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(Report on findings of the Enterprise Risk Management Committee)

Incorporation of investment costs in the market-consistent valuation of technical provisions under Solvency II

Cologne, 29 July 2022

Preamble

The working group on *Investment Costs*[1] of the Enterprise Risk Management Committee of the German Association of Actuaries (Deutsche Aktuarvereinigung e. V.) has developed the basis for this report on the "Incorporation of investment costs in the market-consistent valuation of technical provisions under Solvency II", which discusses the appropriate modelling of investment costs in the context of the valuation of technical provisions under Solvency II. The report focuses on life insurance and accident insurance with premium refunds. Possible implications for the valuation of technical provisions under Solvency II in other lines of business are not considered.

Summary

Solvency II requires future costs associated with holding and managing investments to be taken into account while at the same time valuing technical provisions in a market consistent way. In practice, in Germany and beyond, various approaches of reflecting investment expenses have been developed. Varying types and levels of direct and indirect investment costs are explicitly reflected as expenses in the calculation of technical provisions, which increases the provisions accordingly.

Investors consider also expected investment costs when making their investment decisions, and thus these investment costs are reflected in the formation of market prices for investments. Based on this rationale, at least a corresponding part of the expected investment cost of an individual investor is already reflected in the market price of the investment.

In valuation models that do not properly reflect the distinction between investment costs that are already reflected in the market price based on the investors' expectations, and additional investment costs that have to be modelled in the projection, a double counting or an underestimation of investment costs may be observed. In consequence, this would lead to a valuation of technical provisions that is too high or too low.

In this result report we describe a valuation model for life insurance and accident insurance with premium refund that takes this effect into account. For its practical applications, suitable methods are needed in order to identify the expected invest-

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[1] The Enterprise Risk Management Committee would like to explicitly thank the ad-hoc working group *Investment costs* for their work which is reflected in this report, by name Tigran Kalberer (Leader), Dr. habil. Michael Florig, Simon Gamperl, Dr. Holger Hebben, Dr. Oleksandr Khomenko, Volker Neuhaus, Dr. Andreas Reuß and Florian Wessels.

ment costs which are reflected in the investment decisions and thus in the formation of the market prices. This topic will be addressed in a separate result report.

The result report is intended for the members and committees of DAV to provide information on the status of the discussion and insights gained. It does not represent a professional legitimate position of DAV.[2]

Adoption

This report on findings was adopted by the Enterprise Risk Management Committee on July 29, 2022.

[2] The proper use of this report on findings requires actuarial expertise. Therefore, this report is not a substitute for appropriate professional actuarial services. Actuarial decisions with implications for personal retirement provision and protection, investments or business activities should be made exclusively on the basis of an assessment by a qualified DAV actuary.

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1. Overview

In Chapter 2, we summarize the relevant regulatory framework under Solvency II:

- The valuation of technical provisions is to be carried out in a market-consistent manner.
- The administration costs for investments have to be taken into account in the valuation.
- All investments are valued at the amounts at which they could be exchanged between knowledgeable willing parties in an arm's length transaction.

In Chapter 3, we explain the pricing mechanism and the basic principles of investment valuation. In this context, we apply the Solvency II valuation hierarchy. We describe a modelling approach that explicitly takes into account investment costs and gives an indication of how to deal with investment costs that are not explicitly considered.

In Chapter 4, we summarize the current status of practical applications:

Currently, the required consideration of administrative costs for investments is normally implemented by companies in such a way that the present value of certain future investment costs is recognized as a liability in the valuation model, as part of the technical provision. The type and amount of the investment costs taken into account vary considerably in the market.

The fact that certain investment costs are already reflected in the market prices of the investments is sometimes only taken into account to a limited extent. In practice, this may lead to a double counting of investment costs in the sense that these investment costs are also explicitly included in the valuation of technical provisions.

Chapter 5 describes a market-consistent and arbitrage-free valuation approach with investment costs:

- Market participants only receive the cash flows of their investments after costs. Thus, expected future investment costs are already part of the market value of these investments. With regard to the investment costs included in the market prices, the expectations of all participants in the capital market are relevant. In addition to insurance companies, this also includes the banking industry and any other investors.
- This observation is explicitly accounted for by recognizing as a liability only the deviation of the company's own investment costs from the investment costs already reflected in the market prices. This ensures compatibility of the approach with market consistency and absence of arbitrage.

