

## Opinion on the supervision of long-term risk assessment by IORPs providing defined contribution schemes

### 1. LEGAL BASIS

- 1.1. The European Insurance and Occupational Pensions Authority (EIOPA) provides this Opinion on the basis of Article 29(1)(a) of Regulation (EU) No 1094/2010<sup>1</sup>. This article mandates EIOPA to play an active role in building a common Union supervisory culture and consistent supervisory practices, as well as in ensuring uniform procedures and consistent approaches throughout the Union.
- 1.2. EIOPA delivers this Opinion on the basis of Directive (EU) 2016/2341<sup>2</sup> (the IORP II Directive), in particular in relation to Article 25, Article 28 and Article 49 thereof.
- 1.3. This Opinion is provided to the competent authorities (CAs), as defined in Article 4(2) of Regulation (EU) No 1094/2010.
- 1.4. The Board of Supervisors has adopted this Opinion in accordance with Article 2(7) of its Rules of Procedure<sup>3</sup>.

### 2. CONTEXT AND OBJECTIVE

- 2.1. Due to the ongoing shift from defined benefit (DB) to defined contribution (DC) pension schemes, financial market and longevity risks are increasingly borne by members and beneficiaries. Moreover, operational risk tends to be more immediate for members and beneficiaries of DC schemes compared to DB schemes.<sup>4</sup> This means

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<sup>1</sup> Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC, OJ L 331, 15.12.2010, p. 48.

<sup>2</sup> Directive (EU) 2016/2341 of the European Parliament and of the Council of 14 December 2016 on the activities and supervision of institutions for occupational retirement provision (IORPs), OJ L 354, 23.12.2016, p. 37.

<sup>3</sup> Decision adopting the Rules of Procedure of EIOPA's Board of Supervisors, available at: [https://www.eiopa.europa.eu/sites/default/files/publications/administrative/bos-rules\\_of\\_procedure.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/administrative/bos-rules_of_procedure.pdf).

<sup>4</sup> See paragraph 3.15-3.20 of EIOPA, Opinion on the supervision of the management of operational risks faced by IORPs, EIOPA-BoS-19-247: [https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion\\_on\\_the\\_supervision\\_of\\_the\\_management\\_of\\_operational\\_risks\\_faced\\_by\\_iorps.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion_on_the_supervision_of_the_management_of_operational_risks_faced_by_iorps.pdf)

a risk-sensitive supervisory approach to DC risk management is necessary to ensure that risks borne by DC IORPs – most notably operational risks – and by members and beneficiaries in terms of future retirement income are appropriately managed and supervised.

- 2.2. In past occupational pension stress tests applied to IORPs providing ‘pure’ DC schemes, where all risks are borne by members and beneficiaries, EIOPA assessed the risks of adverse market scenarios on the assets of the IORPs and on the future retirement income of three groups of plan members with varying remaining duration to retirement.<sup>5</sup>
- 2.3. The IORP II Directive introduced new requirements for IORPs<sup>6</sup> to have in place an effective and well-integrated risk-management system, in accordance with Article 25 thereof. Furthermore, IORPs are required to carry out and conduct their own-risk assessment (ORA), in accordance with Article 28 of that Directive. In particular, where members and beneficiaries bear risks, in accordance with the conditions of the pension scheme, the risk-management system should also consider those risks from the perspective of the members and beneficiaries. The ORA should include an assessment of the risks to members and beneficiaries relating to the paying out of their retirement benefits. Within the supervisory review process, as set out in Article 49 of the IORP II Directive, CAs are required to assess the risks IORPs face and the IORPs’ ability to assess and manage those risks.
- 2.4. The objective of this Opinion is to enhance supervisory convergence in the supervision of risk management by IORPs providing DC schemes, in particular with respect to operational risk assessment and long-term risk assessment from the perspective of members and beneficiaries, in order to foster the protection of members and beneficiaries and improve the functioning of the internal market.
- 2.5. The aim is to promote efficient and innovative occupational DC schemes with sound investment strategies and risk management that result in optimal long-term risk-return characteristics aligned with the membership structure of the IORP, also in view of the persistent low interest rate environment.
- 2.6. This Opinion recognises the heterogeneity in occupational DC schemes across Europe. DC schemes feature different risk-mitigation techniques in the accumulation phase and designs of the pay-out phase. DC schemes also differ in respect of the choice they offer. Some DC schemes offer plan members a range of investment options to choose from in accordance with certain retirement needs and risk preferences. Others take a

