

A new risk-based prudential regime for pension funds



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This paper summarises important facts for pension funds (IORPs) on their future regulatory framework with a specific focus on the Quantitative Impact Study (QIS) expected to take place in the fourth quarter of this year.

INTRODUCTION

The European Insurance and Occupational Pension Authority (EIOPA) is in the process of reviewing the directive on the Institutions for Occupational Retirement Provision (IORP directive). The aim is to ensure European regulatory consistency across sectors and enhance protection of members and beneficiaries.

In this context, EIOPA released on 15 June 2012 its consultation paper on the draft technical specifications for a Quantitative Impact Study (QIS).¹ The aim of this QIS exercise is to assess the possible impact on capital requirements for pension funds under the future regulatory framework.

This brief note summarises key points of the future QIS exercise and considers some important aspects of the Belgian market.

BACKGROUND

In order to protect beneficiaries from insolvency of financial institutions, (re)insurance companies and pension funds should hold sufficient own funds (OF) to cover their losses in extreme events. This is measured by the Solvency Capital Requirement (SCR). The ratio OF/SCR expresses the coverage ratio.

An IORP can take more risk if the risk can be absorbed by extra own funds or if the risk is appropriately managed so that the SCR remains unchanged. This has then no effect on the coverage ratio.

Under a certain coverage ratio level (called the Minimum Capital Requirement - MCR), the regulator will take the necessary measures to preserve the beneficiaries' rights and avoid any insolvency in the very short run.

Those features describe briefly what is commonly called a risk-based prudential regime.

While the (re)insurance sector will soon be subject to a new risk-based regulatory framework once Solvency II comes into force

(expected as of January 2014), the principle 'Same risk, same rule' has called for a review of the IORP directive.²

A good balance has to be found between the absence of regulatory arbitrage and the recognition of the differences between insurance and occupational pensions that will sometimes merit different approaches. The IORP's QIS exercise aims at capturing those differences appropriately by quantifying different options.

TIMING

The public consultation on the QIS specifications took place between mid-June and end July. The final technical specifications should be available by the beginning of October.

Under the current draft version, the QIS exercise should take place during the fourth quarter of 2012 and should be based on end-December 2011 data.

The participation of each IORP is on a voluntary basis but is strongly recommended by supervisors.

As of June 2012, eight member states have indicated their willingness to participate in the first IORP's QIS exercise: Belgium, France, Germany, Ireland, the Netherlands, Portugal, Sweden and the United Kingdom.

CONSTRUCTION OF THE 'HOLISTIC BALANCE SHEET'

Before stressing the components of the IORP balance sheet to determine the SCR, a necessary step is to value the IORP assets and liabilities in the central scenario according to their economic value and determine by difference the basic own funds.³

This is in accordance with the Solvency II economic balance sheet, where the economic value is defined as the market value of the item if it is quoted on a market⁴ and as the model value according to a best estimate⁵ (BE) otherwise.

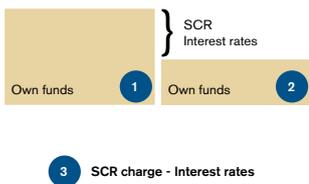
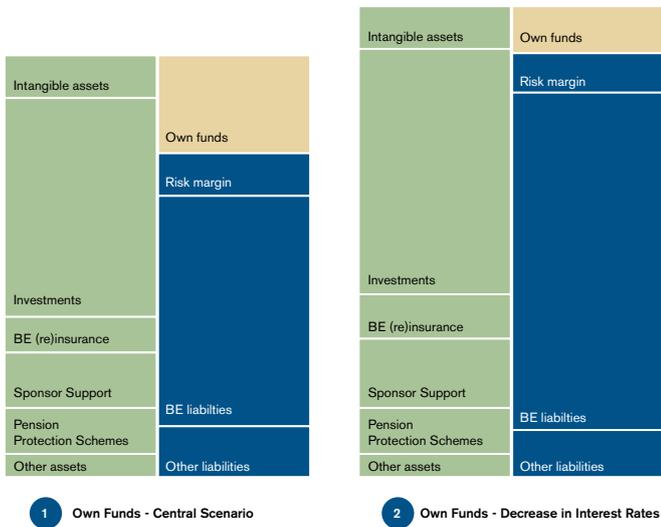
The 'holistic balance sheet' (HBS) allows for the capture of the existing diversity of occupational pension systems within Europe in one **single balance sheet** by taking into account two types of mechanisms:

