EIOPA-BoS-14/103

28 November 2014

Low interest rate environment stock taking exercise 2014

Content

1. Executive summary

1.1 EIOPA undertakes this exercise as a follow-up to its Opinion on Supervisory Response to a Prolonged Low Interest Rate Environment published on 28 February 2013. The document includes information provided by National Supervisory Authorities (NSAs) from the EU by means of a questionnaire circulated in January 2014, as well as some information obtained from companies in a questionnaire attached to the low yield module of EIOPA Insurance Stress Test 2014 (referred to as the "ancillary questionnaire" throughout the whole document).

- *Powers, measures taken and measures planned*

1.2 NSAs generally have an **array of powers available** to address the low interest rate environment. Almost all of them have the possibility to intensify monitoring, increase reporting requirements with regard to interest rate risk and issue recommendations and public statements. In fact, a majority of actions undertaken by NSAs and planned for the near future go along these lines.

1.3 NSAs are generally also **able to influence the investment policy** of undertakings and there have been some actions in the past that went in this direction. However, NSAs in general do not plan to use this power in the near future.

1.4 Two other powers that are widely available are the **request to undertakings to strengthen the solvency margin** and/or to **establish a special provision** for interest rate risk. The latter has been used by several NSAs in the last few years and they also plan to keep this measure in place for the future. The former has not been widely used, nor is its use planned for the coming years.

1.5 The **capacity to amend the valuation approach** for technical provisions (e.g. adjusting discount rates) and compulsory **reduction of the maximum guarantees** for new business are two other powers commonly reported by NSAs. Some Authorities indicated actions along these lines in the past, but almost no initiative is foreseen in the future in this area.

1.6 NSAs usually **lack the power to reduce policyholders' benefits** or reduce maximum guarantees for existing business, which would affect consumers in a direct and negative way. This goes in line with the overall objective of consumer protection.

1.7 NSAs also provided **further comments and clarifications** showing that, sometimes the extent to which the different powers are available and the way in which such powers are operationalized, vary across jurisdictions.

- *The insurance sector under a low interest rate environment*

1.8 Quantitative information provided by companies in the ancillary questionnaire provides an overview on how guarantees are evolving in the different jurisdictions in the last years.[1] In general, **guaranteed rates have tended to decrease** in the period 2009-2013 in order to adapt the new business to a low yield environment.

1.9 The data also shows that in several jurisdictions, the **average guaranteed rate in this period has been greater than the average yield of the 10 years local government bond**. The interest rate of these assets is relevant to the extent that local government bonds account for a significant share of life insurers' portfolios. Thus, the insurance sector in these jurisdictions may face some difficulties to meet guaranteed rates if this trend is prolonged for some time. This may also create incentives for a change in the asset portfolio towards riskier assets.

1.10 Several companies also provided information on the **duration of liabilities and assets**, showing the existing mismatch (i.e. duration gap) of reporting companies in different jurisdictions. Depending on the nature of this mismatch, companies face different challenges. More information on these challenges can be found in the EIOPA Insurance Stress Test 2014.

- *Measures taken by the industry*

[1] The number of companies that replied to the different questions after the consistency check varies quite substantially from 54 to 119.

1.11 The measures taken by the industry very much depend on whether they are seeking to address the impact of a low interest rate environment on new business and/or on existing business.

1.12 With regard to **new business**, a significant majority of NSAs mentioned (and companies confirmed) that insurers have decreased or are decreasing the guarantee levels for new contracts and also focusing on products with no guarantees or less dependent on investment income (e.g. unit-linked products). Furthermore, some NSAs have also witnessed other measures, such as stopping the sales of certain guaranteed products in some cases.

1.13 A far more complex issue is to adapt the **backlog of existing contracts** to a prolonged low interest rate environment. Several NSAs reported that companies are reducing profit shares or setting-up preventive reserve funds or additional technical provisions. In addition to that, it seems that insurers in some jurisdictions may also be giving incentives to policyholders to switch to new products less affected by the low interest rates.

1.14 NSAs also reported **other measures that the industry is undertaking**. Companies are mainly reducing their operational costs and amending the asset/liability management (ALM) strategy for the new business in terms of matching and hedging to adapt to a low interest rate environment. This is also confirmed by the companies participating in the ancillary questionnaire.

1.15 A very relevant issue that was explored in different parts of the survey refers to **potential "search for yield" behaviours** towards which insurers may be moving to offset the low interest rate environment. Less than a half of the NSAs reported an increase in the share of higher yielding instruments and/or asset classes in their jurisdiction, and around one fourth pointed to an increase in the share of higher yielding sovereigns, which however, does not necessarily point to a "search for yield" behaviour.

1.16 Furthermore, insurers seem not to have engaged in new types of business as a reaction to the low interest rates. Therefore, they have not explored more risky options such as credit guarantees.

- *Low interest exercises*

1.17 Roughly half of the NSAs consulted declared that at least one specific **initiative focused on the low interest environment** was undertaken since 2010 until the date of close of the questionnaire.

1.18 Regarding the **scope of the exercises** performed, practically all included both quantitative and qualitative questions to insurance undertakings and half of them covered life business only. NSAs informed about initiatives not specifically designed to tackle the challenges of the low interest rate environment. These tend to cover both life and non-life business, while the initiatives focused on the low interest rate environment, in turn, tend to cover life business only or even more specifically life business with interest rate guarantees.

1.19 Different **low interest scenarios** were tested including the low yield scenarios contained in EIOPA Insurance Stress Test in 2011, other scenarios with both instantaneous rising and falling rates as well as changes to yield curves, both parallel and non-parallel shifts in yield curve.

1.20 Half of the NSAs that undertook an initiative reported at least one **measure adopted** after it.

1.21 In order to identify the business most affected by a low interest rate environment NSAs pointed the **type of product** that companies are offering as the key driver. In particular the products provided by life insurance companies and occupational pension funds, which make long-term commitments to their policyholders in the form of interest rate guarantees or promises of future payments from insurance policies and pensions, are the most exposed to this risk. Diversification of business, size, legal form of the undertaking or any other drivers are not considered by a significant number of NSAs as determinant for low interest rate risk.

1.22 Solvency position and profitability are noted by NSAs as the two main **key performance indicators** where the effects of low interest yields have had a noticeable negative impact, not only on the most affected business but on the whole industry. Regarding the solvency position this is most clearly evidenced under a Solvency II like regime and to a lesser degree under Solvency I. This is confirmed in the low yield module of EIOPA Insurance Stress Test 2014.

1.23 Most NSAs consider that under the current situation, the whole **business will continue to be sustainable**, thanks to the measures available or already in place to reduce interest rate risk (e.g. selling mostly unit link products, special prudential provisions for interest rate risk for the existing contracts, promoting hedging arrangements and revision of the ALM strategies currently in place). Nevertheless, they also acknowledge that profitability will remain under pressure.

1.24 Further drops in interest rate levels and a prolongation of such situation together with a rapid rise in interest rates are the **scenarios perceived as those with potential to cause a significant capital loss**. Some NSAs reported that applying the relevant long term guarantee and transitional measures under Solvency II , e.g. transitional measure on technical provisions, might overly dampen the adverse effects of low interest rates on the solvency position of insurers with certain types of life business.

2. Background

2.1 EIOPA published an Opinion on Supervisory Response to a Prolonged Low Interest Rate Environment on 28 February 2013 in which it emphasised the potential solvency risks arising from a scenario of long-lasting low interest rates.[2]

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[2] See:
https://eiopa.europa.eu/fileadmin/tx_dam/files/publications/opinions/EIOPA_Opinion_on_a_prolonged_low_interest_rate_environment.pdf

2.2 As a follow-up action, it was agreed that EIOPA would carry out a stocktaking exercise in 2014 to explore what actions had been taken in light of the Opinion. EIOPA circulated a questionnaire in January 2014, which covered the measures taken by NSAs in response to the low interest rate environment and the reaction by the industry. These questions were supplemented with other questions on low interest rate exercises carried out in the last 2-3 years. A total of 26 NSAs replied to the questionnaire.

2.3 A second follow-up action of EIOPA's Opinion was to develop a quantitative exercise in order to capture the scale, scope, and timing of the risks arising from a prolonged low interest rate environment. In this context, EIOPA decided to incorporate a low yield module into the 2014 Stress Test exercise. In the context of this exercise, a questionnaire was included asking companies to provide additional quantitative and qualitative information on different aspects, such as the size of relevant business, the evolution of guaranteed products over the past years, the investment structure of undertakings, the impact on their business and asset mixes or the main mitigating strategies that could be implemented.[3] This questionnaire is referred to as "ancillary questionnaire" throughout the whole document. Contrary to the low yield module, the information gathered in this questionnaire referred to Solvency I historical data.

2.4 The current document provides an overview of the information provided by NSAs and companies to both questionnaires. Both documents, the low yield module in EIOPA Insurance Stress Test 2014 and this stocktaking exercise, should therefore be read in conjunction.

3. Powers and measures of NSAs

3.1 NSAs were given a set of measures that can be used in a low interest rate environment. They were asked to indicate which of those measures were within their toolkit, and if they had used them in the past 2-3 years or were considering to use them in the near future.

3.2 The powers and measures listed in this section are essentially indicative in order to describe the current supervisory practices, and should not be considered as exhaustive.

General overview of powers, measures taken and measures planned

3.3 Chart 1 provides an overview of the powers available as reported by NSAs. Almost all of them have the possibility to intensify monitoring and increase reporting requirements with regard to interest rate risk. Similarly, in a majority of cases, NSAs can issue recommendations and public statements to warn about the impact of low interest rates.

3.4 In some cases, NSAs can also influence the investment policy of insurers, if they judged them not to be consistent with a prolonged low interest rate scenario.

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[3] The number of companies that replied to the different questions after the consistency checks varies quite substantially from 67 to 138.