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<sup>5</sup> See for the most recent occupational pensions stress test section 5 of EIOPA, 2019 IORP Stress Test Specifications, EIOPA-BoS-19/157, 29 March 2019: [https://www.eiopa.europa.eu/sites/default/files/publications/other\\_documents/stress\\_test\\_specifications.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/other_documents/stress_test_specifications.pdf)

<sup>6</sup> Including the occupational retirement provision business of life insurance undertakings subject to Article 4 of the IORP II Directive.

more collective approach, often with an important role for social partners in the design of the scheme and its investment policy.

2.7. The expectations contained in this Opinion should not be interpreted to be comprehensive, covering all aspects of DC risk management. Proper risk management depends on a broad range of factors, starting with the integration of risk management considerations in the IORPs' wider system of governance. In this sense, this Opinion restricts itself to two aspects that are relevant for DC IORPs:

- ▶ The use of quantitative elements in operational risk management, supplementing the guidance provided in EIOPA's Opinion on operational risk management<sup>7</sup>, which takes a more qualitative approach;
- ▶ The use of projections of future retirement income, as part of the long-term risk assessment from the perspective of members and beneficiaries, also in interaction with the determination of their risk tolerance and the establishment of investment strategies.

The long-term risk assessment using pension projections complements the ongoing risk management of DC IORPs to effectively manage risks from the perspective of members and beneficiaries.

2.8. Furthermore, the expectations set out in this Opinion, including those on long-term pension projections, are made in the context of DC IORPs' risk assessment and not in relation to the provision of information to members. Still, the information contained in risk management documents, the statement of investment policy principles (SIPP) and information disclosure documents for members should be consistent.<sup>8</sup>

2.9. EIOPA surveyed existing national practices and gaps among CAs in twenty Member States.<sup>9</sup> In three Member States, national regulation and/or supervisory guidance lays down specific quantitative risk measures for operational risk.<sup>10</sup> In other three Member States, national regulation and/or supervisory guidance specifies how IORPs should conduct DC risk assessment from the perspective of members and beneficiaries

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<sup>7</sup> EIOPA, Opinion on the supervision of the management of operational risks faced by IORPs, EIOPA-BoS-19-247: [https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion\\_on\\_the\\_supervision\\_of\\_the\\_management\\_of\\_operational\\_risks\\_faced\\_by\\_iorps.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion_on_the_supervision_of_the_management_of_operational_risks_faced_by_iorps.pdf)

<sup>8</sup> EIOPA, Opinion on the use of governance and risk assessment documents in the supervision of IORPs, EIOPA-BoS-19-245, 10 July 2019, p. 10-11: [https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion\\_on\\_the\\_use\\_of\\_governance\\_and\\_risk\\_assessment\\_documents\\_in\\_supervision\\_of\\_iorps\\_0.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion_on_the_use_of_governance_and_risk_assessment_documents_in_supervision_of_iorps_0.pdf)

<sup>9</sup> See Annex of the cost-benefit analysis in EIOPA, Impact assessment - Opinion on the supervision of long-term risk assessment by IORPs providing DC schemes, EIOPA-BoS-21-430, 7 October 2021.

<sup>10</sup> In ten Member States, operational risks are borne by DC IORPs through capital requirements, rather than by sponsoring undertakings and/or members and beneficiaries. Often these DC IORPs are subject to the regulatory own funds requirement of the IORP II Directive, which can be interpreted to contain an implicit allowance for operational risk.

relating to their future retirement income. The Opinion therefore aims to fill gaps in national regulations supplementing the IORP II Directive.

