shall be the value of the PRIIP at the 10th percentile.

(6) The moderate scenario shall be the value of the PRIIP at the 50th percentile.

(7) The favourable scenario shall be the value of the PRIIP value at the 90th percentile.

(8) The stress scenario shall be the value of the PRIIP that results from the methodology outlined in points 10 and 11 of this Annex for Category 2 PRIIPs and in points 12 and 13 of this Annex for Category 3 PRIIPs.

(9) For Category 2 PRIIPs, the expected values at the end of the recommended holding period shall be:

(a) The unfavourable scenario:

$$\mathrm{Exp}\left[\mathrm{M1}^*\mathrm{N} + \sigma\sqrt{\mathrm{N}}^*\left(-1{,}28 + 0{,}107^*\mu_1/\sqrt{\mathrm{N}} + 0{,}0724^*\mu_2/\mathrm{N} - 0{,}0611^*\mu_1^2/\mathrm{N}\right) - 0{,}5\,\sigma^2\mathrm{N}\right]$$

(b) The moderate scenario:

$$\mathrm{Exp}\left[\mathrm{M1}^*\mathrm{N} - \sigma\mu_1/6 - 0{,}5\,\sigma^2\mathrm{N}\right]$$

(c) The favourable scenario:

$$\mathrm{Exp}\left[\mathrm{M1}^*\mathrm{N} + \sigma\sqrt{\mathrm{N}}^*\left(1{,}28 + 0{,}107^*\mu_1/\sqrt{\mathrm{N}} - 0{,}0724^*\mu_2/\mathrm{N} + 0{,}0611^*\mu_1^2/\mathrm{N}\right) - 0{,}5\,\sigma^2\mathrm{N}\right]$$

where *N* is the number of trading periods in the recommended holding period, and where the other terms are defined in point 12 of Annex II.

(10) For Category 2 PRIIPs, the calculation of the stress scenario has the following steps:

(a) Identify a sub interval of length *w* which corresponds to the following intervals:

	1 year	> 1 year
Daily prices	21	63

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Weekly prices	8	16
Monthly prices	6	12

(b) Identify for each sub interval of length w the historical lognormal returns *rt,* where *t = t0, t1, t2, ..., tN.*

(c) Measure the volatility based on the formula below starting from $t_i = t_0$ rolling until $t_i = t_{N-w}$

$$ {}_{t_i}^{W}\sigma_S = \sqrt{\frac{\sum_{t_i}^{t_i+w}\left(r_{t_i} - {}_{t_i}^{t_{i+w}}M_1\right)^2}{M_w}} $$

Where M_w is the count of number of observations in the sub interval and

$$ {}_{t_i}^{t_{i+w}}M_1 $$

is the mean of all the historical lognormal returns in the corresponding sub interval.

(d) Infer the value that corresponds to the 99th percentile for 1 year and the 90th percentile for the other holding periods. This value shall be the stressed volatility

$$ {}^{w}\sigma_S $$

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(11) For Category 2 PRIIPs, the expected values at the end of the recommended holding period for the stress scenario shall be:

$$ \text{Scenario}_{\text{Stress}} = e\left[{}^{w}\sigma_S * \sqrt{N} * \left(z_\alpha + \left[\frac{(Z_\alpha^2 - 1)}{6}\right] * \frac{\mu_1}{\sqrt{N}} + \left[\frac{(z_\alpha^3 - 3z_\alpha)}{24}\right] * \frac{\mu_2}{N} - \left[\frac{(2z_\alpha^3 - 5z_\alpha)}{36}\right] * \frac{\mu_1^2}{N}\right) - 0{,}5\,{}^{W}\sigma_S^2 N\right] $$

where $z_{\text{Î±}}$ is a proper selected value of the PRIIP at the extreme percentile that corresponds to 1 % for 1 year and to 5 % for the other holding periods.

(12) For Category 3 PRIIPs, the following adjustments shall be made to the calculation of favourable, moderate and unfavourable performance scenarios:

(a) the expected return for each asset or assets shall be the return observed over the period as determined under point 6 of Annex II;

(b) the expected performance shall be calculated at the end of the recommended holding period, and without discounting the expected performance using the expected risk-free discount factor.

(13) For Category 3 PRIIPs, the following adjustments shall be made for the calculation of the stress scenario:

(a) Infer stress volatility

$${}^{w}\sigma_{s}$$

based on methodology defined in point 10 of this Annex; 1

(b) Rescale historical returns r_t, based on the formula set out below;

$$r_t^{adj} = r_t * \frac{{}^{w}\sigma_S}{\sigma_S}$$

(c) Conduct bootstrapping on

$$r_t^{adj}$$

as described in point 22 of Annex II;

(d) Calculate the return for each contract by summing returns from selected periods and correcting these returns to ensure that the expected return measured from the simulated return's distribution is as below

$$E^* \left[r_{bootstrapped}\right] = -0{,}5\,{}^{w}\sigma_s^2 N$$

where $E^*[r_{bootstrapped}]$ is the new simulated mean.