Chapter 6 is an outlook on open topics regarding parameter estimation and modelling.

2. Regulatory framework

In this section, we present the regulatory framework relevant to the problem.

2.1. Best Estimate

The best estimate of liabilities as part of the technical provisions under Solvency II is defined as the expected present value of future cash flows (cf. Sec. 77 (1) VAG (Versicherungsaufsichtsgesetz, German Insurance Supervision Act)[3]. All incoming and outgoing cash flows required to settle the insurance obligations over their lifetime have to be taken into account (cf. Sec. 77 (3) VAG)[4].

If capital market models are used to determine the best estimate, it must be ensured in accordance with Sec. 22 (3) (b) DA (Delegated Act, see EU Parliament (2015))[5] that no arbitrage opportunities exist.

In addition, the valuation of technical provisions should be market-consistent, i.e., take into account and be consistent with the information provided by the financial markets (cf. Sec. 75 VAG[6]). The interest rates of the underlying risk-free interest rate curve can be earned in a risk-free manner in accordance with Sec. 43 (1) (a) DA[7] and thus be regarded as interest rates after allowance for investment costs.

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[3] *Section 77 Best estimate*

(1) The best estimate equates to the probability-weighted average of future payments with due regard to the current value of the monetary funds (projected cash value of future payments) and with application of the relevant risk-free interest rate term structure.

[4] *Section 77 Best estimate*

(3) All incoming and outgoing payments that are required to account for insurance liabilities over their term must be taken into account in projecting future payments.

[5] *3. Insurance and reinsurance undertakings shall set assumptions on future financial market parameters or scenarios that are appropriate and consistent with Article 75 of Directive 2009/138/EC. Where insurance and reinsurance undertakings use a model to produce projections of future financial market parameters, it shall comply with all of the following requirements: (a) it generates asset prices that are consistent with asset prices observed in financial markets; (b) it assumes no arbitrage opportunity; ...*

[6] *Section 75 General regulations for the recognition of technical provisions*

[…]

(2) The value of the technical provisions must equate to the current amount that insurance undertakings would have to pay if they were to immediately transfer their insurance commitments to another insurance undertaking.

[…]

(4) The technical provisions must be calculated with due regard to the information provided by the financial markets and to generally available data regarding underwriting risks and this calculation must be consistent with these (market consistency).

[7] *Article 43 General provisions*

(1) The rates of the basic risk-free interest rate term structure shall meet all of the following criteria: (a) insurance and reinsurance undertakings are able to earn the rates in a risk-free manner in

2.2. Valuation of investments

For solvency purposes, all investments of the insurance company shall be valued at the amount for which they could be exchanged between knowledgeable willing parties in an arm's length transaction (cf. Sec. 74 (2) VAG).

Where available, these amounts correspond to market prices quoted on active markets for identical investments (cf. Sec. 10 (2) DA). If a valuation based on market prices is not possible, a predefined hierarchy of simplifications is used (cf. Sec. 10 (3)-(7) DA).

To the extent possible, the valuation in the first simplification level is based on the market prices of similar investments for which market prices are quoted on active markets, including an adjustment for differences (cf. Sec. 10 (3) DA).

In a second simplification level, so-called alternative valuation methods are applied (cf. Sec. 10 (4)-(7) DA). This applies in particular to asset classes for which the requirements for a so-called active market are not met. These alternative valuation methods shall be based as little as possible on company-specific input factors and as much as possible on relevant market data.

Of practical relevance is in particular the income-based approach according to Art. 10 (7) (b) DA, in which future amounts, such as cash flows or expenses and income, are converted into a single current amount. The fair value shall reflect current market expectations regarding these future amounts. Valuation techniques consistent with the income-based approach include present value techniques (discounted cash flow models), option pricing models and the multi-period excess earnings method.

2.3. Investment costs

Sections 75 and 76 of the Solvency II framework directive (see EU Parliament (2009)) address market conformity and consistency:

> Sec. 75 b) (cf. Sec. 74 (3) VAG): *„Liabilities shall be valued at the amount for which they could be transferred, or settled, between knowledgeable willing parties in an arm's length transaction.* [...]"
>
> Sec. 76 (2) (cf. Sec. 75 (2) VAG): *„The value of the technical provisions shall correspond to the current amount insurance and reinsurance undertakings would have to pay if they were to transfer their insurance and reinsurance obligations immediately to another insurance or reinsurance undertaking.*"

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practice; (b) the rates are reliably determined based on financial instruments traded in a deep, liquid and transparent financial market.

