



EIOPA-BoS-17/230  
16 November 2017

## Investment behaviour report

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## 1. Executive summary

The purpose of this survey is to identify changes and trends in the investment behaviour of insurers over the last 5 years including the identification, where possible, of a potential 'search for yield' given the persisting low yield environment. The survey was conducted in the first quarter of 2017, and was focused on the asset side of the balance sheet of insurance groups.

The purpose of the survey is not to identify issues with individual groups or countries but rather, to focus on the developments of investment behaviour across the whole sample. Furthermore, the analysis is based on end of year data which provided a snapshot of the groups' balance sheets. Investment flow data which could possibly reveal additional insights was not used.

The survey included both a quantitative and qualitative section focussing on the asset side of the balance sheet. The quantitative section is an overview of the key investment categories of insurance groups under the Solvency I (SI) regime for the years 2011, 2013 and 2015. This dataset was subsequently complemented with Solvency II (SII) data for the year 2016 for the same investment categories. The qualitative section included a number of questions regarding portfolio trends, investment allocation decisions and questions regarding the asset management of insurers for the same period. Additionally, a set of questions was included focussing on investment and strategy decisions of the groups for the next three years.

The analysis, at a European level, led to the identification of a number of trends that could be associated with a search for yield behaviour:

- A trend towards lower credit rating quality fixed income securities can be seen in the data. At the same time, the large number of sovereign and corporate downgrades during the observation period needs to be considered.
- A trend towards more illiquid investments such as non-listed equity and loans excluding mortgages can also be identified. However, a decrease in (the value of) property investments is also detected.
- The average maturity of the bond portfolio for the majority of the sample has overall increased in the past 5 years.
- The tendency to invest into new asset classes could be observed among insurance groups. Although the amounts are currently low compared to the size of the portfolios, almost 75% of the sample responded positively towards increasing their investments in asset classes such as: infrastructure, mortgages, loans, real estate.
- A small decrease in the debt portfolio is observed against a small increase in 'other investments' between 2015 and 2016. Equity allocation has remained unchanged.
- Nonetheless, when looking at the developments in the investment allocation on an aggregate level, changes in all three main investment categories from 2011 to 2016 have only been marginal.

This analysis focuses on investments made to non-unit linked (UL) and non-index linked (IL) assets. In UL/IL investments the risk lies with policyholders rather than insurance groups. Based on the findings of this report the volume of UL/IL business has significantly increased in the last years. Furthermore, the majority of the participants also mentioned the intention to further extend the product range and the selling of more UL/IL products in the next three years. The observed shift of market risk exposure from insurers to policyholders deserves further attention from a financial stability perspective.

## 2. Introduction

The purpose of the survey is to identify changes and trends in the investment behaviour of insurers over the last 5 years given the persisting low yield environment including the identification, where possible, of a potential 'search for yield'. During the period of low yields, insurers could have been reallocating their portfolios towards more risky markets or more risky assets, thereby increasing their vulnerability to adverse market developments.

The survey focuses on the asset side of the balance sheet of insurance groups. The purpose of the survey is not to identify issues with individual groups or countries but rather, to focus on the developments of investment behaviour across the whole sample.

A number of institutions have assessed the existence of the 'search for yield' in various publications such as the IMF; Global financial stability report (October 2014 and April 2016) as well as in the ESRB; Report on systemic risks in the EU insurance sector (December 2015)<sup>1</sup> based mainly on anecdotal evidence. This survey is an attempt to verify this assumption by collecting relevant data and potentially drawing up some conclusions.

This report is divided into different sections, corresponding to the different asset classes analysed. The quantitative and qualitative results of the survey are presented separately for the whole sample while more granular analysis is performed using 2016, Solvency II data. The last section briefly outlines the developments in the market of unit linked and indexed linked (UL/IL) products.

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<sup>1</sup> [https://www.esrb.europa.eu/pub/pdf/other/2015-12-16-esrb\\_report\\_systemic\\_risks\\_EU\\_insurance\\_sector.en.pdf](https://www.esrb.europa.eu/pub/pdf/other/2015-12-16-esrb_report_systemic_risks_EU_insurance_sector.en.pdf)

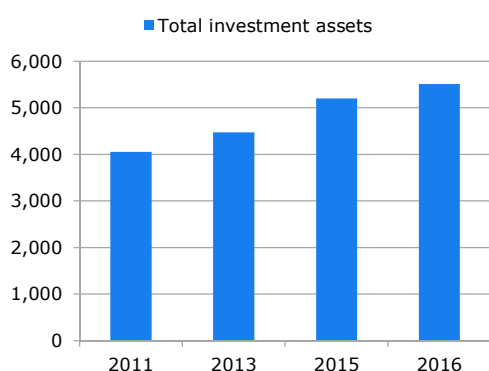
### 3. Data & sample

The data used in this report is based on submissions from 87 large insurance groups and 4 solo undertakings across 16<sup>2</sup> European countries. Furthermore, 73% of the participants are composite insurers, 24% are purely life insurers, 2% are purely non-life and 1% is focused on the reinsurance business.