- **Adjustment mechanisms** that would reduce the technical provisions in case of conditional and discretionary benefits⁶ or reduction of accrued rights
- **Security mechanisms** that would increase assets/regulatory own funds in case of recognition of Sponsor Support and Pension Protection Scheme⁷

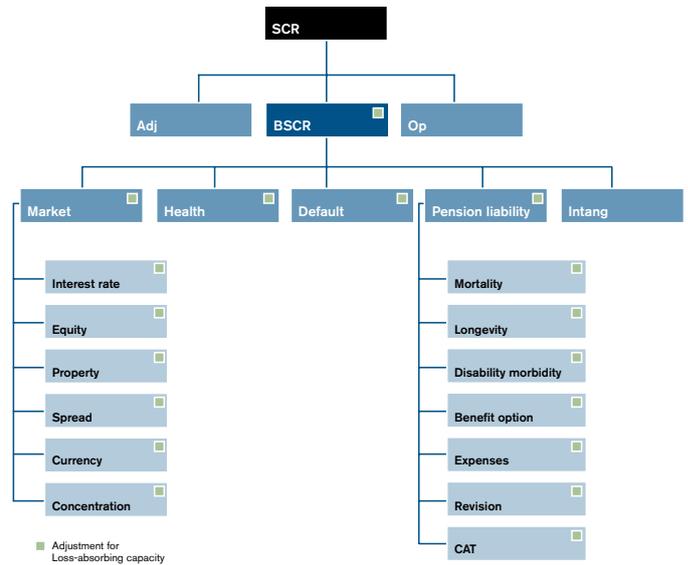
SOLVENCY CALCULATION

The difference between the assets and liabilities in the holistic balance sheet defines the own funds (OF).

The Solvency Capital Requirement (SCR) for the QIS exercise is defined as the aggregation of the deterioration in OF⁸ resulting from the considered risk scenarios. As an illustration, the SCR resulting from a decrease in interest rates (SCR interest rate) would be determined as follows:



Each capital charge (or risk sub-module) will then be aggregated with correlations at different levels as indicated on the scheme below. This is called the **SCR modular approach under the standard formula**:



By now taking a top-down approach, the SCR is defined as the sum of the Basic Solvency Capital Requirement (BSCR), an adjustment term (Adj) and the capital charge for operational risk (Op), which is the risk inherent to the IORP activity.

At the second aggregation level, the **BSCR** results from the correlated capital charges for the following risks:

- Market: risk related to level and volatility of market prices of financial instruments
- Pension: risk arising from underwriting pension liabilities^{9, 10}
- Health: risk related to providing certain 'health benefits'¹¹
- Counterparty default: risk arising from unexpected default or credit rating deterioration of counterparties¹²
- Intangible: internal and market risks on recognised intangible assets

The individual risk scenarios correspond to those used in QIS5 for Solvency II¹³ and were calibrated for a value-at-risk of the basic own funds subject to a confidence level of 99.5% over a one-year period.¹⁴ It should be noted that this risk measure is a starting point only for this exercise. Alternative measures will be tested as indicated in the options section.

Back to the first aggregation level, the BSCR can be reduced by an adjustment term (Adj) reflecting the fact that if a loss up to the SCR would happen, the technical provisions (BE liabilities), the security mechanisms and the deferred taxes would actually change and have the capacity to absorb losses up to a certain level.¹⁵

OPTIONS ANALYSED

This IORP QIS is inspired from the Solvency II QIS5 but needs to be tailored to the IORP business.