- 2.10. This Opinion further aims to facilitate risk-based and proportionate supervision of IORPs. In this context, CAs may take into account national specificities of the IORP sector to determine the requirements necessary for implementing this Opinion, applying a risk-based and proportionate approach.<sup>11</sup>

### 3. SUPERVISION OF DC RISK MANAGEMENT

#### Definition of DC schemes and scope of application

- 3.1. CAs should understand DC schemes as occupational pension plans under which the plan sponsor pays fixed contributions and has no legal or constructive obligation to pay further contributions to an ongoing plan in the event of unfavourable plan experience.<sup>12</sup>
- 3.2. In addition to DC schemes, CAs should also apply this Opinion to other pension schemes where members and beneficiaries bear material risks, taking an approach proportional to the risks. For instance, this could be the case, for pension schemes where the share of assets for which members and beneficiaries bear investment risk is, based on analysis of the CA, material in relation to the guarantees provided.

#### Forward-looking supervision of DC long-term risk assessment

- 3.3. To ensure that supervision is based on a forward-looking and risk-based approach, in accordance with Article 47(2) of the IORP II Directive, CAs should assess the risks to which DC IORPs and their members and beneficiaries are exposed to and the ability of DC IORPs to assess and manage those risks. This can be achieved through various supervisory means, such as reviewing the IORPs governance documents and challenging the IORP's management board on the results of their risk assessments and the management of those risks.
- 3.4. The objective of this Opinion is not to provide comprehensive guidance on all aspects of DC risk management. It supplements and should be read in conjunction with the following opinions EIOPA already issued in the area of governance and risk management, which are also relevant for DC risk management:
- ▶ Opinion on the use of governance and risk assessment documents in the supervision of

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<sup>11</sup> For further guidance on risk-based and proportionate supervision: EIOPA (2017) A common supervisory culture, <https://eiopa.europa.eu/Publications/Speeches%20and%20presentations/A%20Common%20Supervisory%20Culture.pdf>

<sup>12</sup> This is in line with the definition used by EIOPA; see Decision on EIOPA's regular information requests towards NCAs regarding provision of occupational pensions information, EIOPA-BoS/18-114, 10 April 2018, which refers to the corresponding OECD definition; <https://stats.oecd.org/glossary/index.htm>

IORPs<sup>13</sup>, providing an overview of the governance documents required by the IORP II Directive and setting its supervisory expectations with regarding their content, in particular in relation to the IORP's SIPP and the ORA;

- ▶ Opinion on the practical implementation of the common framework for risk assessment and transparency for IORPs<sup>14</sup>, in so far as IORPs provide DC schemes in which part of the risks is borne by the IORP and/or the sponsor;
- ▶ Opinion on the supervision of the management of environmental, social and governance risks faced by IORPs<sup>15</sup>, containing supervisory guidance on the integration of ESG risks in the IORPs' risk management;
- ▶ Opinion on the supervision of the management of operational risks faced by IORPs, offering supervisory guidance on reviewing the resilience of DC IORPs to operational risks, including outsourcing and cyber risk.

3.5. The latter Opinion emphasises that operational risk events have an immediate impact on members and beneficiaries of DC schemes in terms of accumulated capital and projected future retirement income. Moreover, it draws attention to the emergence of new multi-sponsor IORP providers, increasing the need to clarify operational obligations and to assess operational viability.

#### Assessment of possible quantitative impact of operational risks

3.6. The Opinion on operational risk management recognises that the frequency and severity of operational risks may be hard to quantify. IORPs perform a multitude of activities – either internally or outsourced to third parties– which may be subject to several types of operational risks. Consequently, good qualitative operational risk management, as substantiated further in that Opinion, is of primary importance and best suited to the different national specificities.

3.7. Given this diversity of operational risks, there is no single algebraic formula or model which could capture overall operational risk. Nevertheless, to gain a better understanding of the possible quantitative impacts, CAs should encourage DC IORPs to estimate the possible impact of operational risk, taking into account risk mitigating

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<sup>13</sup> EIOPA, Opinion on the use of governance and risk assessment documents in the supervision of IORPs, EIOPA-BoS-19-245, 10 July 2019.