The number of participants per country varies from 1 to 21. As a result, countries with two companies or less in the sample are added in a category called 'Other'<sup>3</sup> to prevent individual group information from being identifiable.

Total investments in this sample for 2016 approximately equal to 72% of the total investment assets of the industry. The evolution of total investments in the sample since 2011 can be seen in Figure 1. Also cross-country weights within the sample in terms of total investments for 2016 can be seen in Table 1.

*Figure 1: Total investment assets across the sample from 2011-2016 (in EUR bln)*



*Table 1: Total investments assets per country as a share of total investments assets of the whole sample for 2016*

FR	DE	UK	IT	NL	BE
28%	27%	15%	11%	7%	3%
SE	ES	Other	NO	DK	Total
3%	2%	2%	2%	1%	100%

The survey included both a quantitative and a qualitative section with focus on the asset side of the balance sheet of insurance undertakings. The quantitative section was an overview of the key investment categories of insurance groups based on balance sheet information under the Solvency I (SI) regime for the years 2011, 2013 and 2015. Additional information was also requested regarding the rating structure of the bond portfolio. Data was submitted by groups on a 'best effort' basis. The dataset was then complemented with Solvency II (SII) data for the year 2016 for the same investment categories.

Given the two different regulatory frameworks in place, for the investigated period (SI and SII) some differences in reporting may have occurred, due to different definitions in some investment sub categories. However, the aggregates of the main investment categories e.g. government and corporate bonds, listed and non-listed equity, property, loans and UL/IL assets were in line with 2016 data.

<sup>2</sup> AT, BE, DE, DK, ES, FI, FR, IE, IT, LU, NL, NO, PL, PT, SE, UK.

<sup>3</sup> The 'Other' category includes a total of 7 companies from: AT (2 companies) and LU, FI, IE, PL and PT (1 company from each country).

Investments made through collective investment undertakings (look through) were also requested, subject to availability, and included in the data. 44% of the sample companies included this information in the datasets submitted to EIOPA.

Finally, in order to avoid exchange rate fluctuation and to focus only on investment changes all data was converted to euro using the exchange rate as of end 2016.

The qualitative section included a number of questions regarding portfolio trends, investment allocation decisions and questions regarding the asset management of insurers for the period 2011-2015. The survey also included a set of questions focusing on investment and strategy decision of the groups for the next three years.