The rates of the relevant risk-free interest rate term structure shall be calculated separately for each currency and maturity, based on all information and data relevant for that currency and that maturity.

> Sec. 76 (3) (cf. § 75 (4) VAG): "*The calculation of technical provisions shall make use of and be consistent with information provided by the financial markets and generally available data on underwriting risks (market consistency).*"

In accordance with Sec. 84 (1) 1. VAG[8] (or Sec. 78 (1) of the Solvency II framework directive), all expenses incurred in servicing the insurance obligations must be taken into account when calculating the best estimate. This also includes the expenses for holding and managing investments (referred to as investment costs in the following), insofar as they are related to the insurance obligations.

The term "take into account" must be reconciled with the requirements of market consistency and absence of arbitrage. In principle, this can be implemented either explicitly via modelling of corresponding cash flows or implicitly, e.g., via adjusted performance of the respective investments.

It should be noted that market-consistent, arbitrage-free, or risk-neutral valuation was originally developed in the academic literature under the assumption that investment costs for both risky and risk-free assets can be assumed to be zero, i.e., non-existent or negligible. Ideally, an extension of this academic literature to include a cost parameter would provide a solid basis for an adequate reflection of investment costs.[9]

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[8] *Section 84 Additional circumstances to be considered in the calculation of the technical provisions*
(1) The following circumstances must also be observed when calculating the technical provisions:
1. all expenditures incurred in servicing the insurance commitments,
2. inflation along with inflation for the expenditures and the insurance claims as well as
3. all payments to policyholders and those entitled to benefits, including future profit participation which the insurance undertakings expect to implement, irrespective of whether they are guaranteed by contract or otherwise.

[9] See references, Chapter 4.

3. Capital markets and valuation methods under consideration of investment costs

As discussed in the last chapter, market consistency and absence of arbitrage are the basic prerequisites of the economic valuation approach pursued under Solvency II.

Absence of arbitrage is derived from equilibrium conditions. Equilibrium theory is the foundation of vast areas of economics and finance. However, the original models developed based on the equilibrium theory were developed under the simplifying assumption that investment costs are negligible or non-existent and can therefore be assumed to be zero.

The assumption of no investment costs is appropriate if it has no material impact on the valuation of technical provisions. However, the application of these concepts and models should be critically questioned if the influence of investment costs may have a material effect on the valuation.

3.1. Pricing in capital markets

Equilibrium prices are determined on capital markets, in particular also across investment segments and individual investments. Investors make their investment decisions based on the net returns expected for the individual asset classes and securities, i.e., the returns after investment costs and taxes, and taking into account the investment risk.

The balance between supply and demand is determined, among other things, by the various market participants' willingness to pay. Thus, both expectations about income, but also investment costs and taxes influence the market price.

In the investment decision of a financially rational investor, only the net amount of expected income minus expected investment costs and, if applicable, other expected cash flows (such as taxes) should play a role. According to equilibrium theory (cf. Chapter 5), an equilibrium price for the investment is then determined on the market, which already reflects *the average investment costs expected at the time of the investment decision*. Hence, the investment costs expected by investors at the time of the investment decision influence the market price and should therefore be included in the market prices.

3.2. Valuation of investments and investment costs

Where available, the valuation of investments under Solvency II is based on market prices observed on the capital market. For various asset classes, alternative methods are used for valuation under Solvency II if no directly observable market price is available (cf. Chapter 2.2).

For example, discounted cash flow (DCF) approaches are used for illiquid fixed-interest investments, real estate and equity investments in infrastructure.

To illustrate this DCF approach, let

- CF_t the expected cashflow of the investment at time t
- k_t modelled costs at time t
- r_t risk-free zero-coupon rate at time t
- s_t risk premium for horizon t (valuation spread)
- T holding duration of the investment.

Then, the estimated market value MW results as

$$\text{MW} = \sum_{t=1,\dots,T} \frac{CF_t - k_t}{(1+r_t+s_t)^t}.$$

Let us first consider a listed corporate bond as an example of a liquid fixed income investment for which a market price can be observed on the capital market. We assume that the market value of this bond is represented in the valuation model on the basis of the above formula.