<sup>14</sup> EIOPA, Opinion on the practical implementation of the common framework for risk assessment and transparency for IORPs, EIOPA-BoS-19-246, 10 July 2019: [https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion\\_on\\_the\\_practical\\_implementation\\_of\\_the\\_common\\_framework\\_for\\_risk\\_assessment\\_and\\_transparency\\_of\\_iorps.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion_on_the_practical_implementation_of_the_common_framework_for_risk_assessment_and_transparency_of_iorps.pdf)

<sup>15</sup> EIOPA, Opinion on the supervision of the management of environmental, social and governance risks faced by IORPs, EIOPA-BoS-248, 10 July 2019: <https://www.eiopa.europa.eu/sites/default/files/publications/opinions/opinion-on-the-supervision.pdf>

mechanisms,<sup>16</sup> This can be done by means of own custom-made operational risk estimates or by using the standard formulas included in EIOPA's common framework for risk assessment and transparency<sup>17</sup> (see Annex 1).

- 3.8. A quantification of operational risk exposures allows DC IORPs to gain insight in the adequacy of means to cover the impact of (severe) operational risks. Where members and beneficiaries bear operational risks, as opposed to the IORP itself, IORPs could consider the impact of operational risks on the account values of DC members in the short term and projections of future retirement income in the long term.

### Long-term risk assessment in relation to future retirement income

- 3.9. As part of considering the risks from the perspective of members and beneficiaries in the risk management system, CAs should expect DC IORPs to conduct long-term risk assessments by using projections of members' future retirement income. This involves:

- ▶ assessing the risks for members and beneficiaries using projections of future retirement income;
- ▶ comparing the results of the risk assessment with the established risk tolerance of the members and beneficiaries;
- ▶ mitigating the risks, where risk tolerance limits are exceeded, most notably through adjusting the investment strategy or strategies in case of multiple options.

The above risk assessment framework is also relevant where IORPs provide DC members with a choice of investment options, in particular in situations where there is a default investment option in which DC members are enrolled if they fail to make an active choice. It ensures that the default investment option matches the needs of the membership. The other investment options may be considered to already reflect the risk-return preferences of the DC members because they would have to make an active choice to enrol. Nonetheless, the risk assessment framework will help DC IORPs to design and review a range of investment options that are suitable for the membership, taking into account the members' risk tolerance, also considering that not all DC members may make a well-informed choice.

- 3.10. The long-term risk assessments using projections of retirement income complement the on-going risk management of DC IORPs, monitoring and assessing the risk limits

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<sup>16</sup> For example, external providers for outsourced activities may be subject to capital requirements and/or dispose of insurance cover for operational risk.

<sup>17</sup> See section 4.6 of EIOPA, Principles and Technical Specifications for the Common Framework – Annex 1 to Opinion on the practical implementation of the common framework for risk assessment and transparency for IORPs, EIOPA-BoS-19-246, 10 July 2019: [https://www.eiopa.europa.eu/sites/default/files/publications/opinions/annex\\_to\\_opinion\\_eiopa-bos-19-246\\_technical\\_specifications\\_1.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/opinions/annex_to_opinion_eiopa-bos-19-246_technical_specifications_1.pdf)

imposed on investment managers, e.g. bandwidth around strategic asset allocation, tracking error with respect to benchmark and value at risk limits.

- 3.11. Compared to such short-term risk management, the long-term risk assessment using projections of future retirement income should be conducted less frequently, for example, at the time of conducting the ORA or reviewing the SIPP, or when there is a significant change in the investment policy or risk profile.

### Principles for long-term risk assessment using projections of future retirement income

- 3.12. Taking into account the specificities of DC schemes, CAs should expect DC IORPs to base the projections of future retirement income on the following main principles:

#### Stochastic and deterministic scenarios of asset returns

- 3.13. The projections of future retirement income of members and beneficiaries should be based on deterministic or stochastic scenarios of asset returns. The deterministic scenarios may be constructed on a standalone basis, i.e. based on deterministic assumptions about future returns, or based on a number of return paths taken from a stochastic scenario set.
- 3.14. The use of a stochastic modelling approach<sup>18</sup> has distinct advantages compared to the use of deterministic scenarios<sup>19</sup>. Analysing a large range of scenarios contributes to preventing that certain scenarios are overlooked. Another advantage of stochastic modelling is that it allows IORPs to calculate a wide range of risk (and performance) indicators and to attach probabilities to scenarios, like the 50th or 5th percentile. This helps to interpret and present the results of the risk assessment.
- 3.15. However, stochastic scenario analysis is more demanding than a deterministic one, both in terms of complexity and resources. IORPs would need to have in-house expertise on stochastic modelling of asset returns and/or acquire stochastic scenario sets from external service providers. Therefore, CAs may also allow the use of deterministic scenarios for pension projections.
- 3.16. The risk assessment from the perspective of members and beneficiaries should not be restricted to financial market risks, but consider all risks to which DC members are exposed, like – where relevant – longevity risk, inflation risk, counterparty default risk, expense risk operational risk (see paragraph 3.8) as well as ESG risks. However, adding