## 4. Developments in investment allocation

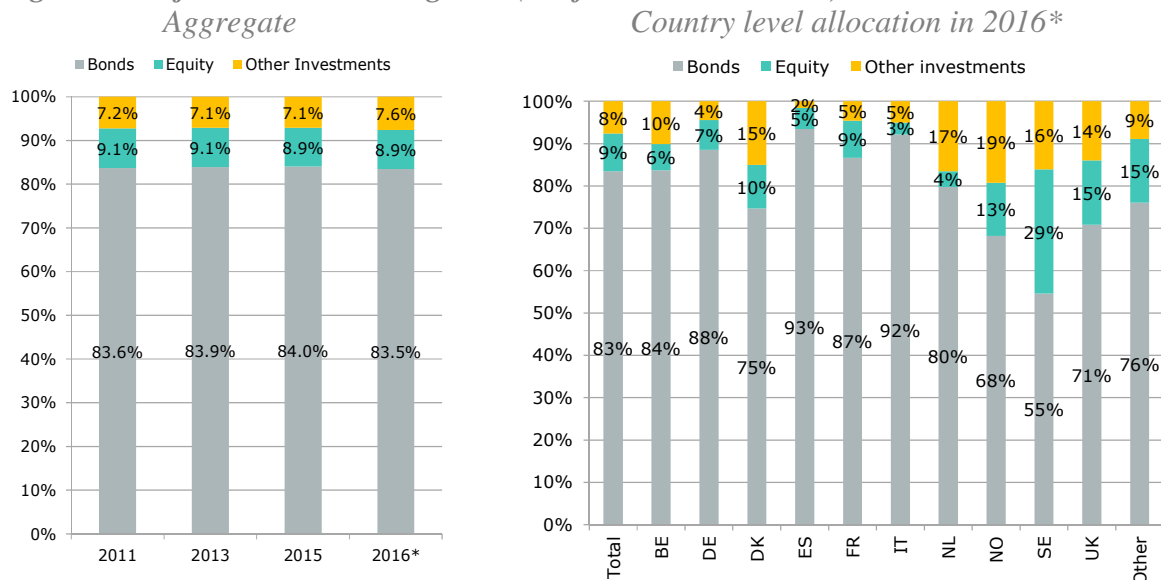
### i. Overall investment allocation

The major investment categories in this survey include: Bonds (sovereign, corporate, structured notes and collateralised securities), Equity (listed and non-listed) and 'other investments'. 'Other investments' includes commercial property, residential property, loans (excluding mortgages) and derivatives.

### Quantitative information

The overall investment allocation has remained broadly stable over the course of the last 5 years across the sample (Figure 2). At an aggregated level, a small shift is observed from the allocation of 'bond investments' towards 'other investments' in 2016 compared to 2015. The allocation of equity investments has remained stable across time.

Figure 2: Major investment categories (% of Total Investments)



\*2016 Data are based on QRTs

Note: Total investments include 'Bonds' (sovereign, corporate, structured notes and collateralised securities), 'Equity' (both listed and non-listed) and 'other investments' (all property, loans excluding mortgages and derivatives). It also includes investments made through collective investment undertakings for the companies which provided this information. The chart does not contain investments made through index linked and unit linked products.



## Qualitative information

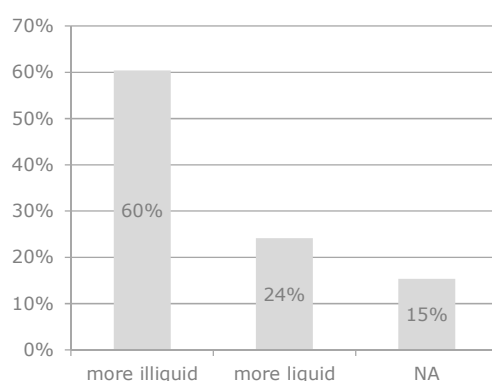
The fact that investment allocation has remained broadly unchanged does not necessarily imply that insurers have not altered their investment strategies over the last five years. Based on the qualitative part of the survey, some of the factors that resulted in groups adjusting their investment decisions were reported to be: country credit rating downgrades, capital market uncertainty as well as limited 'search for yield'. Different investment strategies have been implemented in order to boost the performance of bond, equity and other investments portfolios.

Strong investment trends, affecting more than 60% of the sample are not easily identified. This may be attributed to the fact that each group may have different products, liability structure and potential vulnerabilities. Furthermore each group operates in different markets and has different liquidity needs at different points in time.

More than half of the groups (60%) reported a shift of investment allocation towards more illiquid assets<sup>4</sup> (figure 3). The general reasoning behind this preference is yield enhancement provided by the so called 'illiquidity premium'.

At the same time, a quarter of the sample (24%) reported that they have shifted their investment allocation towards more liquid assets<sup>5</sup> (figure 3). Due to the increased uncertainty, it is likely that these companies wanted to ensure that they will be in a position to capture new opportunities in the short run by keeping a more flexible investment approach. The ability to anticipate increases of short term rates and the need to avoid capital losses might be an additional reason.

*Figure 3: Have you increased your investment allocation towards more illiquid or liquid assets?*



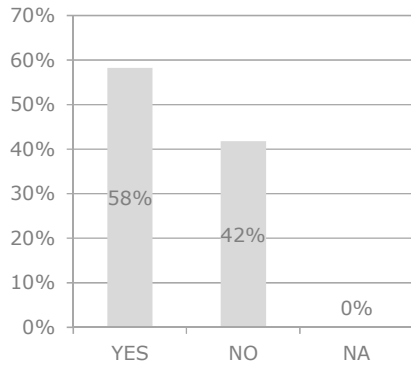
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<sup>4</sup> Illiquid assets such as: debt and equity from private non-exchange traded companies, participation into infrastructure projects, hedge funds

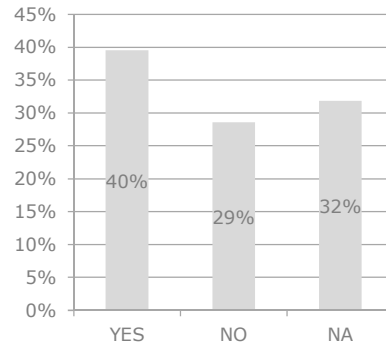
<sup>5</sup> Liquid assets such as debt: equity, currencies, commodities and generally assets that can be traded in major exchanges

Most of the respondents (58%) also observed an overall decrease in the average investment grade of their portfolio of which (40%) was due to a change in the rating of the long term assets held (figures 4 and 5).