Chart 1: Powers available to NSAs

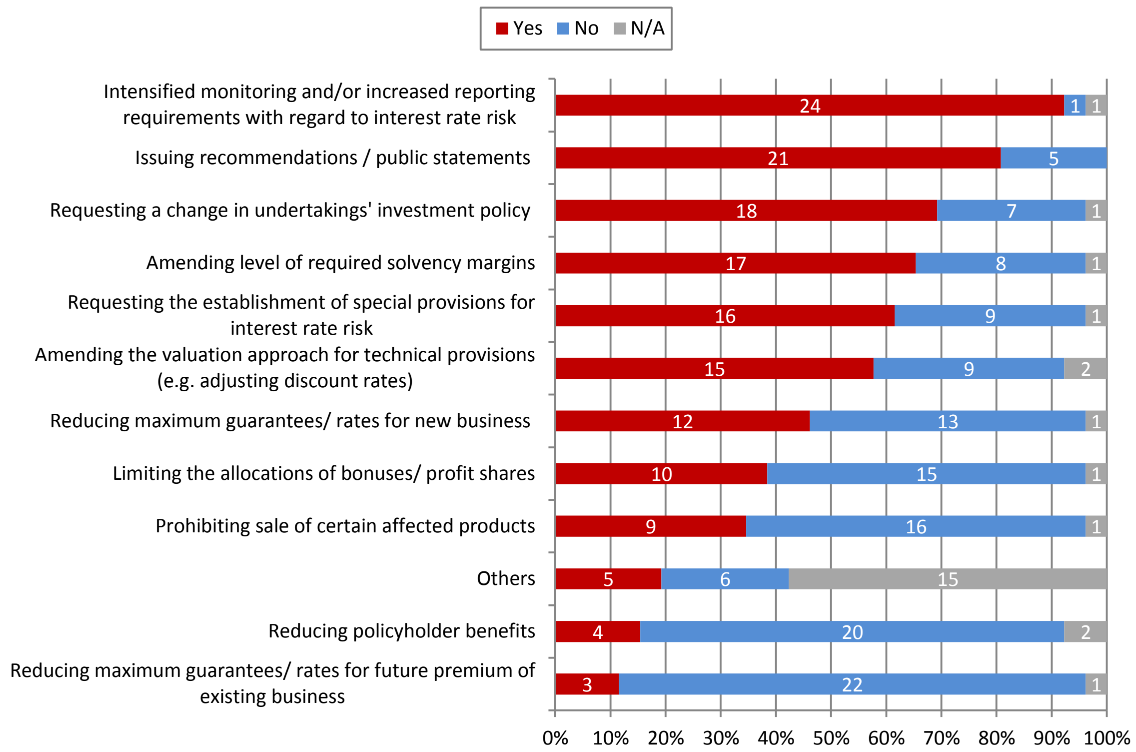
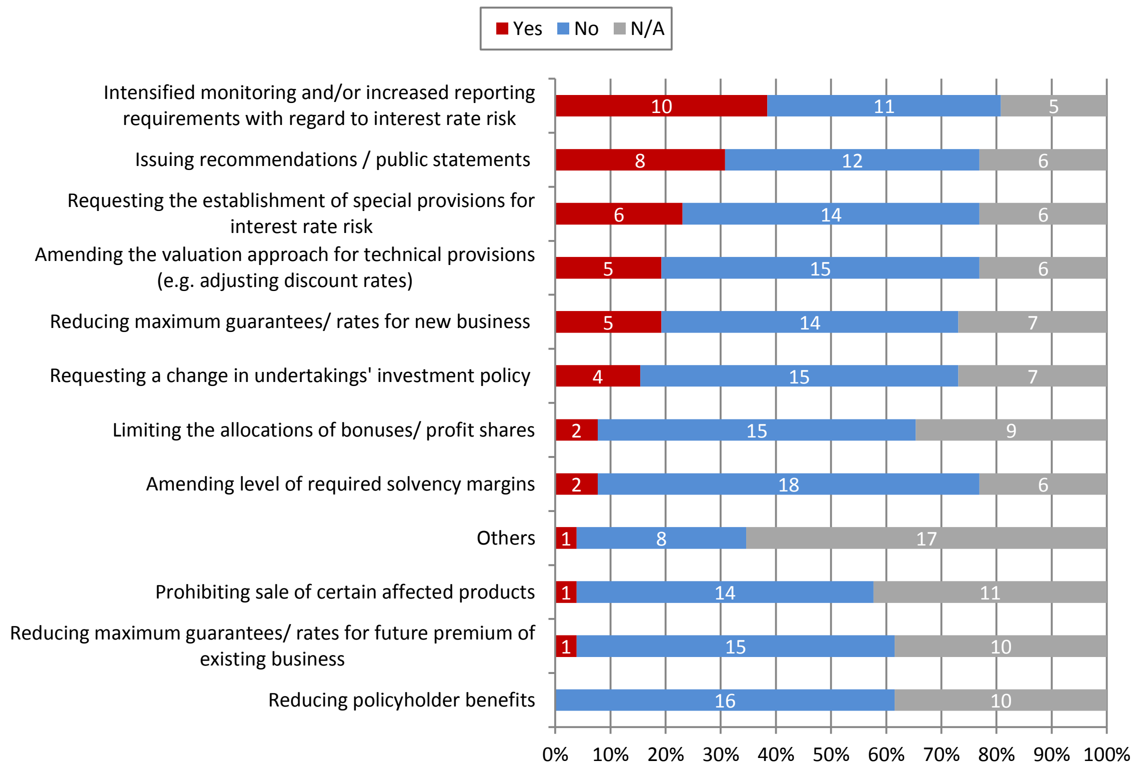


Chart 2: Which powers has the NSA used in the last 2-3 years?



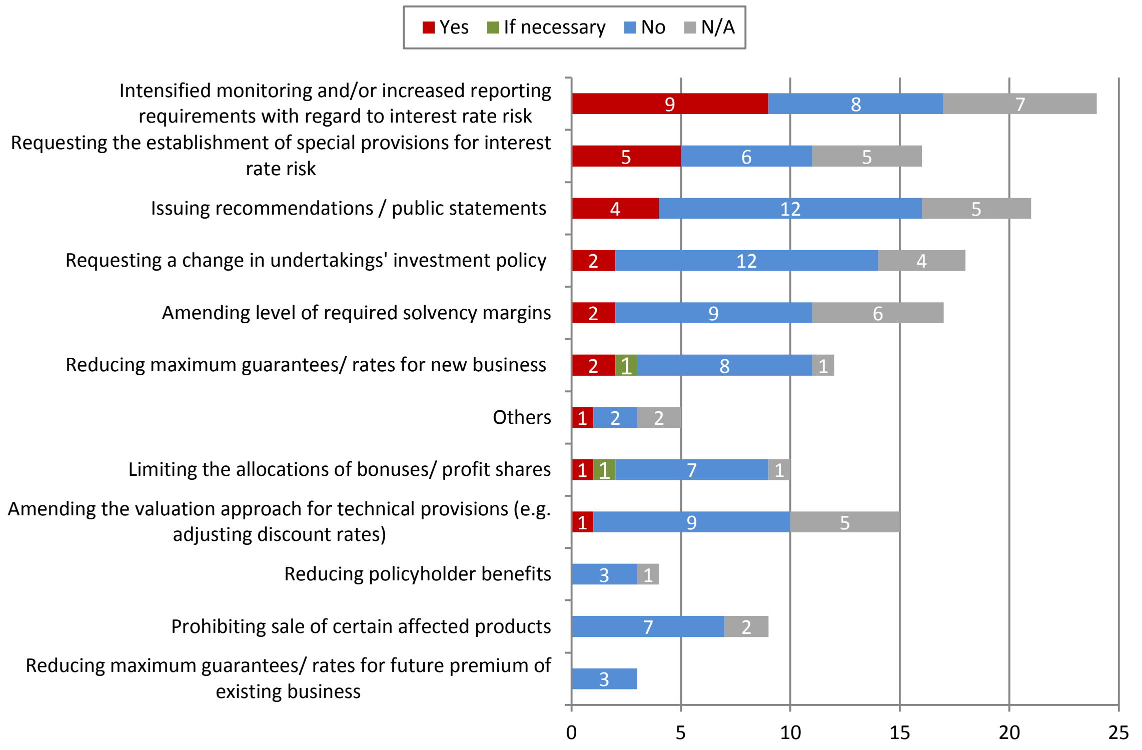
3.5 On a technical level, a majority of Authorities can also require an increase in the solvency margins, request the establishment of special provisions for interest rate risk and amend the valuation approach for technical provisions.

3.6 NSAs usually cannot undertake actions aimed at reducing policyholders' benefits or reducing maximum guarantees for existing business, which would affect policyholders in a negative way. This goes in line with the overall objective of consumer protection.[4]

3.7 Chart 2 shows the powers that NSA have used in the last couple of years to address the low interest rate environment. As can be seen, a majority of actions have gone along the lines of intensifying monitoring, increasing reporting requirements or issuing recommendation or public statements.

3.8 Several NSAs have also sought to address the problem of existing business by requesting the establishment of special provisions or amending the valuation approach for the technical provisions.

Chart 3: If the power is available, does the NSA intend to use it in the near future?



3.9 In terms of new business, five NSAs have requested companies to reduce the maximum guarantees. Some other measures have targeted management decisions, such as requesting a change in the investment policy of undertakings (four NSAs) or limiting the allocations of bonuses or profit shares (two NSAs).

[4] Although listed here as a possible supervisory action, the reduction of benefits should not be considered as a normal day to day tool for insurance supervision, as it would in most cases conflict with the consumer protection responsibility of NSAs.

3.10 Only one NSA has reduced maximum guarantees or rates of future premium for existing business and none of them has reduced policyholders' benefit. Both measures affect policyholders in a direct and immediate way.

3.11 NSAs were also asked to report whether they intended to use any of the above considered powers in the near future. Chart 3 summarises the results.

3.12 According to the information reported, NSAs plan to implement a total of 29 actions targeting the low interest rate environment in the short to medium term.[5] Out of the 29 actions, 13 are related to intensifying monitoring and issuing recommendations and public statements, which are the powers most widely spread. In addition to that, five NSAs plan to request the establishment of special provisions for interest rate risk.

3.13 NSAs are not planning to implement any measures that may directly affect current policyholders, such as reducing policyholders benefit or reducing the guarantees they are obtaining in the current policies. Nor are they planning to impose a ban on the sales of affected products.

Specific comments made by NSAs on powers and actions

3.14 NSAs had the option to supplement their answers with additional comments or remarks. This section summarises some of the information received which also sheds some light on the extent to which the powers are available and the conditions that need to be met.

- *Intensified monitoring and/or increased reporting requirements with regard to interest rate risk*

3.15 This is the most commonly available (and used) power, which is generally included in national laws and carried out on a continuous basis. NSAs are able to intensify monitoring or increase the reporting requirements if they see particular risks or threats to the stability of the financial system or to policyholders. In the exercise of this power, NSAs usually have a substantial amount of flexibility in terms of frequency and scope of the intervention.

3.16 In addition to other type of exercises (e.g. stress tests) that are discussed later on, ten NSAs informed about actions taken or planned. In particular six of them reported initiatives that go along the following lines:

- Specific financial risk reviews such as liability adequacy test, guaranteed interest rates and ALM.
- A survey was conducted in mid-2013 by one NSA on the currency denomination of technical provisions and the guaranteed technical rate of interest.
- Another NSA has started in June 2013 with an intensified monitoring on interest rate risk exposures for life insurance companies. Life

[5] Although only two NSAs mentioned explicitly that some of the measures would be implemented "if needed", it is probably reasonable to assume that the majority of measures reported by NSAs actually follow this reasoning.

insurers are asked to assess –on a half year basis (i.e. June and December)– the impact of an unexpected change in interest rates on their ability to discharge their obligations under with-profits policies.

- In one country, an intensified monitoring of undertakings with interest rate sensitivity has been in place, mainly through additional reporting of legal solvency and technical provisions/liability coverage requirements for affected undertakings (primarily life insurance undertakings and occupational pension funds). This has included additional submissions on a monthly basis. These measures were in place during the period Q3 2011 - Q4 2013. Conditions eased considerably since the second half of 2012, but are being closely monitored by that NSA.

- *Issuing recommendations/public statements*

3.17 Recommendations and public statements are seen by NSAs as useful communication tools. NSAs have a high degree of flexibility to issue them in terms of frequency, level of detail and addressees. Also the binding nature is varying, ranging from non-binding information statements or guidelines to binding recommendations.

3.18 Furthermore, recommendations and public statements are sometimes used to help supervised companies to interpret and apply the law. In other cases, supervisors used them to highlight a specific risk.

3.19 In terms of recommendations and public statements, several NSAs provided the following examples:

- In one country, two public statements are in force, i.e. a "Discount rate in valuation of non-life insurance technical provisions" and another one on a "Modification of the terms and conditions of life insurance contracts".

- The Financial Stability Report in another country included a specific chapter on interest rate risk and financial stability. In addition to that, the NSA also issued a guideline "Good Practice – Risk Management and Pricing for Life Insurance".

- In 2012 one NSA issued a recommendation to all insurance undertakings stating that, considering the high volatility in capital markets and the continuing tensions in the euro zone sovereign debt markets, their dividend policy (of 2011) should give due consideration to the importance of strengthening the capital base.