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<sup>18</sup> See for examples of stochastic modelling approaches EIOPA, Pan-European Personal Pension Product (PEPP): EIOPA's stochastic model for a holistic assessment of the risk profile and potential performance, EIOPA-20-505, 14 August 2020: [https://www.eiopa.europa.eu/sites/default/files/publications/eiopa-20-505\\_pepp\\_stochastic\\_model.pdf](https://www.eiopa.europa.eu/sites/default/files/publications/eiopa-20-505_pepp_stochastic_model.pdf) and OECD, OECD Pensions Outlook 2020 - Selecting default investment strategies, Chapter 4, 7 December 2020: [https://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-outlook-2020\\_1c7381db-en](https://www.oecd-ilibrary.org/finance-and-investment/oecd-pensions-outlook-2020_1c7381db-en)

<sup>19</sup> See for example of deterministic scenario analysis section 5 of EIOPA, 2019 IORP Stress Test Specifications, EIOPA-BoS-19/157, 29 March 2019.

non-asset return variables to a stochastic model may increase its complexity. To avoid that, a practical solution would be to combine the stochastic return scenarios with deterministic scenarios for other material risks.

### Market-sensitive and realistic assumptions

- 3.17. To ensure a market-sensitive and risk-based approach to the management of risks from the perspective of members and beneficiaries, the risk assessment should incorporate latest financial market data. This implies that the initial values of DC members' accounts should reflect market prices of assets and that the assumptions underlying future returns should be consistent with market interest rates.<sup>20,21</sup> This ensures a realistic assessment of future returns and risk, by - for example - properly taking into consideration the consequences of a low-interest rate environment.
- 3.18. Other assumptions determining future returns, not observed in financial markets, should be realistic. Most notably, this applies to the expected risk premiums (over risk-free interest rates) as well as the correlations between the returns on the asset classes considered. The risk premiums and correlations can be based on long-term historical observations of market data. When there is no up-to-date and reliable historical market information available, the risk premiums assumed for the most recent IORP stress test can be a point of reference (see Annex 2). It also means that the projections of future returns should avoid assuming mean reversion in equity returns, i.e. that a fall in equity prices results in higher future risk premiums.<sup>22,23</sup> Current market information on interest rates for long maturities may not be available in deep, liquid and transparent markets. Also in that case, realistic assumptions have to be made by extrapolating current interest rates for shorter maturities or by determining economic long-term equilibrium risk free yields taking into account historical observations.

### Characteristics of members and beneficiaries

- 3.19. The risk assessment should take into account the characteristics of DC members. For

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<sup>20</sup> In term of stochastic modelling, this means that the asset return model should be calibrated to fit the initial term structure of market interest rates.

<sup>21</sup> The application of market-sensitivity principle requires good judgement to avoid that pension projections are based on asset prices and interest rates which are observed during exceptional or stressed market circumstances.

<sup>22</sup> This is in line with EIOPA, PEPP: EIOPA's stochastic model for a holistic assessment of the risk profile and potential performance, EIOPA-20-505, 14 August 2020, p. 4 and EIOPA, 2019 IORP Stress Test Specifications, EIOPA-BoS-19/157, 29 March 2019, p. 36.