*Figure 4: Have you observed a decrease in the average investment grade of your investments?*



*Figure 5: if yes, is the decrease due to a change in the rating of the assets held in the long term?*



Overall, information based on the qualitative part of the survey demonstrates the difficulty to identify clear-cut changes in investment behaviour applicable to the entire sample.

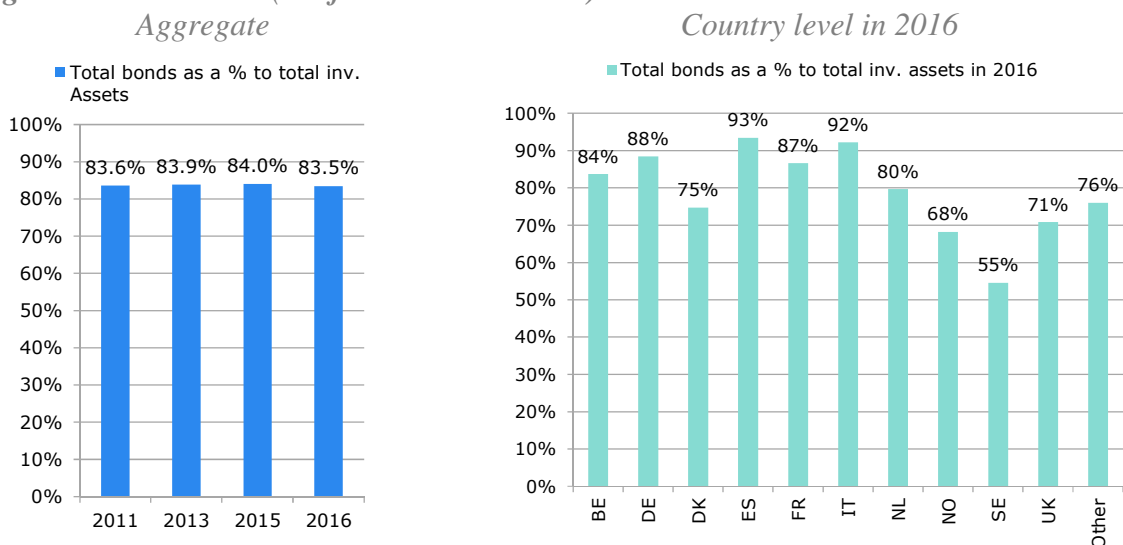
## ii. Bond investments

### Quantitative information

The largest part of total investment assets has traditionally been invested in fixed income securities (Figure 6). The bond portfolio of groups is consisted of government and corporate bonds, collateralised securities and structured notes where government and corporate bonds are approximately 95% of the total size of the portfolio.

**Overall the share of bond investments as a percentage of total investment assets has remained broadly stable over the course of the last 5 years** Bond allocation tends to substantially vary across countries (namely from 55% to 93%). In some countries such as DE, ES, FR and IT the proportion of bond investments to total investment is high (over 85%) whereas in other countries such as DK, NO and SE it remains at a significantly lower level. This difference can be attributed to traditionally different investment strategies held by the individual groups or different characteristics of the national markets.

Figure 6: Total bonds (% of Total Investments)