- In Q3 2011 another Authority announced a grace period for adjustment to new market conditions. Through this measure, the NSA gave the life insurance companies and IORPs an extended period of time to review the viability of their existing traditional life insurance and occupation pension contracts with high rates of guarantees. This also meant reviewing whether new business terms and policies needed to be altered, and in some limited cases whether traditional guaranteed products portfolios would need to be placed in run-off or the level of guarantees be renegotiated.

- *Requesting a change in undertakings' investment policy*

3.20 Requesting a change in undertakings' investment policy in different ways is a quite widely available power that has, however, not been used extensively in the past, nor is its use foreseen in the near future.

3.21 Several NSAs that responded affirmatively when asked about the availability of such a power provided further information on how it is operationalized. Usually, this power can only be used on an individual basis and not as a general measure (two NSAs) and/or subject to certain conditions (four NSAs), mostly related to solvency problems of the company. In one country, the scope of the power is considerable. The Deputy chair of the NSA who is responsible for insurance supervision can determine the structure of assets that would ensure that insurance and reinsurance contracts can be honoured.

3.22 One NSA pointed out that the power adopts the form of impeding the company to take further investment risk actively. Another referred to prescriptive diversification limits (by type of asset and by issuer group), as well as a set of principles for the sound and prudent management of investments. In this context, if this NSA considers that there is no compliance with these prudential rules/principles, a change in undertakings' investment policy can be requested.

3.23 Another NSA informed that there are limited provisions in place. Its powers affect mainly assets covering TP liabilities and specifically those undertakings which conduct occupational pension business. Through the provisions of the IORP Directive, life insurance undertakings with occupational pension business and occupational pension funds need to submit their investment policies for review by supervisor, who may request that they are amended. For assets covering TP liabilities, these must adhere to the strict requirements as defined in the national law, both quantitative and qualitative.

3.24 In one country, the NSA requires that companies establish an investment policy that shall be subject to approval by the administrative body and reviewed at least once a year. Undertakings shall transmit to this NSA a copy of the minutes containing the decision referring to the investment policy. The NSA can therefore monitor the investment policy adopted by insurers and, in case of need, can ask for clarifications.

- *Amending level of required solvency margins*

3.25 Several NSAs indicated that the solvency margin was determined in the EU Directives. Nevertheless, eight NSAs also mentioned that this power can be exercised under certain circumstances, such as a) if the company does not have own funds in the amount required or if the NSA has legitimate reasons to assume that a company will no longer have own funds in the amount required; or b) if deteriorating financial position of the insurer jeopardises the interest of policyholders. In addition to that, three out of the eight NSAs mentioned that the increase in the solvency position is established on the basis of a recovery/solvency plan that is requested to restore the financial position of the undertaking.

3.26 From the answers provided, it can be seen that this is a broad power, which could eventually be used to mitigate the impact of a prolonged period of low interest rates. In this regard, one NSA provided further details on a Traffic Light stress test they conduct, which includes interest rate stresses. This test is a supervisory tool which can indicate problems with interest rates and guarantees issued, and can be the starting point for further investigating the situation of undertakings. Where an issue is identified, the law provides possibility for the NSA to impose further regulatory capital requirement, but only in case of need and in a case by case basis.

- *Requesting the establishment of special provisions for interest rate risk*

3.27 This is a power that is available for a majority of NSAs and has been used by some of them in the last couple of years. NSAs generally do not implement it across-the-board, but rather on a case by case basis. When this is the case, NSAs make it dependent on their judgement about the adequacy of the technical provisions of insurers (three NSAs) or on the results of certain tests (one NSA). In one country, insurers have to follow some technical specifications included in a national regulation for the assessment of the additional provision for specific contracts.[6]

3.28 One NSA reported an extra provision for those insurance contracts which offer a guaranteed interest rate above 80% of the average 10Y government bond rate of the last 5 years. This provision, which was originally subject to certain exemptions, was made compulsory in 2013 due to the low interest rate environment.

3.29 Another NSA informed that, in general, they do not have this power. However, for the business under the provisions of a special transitional regime in that country,[7] insurers have to set up an additional technical provision in case the real return of investments is lower than the discounting rate.

- *Amending the valuation approach for technical provisions (e.g. adjusting discount rates)*

3.30 The valuation approach is usually clearly defined in the national law. Sometimes, it is the relevant Ministry or the NSA who determine the discount rates. In other cases the definition refers to the criteria that undertakings should consider when discounting liabilities. NSAs are generally able to influence the valuation of technical provisions by imposing a more prudent discount rate.

3.31 Several NSAs reported changes in the valuation approach for technical provisions in the last 2-3 years, of which two introduced the ultimate forward rate (UFR) method while another introduced an optional and temporary floor for the discount rate to calculate the technical provisions.[8] These measures are primarily introduced to give some relief to insurance undertakings in a low yield environment.

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[6] In particular, the Regulation refers to "financial risk for the increasing benefits contracts connected to separately managed accounts, for contracts with suitable and specific assets, and for contracts providing benefits which, although they are not connected to the results of a separately managed account, provide a return guarantee issued by the undertakings themselves".

[7] This transitional regime allows discounting the relevant technical provisions at the interest rate used for the calculation of the premium, provided that a portfolio of assets is identified and specifically assigned to those policies.

[8] The floor was introduced in June 2012. It was a temporary and optional measure that could be applied in exceptional circumstances. No undertaking applied this measure while it was in place

- *Reducing maximum guarantees/rates for new business*

3.32 The answers provided by several NSAs indicate that in at least four countries, it is actually the Ministry of Finance or another Ministry who has the power to set the maximum guarantees in alignment with or supported by the respective NSA. In this regard, one NSA indicated that it tried to use its power to lower the maximum guaranteed interest rate in 2012, but that the Ministry of Finance (who had a right of refusal) did not adopt the NSA's proposal.

3.33 Four NSAs mentioned that this power can only be used under certain circumstances, such as when there is a risk to the stability of the financial system or to policyholders, or when there is a breach in the solvency margin.

3.34 Sometimes –as stated by three NSAs– Authorities seek to influence on the guaranteed rates offered to new contracts through the adjustment of the discount rates that companies use.

3.35 One NSA mentioned that, according to the law, undertakings shall define the guaranteed interest rate in a way that it cannot be higher than sixty percent of the average annual rate of return of 10Y national government bonds. In another country, the maximum technical rate, which is published by the NSA, is calculated according to formula provided in the national law, i.e. 60% of weighted average of the 3 recent years average returns observed at primary market on government bonds with maturity at least of 8 years.

- *Limiting the allocations of bonuses/profit shares*

3.36 Rules referring to profit sharing and distribution of bonuses are usually laid down in national laws.[9] The flexibility of NSAs therefore very much depends on the concrete drafting of the regulation. As a consequence, the range of this power can go from a "soft supervision", in which companies are asked not to distribute profit sharing or dividends, to more strong measures whereby the NSA can temporarily forbid the distribution of shareholders dividends in certain circumstances (e.g. in case the interest of policyholders or beneficiaries are under threat).[10]

- *Prohibiting sale of certain affected products*

3.37 The use of this power seems to be rather exceptional. Only a minority of NSAs have it available, only one reported to have used it in the last 2-3 years (although not related to the low interest rate environment) and no NSA is planning to use it in the short term.

3.38 NSAs that have the power available indicated that it can only be used under certain circumstances, such as if solvency margin breaches occur,

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(June 2012-June 2013, renewed until December 2013). Since the floor expired the old discount rate regulation has been replaced in the country with a new Solvency II-like discount rate (introduced in December 2013). It is not foreseen that the "floor" measure is will be put in place again in the near future.

[9] In one country the power only refers limitation of profit shares, and not to restriction on bonuses.

[10] One NSA mentioned that even then the insurer should comply with relevant jurisdiction and contractual conditions which leaves little room for supervisory measures.

if there are financial stability or policyholders concerns or if the insurance company seriously violates the rules of sound risk management.

- *Reducing policyholder benefits*

3.39 This is a power rarely available to NSAs, which has never been used in the last 2-3 years, and which is not planned in the short term. It seems that the use of this power is subject to strict conditions. As stated before, this goes in line with the overall objective of consumer protection.

- *Reducing maximum guarantees/rates for future premium of existing business*

3.40 Amending the conditions of existing contracts during their lifetime is a problematic issue in which NSAs are usually not allowed to interfere unless there is an extreme situation (e.g. in a resolution).[11]

3.41 The guarantees in policies, including levels, form part of contractually binding obligations in legal agreements and as such are governed under General Contractual Law. As a consequence, ex-post changes to existing policies without the explicit consent from all involved contractual parties are outside of the remit of NSAs.

- *Others*

3.42 NSAs were also given the opportunity to report and explain any other power and/or measure implemented with regard to the low interest rate environment. Among others, the following issues were reported:

  - In one country, the Deputy Chair of the NSA can prescribe measures in order to ensure that the yield for insurers offering life products, is equal to or not less than the technical interest, also taking into account the security and liquidity of the investments of technical reserves and equity. This measure could include the need for adding new assets or replacing the existing ones.
  - The NSA in one country mentioned the power to put on hold the settlements for lapses in case of endangered solvency position.

3.43 Two other NSAs reported broad general powers that could also be used in a low interest rate environment. One of them mentioned the power to give in writing any directive it may deem necessary and appropriate to the circumstances. The addressee shall comply with it in a timely and effective fashion. The law in another country gives the NSA the power to take temporary measures by issuing an administrative decision that –at the latest– expires 18 months after having entered into force.[12]

3.44 An additional question posed to NSAs was ***whether there had been breaches of solvency margins*** or other incidents requiring recovery

[11] One of the NSAs that answered affirmatively to this question pointed out that it referred to future premiums of those insurance contracts with flexible premiums. It is therefore not applicable on future premiums of contract with pre-agreed or periodic premiums, where the insurers offered a fixed lifetime guaranteed rate.

[12] This can trigger several recovery and resolution actions, such as influence in the composition of the decision-making body of the company, appoint a government commissioner or fully or partly prohibit the continuation of business activities. In addition, it could also restrict by regulation the extent of the insurance cover agreed by an insurance undertaking in existing insurance contracts, subject to certain conditions.

and resolution actions linked to the low interest rate environment. Only one NSA reported affirmatively, informing that there had been several cases that were, however, able to recover. This NSA also stressed that the supervisory response needed to be swift and proactive, but without causing undue distress. The important role of early warning systems were also mentioned by this NSA, which allows the supervisor to act in due time and adopt the adequate measure.[13]

3.45 Several NSAs pointed out that the low interest rate environment was not an issue for them because of the developments of national bonds market or the features of the products offered in the country.

4. The insurance sector under a low interest rate environment

4.1 The impact of a low yield environment on undertakings is basically the result of three interrelated factors: the guaranteed rates offered by companies, the existing market yields, and the duration gap.

4.2 The business models most vulnerable to the impact of a prolonged period of low yields and low interest rates are those that are long-tailed and may include guaranteed returns and/or important amounts of profit sharing or products for which the profitability strongly depends on the investment returns. This covers guaranteed life insurance business and some non-life business lines. In essence a prolonged period of low interest rates would expose an inherent fragility in some insurers' business models.

4.3 The information provided by some companies in the ancillary questionnaire gives an indicative picture of the situation in Europe, with focus on the life insurance business. It should be stressed that the analysis is based exclusively on the information provided by participating companies. After a consistency check, several data could not be taken on board.[14] Overall, the information received cannot be read as reflecting the reality of any particular country as it might not represent the whole market in a proper way, but rather that of the reporting companies.