(14) For Category 3 PRIIPs, the stress scenario shall be the value of the PRIIP at the extreme $z_{į±}$ percentile as defined in point 11 of this Annex of the simulated distribution as set out in point 13 of this Annex.

(15) For Category 4 PRIIPs, the method under point 27 of Annex II shall be used in respect of those factors that are not observed in the market, combined as necessary with the method for Category 3 PRIIPs. The relevant methods for Category 2 PRIIPs set out in points 9 to 11 of this Annex and the relevant methods for Category 3 PRIIPs set out in points 12 to 14 of this Annex shall be used for the relevant components of the PRIIP where the PRIIP combines different components. The performance scenarios shall be a weighted average of the relevant components. Product features and capital guarantees shall be taken into consideration in the performance calculations.

(16) For Category 1 PRIIPs as defined in point 4(a) of Annex II, and Category 1 PRIIPs as defined in point 4(b) of Annex II that are not futures, call options and put options traded on a regulated market or on a third-country market considered to be equivalent to a regulated market in accordance with Article 28 of Regulation (EU) No 600/2014, performance scenarios shall be calculated in accordance with points 12 to 14 of this Annex.

(17) For Category 1 PRIIPs, that are futures, call options and put options traded on a regulated market or on a third-country market considered to be equivalent to a regulated market in accordance with Article 28 of Regulation (EU) No 600/2014, performance scenarios shall be shown in the form of pay-off structure graphs. A graph shall be included to show performance for all scenarios for the different levels of the underlying value. The horizontal axis of the graph shall show the various possible prices of the underlying value and the vertical axis shall show the profit or loss at the different prices of the underlying value. For every price of the underlying value, the graph shall show the resulting profit or loss and at which price of the underlying value the profit or loss shall be zero.

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(18) For Category 1 PRIIPs as defined in point 4(c) of Annex II a reasonable and conservative best estimate of the expected values for the performance scenarios set out in point 1(a) to (c) of this Annex at the end of the recommended holding period shall be provided.

The scenarios selected and shown shall be consistent with and complement the other information contained in the key information document, including the overall risk profile for the PRIIP. The PRIIP manufacturer shall ensure the consistency of the scenarios with internal product governance conclusions, including amongst other things, any stress-testing undertaken by the PRIIP manufacturer for the PRIIP, and data and analysis used for the purposes of producing the other information contained with the key information document.

The scenarios shall be selected to give a balanced presentation of the possible outcomes of the product in both favourable and unfavourable conditions, but only scenarios that can be reasonably expected shall be shown. The scenarios shall not be selected so as give undue prominence to favourable outcomes at the expense of unfavourable ones.

Calculation of expected values for intermediate holding periods

(19) For PRIIPs with a recommended holding period between 1 and 3 years, performance shall be shown at 2 different holding periods: at the end of the first year and at the end of the recommended holding period.

(20) For PRIIPs with a recommended holding period of 3 years or more, performance shall be shown at 3 holding periods: at the end of the first year, after half the recommended holding period rounded up to the end of the nearest year, and at the end of the recommended holding period.

(21) For PRIIPs with a recommended holding period of 1 year or less, no performance scenarios for intermediate holding periods shall be shown.

(22) For Category 2 PRIIPs, the values to be shown for the intermediate periods shall be calculated using the formulas in point 9 to 11 of this Annex with the N defined to be the number of trading periods from the start date to the end of the intermediate period.

(23) For Category 1 PRIIPs and Category 4 PRIIPs, the values to be shown for the intermediate periods shall be estimated by the PRIIP manufacturer in a manner consistent with the estimation at the end of the recommended holding period. To this end, the method used to estimate the value of the PRIIP at the start of each intermediate period needs to produce the same value for the entire recommended holding period, as under the method prescribed in points 16 and 15 of this Annex respectively.

(24) For Category 3 PRIIPs, to produce the favourable, moderate, unfavourable and stress scenarios at an intermediate period before the end of the recommended holding period, the manufacturer shall pick three underlying simulations as referred to in points 16 to 24 of Annex II used for the calculation of the MRM and one underlying simulation as referred to in point 13 of this Annex, on the basis of underlying levels only and in such a manner that the simulated value of the PRIIPs for that intermediate period is likely to be consistent with the relevant scenario.