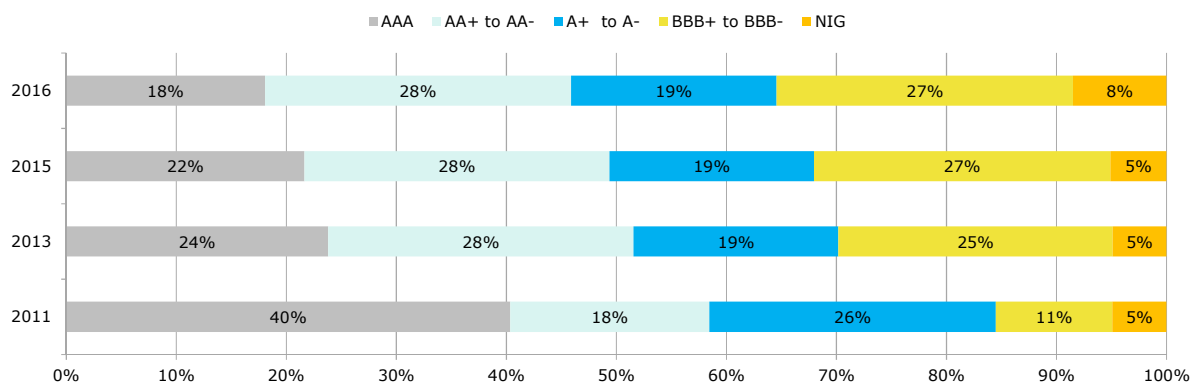


Note: Total bonds include sovereign bonds, corporate bonds, structured notes and collateralised securities. They also include bond investments made through collective investment undertakings for the companies which provided this information. The chart does not contain bond investments made through index linked and unit linked products.

**The overall amount of AAA bond investments has significantly decreased in favour of lower quality categories.** More specifically, a significant increase in the BBB+ to BBB- segment across the sample is observed (Figure 7). This outcome could be seen as a confirmation of a 'search for yield'. At the same time, we need to consider that during this period a large number of countries in the euro area and corporations lost the AAA rating due to downgrades related to the European debt crisis. Given the results presented in Figure 5 we need also to consider the fact that a large part of these fixed income securities are held for

long term. As a result, undertakings may not tend to disinvest as soon as a downgrade is taking place.

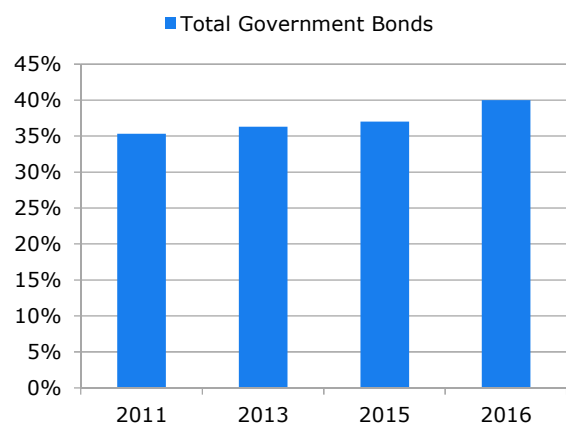
Figure 7: Total bond breakdown by rating (in %)



Note: The chart includes sovereign bonds, corporate bonds, structured notes and collateralised securities. The chart does not contain bond investments made through index linked and unit linked products.

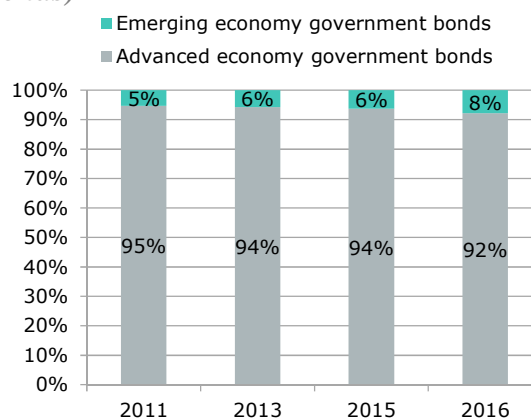
**Government bond investments as a percentage of total investments have increased across the sample** (Figure 8). This trend is observed across the majority of countries and it refers to both advanced and emerging market government bonds<sup>6</sup>. Overall, the composition of the government bond portfolio also moved slightly towards emerging economies in 2016, particularly when compared to 2011-2015 (Figure 9).

Figure 8: Government bonds (% of Total Investments)



Note: The chart includes government bonds as well as government bond investments made through collective investment undertakings for the companies which provided this information. The chart does not contain government bond investments made through index linked and unit linked products.

Figure 9: Advanced vs Emerging economy government bonds (% to total government bonds)



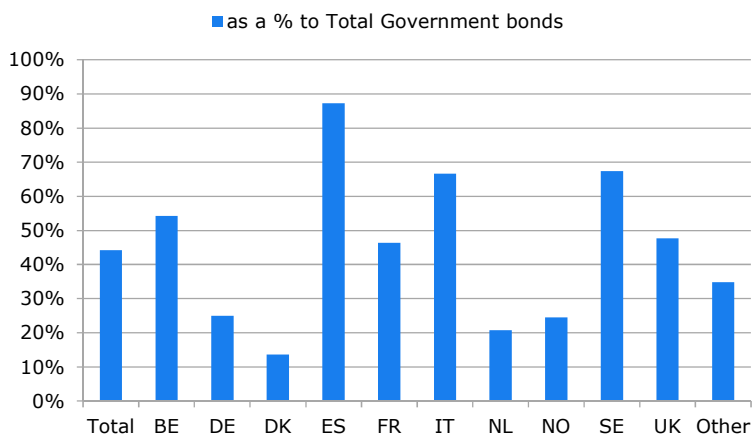
Note: The chart includes government bonds invested in advanced and emerging economies. The chart does not include bond investments made through collective investment undertakings in 2016. The chart also does not contain government bond investments made through index linked and unit linked products.