Now, if

a) the modelled costs k_t deviate from the investment costs included in the market value (e.g., because the average investment costs expected at the time of the investment decision were not or only partially included in the parameter k_t)

   and

b) the market value estimated by the model should correspond to the true market value,

then the difference between the modelled investment costs and the investment costs included in the market value must necessarily be reflected in the quantities *CF* and/or *s*.

Aspects that are not modelled in cash flow *CF* can therefore be compensated, for example by a corresponding choice of the valuation spread *s*. Depending on the modelling approach, this may concern taxes, investment costs that deviate from the parameter *k* or expected defaults. The negligence of one of these negative cash flows is then compensated for by increasing the valuation spread *s*.

This reasoning applies analogously to the DCF valuation of an illiquid bond using an interest rate curve. Since no directly observable market price is available, it is determined using the above formula. Parts of the investment costs are often explicitly modelled (in the quantity *k*) when valuing illiquid investments. When determining the valuation spread *s*, the valuation spreads of comparable investments (if available) are taken into account, among other factors. The resulting valuation spread *s* may therefore contain aspects that are not explicitly modelled, such as taxes, investment costs that deviate from *k* or expected defaults.

All investment costs included in the model valuation for Solvency II, whether explicitly reflected in the parameter *k* or implicitly in the valuation spread *s*, are

therefore already included in the market value, and do not need to be separately included again when determining the technical provisions. Double counting of investment costs which are reflected in an increased valuation spread *s*, may be avoided by providing appropriate evidence thereof.

Example: valuation of real estate

The above described DCF approach is also frequently used to determine the market value of real estate. For real estate, maintenance costs are usually explicitly modelled in the quantity *k* in a DCF valuation, but costs for real estate portfolio management are not. In this case, these maintenance costs are usually not used to increase the liabilities, as they are already explicitly included in the modelled market value. If a valuation spread is applied in the real estate valuation, it must be clarified which components (rent losses, other costs, etc.) are reflected in this spread.

4. Current investment cost modelling under solvency II

For the modelling of investment costs as part of technical provisions, it is our understanding that certain portions of future investment costs that the insurance company does not already explicitly model in the investment valuation models (such as maintenance costs for real estate) are reflected by an increase of the liabilities. There is a wide range of these additionally reflected investment costs, especially with regard to the types of costs taken into account and their sources (for example, with regard to costs incurred within investment funds or special funds).

Let us first consider the stochastic valuation models commonly used in life insurance. In these models, among other things, the revenue of the investments is also projected since this in turn influences the modelled obligations[10].

This involves

- capital market models, which are calibrated against a risk-free interest rate curve. These models must be arbitrage-free but were developed under the assumption that investment costs do not exist or are not relevant and can therefore be assumed to be zero.
- The scenarios generated by the capital market models are used in valuation models to determine the technical provisions under Solvency II (in the form of an expected present value of future cash flows).
- These valuation models then ensure that the investments are modelled in a market-consistent manner:
    - Calibration procedures are used to determine parameters in such a way that the present value of the cash flows generated by the investments corresponds to the market price of the investments and that absence of arbitrage is preserved. This can be done, e.g., by reducing the income (coupons, nominal values, etc.) or determining an implicit spread. It is important to pay attention to which cash flows are assumed to be reflected in the market value.
    - The investment costs incurred are generally *not* part of this calibration. This means that the investments in the model generate income whose discounted value corresponds to the market price of the investments, which in turn reflects its net cash flow. By doing so, it is assumed that the investment costs included in the price are not covered by higher gross income, as was expected by the investors when determining the price.
- In the valuation models, all cash flows attributable to the obligations are then recognized as an increase of the liabilities. For this purpose, expected

[10] E.g., via surplus participation of policyholders.

future investment costs are also parameterized in the valuation model and the resulting cash flows are determined. If the model parameterization is based on the total investment costs actually incurred, costs already included in the market price of the investment are explicitly taken into account again at this point.

However, this approach would not be market-consistent since the investment costs already included in the market price of the investment (if any) would be counted twice here.

When using a deterministic valuation model, the same issues arise with regard to a possible double counting of investment costs.

In summary, due to a lack of a theory for market-consistent, arbitrage-free valuation when investment costs are already reflected in the market price, cost modelling approaches have emerged that lack a consistent framework and do not fully incorporate cost considerations into market-consistency and absence of arbitrage.