This is why the current draft version considers the quantification of different options with regard to the following items:

- Confidence level of the risk measure: 99.5%, 97.5% or 95%¹⁶
- Discount rates of the technical provisions:
 - Level A: on risk-free basis¹⁷
 - Level B: on expected asset return basis¹⁸
- Risk margin approach¹⁹
- Adjustment mechanisms provided by the benefits²⁰
- Security mechanisms provided by sponsor support and pension protection scheme²¹
- SCR equity calculation²²

BELGIAN SPECIFICITIES²³

The IORP Belgian market is relatively *small*, with assets under management varying between 10 M€ and 1.250 M€. ²⁴

Most of Belgian IORPs only have an *obligation of means* and not an obligation of result. They can be considered as financing vehicles that fully rely on the sponsor. In the Belgian context where the risk is actually borne by the sponsor, the value of the sponsor support is a key element.

Under the current Belgian prudential framework, the *discount rates* used to calculate the technical provisions are related to the *expected asset returns* according to the strategic asset allocation and not on a swap rate curve.

The applicability of the QIS for Belgian defined contribution plans is not straightforward. The social labour law requires a minimum return of 3.25% on employer contribution to be funded on leaving, transfer, death or retirement. Those plans can be either considered as 'hybrid schemes' or 'pure defined contribution', in which case they would be excluded from the QIS exercise.²⁵

The benefits scope of Belgian defined benefit plans is also a grey zone. The social labour law states that a defined benefit

plan can be ended, but a dynamic approach should be applied where the past service benefits in the former plan have to be revalued only for active members according to their salary increases. If it can be considered that those plans can be stopped with no new benefits accruals for the future (only for the past), only accrued benefits should be included in the best estimate calculations.²⁶

POSSIBLE IMPACTS ON THE BELGIAN MARKET

A risk-based prudential framework and the absence of regulatory arbitrage are welcomed by the industry.

However, the current QIS exercise, even under the different considered options, seems to be too much based on the Solvency II framework not capturing appropriately the IORP features given their long term guarantees,²⁷ their salary/inflation exposure and their structure as a non-profit organisation relying on sponsor support.²⁸

Given the small size of the Belgian market and the complexity of the calculations to be performed in a short timeframe,²⁹ the industry will call for proportionality and simplification. The perceived risk is that the costs resulting from overregulation will lead to lower retirement benefits, a flow to group insurance or a reduction in complementary pension coverage.

The financial markets will have to analyse the solvency coverage ratio based on a new structure: higher liabilities given the use of risk free rates, higher Solvency Capital Requirement but recognition of sponsor support to cover liabilities and losses.

The introduction of this new regulatory framework might lead IORPs to review their financing plan or strategic asset allocation to optimise their solvency coverage.

SUMMARY

This QIS exercise aims at testing the Solvency coverage ratio under different options to ultimately define an adequate capital requirement for the IORP business.

A good balance has indeed to be found between protecting pension plan beneficiaries and keeping the cost-efficiency of occupational retirement provision in the EU.

Risk quantification should enhance appropriate management decisions and supervisory review with a degree of complexity that is in line with the risks faced by each IORP and its sponsor.

The new risk-based prudential regime for pension fund will have a (major) impact on the solvency ratios for pension funds in Europe. Although the framework is not final, several options are considered so that expected impact of the framework and its options can already be analysed.

Detailed Information

[1] The draft technical specifications for the IORP QIS exercise are available on:
<https://eiopa.europa.eu/consultations/consultation-papers/index.html>.
 While the published technical specifications are still in draft form, and are likely to be subject to further changes, the purpose of this report is to cover general concepts.

[2] The IORP Directive, adopted in June 2003, is in full operation in all Member States since May 2007. In April 2011, the European Commission issued a Call for Advice from the EIOPA to prepare for the Commission's planned review of the IORP directive.

[3] The basic own funds represent the excess of assets over liabilities plus subordinated liabilities on the economic balance sheet whereas ancillary own funds are off-balance sheet items that can be called up to absorb losses.

[4] The value provided by the market is considered to be an economic value if the market is active, deep, liquid and transparent.

[5] The best estimate is defined as the probability weighted average of future cash flows taking into account the time value of money and uncertainty in future cash flows. This uncertainty should be captured by appropriate statistical techniques including stochastic simulation methods, deterministic and analytical techniques.

[6] Unconditional benefits as defined in the pension scheme have to be reached in any situation whereas non-unconditional benefits are only granted under specific circumstances. Non-unconditional benefits cover conditional benefits that are granted based on certain 'objective' decisions, discretionary benefits that are only granted based on a 'subjective' decision process and mixed benefits that present both characteristics.