4.4 Chart 4 provides some information on the first factor, i.e. the average guaranteed rate of reporting life insurance companies. Companies were grouped according to the guaranteed rates offered in the different years.[15] The impact of rates with and without surrender value depends on the share of each type of guarantee on the liability side.

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[13] In terms of proactivity this NSA monitors the risks of the undertakings through its regular Traffic Light stress, which stresses financial risks and insurance risks that the undertakings are exposed to. As a supervisory tool rather than an explicit solvency requirement, it allows the NSA to initiate discussions with the affected undertakings at an early stage before breaches of regulatory limits occur.

[14] The existence of other inconsistencies that may have not been identified cannot be completely ruled out. The information should therefore be considered with caution.

[15] Important methodological differences exist between the forward-looking analysis performed in the Stress Test for the cash-flow projection and the historical and contractual approach adopted in this document, which justify slightly different but complementary conclusions.

Chart 4: Average guaranteed rate of reporting companies
-Life insurance, except unit-linked and index-linked

a) with other options and guarantees, without surrender value

(Sample: 64 Companies)

b) with other options and guarantees, with surrender value

(Sample: 109 Companies)

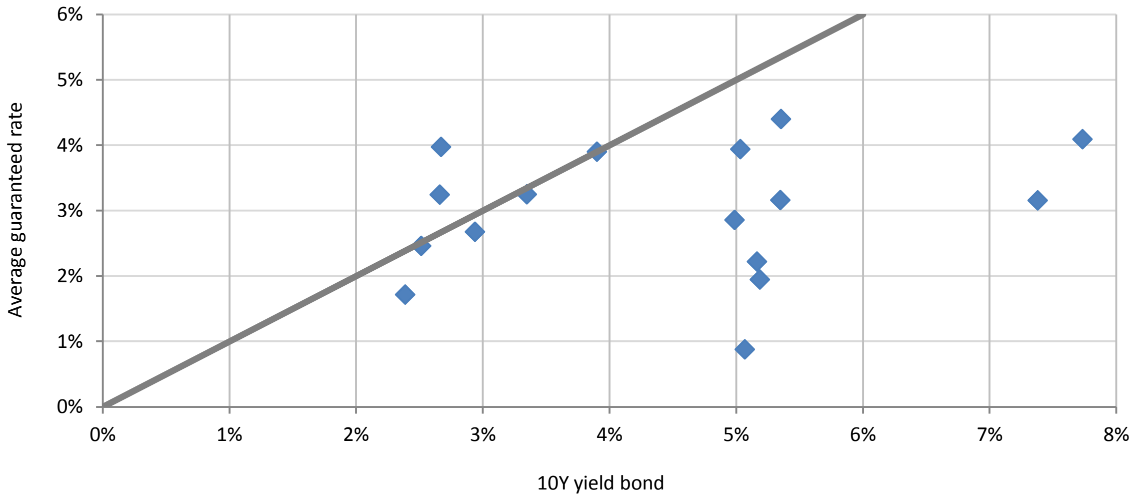
4.5 Reporting companies offering contracts with other options and guarantees and without surrender value have decreased the average guaranteed rate in the period 2009-2013. In particular, there seems to be a shift from high guaranteed rates in excess of 3% towards lower guaranteed rates in this period.

4.6 A similar path can be identified with regard to contracts with other options and guarantees and with surrender value. Generally, companies have decreased the average guaranteed rates in the period 2009-2013 with the objective of adapting to the low interest rate environment.

4.7 On the second factor, relevant market interest rates in Europe such as government bonds have remained at low levels for some time as a consequence of the weak macroeconomic environment and the monetary policy followed in the EU countries. Thus, companies in several jurisdictions may be struggling to obtain attractive return on assets.

Chart 5: 10Y government bond yield to weighted average guaranteed rates for Life insurance, except unit-linked and index linked (with other options and guarantees; with surrender values)

(Average years 2009-2013)



(Sample: 76 Companies grouped in 16 jurisdictions)

Source: EIOPA and Bloomberg

4.8 One way of approaching this issue is by grouping companies according to the jurisdiction they belong to and by observing the relation between the weighted average guaranteed rates of those companies in the period 2009-2013 and the 10 years government bond yield during the same period in these jurisdictions (see chart 5).[16] The latter is used as a proxy of a relevant market rate. Only countries in which there were data available on 10 years government bond yields and, at the same time, companies reported average guaranteed rates were depicted.

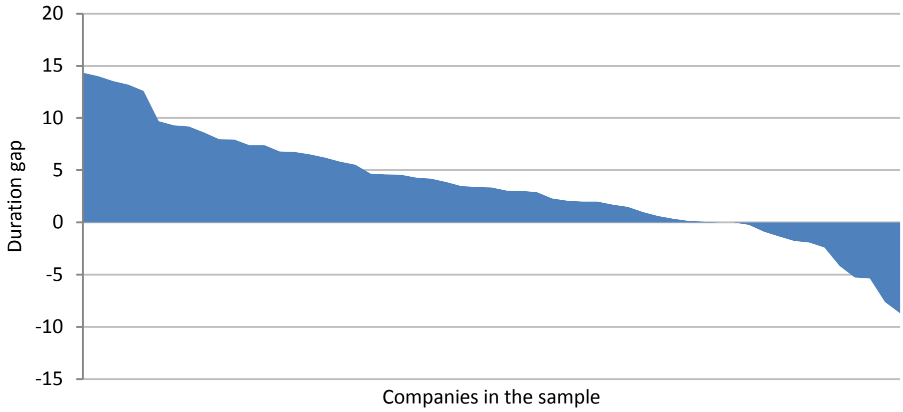
4.9 The black line in chart 5 represents those pairs of values for which the average guaranteed rate would equal the 10 years' bond yield during the period 2009-2013. Thus, observations above the reference line may signal potential problems in case of a continuation of this trend.

4.10 The third factor that needs to be considered in a low interest rate environment is the duration mismatch. Life insurance companies typically operate with a duration mismatch, as the duration of liabilities is usually greater than the duration of assets. Chart 6 shows the duration gap of reporting companies in 2013. The duration gap shown is defined as the difference between the duration of liabilities and the corresponding duration of assets of each reporting company.

[16] Weighted figures were used, to illustrate the relevance of each company according to the size of the technical provisions.

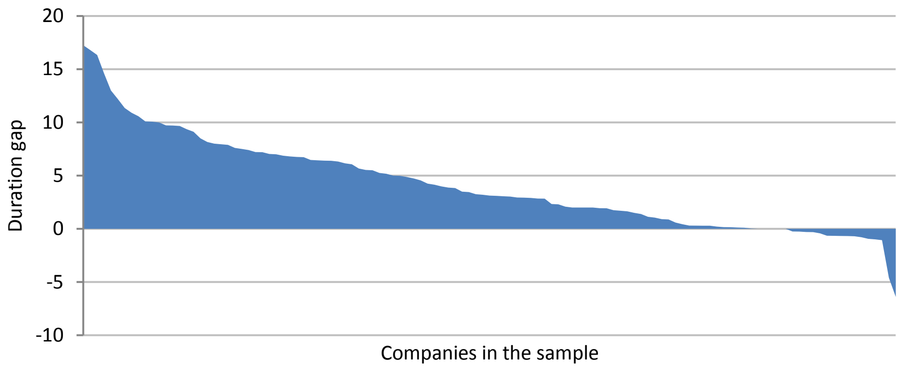
Chart 6: Duration gap for Life insurance companies, except unit-linked and index-linked

a) with other options and guarantees, without surrender value



(Sample: 54 Companies)

b) with other options and guarantees, with surrender value



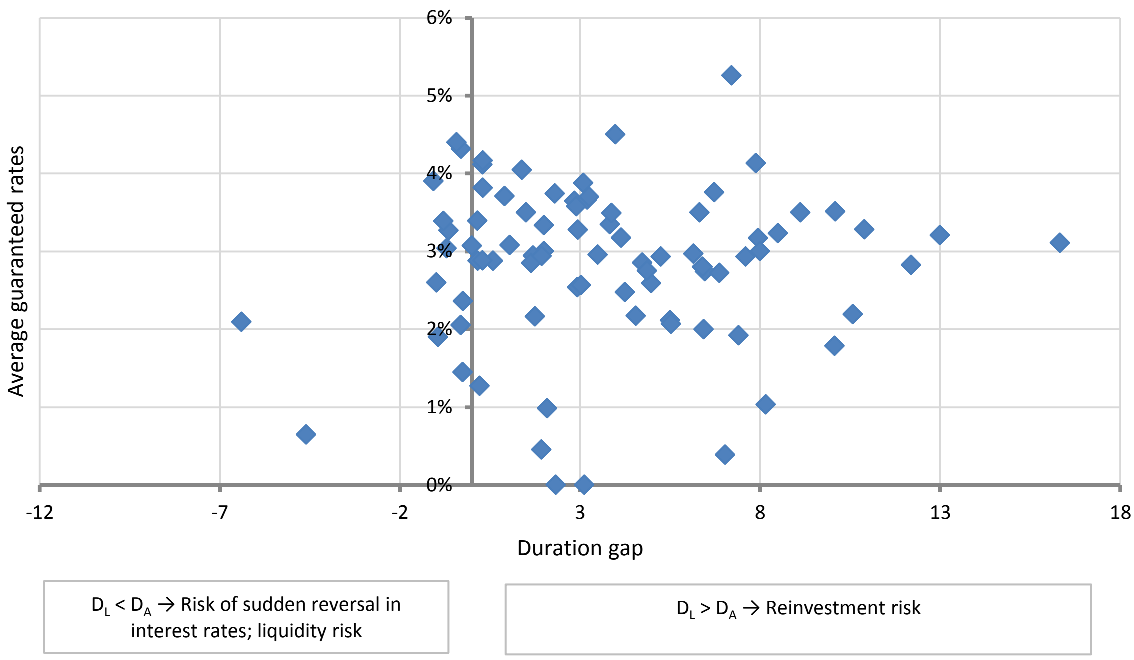
(Sample: 119 Companies)

4.11 The exposure to changes in interest rates is greater for those undertakings with higher duration gaps (positive or negative). The specific impact, however, depends on the nature of the gap and the actual evolution of the interest rates.

4.12 The combination of the average guaranteed rates and the duration gap may also provide relevant information about the extent to which a low interest environment can pose a risk to companies (see chart 7). Only companies in which there were data on duration gaps and on average guaranteed rates were depicted. In this environment, the risk of reinvestment affects more significantly those undertakings with duration of liabilities greater than duration of assets, and this can be particularly challenging for companies offering high average guaranteed rates. On the other hand, undertakings on the left hand side are more exposed to a risk of sudden reversal in the interest rates and to a certain liquidity risk if assets need to be realised prior to maturity in order to meet payment commitments coming from the liability side.

Chart 7: Duration gap to average guaranteed rates for Life insurance companies, except unit-linked and index linked (year 2013)

(with other options and guarantees and with surrender values)



(Sample: 83 Companies)

4.13 On the issue of duration mismatch, the EIOPA Insurance Stress Test 2014 provides substantial and valuable information. A pattern emerges in terms of which jurisdictions are most vulnerable to a low yield environment in terms of the duration and IRR mismatches that their undertakings are running. There is a set of jurisdictions where significant return mismatches are in evidence, combined with duration mismatches that leave them vulnerable to interest rate falls. Interestingly, this outcome is not so strongly correlated with the level of guaranteed rates. This adds weight to the EIOPA position set out in the Opinion and supports the conclusions therein relating to the mitigating measures that need to be explored, such as improving cash flow management.

4.14 In the context of the Stress Test, companies were also asked to signal which of the two proposed scenarios, i.e. long lasting low rates or an atypical reverse shocked interest rate curve could be more threatening to them. Although several companies considered the combination of both scenarios as the main threat, the majority of them clearly referred to the long lasting low rates as their main concern due to the impact on both sides of the balance sheet.