5. Market-consistent and arbitrage-free valuation methods including investment costs

The question arises how investment costs are reflected in the market price of an investment, which results from the interaction of demand and supply.

In order to be able to perform a market-consistent and arbitrage-free valuation incorporating investment costs, Gossner and Florig (2021a) extended the Arrow-Debreu equilibrium model to include a cost parameter.

In this model, it is derived from the equilibrium properties that a weighted average of the expected investment costs is included in the market price. Here, the expected investment costs of all participants in the capital market are relevant, not only those of insurance companies.

However, this market average of expected investment costs is not automatically equivalent to the average investment costs surveyed in market studies. The latter could, nonetheless, serve as an indication of the market average of expected investment costs; further analyses are required for this purpose (cf. Chapter 6).

The previous statement issued by the DAV on the cost (cf. DAV (2021)) as well as the discussion paper and the expert opinion[11] on the topic, both of which are available to the DAV, reach conclusions that are consistent with this scientific basis.

5.1. Valuation of cash flows

Following Gossner and Florig (2021b), let

- CF_A the (stochastic) gross cash flow of investment A expected by the average of investors, *i.e., before investment costs*;
- C_f the cash flow of the investment costs (for the insurer) expected by the insurer, which is necessary to generate CF_A;
- C_m the cash flow of investment costs expected by the average of investors, which is necessary to generate CF_A;
- $MV(A)$ the market value of investment A;
- $PV(X)$ the present value of a random variable X under a probability distribution Q_m that is consistent with the observed market prices.

[11] See Reuß and Ruez (2021) and Gossner and Florig (2021b).

The average market participant generates through investment *A* the cash flow

$$CF_A - C_m.$$

As a simplification, if the investment costs are equal to C_m for all market participants except the insurance company to be valued[12], the following must hold:

$$(I) \quad PV(CF_A - C_m) = MV(A) <=> PV(CF_A) = MV(A) + PV(C_m).$$

It follows that

$$(II) \quad PV(CF_A - C_f) = MV(A) - PV(C_f - C_m).$$

This means that the additional investment costs to be considered in the valuation model may only be those that are not already included implicitly or explicitly in the valuation of the investments since otherwise double counting will occur. The present value $PV(C_f - C_m)$ corresponds exactly to this possible deviation.

It can be seen that under the probability measure Q_m, the investment must earn the risk-free interest rate *after costs* C_m. Thus, the drift parameter of the investment *before costs* is equal to the risk-free interest rate increased by C_m.

5.2. Technical provisions

Now let additionally be

CF_L	(stochastic) cash flow of insurance liabilities (excluding investment costs);
K	surplus of assets over liabilities (= best estimate of technical provisions) of the insurance company under Solvency II.

Then we have:

$$(III) \quad K = PV(CF_A - CF_L - C_f) = PV(CF_A - C_m) - PV(CF_L + C_f - C_m) = MV(A) - PV(CF_L + C_f - C_m),$$

and the market-consistent value of the technical provisions (best estimate) is thus

$$PV(CF_L + C_f - C_m).$$

In this extended model framework, a market-consistent consideration of the investment costs in the cash flows according to Sec. (31) (b) DA is therefore based on modelling the deviation of the company's own investment costs from the market average of the investment costs expected at the time of the investment decision and thus already reflected in the market price of the investments.

[12] For the more general case with heterogeneous costs, see Gossner and Florig (2021a).

In principle, this could be achieved by two modelling approaches:

a) explicitly modelling the gross drift of investments under the risk-neutral measure as risk-free interest rate + C_m with a subsequent cost deduction of C_f; or

b) modelling the drift of investments after investment cost as risk-free interest rate with a subsequent net cost deduction of $(C_f - C_m)$.

The two methods are basically equivalent. In practice, approach (b) is likely to be easier to implement.

5.3. Simplified example

In this section, we sketch a highly simplified example. This illustrates the economic contradictions that arise if investment costs are fully applied irrespective of the market average of the investment costs expected at the time of the investment decision.

Consider the following situation:

- The applicable risk-free interest rate curve is 0% (flat interest rate curve).
- There is a single liability cash flow at time t=5.
- There are no other costs (e.g., within the insurance company) other than the investment costs mentioned below (simplifying assumption).
- The insurance company holds investments amounting to € 100 million: either cash (i.e., via a money market investment), an equity ETF or real estate.
- There are no transaction costs and the portfolio can therefore be restructured arbitrarily.