<sup>6</sup> Advanced and emerging market definitions are based on the IMF classification, see

<https://www.imf.org/~/media/Websites/IMF/imported-flagship-issues/external/pubs/ft/weo/2015/01/pdf/statapppdf.ashx> - Table B page 150.

**Government bond 'Home country' bias in aggregate terms is 44% of total government bonds for the whole sample.** In some countries such as ES, IT and SE the proportion of home bond investments is relatively high within the government bond portfolio (over 60%) whereas in other countries such as DE, DK, NO and NL it remains at lower levels (Figure 10).

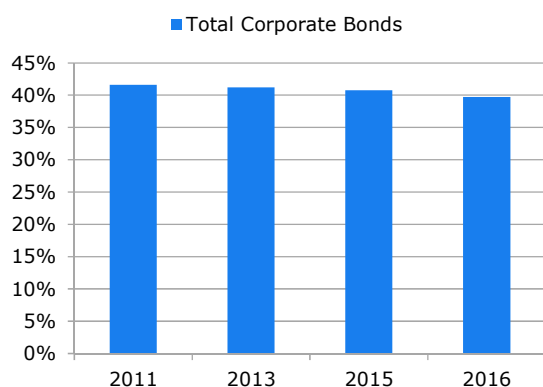
*Figure 10: Home country bias ' in government bond allocation for 2016 (% to total government bonds)*



*Note: Home country bias may have limitations when assessed with group data. The chart does not contain bond investments made through index linked and unit linked products.*

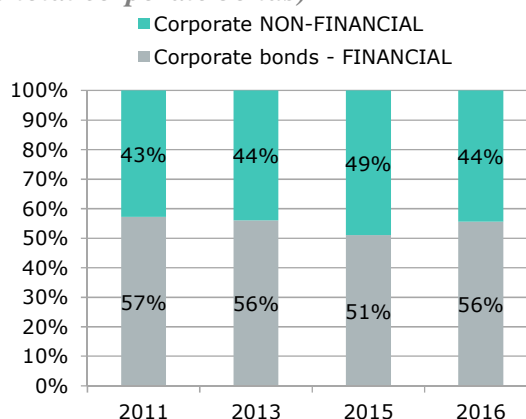
**At an aggregate level, corporate bond investments as a percentage of total investment assets has slightly decreased across the sample** (Figure 11). The composition of the corporate bond portfolio is broadly stable since 2011 (Figure 12). Given the dramatic decrease of yields in the corporate bond market, it is likely that part of the investments in corporates has shifted towards government bonds or other asset classes such as 'other investments'. A similar trend is observed in 'structured notes' and 'collateralised securities'. Since 2011; as a percentage of total investment assets, they have dropped by approximately 3%.

*Figure 11: Total Corporate bonds (% to total investments)*



*Note: The chart includes corporate bonds as well as corporate bond investments made through collective investment undertakings for the companies which provided this information. The chart does not contain corporate bond investments made through index linked and unit linked products.*

*Figure 12: Financial vs Non – Financial (% to total corporate bonds)*



*Note: The chart includes both financial and non-financial corporate bonds. It does not include corporate bond investments made through collective investment undertakings for 2016. The chart also does not contain corporate bond investments made through index linked and unit linked products.*

**The overall amount of Contingent Convertible (CoCo)<sup>7</sup> bonds across the sample has increased by approximately 5% since 2011.** However the share of CoCo bonds in percentage of total corporate financials remains very low, below 0.5% for the majority of the groups in 2016.

## **Qualitative information**

The answers received in the qualitative questionnaire suggest that the composition of the fixed income portfolios have been altered in the following ways:

**More than half of the participants (56%) observed changes in the debt maturity structure of the bond portfolio of the group.** Due to the fall in interest rates, a shift towards longer maturities was clearly observed by most of the respondents. For the vast majority of the groups, those increases were reported to be small or moderate; in some other cases the reported maturity increases are more substantial and there have also been some cases where the average maturity of the bond portfolio decreased.

**More than half of the respondents (54%) mentioned that the average duration of the government bond portfolio increased over the past five years.** The underlying reason was yield enhancement, as confirmed in a number of replies.