4.15 Those companies that considered an atypical reversal in the interest rate curves usually mentioned the risk of mismatch that this would create if this change in the curve is significant and takes place very sharply and in a very short period.

4.16 The low yield module of EIOPA Insurance Stress Test 2014 explores potential risks and vulnerabilities under both scenarios.

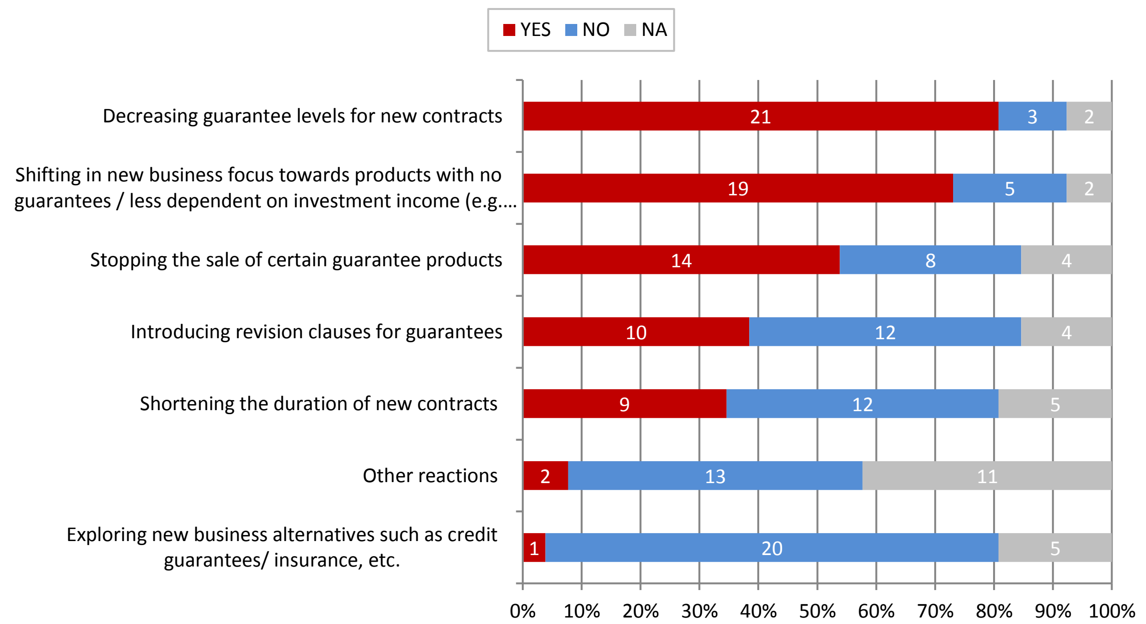
5. Measures taken by the industry

5.1 As shown in the previous section, the insurance sector has sought to adapt to the low interest rate environment in different ways. NSAs were asked to report the measures taken by the industry with regard to new and existing business. In addition to that, they were also asked to report ALM strategies and other type of reaction seen in the market. This information was supplemented with a brief insight provided by companies in the ancillary questionnaire.

Product strategy for new business

5.2 In terms of new business, chart 8 shows that insurers are decreasing the guarantees in the new contracts and shifting towards products with no guarantees.

Chart 8: Product strategy for new business



5.3 This information was confirmed by companies participating in EIOPA Insurance Stress Test 2014. Companies generally reported that the low interest rate environment was and had been impacting on their business strategy already for several years. When asked about business strategies, insurers explained –in line with the information provided by NSAs– that they were facing this challenge by decreasing the guarantees of products (even offering guarantees with zero or close to zero interest rates) and/or shifting to products less dependent on the investment income, in particular, to unit-linked products, but also with profit products.

5.4 Companies in some jurisdictions also informed that non-guaranteed products and unit-linked products were already predominant and, as such, no significant change in the business strategy was being implemented. Other measures, such as completely ceasing the selling of life products with guarantees were also reported by several companies.

5.5 In light of the responses of NSAs, insurers seem not to have engaged in new types of businesses as a reaction to the low interest rates. As such, they have generally not explored more risky business options such as credit guarantees.

5.6 The paragraphs below provide an overview of the additional comments provided by NSAs.

- *Decreasing guarantee levels for new contracts*

5.7 Around 80% of the surveyed NSAs have observed a certain decrease in the guarantee levels for new contracts. This decrease has basically taken place in the last 2-3 years. This trend can sometimes be explained by the measures taken by Authorities in the different jurisdictions with regard to the maximum interest rates (see section above).

5.8 As will be explained below, this measure has sometimes also been combined with other measures, such as moving towards unit-link products or guaranteed interest products with very low interests. In some cases guarantees are only offered for a limited period of time, with the possibility of periodic reviews in the conditional part.

- *Shifting in new business focus towards products with no guarantees/less dependent on investment income (e.g. unit-linked, pure risk covers)*

5.9 As mentioned above, a majority of NSAs observe a shift in business towards products with no guarantees or products that are less dependent on investment income. This was also confirmed by companies. Unit-linked products were mentioned explicitly by nine NSAs. Other products mentioned were the following:

  - Products offering guarantees with zero or close to zero interest rates.
  - Products offering a mixture of fixed guarantees and unit-linked features.
  - Profit sharing products.

5.10 One NSA also mentioned that pure insurance risk covers (i.e. with no saving component) have been sold in its country.

5.11 Four NSAs mentioned that the share of unit-linked products had actually decreased in recent years. In particular, one NSA mentioned that the decrease was due a huge miss-selling issue that has not been resolved fully yet. According to the view of another NSA, in the current adverse financial environment, unit-linked products with no investment guarantees are perceived to have a strong reputational risk associated.

- *Stopping the sale of certain guarantee products*

5.12 More than half of the NSAs have observed that certain insurers within their jurisdiction have ceased selling guaranteed products, at least to a certain extent. Several products such as fixed lifetime guarantees and life annuities were mentioned.

5.13 In one country a few insurance undertakings have placed some or all of their older business in run-off over the period 2011-2012 and started providing lower guarantee levels on new business or products with zero or no guarantees. This NSA has also noted a trend over the past 20 years for a shift towards unit-linked business and saving products where policyholders bear more or all of the financial risks.

5.14 According to one NSA, although there are no strong indications that insurance undertakings have stopped selling guaranteed product in this jurisdiction, new life business is declining significantly for some years as a result of the severe competition from banking products, which have the same fiscal treatment than life insurance contracts since 2008.

- *Introducing revision clauses for guarantees*

5.15 An issue observed in several countries is the fact that the share of fixed-time guarantee products is gradually decreasing in favour of other more flexible products. The following examples where given by NSAs:

- Profit-sharing guarantees.
- Products that include yearly updates.
- Products with revision clauses that are activated in certain circumstances.[17]
- Products with clauses that include minimum interest rate guaranteed only at maturity rather than a consolidation on annual basis.

5.16 One NSA reported that the Act on Insurance Contracts already included provisions on amendment of e.g. interest rates and other elements in the terms and conditions in certain cases, provided that the possibility of such amendments was mentioned in the initial contract. Use of this clause has been insurance practice for years in that country. It was also pointed out that in case policyholders are companies, undertakings have more flexibility to amend the premiums.[18]

5.17 Lastly, another NSA provided information on the products that are sold in its market, which isolate insurers from the interest rate volatility. Guarantees are mainly sold with a "recurring single premium" feature, meaning that each premium defines a guarantee on the terms and conditions issued at point-of-sale. In that way, one insurance contract may contain a number of different guarantee levels for different parts of the pension/long term savings benefits. This implies that the levels of guarantees for new premium periods can be adjusted to the current market conditions at each renewal period, making the need of an overall guarantee revision clause less urgent.

- *Shortening the duration of new contracts*

5.18 An option to adapt to low interest rate environment is shortening the duration of new contracts, which enables companies to offer products that are in line with current market conditions. Nine out of 26 NSAs have

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[17] For example, one NSA mentioned that for certain products especially offered by lateral pension funds it is possible to change the guarantees upon certain (typically) predefined observations. This includes interest rate, biometric parameters and expense parameters.

[18] This NSA also informed that one undertaking had introduced some new clauses (market level adjustments) for calculation of surrender values which may imply that actual effective guaranteed rates are even less than 0%.

observed it in their markets. Two NSAs mentioned that they did not have the information, as there was no evidence available, and two other pointed out that only certain guaranteed products were affected.

5.19 One country mentioned that, because of certain taxation regime changes, there was no active pension market in the country which, in practice, had caused a shortening in the duration of new contracts.

- *Exploring new business alternatives such as credit guarantees/insurance, etc.*

5.20 According to the feedback provided by NSAs, European insurers are clearly not entering into new business such as credit guarantees or credit insurance as a "search for yield" behaviour to offset the low interest rate environment.

- *Other reactions*

5.21 NSAs were also given the opportunity to report any other reaction seen in the market. As for the new business, in addition to what has already been reported, one country mentioned that some undertakings have introduced variable annuity features into their unit-link products (especially Guaranteed Minimum Death Benefit cover).

5.22 Another country reported that some life and non-life annuities significantly lowered technical rates for pricing new business (more common) and/or for existing business. In addition to that, the NSA mentioned that it is also not uncommon to use 0% technical rate for some parts of business, which means that the premiums paid are guaranteed.

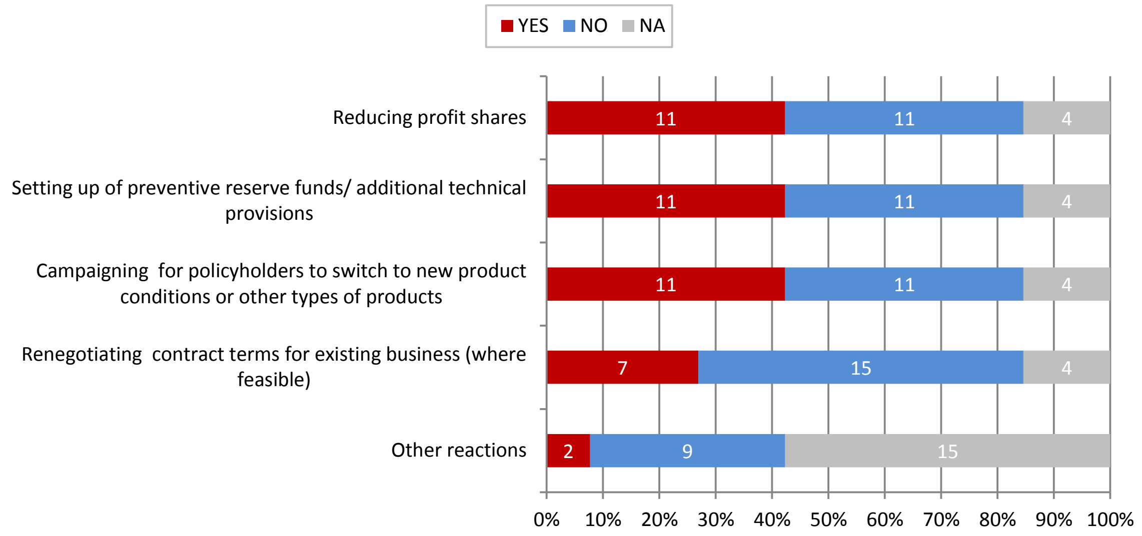
Product strategy for existing business

5.23 In light of the feedback provided by NSAs, it seems that the business in the books is far more complex, as contracts usually do not leave much room for changes in the original terms and conditions. As a consequence, insurers have to look for alternatives to avoid deterioration in their solvency position, such as reducing profit shares or setting-up preventive reserve funds or additional technical provisions (see chart 9).