[7] Where applicable, Sponsor Support represents the sponsor financial commitment in case of insufficient funding (i.e. when assets are lower than BE) whereas the Pension Protection Scheme provides the coverage of a defined benefit level in case of sponsor's default.

[8] The change in own funds for the risk i is defined as $\Delta OF_{Risk_i} = OF_{Central} - OF_{Shock Risk_i}$ and represents the capital charge for the related risk.

[9] The pension liability risk captures all risks that are directly related to the IORP obligations excepting some parts of health risks.

[10] The pension risk sub module comprises the benefit option risk which is defined as the risk of loss due to a change in the expected exercise rates of certain options of members/beneficiaries or sponsors. This risk has a broader definition than the lapse risk from policyholders under Solvency II.

[11] The health risk module is likely to be applicable to some member states only. Health risk is defined as disability risk, morbidity risk and medical expenses that are supplementary to the retirement benefits. Those may include expense insurance obligations, income protection insurance obligations and workers compensation insurance obligation.

[12] Under the current draft version, the counterparty default risk includes the exposure to the Sponsor Support but not to the Pension Protection Scheme whose creditworthiness would be analysed on a case-by-case basis without requiring any calculation.

[13] The QIS5 specifications for (re)insurance undertakings can be found on:
<https://eiopa.europa.eu/consultations/qis/quantitative-impact-study-5>.

[14] The $V@R_{99.5\%}$ over one-year represents the loss in own funds over one year whose magnitude would be lower in 99.5% of the cases. Equivalently stated, if the IORP holds own funds up to the SCR, it will remain solvent over the coming year in 99.5% of the cases.

[15] The maximum loss absorbing capacity is defined as follows:

- Technical provisions (BE liabilities): the adjustment shall not exceed the BE of non-unconditional benefits
- Security mechanisms: the adjustment shall not exceed the difference between the maximum value of the sponsor support and the Pension Protection Scheme and the amounts already recognised in the holistic balance sheet
- Deferred taxes: the adjustment shall not exceed the amount of taxes on expected future profit

[16] Calibration is done at 99.5% but adjustments should be performed by supervisors at the other desired levels: 97.5% and 95%.

[17] The basic risk-free interest rate (Level A) shall be provided by EIOPA and be based on the swap bid rates as at 30/12/2011 adjusted by 10bp for credit risk across maturities. The last liquid point for the Eurozone is 20 years and the rate should converge to the ultimate forward rate of 4.2% with a convergence speed of 0.1. The interpolation and extrapolation methods are based on the Smith-Wilson approach as under QIS5.

Within the Level A calculation, several options will be tested:

1. Last liquid point of 30 years to be in line with QIS5
2. Adjustments to the risk-free curve with the countercyclical premium and matching premium

The adjustment to the risk-free interest rates aims at capturing the fact that the (re)insurance and IORP business is by nature long-term and illiquid, which should be reflected in a valuation that is consistent with the market. Two types of adjustment are considered and are exclusive:

- The countercyclical premium (CCP) is only applicable in case of financial stress periods and is designed to enable the industry to cope with extreme situations. Those situations occur where the market values of representative bond portfolios held by financial institutions are abnormally low so that if their liabilities would

still have to be valued with risk free rates, this would result in a temporary abnormally high deficit that is not representative of the economic reality given the long term nature of the business. The existence and the level of the CCP is at EIOPA's discretion.

- The matching premium (MP) is applicable under strict conditions where the asset portfolio should consist of bonds of high quality only, there should be a ring fenced structure and a nearly perfect cash flow matching between assets and liabilities, and liabilities should be well predictable (no future premiums, no option for the members). The underlying idea is that as those dedicated assets perfectly replicate the liabilities, a reduced volatility in SCR coverage with regard to spread evolution should be allowed by adding an appropriate MP to the basic interest rate used to discount liabilities.

It should be noted that above conditions on MP are so strict that the insurance industry has tried to relax them to extend their application (only UK and Spain insurance annuities would be eligible), but this topic is still under discussion.

This is, however, the area that is probably most similar to defined benefit pension scheme liabilities.