**The majority of the groups (58%) reported that the average duration of the corporate bond portfolio has decreased or remained unchanged over the last five years.**

Additionally, based on the replies received, **only a small part (16%) of the respondents mentioned changes in the structure of their bond portfolio towards more convertibles (Coco bonds).**

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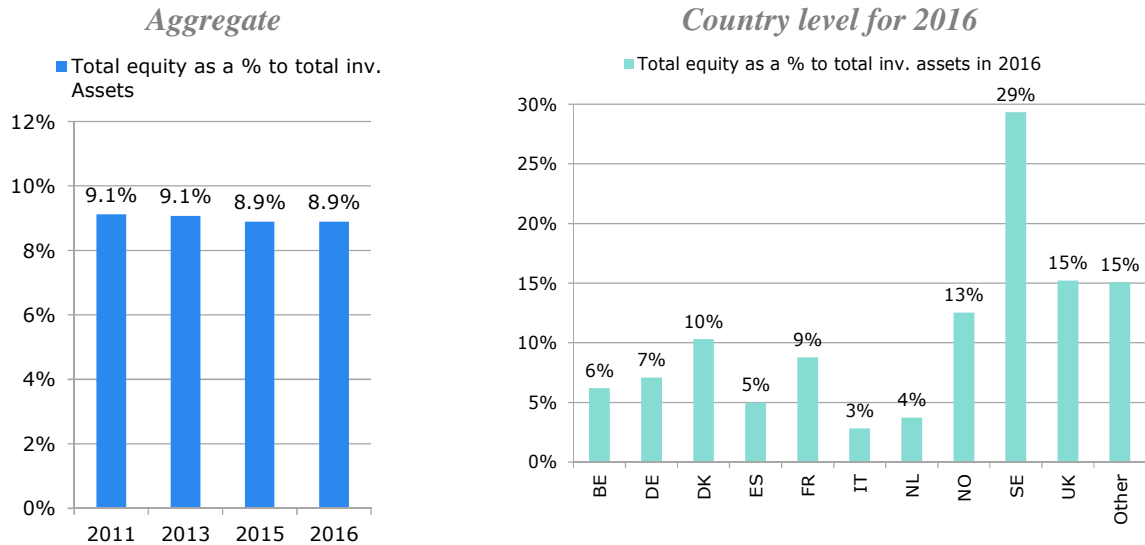
<sup>7</sup> The definition as referred to in the original template: Contingent Convertible Bonds (or CoCo bonds), subordinated bonds that automatically turn from debt into equity upon the occurrence of a pre-defined situation. Also defined at: [http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/582011/EPRS\\_BRI\(2016\)582011\\_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2016/582011/EPRS_BRI(2016)582011_EN.pdf)

### iii. Equity investments

#### Quantitative information

Overall the share of equity investments as a percentage of total investment assets has remained broadly stable during the last five years (Figure 13). Equity allocation tends to vary substantially across countries. For most countries the proportion of equity to total investment is significantly below 10% whereas in countries such as SE, NO and the UK it is notably higher.

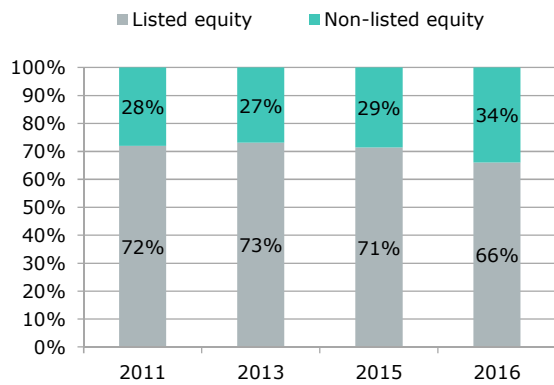
Figure 13: Total equity (% of Total Investments)



Note: The above chart includes equity participations and equity investments made through collective investment undertakings for the companies which provided this information. The chart does not contain equity investments made through index linked and unit linked products.

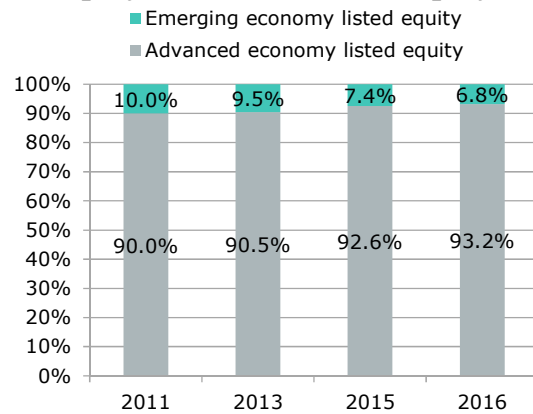
Two distinct trends can be identified when looking at the aggregate numbers of the equity portfolio (Figures 14 and 15). The first trend is the shift from listed to non-listed equity which confirms the information received in the qualitative part towards more illiquid investments. The second trend is a smaller shift within the listed equity portfolio towards equity in advanced economies.