5.24 In order to circumvent the lack of flexibility of existing contracts, insurers may also give incentives to policyholders to switch to new products. This option has been witnessed in eleven countries.

5.25 As in the previous section, NSAs had the option to supplement their answers with additional comments or remarks with regard to the existing business. The following paragraphs summarise some of the information received.

Chart 9: Product strategy for existing business



- *Reducing profit shares*

5.26 This option was mentioned by eleven NSAs. There are, however, important nuances in its application. In general, it seems that companies try to avoid it for reputational reasons. It was also mentioned that in other occasions, there is not much room to reduce profits as the conditions are clearly specified in the contracts. Nevertheless, when managers have some discretion or when there are relevant provisions in the contracts, companies in some countries seem to be making use of this option in the last couple of years.

5.27 It was also mentioned that profits share are sometime es calculated on total returns. As a consequence, decreasing returns resulting from the low yield environment automatically lead to fewer profits to be shared.

5.28 Lastly, one NSA mentioned the observation of a principle of equality according to which, in practice, those contracts with higher guaranteed interest obtain lower bonuses.

- *Setting up of preventive reserve funds/additional technical provisions*

5.29 NSAs reported different issues in relation to this question. In three countries insurers have set up specific reserve funds to cope with the low interest rate environment. Sometimes this is due to the measures taken by the NSAs, as reported in previous sections.

5.30 In addition to that, several other NSAs informed that there has been an increase in the technical provisions which is the result of a) the existing legal provisions; b) the calculation method or the discount rate used (e.g. in case that market rates are used); and c) the result of different types of liability adequacy tests that reflect the impact of a low interest rate environment and the guarantees offered.

- *Campaigning for policyholders to switch to new product conditions or other types of products*

5.31 Several NSAs indicated that some insurers have initiated certain campaigns with the aim of inducing policyholders to switch to new products or new product conditions. This is a sensitive issue in which a balance needs to be stroke between the protection of policyholders, on the one hand, and the legitimate commercial strategy of companies on the other. Campaigns are not intrinsically undesirable as long as a fair basis for policyholders is ensured.

5.32 According to the information provided, instead of trying to agree on a change in the product conditions, insurers have sought to move consumers to new products. Two concrete examples provided by NSAs refer to a campaign undertaken to switch guaranteed interest products into unit-linked products and another one to redeem variable annuities sold in 2007 in one country.[19]

5.33 Lastly, one NSA reported that these campaigns have been noted since 2005/2006 and some large providers have also campaigned during 2012 and 2013. Due to consumer protections issues related to such campaigns, this NSA enforced a new regulation in July 2013 regarding the type of information that should be provided to policyholders when offering changes to existing contracts with guarantees or moves to contracts without guarantees.

- *Renegotiating contract terms for existing business*

5.34 Renegotiating the terms for contracts in force is generally not feasible, due to the legal implications it may have. This option actually requires express permission from all affected contractual parties and cannot be implemented unilaterally by undertakings.

5.35 NSAs that responded affirmatively clearly showed that this option has been very marginally used, and usually restricted to very specific products. For example, one NSA mentioned that in certain cases undertakings have reduced the option to allocate unit-linked funds into guaranteed interest reserves and to pay additional premiums to guaranteed interest reserves.

- *Other reactions*

5.36 Two NSAs indicated additional reactions to the low interest rate environment: a) A reduction in the interest payables on variable interest products; and b) The introduction of fees in certain cases of reallocation of unit-linked funds into guaranteed interest reserves.

Asset allocation, ALM strategy and other mitigating techniques

5.37 NSAs were also asked to report any other measures the industry is taking in order to adapt to the low interest rate environment, in particular with regard to cost efficiency, asset allocation and ALM strategies.

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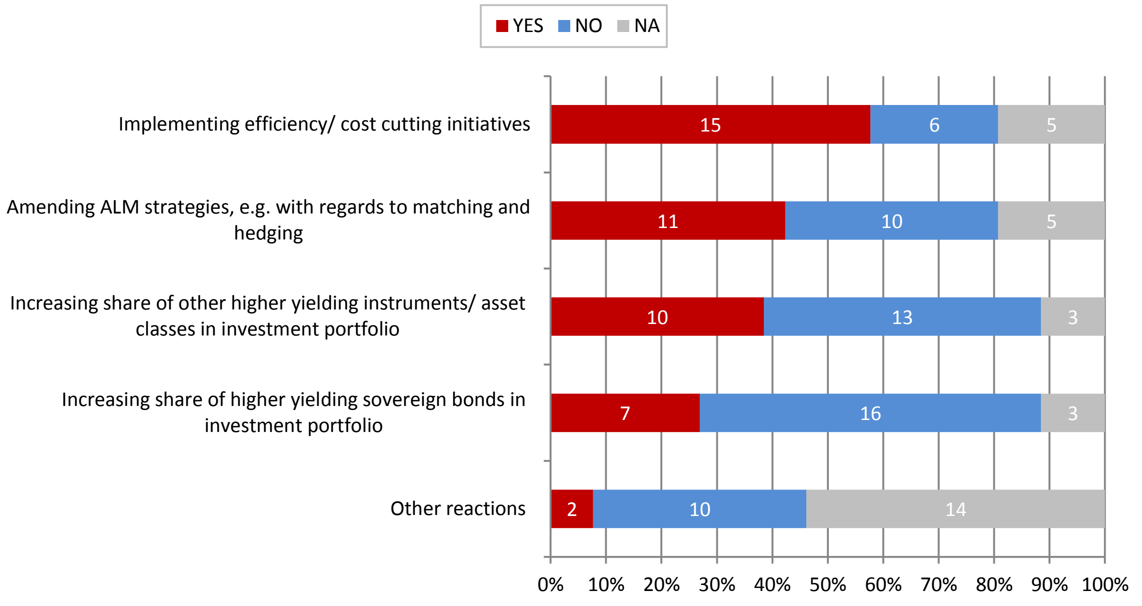
[19] On the latter, the NSA provided additional information. It refers to an undertaking that started a campaign in 2013 with the aim of stimulating policyholders to redeem "variable annuities", sold since 2007. These products provide a yield guaranteed the tenth year and, therefore, require significant technical provisions to cope with the cost of guarantees. Thus, the undertaking has offered special conditions to policyholders for the redemption of their contracts, in order to reduce the costs of the future guarantees.

5.38 Chart 10 provides an overview of the measures taken according to NSAs. It can be observed that undertakings are mainly reducing their operational costs and implementing other measures with the aim of increasing their efficiency.

Chart 10: Asset allocation, ALM strategy and other mitigating techniques



5.39 Two issues explored in the survey referred to potential "search for yield" behaviours, i.e. increasing the share of higher yielding assets and/or increasing the share of sovereigns with large spreads. Although these movements have been witnessed in several jurisdictions, it does not seem to be a very strong trend in Europe.[20] It has to be pointed-out, however, that the jurisdictions in which a certain movement towards higher yielding assets have been witnessed do not always match with those that are particularly affected by the low yield environment.

5.40 A similar question was posed to companies in the ancillary questionnaire. They were asked to assess the potential impact of the current low interest rate environment on their asset classes, showing divergent views among companies. Several companies in different jurisdictions indicated that they already had the adequate asset structure in place to cope with a long-lasting low interest rate environment and, therefore, that no change in the asset mix was needed.

5.41 The low interest rate environment has, however, impacted the asset mix of many other of the reporting companies. These undertakings reported that a shift in the current investment structure was going on or had to be considered in the near future. This shift goes along the following lines: reduced concentrations to local government bonds, a change in the

[20] An increase in the share of government bonds does not necessarily constitute a "search for yield" behaviour. Such a pattern may actually reflect the desire to diversify the portfolio. If, however, the increase is significant and focused on sovereigns other than the one in which the insurer is based, this might be a signal of a potential search for yield behaviour.

duration of investments or a movement towards more risky assets, such as an increase in the share of equity, corporate bonds or investments funds. In similar terms, several companies also mentioned that the focus would also be put on new or other investment categories, e.g. real estate and property related investments, renewables, infrastructure projects, FX exposures or higher weight of the loan portfolio.

5.42 Other mitigating strategies considered referred to the amendment of ALM techniques, which was reported by eleven out of 26 NSAs. In this regard, companies that answered the ancillary questionnaire referred to both, stricter cash flow and/or enhanced hedging techniques, although not much additional information was provided.

5.43 Although an amendment of the ALM strategy is one of the main mitigating actions implemented, companies reported that a change in the product mix and in the investment structure was the predominant strategy to cope with the low interest rate environment. The changes in the product mix, which aim at adapting the insurance business to the current macroeconomic environment, go along the line highlighted in previous section, i.e. offering products with fewer or zero guarantees, moving towards unit-linked products, etc.

5.44 Earning retention was also reported by several companies as a relevant mitigating strategy. One of them mentioned that it was increasing provisions for bonuses and rebates to policyholders, which would be distributed to policyholders. Other mitigation strategies mentioned were stricter cost management, more disciplined underwriting or an increase in exposures to securities denominated in other currencies.

5.45 In many cases, different strategies were reported to take place in combination, with a change in product mix and in the investment structure being predominant.

5.46 The paragraphs below summarise the additional information provided by NSAs to each item in chart 10.

- *Implementing efficiency/cost cutting initiatives*

5.47 The majority of NSA indicated that insurers in their jurisdictions are currently undertaking cost-cutting processes. It seems, however, that such initiatives arise due to the continued difficult economic environment generally rather than specifically due to low interest rates. The deterioration of the macroeconomic conditions requires insurers to adapt the cost structure to a situation in which the investment returns have decreased.

- *Amending ALM strategies, e.g. with regards to matching and hedging*

5.48 Several NSAs indicated that insurers are indeed adapting their ALM strategy to the persistent low interest rate environment. A majority of those who answered affirmatively referred to an increase in the duration of assets in order to shorten the negative duration gap. No further information was provided on how the current assets were replaced by others with longer duration. Two NSAs, however, also mentioned a strengthening of hedging programmes.

5.49 From the answers provided, it seems that insurers are increasingly aware and reacting accordingly. Nevertheless, the information provided does not allow seeing what actions are they actually taking and whether it refers to new or existing business.

- *Increasing share of other higher yielding instruments/ asset classes in investment portfolio*

5.50 From the information provided by NSAs (which was also confirmed by companies) it can be learned that insurers in several jurisdictions are indeed increasing the share of higher yielding instruments or asset classes in the investment portfolio. Overall, however, this does not seem to be a very remarkable trend.

5.51 According to the information provided by NSAs, insurers are increasing the share of the following types of investments:

Investments	Number of times reported
Corporate and banks bonds	6 NSAs
Other variable income securities and collective investment funds	4 NSAs
Real estate	3 NSAs
Alternative investments such as infrastructure or structured credit	3 NSAs
Loans	2 NSAs
Mortgages	1 NSA[21]

5.52 Lastly, two NSAs also pointed out a decrease in the share of deposits held in financial institutions.

- *Increasing share of higher yielding sovereign bonds in investment portfolio*

5.53 A certain increase in the share of higher yielding sovereigns has been observed in seven jurisdictions.[22] It has to be pointed out that this increase is not perceived by NSAs as very substantial.

5.54 As reported by several NSAs, insurers exhibit a strong home bias when it comes to investing in sovereigns. Still, in a few countries, other types of sovereigns have been witnessed, such as those from countries experiencing a certain distress or from emerging markets.