[18] Level B calculation is based on the fixed income/non-fixed income proportion in the strategic asset mix and is used only for the BE of liabilities to tier assets and determine the absolute level to be covered by investment assets.

[19] The risk margin represents the extra liability to be added to the best estimate to make the valuation market consistent. Three different approaches of the risk margin would be tested:

- 1- Cost-of-capital approach as under Solvency II: In case of transfer, the buyer shall not only be liable for future cash flows covered by the best estimate but will also have to raise extra capital with a cost required by shareholders (cost-of-capital approach) for non-hedgeable risk (underwriting, credit and operational risk).
- 2 – Adverse deviation as under the current IORP directive: The explicit risk margin includes a risk buffer in technical provisions to cover against adverse deviations from the best estimate.
- 3- No risk margin: The concept of transfer value as under Solvency II might not be relevant for non-profit organisation and the risk buffer as foreseen under the current IORP should already be covered by the SCR.

[20] The different approaches to be tested for the adjustment mechanisms cover:

1- Benefits in scope of the technical provisions:

- All benefits included (unconditional and conditional)
- All benefits except pure discretionary benefits
- All benefits except pure discretionary and mixed benefits

2 – Benefits reduction in case of sponsor's default: included/excluded

[20] The different approaches to be tested for the security mechanisms cover:

1 – Pension Protection Scheme:

- Included as an asset
- Impacting the default risk of sponsor support but not recognised as a specific asset
- Excluded

2 – Sponsor Support:

- Included as an asset
- Considered as an ancillary own fund that can be called up to absorb losses

[21] The different options to be tested for the SCR equity calculation cover:

- 1 – Include equity dampener
- 2 – Exclude equity dampener
- 3 – Include duration-based dampener

The existence of the dampener aims at adapting the shock to be applied on equities when the current level of equities differs significantly from the one used to calibrate the initial V@R99.5% shock, so that the resulting shocked equity value is still in line with a one-year V@R99.5% risk measure.

The duration based dampener under Solvency II allows life insurance undertakings to apply a reduced shock on equities corresponding to occupational retirement business or retirement benefits that are tax deductible for the policyholders given the typical longer holding period of equity investments covering those liabilities (see article 304 of the Solvency II directive). This option is considered to avoid any discrepancy between the Solvency and IORP regime.

[23] Some of the elements mentioned in this section have been discussed within the workgroup BVPI-ABIP and IABe set up during the consultation process that took place between mid-June and end July. The purpose was to collect comments from representatives of the Belgian Association of Pension Funds and from members of the Belgian Institute of Actuaries.

[24] Source: BVPI-ABIP (Belgische Vereniging van de Pensioeninstellingen - Association Belge des Institutions de Pension).

[25] The argument in favour of a pure defined contribution plan is that the interest rate guarantee is required by the social labour law only but is not defined as such in the pension plan and does not need to be funded on a yearly basis.

[26] The argument in favour of not projecting future service under Belgian defined benefit plan and the related future contributions is that the dynamic

approach is only applicable to past service for still active employees. To make a comparison with IAS19 accounting, the scope of the best estimate would then be similar to Accumulated Benefit Obligation (ABO) and not to Defined Benefit Obligation (DBO).

[27] The alternative confidence levels of 95%, 97.5% compared to the 99.5% level retained under Solvency II might not capture appropriately the longer horizon period to be considered for IORPs where the liabilities have not to be met on a yearly basis in contrast to insurance undertakings with obligation of result.

[28] The holistic balance sheet (HBS) will give a better representation of the relationship between sponsor and IORP. The proposed approach under the current version appears to be very theoretical, too simplified and relies on confidential information from the sponsor business plan (e.g., future profit). As it is a key element in the Belgian context, defining the appropriate methodology and input data is a challenge. The industry would favour a proxy for the value of the Sponsor Support and Pension Protection Scheme as the difference between the liabilities and assets of the IORP in the HBS (i.e., acting as a closing element). This value should then be somehow tested with the financial situation of the sponsor.

[29] The complexity lies especially in capturing all the interactions between components and in stochastic valuation with regard to members/beneficiaries and sponsor exercising options.

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