<sup>23</sup> The existence of mean reversion is disputed in the academic literature. An issue is that time series for stock market returns cover limited timeframes compared to the horizons in which mean reversion is assumed to materialise. Due to limited number of independent long-term observations, findings of mean reversion tend to be surrounded with considerable parameter uncertainty. Luboš Pástor and Robert F. Stambaugh, Are stocks really less volatile in the long run?, The Journal of Finance, Vol. LXVII, No. 2, April 2012: <https://onlinelibrary.wiley.com/doi/pdf/10.1111/j.1540-6261.2012.01722.x> show that stock returns are mean diverting when the parameter uncertainty is taken into account, as this uncertainty will compound over time.



example, the expected retirement age and life expectancy at retirement, which determine the level of future retirement income. DC members' salary and expected salary growth will be needed where contributions into the DC scheme are linked to wages.

- 3.20. It is not the intention of the risk assessment to make projections for individual members and beneficiaries. Instead, the plan members should be grouped in a way that results in a fair reflection of the risks posed to individuals within the group. At least a number of different age groups should be distinguished in order to take into account the aim of having an equitable spread of risks and benefits between generations in occupational retirement provision, in accordance with recital 57 of the IORP II Directive.

#### Pension scheme characteristics

- 3.21. The assessment should take into account the characteristics of the pension scheme, most notably the investment strategy, risk-mitigation techniques, contributions rates over the life-cycle, costs and charges and the characteristics of the pay-out phase.
- 3.22. Expected future retirement income and surrounding risk will depend to an important extent on the investment strategy and the accompanying risk-mitigation techniques. Broadly three types of risk-mitigation techniques can be distinguished:
- ▶ Life-cycling approaches, where the allocation to risk assets is reduced in favour of fixed income assets with DC members getting closer to retirement;
  - ▶ Buffers to smooth unfavourable and favourable returns over time;
  - ▶ (Minimum) return guarantees, provided by the IORP or the sponsor.
- 3.23. The objective of the risk-mitigation techniques is to limit the risk exposure of members and beneficiaries. Conversely, the aim of the risk assessment is to ascertain that the design of the risk-mitigation techniques meets the objective of risks not exceeding the risk tolerance of DC members and beneficiaries.
- 3.24. Besides investment returns, projected retirement income will be determined by the contributions that are paid into DC members' accounts and the costs and charges that are deducted from investment returns and contributions.<sup>24</sup>
- 3.25. The design of the pay-out phase also influences the risks in terms of future retirement income. For example, DC members will be subject to interest rate risk before retirement, if accumulated capital will be converted in a life annuity and assets are not fully invested in long-term bonds. As another example, where DC members are entitled to receive lump sum payments, an assessment will have to be made to what

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<sup>24</sup> The Opinion on the supervisory reporting of costs and charges of IORPs sets EIOPA's expectations on the transparent compilation and supervisory reporting of administrative and investment costs. See EIOPA, Opinion on the supervisory reporting of costs and charges of IORPs, EIOPA-BoS-21/426, 7 October 2021.

extent DC members will convert the lump sum in a regular income stream, like a life annuity, variable annuity or programmed withdrawal.

#### Target variables and risk & performance indicators

- 3.26. The pay-out phase should inform the choice of target variable for future retirement income, e.g. annuities, scheduled withdrawal or lump sum. The choice should be made with a view to facilitate the interpretation of the risk and performance indicators. The target variable could be future retirement income in euros. It can also be considered to express this as a percentage of the DC members' projected final earnings, especially when setting up a new scheme.
- 3.27. Appropriate indicators have to be selected to evaluate risk and performance, i.e. considering the trade-off between risk and return. A range of possible indicators exist<sup>25</sup>, measuring:
  - ▶ Performance, e.g. projected retirement income in a median (50th percentile) or favourable scenario (75th / 95th percentile) and the probability to reach a given ambition;
  - ▶ Risk, e.g. projected retirement income in an unfavourable scenario (25th / 5th percentile), dispersion of income, expected loss and the probability of not reaching some lower level of retirement income.
- 3.28. Where deterministic scenarios are used without any underlying stochastic return modelling, it will be difficult to define objective risk indicators based on a probability distribution. Still, it would be possible to establish a best estimate scenario (as a measure of expected performance) and one or more adverse scenarios with low interest rates/returns (to measure risk).
- 3.29. The weights attached to the indicators will depend on the IORPs' objectives and, ultimately, the preferences of the members. In the end, the aim is to relate the risk and performance indicators to the established risk tolerance of members and beneficiaries.