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(a) To produce the favourable, moderate, unfavourable and stress scenarios at an intermediate period for a Category 3 PRIIP with one underlying and whose value is known to be a increasing function of its underlying level, the manufacturer shall pick three underlying simulations as referred to in points 16 to 24 of Annex II used for the calculation of the MRM and one underlying simulation as referred to in point 13 of this Annex, leading respectively to the 90th percentile level for the favourable scenario, the 50th percentile level for the moderate scenario, the 10th percentile level for the unfavourable scenario and the percentile level that corresponds to 1 % for 1 year and to 5 % for the other holding periods for the stress scenario.

(b) To produce the favourable, moderate, unfavourable and stress scenarios at an intermediate period for a Category 3 PRIIP with one underlying and whose value is known to be an decreasing function of its underlying level, the manufacturer shall pick three underlying simulations as referred to in points 16 to 24 of Annex II used for the calculation of the MRM and one underlying simulation as referred to in point 13 of this Annex, leading respectively to the 90 the percentile level for the unfavourable scenario, the 50th percentile level for the moderate scenario, the 10th percentile level for the favourable scenario and the percentile level that corresponds to 1 % for 1 year and to 5 % for the other holding periods for the stress scenario.

(c) To produce the favourable, moderate, unfavourable and stress scenarios at an intermediate period for a Category 3 PRIIP other than those mentioned in points (a) and (b) the manufacturer shall choose underlying values consistent with the 90th, the 50th, and the 10th percentile levels and the percentile level that corresponds to 1 % for 1 year and to 5 % for the other holding periods of the PRIIP and use these values as the seed values for a simulation to determine the value of the PRIIP.

(25) For Category 1 PRIIPs that are futures, call options and put options traded on a regulated market or on a third-country market considered to be equivalent to a regulated market in accordance with Article 28 of Regulation (EU) No 600/2014, performance scenarios for intermediate holding periods shall not be included.

(26) For favourable, moderate and unfavourable scenarios at intermediate periods, the estimate of the distribution used to read the value of the PRIIP at different percentiles shall be consistent with the observed return and volatility observed over the past 5 years of all market instruments that determine the PRIIP's value. For the stress scenario at intermediate periods, the estimate of the distribution used to read the value of the PRIIP at different percentiles shall be consistent with the simulated distribution of all market instruments that determine the PRIIP's value as set out in points 11 and 13.

(27) The unfavourable scenario shall be the estimate of the value of the PRIIP at the start of the intermediate period consistent with the 10th percentile.

(28) The moderate scenario shall be the estimate of the value of the PRIIP at the start of the intermediate period consistent with the 50th percentile.

(29) The favourable scenario shall be the estimate of the value of the PRIIP at the start of the intermediate period consistent with the 90th percentile.

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(30) The stress scenario shall be the estimate of the value of the PRIIP at the start of the intermediate period consistent with the percentile level that corresponds to 1 % for 1 year and to 5 % for the other holding periods of the simulated distribution as set out in point 13.

General requirements

(31) The performance of the PRIIP shall be calculated net of all applicable costs in accordance with Annex VI for the scenario and holding period being presented.

(32) Performance shall be presented in monetary units. The amounts used shall be consistent with the amounts referred to in point 90 of Annex VI.

(33) Performance shall also be presented in percentage terms, as the average annual return of the investment. That figure shall be calculated considering net performance as numerator and the initial investment amount or the price paid as denominator.

For those PRIIPs where there is no initial investment or price paid such as future contracts or swaps, the percentage shall be calculated considering the nominal value of the contract and a footnote shall be added to explain that calculation.

(34) For an insurance based investment product, the following shall apply in addition to the methods referred above including under point 15 when calculating the performance scenarios in respect of the investment:

(a) future profit participation shall be taken into account;

(b) assumptions on future profit participation shall be consistent with the assumption on the annual rates of return of the underlying assets;

(c) assumptions on how future profits are shared between the PRIIP manufacturer and the retail investor and other assumptions on future profit sharing shall be realistic and in line with the current business practice and business strategy of the PRIIP manufacturer. Where there is sufficient evidence that the undertaking will change its practices or strategy, the assumptions on future profit sharing shall be consistent with the changed practices or strategy. For life insurers within the scope of Directive 2009/138/EC, or those enactments which were relied on immediately before IP completion day to implement that directive, these assumptions shall be consistent with the assumptions on future management actions used for the valuation of technical provisions in the Solvency II-balance-sheet;

(d) where a component of the performance relates to profit participation that is payable on a discretionary basis, this component shall only be assumed in the favourable performance scenarios:

(e) the performance scenarios shall be calculated on the basis of the investment amounts set out in point 32 of this Annex.