- *Other reactions*

5.55 As in previous sections, NSAs were invited to provide further information regarding reaction by the industry. The following issues were mentioned:

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[21] This NSA explained that in this country life insurers tend to increase their investments in mortgages which offer a higher yield than government bonds. However, it also pointed out that investments in mortgages not necessarily bare a higher risk than government bonds where such mortgages are guaranteed by the Mortgage Guarantee Fund.

[22] In two others, the share has actually decreased.

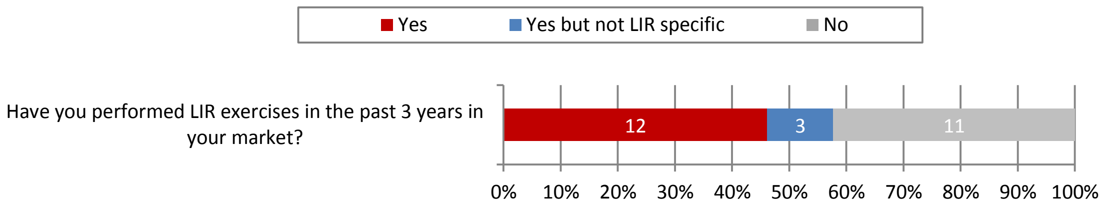
- In one country, some companies have changed their valuation basi s for life products, by including an allowance for reinvestment yields being greater than the yields on assets currently held.
- In another jurisdiction, some undertakings have generated new processes for strategic asset allocation taking also into account the capital efficiency and solvency positions.
- Lastly, one NSA mentioned the issuance of structured products such as unit-linked that include certain guarantees.

6. Low interest rate exercises

General overview of number of initiatives or exercises undertaken

6.1 NSAs were asked on whether they have undertaken exercises to test the impact of a low interest rate environment in their markets in the last three years. Twelve NSAs declared that at least one specific initiative focused on the low interest environment was undertaken since 2010 until the date of close of the questionnaire. Additionally, three NSAs explicitly mentioned that, although not specifically designed to deal with the challenges of a persistent low interest rate environment in their market, they have tested the interest rate risk within the prospective supervisory practices in place at least once since 2010. See chart 11 for a summary of the responses received on the above mentioned question).

Chart 11: Low interest rate exercises performed

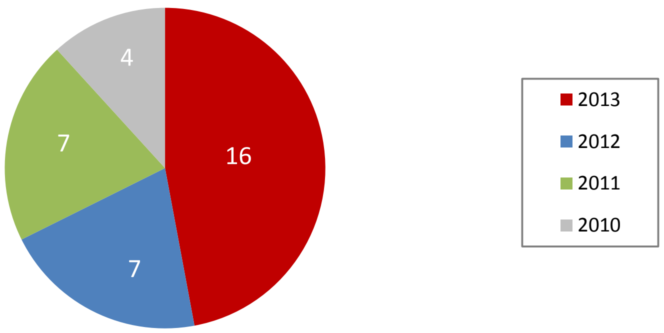


6.2 Five out of those NSAs who responded affirmatively to this question, declared at least two different initiatives and one NSA even three different type of initiatives undertaken. In general, the different type of initiatives are not performed simultaneously, rather normally are performed in different exercises. Some of the initiatives are recurrent or have been undertaken more than once since 2010.

6.3 Chart 12 presents the total number of initiatives reported by all the NSAs as performed in each year since 2010. This number of initiatives or exercises includes those which were reported by the NSAs as not specifically design to investigate the challenge of low interest rate environment but include interest rate stresses, as well as all the ‘editions’ of any initiative.[23]

[23] For example, one NSA reports an initiative which has been repeated every year since 2010, hence such initiative is considered as an initiative in 2010, 2011, 2012 and 2013.

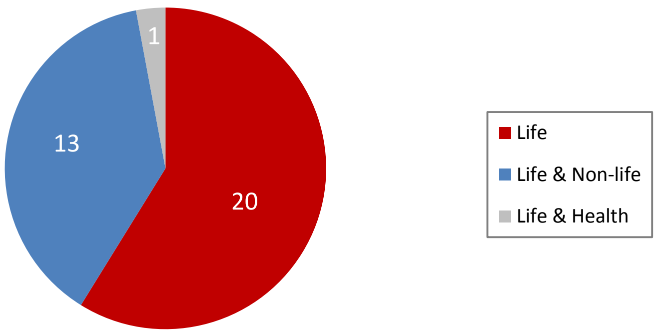
Chart 12: Low interest rate exercises performed per year since 2010 (including recurrent editions)



Overview of the scope of initiatives or exercises undertaken

6.4 NSAs were asked on whether the exercises performed included any quantitative and/or qualitative questions. In light of the responses, all the exercises included quantitative questions to insurance undertakings. Only in one of the initiatives the NSA reported that no qualitative questions to insurance undertakings were included, however it should be noted that this was a third type of initiative implemented by the NSA and the other two included both quantitative and qualitative questions.

Chart 13: Type of business covered by the exercises performed



6.5 NSAs were asked for the type of business which was covered by the initiatives undertaken in their markets. Chart 13 shows that more than half of the initiatives performed covered life business only or even only specific type of life business. The initiatives included in regular supervisory activities which were reported by some NSAs, although indicating that they were not specifically designed to cope with the challenges of the low interest rate environment, tend to cover both life and non-life business. The initiatives focused on the low interest rate environment, in turn, tend to cover life business only or even more specifically life business with interest rate guarantees. One NSA reported an initiative covering specifically life and health business.

Scenarios tested

6.6 NSAs were asked whether, having performed any initiative to assess the impact of a low interest environment, different low interest scenarios were tested and which type of scenarios were those. Answers to the first question are summarised in chart 14. The answers to the latter question show that:

- Some initiatives replicated the low yield scenarios contained in EIOPA Stress T in 2011
- In addition, many included a number of interest rate scenarios with both instantaneous:
  - rising and
  - falling rates and
- Changes to yield curves, both:
  - parallel and
  - non-parallel shifts in yield curve (e.g. short term rates rising while long-term rates are unchanged); and
- In some initiatives a snapback of interest rates (i.e. a rapid increase up to 250 bps) was tested.

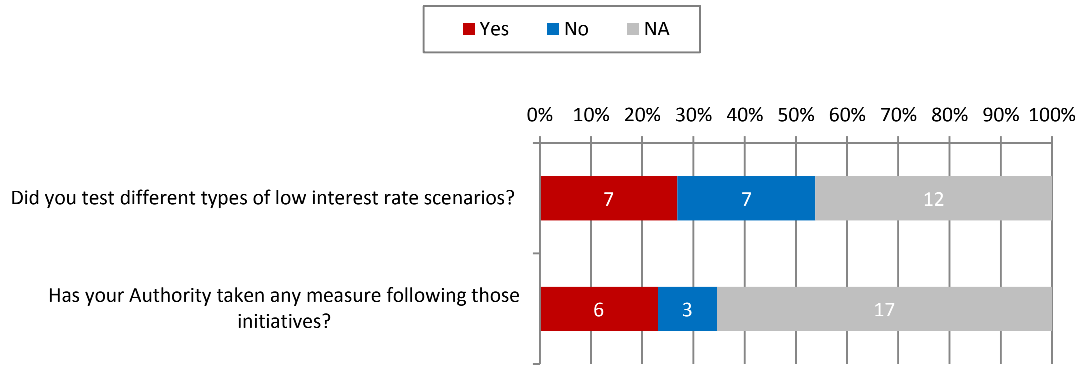
Measures taken at the light of the findings in the exercises

6.7 Chart 14 also summarises the responses from NSAs to the question of whether the Authorities had taken any measure following the initiatives which are the object of this part of the survey. Only half of the NSAs who did undertake an initiative, reported to have taken at least one measure after it, and three NSAs reported that they are still in the process of analysing the results of the national initiatives at the date of this survey. Hence chances are of having new measures implemented once the analysis phase is concluded. Regarding the specific measures that Authorities have taken following those initiatives, NSAs basically reported the type of measures analysed in previous section of this note, as this should be a subset of measures adopted as a follow up of the specific low interest rate initiatives undertaken. The measures reported in this section of the survey range among the following:

- A supervisory ladder has been set up:
  - contact vulnerable insurers;
  - follow up undertaken with individual firms;
- Introduce an additional interest rate reserve;

- Increase awareness in industry by using the information for political discussion.

Chart 14: Scenarios tested and measures taken following the exercises performed



Parts of the market most affected by low interest rate environment

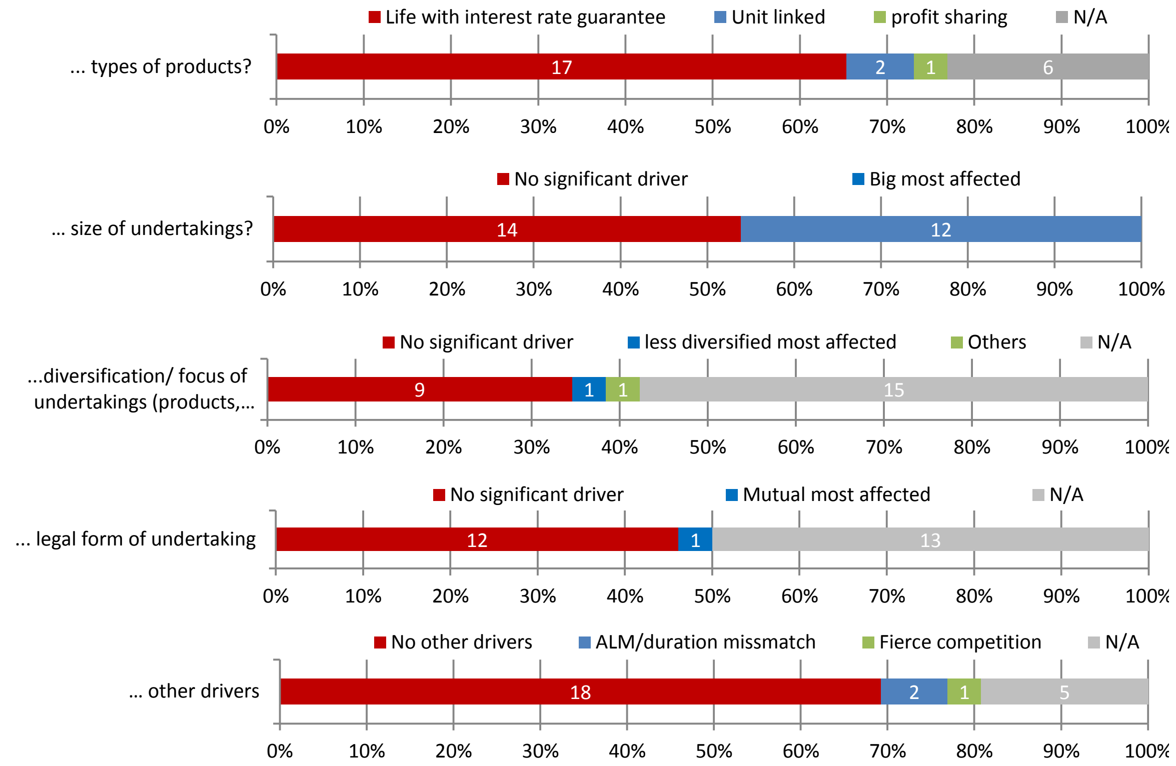
6.8 In an attempt to delimit the scope of the challenge caused by a persistent low interest rate environment, NSAs were asked about the parts of their markets which were most affected in the exercises performed focusing in a set of given drivers. The suggested drivers are the *type of products, the diversification of business, size and legal form of the undertaking.* NSAs were also given the chance to identify any other driver based on the findings of the initiatives. The result of these questions is summarised in chart 15.