#### Risk tolerance of members and beneficiaries

- 3.30. CAs should expect IORPs to establish the risk tolerance of their members by using appropriate methodologies, recognising the specificities of IORPs and the different approaches. The methodologies should distinguish between different generations/cohorts, given possible differences in risk tolerance.
- 3.31. The risk tolerance of members and beneficiaries can be understood as consisting of at least two components:

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<sup>25</sup> See for a discussion of risk and performance indicators section 3 and 4 of EIOPA, Pan-European Personal Pension Product (PEPP): EIOPA's stochastic model for a holistic assessment of the risk profile and potential performance, EIOPA-20-505, 14 August 2020 and section 4.1 of OECD, OECD Pensions Outlook 2020 - Selecting default investment strategies, Chapter 4, 7 December 2020.

- ▶ The extent to which DC members want to avoid taking risk, which depends on their risk-return preferences;
  - ▶ The extent to which DC members are able to bear risk, which depends on other sources of retirement income, including human capital (i.e. future earnings capacity) housing wealth and private savings.
- 3.32. There are broadly speaking two methods to establish the risk tolerance of DC members from an ex ante perspective<sup>26</sup>:
- ▶ Analysing internal and external data sources, such as internal data on members' profiles (age, income, education level etc.) and relevant scientific literature (e.g. on financial versus human capital)
  - ▶ Approaching DC members directly, e.g. surveys, including self-assessment questionnaires to assist prospective members choosing an investment option, or panels, or indirectly through representatives of DC members.
- 3.33. The first method would be particularly suitable to assess DC members' capacity to bear risk, while the second method would be more suitable to gauge members' preferences on taking risks.
- 3.34. From an ex post perspective, offering a range of investment options can reveal risk-return preferences of plan members who make an active choice, especially in combination with self-assessment questionnaires to support them in their decisions.

### Design and review of investment strategy

- 3.35. CAs should expect IORPs to consider the long-term risk assessment from the perspective of members and beneficiaries in the design and review of the investment strategy, or strategies in the event of multiple investment options, taking into account their risk tolerance.
- 3.36. To ensure that the investment policy is geared to the membership structure of the IORP, in line with recital 45 of the IORP II Directive, the design and review process should at least consider whether the investment strategy in terms of its risk-return characteristics is aligned with the risk tolerance of a number of different age groups.
- 3.37. The review of the investment strategy can take place during the periodical review of the SIPP and the conduct of the ORA.<sup>27,28</sup>

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<sup>26</sup> See also section 6 ("Membership structure in the investment policy") in Annex 1 of EIOPA, Opinion on the use of governance and risk assessment documents in the supervision of IORPs, EIOPA-BoS-19-245, 10 July 2019.

<sup>27</sup> The SIPP and the ORA have to be carried out at least every three years or whenever there is a significant change in the investment policy or the risk profile, in accordance with Article 28 and Article 30 of the IORP II Directive, in this case from the perspective of members and beneficiaries.

<sup>28</sup> It may not always be possible to adjust the investment strategy, e.g. if the investment strategy is contractually agreed with members and beneficiaries.

## Reporting and disclosure

- 3.38. CAs should expect DC IORPs to report on the long-term risk assessment from the perspective of members and beneficiaries in their:
- ▶ ORA results report, explaining the assumptions, methodology and results of the risk assessment from the perspective of members and beneficiaries, how the results compare to the established risk tolerance and any mitigating measures taken;
  - ▶ SIPP, explaining how the investment policy takes into account the results of the risk assessment from the perspective of members and beneficiaries and their risk tolerance.
- 3.39. Where the social partners bear (part of the) responsibility for the design of the DC scheme and its investment policy, the outcomes of the risk assessment should also be shared and discussed with them.

## Proportionality

- 3.40. CAs should determine the frequency and depth of their supervision of DC IORPs' risk management, taking into account their supervisory priorities and prudential objective of protecting the rights of members and beneficiaries and ensuring the stability and soundness of IORPs, as well as a proportionate application of the rules relating to the risk management of DC IORPs.

## 4. MONITORING BY EIOPA

- 4.1. Two years following the publication of this Opinion, EIOPA will look into the supervisory practices of the CAs with a view to evaluate supervisory convergence.
- 4.2. This Opinion will be published on EIOPA's website.