For simplicity, we assume the following investment cost structure:

- cash: 0%,
- ETF: 0.05% and
- real estate: 0.25%, which was also explicitly taken into account in the valuation using the DCF method.

If all investment costs were to be recognized as liabilities, the following provisions would be established:

- case ”cash“: € 0
- case ”ETF“: € 250,000 (5 x 0.05% x € 100 million)
- case ”real estate“: € 1,250,000 (5 x 0.25% x € 100 million)

For the real estate, where we assume a model-based valuation using the DCF approach, the investment costs of € 1.25 million should obviously not be taken into account additionally when determining the technical provisions, as they have already been explicitly accounted for in the model-based valuation.

If we now assume that the costs of the ETF are the market average of the investment costs expected at the time of the investment decision, the investment costs should consistently not be recognized as liabilities in the "ETF" case either, as this would lead to double counting.

5.4. Implications

Those companies that, in order to implement their investment strategy materially and sustainably require

- higher investment costs than the average investment costs for the same strategy that are expected across all market participants when the investment decision is made and are therefore already taken into account in the market price of the investments, generate an obligation in addition to the value of the investment portfolio in the amount of the difference between the company's own investment costs and the market average of the investment costs already taken into account when the investment decision was made; only this portion would then be explicitly recognized in the solvency balance sheet as an increase in technical provisions[13];
- lower investment costs than the market average of the costs already taken into account in the investment decision, generate, strictly speaking, an economic asset in the amount of the cost difference through their above-average efficiency. The extent to which such an asset may be capitalized in the solvency balance sheet or reflected by a reduction of technical provisions is currently not specified in the regulation.

The above illustrates that the current heterogeneous approach may result in double counting or also underestimation of investment costs. Double counting is particularly relevant if all investment costs are explicitly included in the determination of liabilities. Apart from problems regarding market consistency and absence of arbitrage, this could potentially lead to misaligned incentives in the investment strategy. Insurance companies would then avoid complex and thus expensive-to-manage investment classes, insofar as their investment costs are in part double-counted.

5.5. Interest rate curve with volatility adjustment

In the previous considerations, the valuation of technical provisions was based on an interest rate curve without volatility adjustment. If an interest rate curve with volatility adjustment is used, further conceptual considerations and, if necessary, adjustments to the valuation methodology are required.

[13] It should be noted that no comments on this matter have been received so far from the supervisory authorities or the auditors.

6. Follow-up work: Parameter estimation and modelling

In the previous chapters, the following aspects have been addressed:

- Future expected investment costs, which were taken into account in the investment decision and thus in the pricing, are already included in the market values of investments.
- These investment costs, which are already included in the valuation of an investment, may lead to double counting in the valuation of the technical provisions.
- In addition, however, the deviation of the own investment costs from the average investment costs taken into account in the investment decision has to be considered appropriately.
- The average investment costs surveyed in market studies could be an indication of the investment costs already included in the valuation of the investments.

Hence, the following questions arise for a concrete implementation:

- What is the level of an insurance company's own investment costs - by asset class?
- What is the market average of the investment costs expected at the time of the investment decision?
- Can the average investment costs surveyed in market studies be used as an approximation for the expected investment costs at the time of the investment decision?
- Do the company's own investment costs deviate significantly from this market average?
- At what level are the investment costs of the insurance company and the expected investment costs of the market determined?

For the processing of the questions of parameter estimation and the specific modelling, a further result report is planned. This report will also address the interaction with the interest rate curve with volatility adjustment. In addition, the revised EIOPA guidelines for the valuation of technical provisions (cf. EIOPA (2022)) shall be taken into account.[14]

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[14] *NEW: GUIDELINE 28A – INVESTMENT MANAGEMENT EXPENSES*

3.30. Insurance and reinsurance undertakings should include in the best estimate administrative and trading expenses associated with the investments needed to service insurance and reinsurance contracts.

[…]

3.35. Investment management expenses could include administration expenses (expenses of record-keeping of the investments' portfolio, salaries of staff responsible for investments, remunerations of external advisers, expenses connected with an investment trading activity and in some cases also remuneration for custodial services) and trading expenses (buying and selling of the portfolio securities).

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