6.9 The answers reflect that the *type of product* is the most relevant driver identified by NSAs. The products provided by life insurance companies and occupational pension funds, which make long-term commitments to their policyholders in the form of interest rate guarantees or promises of future payments from insurance policies and pensions, are the most exposed to this risk. Two NSAs however mentioned that to the extent that proper cash flow and duration matching strategies are in place, the low interest rate environment is not an issue.

6.10 None of the other three suggested drivers was notably identified as relevant for the purpose of the survey as clearly showed in the chart 15 and in the following paragraphs.

6.11 The *size* of undertakings is not identified as a relevant factor by any of the NSAs. In fact, a large majority concludes that size is actually not particularly relevant. However some NSAs refer to the phenomena in which the market shares of the biggest insurance companies are decreased on the account of small and new insurance companies. This comes together with the observation that the relevance of the life insurance business with guarantees is being reduced due to the low interest rate environment in favour of other type of business with fewer guarantees.

Chart 15: Which parts of the market are most affected in terms of ...



6.12 Only two members identified the *degree of diversification or concentrated focus of undertakings in certain products, geographical areas or distribution channels* as a potential aggravator of the low interest rate environment consequences. In particular one NSA underlined a more prominent problem for life insurers with less diversified life portfolio. The rationale provided is that "older" portfolios in this particular country used to be long term and typically have high guaranteed technical rate of interest (4%-5,5%-7%) due to the past high interest rate environment. Therefore insurers with such portfolios already needed to increase the technical provisions under the current environment. Regarding the *distribution channel*, other NSAs underlined that, in general, they have observed that the products sold by undertakings belonging to banc-assurance groups generally offer comparatively higher guarantees.

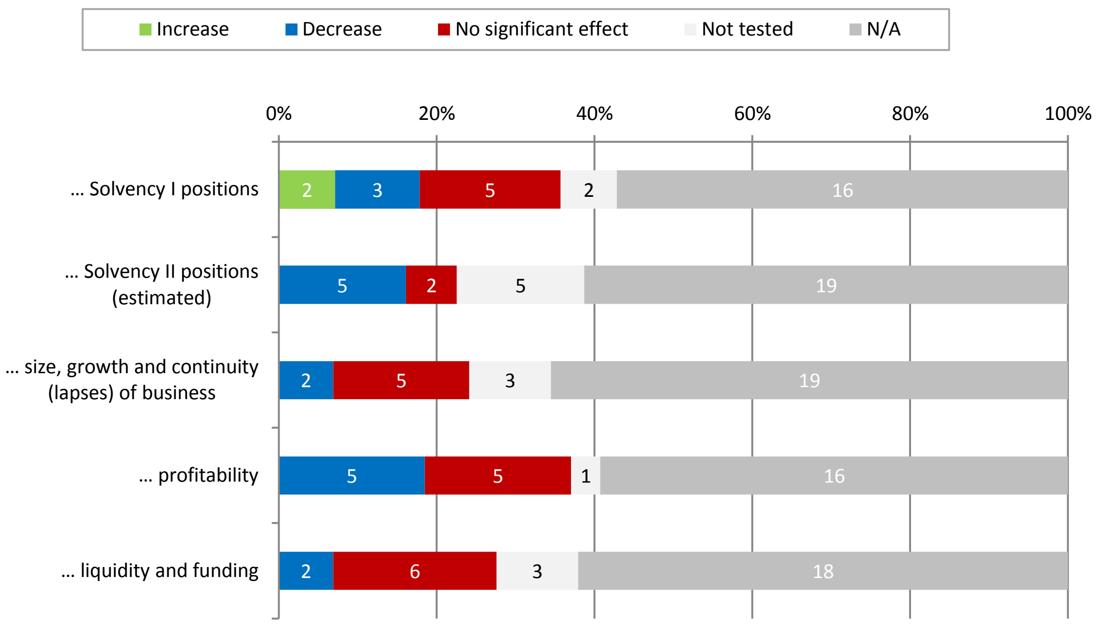
6.13 Regarding the *legal form of the undertaking*, only one NSA pointed out that mutual insurance undertakings are more exposed to the low interest rate environment since, unlike in the case of limited companies, there is no interested party (owner, prudent person) who can contribute capital in adverse situations to compensate for losses.

6.14 Eighteen NSAs reported that no other drivers are relevant for the low interest rate environment, and two other indicated the ALM mismatch as a significant one. Another NSA stated that the fierce competition leads to prioritizing market share instead of increasing reserves. In view of this NSA, the current low level of new production reduces the potential impact of those measures which are only applicable to new business in order to overcome the problems created by low interest rate environment. The same NSA pointed out that the current UFR parameters mask part of the low interest rate risk. Another NSA reported the already mentioned "search for yield" behaviour given that the average spread on the government bonds in Eastern Europe is high compared to the Western European bond markets, which makes the former government bonds still attractive for insurers at such interest rate levels as well.

Impact of low interest rate environment on key indicators

6.15 NSAs were asked about the impact of the low interest rate environment so far and forecasted on a set of key performance indicators such as the *solvency positions*, both under Solvency I and Solvency II, *size, growth and continuity (lapses) of business, profitability, liquidity and funding as well as other key performance indicators.* NSAs were also asked about the impact of the low interest rate environment so far and forecasted on insurer's business model more generally. The same questions were asked both in respect of the overall market as well as the most affected business.

Chart 16: Impact of low interest rate environment on key indicators



6.16 Chart 16 summarises the answers received on the questions mentioned in the paragraph above. It seeks to provide an overview of the situation by grouping answers in different categories. The categorisation of the answers respond to the following criteria:

- Counting a response within the categories "*increase*" or "*decrease*" does not mean that the NSA reported that the relevant key indicator increased or decreased necessarily during the whole period from 2010 until the close of the survey. This should be interpreted as the major trend during the whole period.

- "Not tested" means that the initiative undertaken did not focus on the relevant indicator or that even in that case the effect could not be isolated or no evidence was found to support any answer.
- The category "*not significant*" groups those answers in which having found any evidence it showed that the impact of the low interest rate environment on the relevant indicator was not significant.
- NSAs which did not report any answer are counted within the category "N/A" (not applicable); It should be noted that some NSAs that did not perform any initiative testing the impact of low interest rate during the relevant period provided nevertheless some answers to the aforementioned questions, which has been considered for the written summary where relevant but counted within the category of '*N/A' in order of not distorting the results*.

6.17 In general it is observed that the life insurance sector is particularly affected by the low interest rates and this sector drives the indicators for the whole industry due to its sheer size, therefore quite similar answers were provided to the questions referred to the overall market or to most affected business.

6.18 There is some consistency in the observations that *Solvency I positions* are not that strongly affected by low interest environments, at least as long as they do not last too much. Several responses indicate that the Solvency I coverage ratio was on average decreasing for part of the period but increasing towards the end. Some NSAs reported difficulties to isolate the impact of the low interest rate from other phenomena and this is applicable to most of the indicators analysed. Broadly NSAs do not expect material changes till 2015.

6.19 Generally the exercises performed on Solvency II basis took QIS5 specifications as valuation principle and this allowed for detection of clearer impacts that under Solvency I for those that tested both. None reported an increase in the Solvency II positions; rather five NSAs reported a decrease. It is reported that even some companies in the sample showed a SCR ratio below 100% under the low yield curve tested. However it is reflected in the NSAs responses as well that with the new LTG measures e.g. 'transitional measures' introduced through OMDII, the direct Solvency II impact is expected to be less.

6.20 In the process of estimating the Solvency II positions, two NSAs identified the following effects: a) the volume of premiums for business affected by low interest rates decreased, b) the growth of the classical life insurance market slowed down, c) even some companies have to face a decline in premiums, and d) also lapses increased. However, this was pointed out as one of the most difficult aspects to isolate the effect of the low interest rate environment.

6.21 Regarding *profitability*, it is noted by five NSAs that low interest yields have had a noticeable negative impact, not only on the most affected business but on the industry as a whole. Again, this is largely driven by the importance of the life insurance sector given its relative size. Profitability has mainly been impacted by the low returns on life insurance investment portfolios and the effect that low interest rates have had on the valuation of technical provisions. It is highlighted that further decrease of interest rates would escalate the problem. Due to less interest rate sensitivity, non-life business has remained largely unaffected. The decreasing profitability is currently the only explicit impact of the low interest rate environment for some members. In the non-life segment the lower yields decrease the profitability of the insurance activity. There is no evidence yet that they compensate this by increasing the premiums due to the heavy competition on the non-life market.

6.22 Liquidity and funding were not perceived by the NSAs as key performance indicators affected by the low yield environment.

6.23 No other key performance indicators where indicated by NSAs with the exception of the ratio between the new additional provisions adopted by some NSAs and the total mathematical provisions. Rather two risks were mentioned such a fall in equities values along with the current low interest rate environment and a pronounced ALM risk (incl. duration mismatch) which further impact on the low interest rate issue.

6.24 Regarding the impact of the low interest rate environment in the undertakings business models NSAs clearly identified a change regarding the new business. As mentioned in other parts of this document, new business tends to move towards life products with lower guaranteed yields and shorter maturities, there is a shift to more unit-linked type life business. Currently, line of business with high minimum guaranteed are basically in run off. Moving towards lower financial margins in general increases the importance of generating adequate underwriting returns.

Most severe scenarios

6.25 Regarding different potential future low interest rate scenarios, NSAs were asked for which scenarios would be most severe for their respective market and why. The following issues were mentioned:

- Long lasting low yield scenario because of decreasing income and profitability;
- a scenario characterised by a sudden sharp increase in interest rates to trigger lapse waves on Life, which could very quickly hamper the liquidity of certain companies.
- Sudden and significant investment losses in other asset classes.

6.26 Regarding different potential future low interest rate scenarios, NSAs were asked for how would this severity materialise in terms of the key performance indicators depicted in the paragraphs above. The responses from NSAs can be summarised as follows:

- Primarily declining profitability and lower future growth in the medium term could imply a significant number of life insurers will have serious solvency issues.
- NSAs also expect further acceleration of ongoing shift towards defined contribution and unit-linked products.

Unsustainable business under a LIR scenario

6.27 The responses from NSAs on this point cannot be considered conclusive or hard forecast as many reported that the life insurance business is too complex to estimate such risk. Instead NSAs expressed their perception of this situation. NSAs acknowledge the fact that the risk is highly dependent on the characteristics of the companies themselves and that it should really be judged on a case by case basis depending on the specific ALM characteristics of a certain company. In addition, NSAs report that it is very hard to predict the timing giving the uncertainty and the large number of factors involved.

6.28 NSAs were asked on *when under the current low interest rate environment will certain businesses become unsustainable and the reasons why*. Their responses showed that most NSAs understand that under the current situation, all business should be sustainable due to the measures available or already in place to reduce interest rate risk (e.g. selling mostly unit link products, changes in products sold, special provisions for interest rate risk, hedging arrangements) although profitability will remain under pressure.

6.29 NSAs were also asked on *when under other low interest rate scenarios will certain businesses become unsustainable and the reasons why* that would happen. The following bullet point summarise the answers received from NSAs:

- Should interest rates decline from the current levels and remain for an extended period (Japanese scenario), some life insurance products with investment return guarantees may become loss-making on an ongoing basis within 5-10 years without further restructuring or product changes.
- A rapid rise in interest rates can cause a capital loss, however the one year increase of interest rate should be very high to be unsustainable if lapse is not triggered
- An adverse low interest rate scenario could deteriorate the current financial situation of life insurers however under the Solvency II regime, the unsustainability of such business could be jeopardised by applying the relevant LTG measures, e.g. transitional measure on technical provisions.