Done at Frankfurt am Main, on 30 September 2021.

[signed]

*For the Board of Supervisors*

Petra Hielkema

Chairperson

## ANNEX 1: VALUE AT RISK MEASURE FOR OPERATIONAL RISK

The below value at risk measures for operational risk are based on EIOPA's common framework for risk assessment and transparency. The measures relate to the IORP's gross risk, i.e. without taking into account to what extent the value at risk is borne by sponsors (security mechanism) and members and beneficiaries (benefit adjustment mechanisms) as well as other risk-mitigating mechanisms. To obtain the IORP's net exposure to operational risk, the extent to which the losses can be absorbed by the sponsor, members and beneficiaries and other risk-mitigating mechanisms will have to be estimated.

### Value at risk for pure DC schemes

The value at risk for operational risk of pure DC schemes calibrated to a 0.5% probability of occurrence within a one-year horizon equals:

$$VaR_{Op} = 25\% \cdot Exp_{DC}$$

where:

$Exp_{DC}$  denotes the amount of expenses incurred during the previous 12 months in respect of pension obligations of DC schemes where the investment risk is fully borne by members and beneficiaries.

### Value at risk for other schemes (where members and beneficiaries bear material risk)

The value at risk for operational risk of other schemes calibrated to a 0.5% probability of occurrence within a one-year horizon equals:

$$VaR_{Op} = \min(1.2\% \cdot TP; Op)^{29}$$

where:

$TP$  denotes technical provisions for pension obligations in other schemes;

$Op$  denotes basic value at risk for operational risk.

The basic value at risk for operational risk should be calculated as follows:

$$Op = \max(Op_{contributions}; Op_{provisions})$$

where:

$Op_{contributions}$  denotes the value at risk for operational risks based on contributions received;

$Op_{provisions}$  denotes the value at risk for operational risk based on technical provisions.

The value at risk for operational risks based on contributions received should be calculated as follows:

$$Op_{contributions} = 4\% \cdot Contr_t + \max\left(0; 4\% \cdot \left(\frac{Contr_t - Contr_{t-1}}{Contr_{t-1}} - 20\%\right) \cdot Contr_{t-1}\right)$$

where:

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<sup>29</sup> In EIOPA's common framework for risk assessment and transparency the first term between parentheses is equal to 30% of the basic standardised value at risk (BVaR), which comprises the aggregate VaR of all risks, except operational risk. To ease the calculation, the BVaR has been replaced by 4% of technical provisions, line with the regulatory own funds requirement in the IORP II Directive.

$Contr_t$  denotes the contributions received during the last 12 months for pension obligations in other schemes;

$Contr_{t-1}$  denotes the contributions received during the 12 months prior to the last 12 months for pension obligations in other schemes.

The value at risk for operational risk based on technical provisions should be calculated as follows:

$$Op_{provisions} = 0.45\% \cdot TP$$

where:

$TP$  denotes the technical provisions for pension obligations in other schemes.

## ANNEX 2: RISK PREMIUMS SPECIFIED IN EIOPA'S 2019 IORP STRESS TEST

The table below displays the risk premiums prescribed in the 2019 IORP stress test specifications. The risk premiums on government and corporate bonds are based on EIOPA estimates for long-term average spreads minus the costs of default/downgrade. This so-called fundamental spread is the part of the credit spread that does not constitute a compensation for risk. The risk premium on non-fixed income assets is assumed to be equal to 3%, the risk premium on cash and deposits is assumed to be equal to zero.<sup>30</sup>

Risk premiums	
<b>Fixed incomes risk premiums over risk-free interest rate</b>	
Government bonds	28 basis points
Corporate bonds (and other fixed income excl. cash and deposits)	86 basis points
- non-financial	56 basis points
- financial	101 basis points
<b>Non-fixed income risk premium over risk-free rate</b>	
Equities, property, alternatives and other non-fixed income	300 basis points
<b>Cash and deposits risk premium over risk-free rate</b>	
Cash and deposits	0 basis points

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<sup>30</sup> See for further information section 5 of EIOPA, 2019 IORP Stress Test Specifications, EIOPA-BoS-19/157, 29 March 2019.