**Figure 14: Listed vs non listed equity in % to total equity**



Note: The chart includes listed and non-listed equity investments as well as equity investments made through collective investment undertakings for the companies which provided this information. The chart does not contain equity investments made through index linked and unit linked products.

**Figure 15: Advanced vs emerging economy listed equity in % to total listed equity**



Note: The chart includes all listed equity investments. It does not include equity investments made through collective investment undertakings for 2016. The chart does not contain equity investments made through index linked and unit linked products.

## Qualitative information

**Information received on the preference of equity purchases towards financial corporations or non-financials corporations remains inconclusive.** More specifically, only a quarter (24%) of the participants observed any increase in investments in equity of financials and 30% observed increases in investments in equity of non-financials.



## **BOX 1: Stock prices and equity portfolio allocation in 2011-2016**

**The market value of equity portfolios has increased for most countries in the sample during 2011-2016.** At an aggregate level, this increase amounted to 32% for the whole mentioned period. At country level, the market value of equity portfolios has increased largely for Belgium (57%) and Sweden (50%). It decreased for only a few countries, such as the Netherlands (-14%), Norway (-9%) and Spain (-3%).<sup>8</sup>

**Equity prices have generally displayed an increasing trend in the period observed.** Most global reference indices have registered a positive growth during 2011-2016, as shown in Figure A. The average annual growth rate ranged from 3% for Ibovespa to 19% for Nikkei 225. Stoxx 600 Europe increased on average 8% annually over this period.

**The impact of developments in stock prices on the market value of equity portfolios was investigated.** The contribution of changes in equity prices to the observed growth rate of the market value of equity portfolios from 2011 to 2016 was estimated based on a weighted average of stock market indices.<sup>9</sup> We refer to this estimated change in equity prices as cumulative returns. For each country, weights were derived from the geographical distribution of 2016 equity portfolio allocations.<sup>10</sup> Based on this data, European insurers in the sample are mainly exposed to European equities. Moreover, for some countries there is a substantial home bias in their portfolio allocation. Consequently, the performance of their equity portfolios is closely related to the performance of the European stock market. Exposures to emerging markets appear to be rather limited.

**The overall increase in the market value of equity portfolios appears to correspond only partially to the increase in stock prices.** Figure B shows, for the whole sample and selected countries, the observed changes in the market value of equity portfolios during 2011-2016 and the estimated cumulative returns. Estimated cumulative returns for the whole sample amount to 59%, while the observed change in the market value of equity portfolios was 32%. Estimated cumulative returns are positive for all countries, ranging from 36% in Spain to 78% in Denmark. Most countries registered an increase in the market value of equity portfolios, although this increase is generally lower than the estimated returns (except for Belgium). The market value of equity portfolios in some countries (Netherlands, Norway and Spain) has decreased, despite the positive estimated returns.

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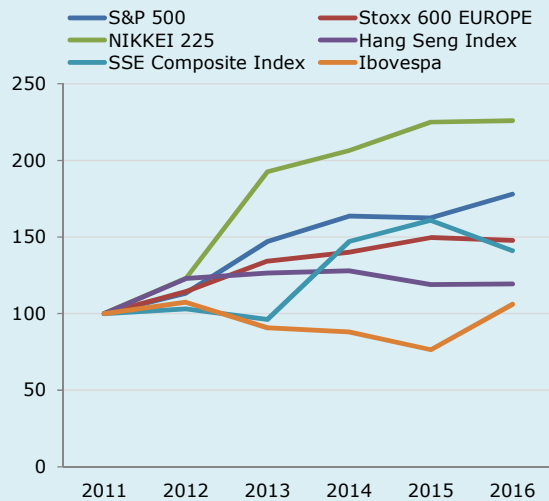
<sup>8</sup> Some countries were not considered in the country-level analysis because results would be reflecting equity developments in single companies.

<sup>9</sup> This analysis relies on the fact that listed equity securities account for the bulk of insurers' equity portfolios. Accordingly, they represented around 70% of equity investments in 2011-2015 and 60% in 2016.

<sup>10</sup> For exposures to EU/EEA countries, Switzerland, US, Japan, China, Hong Kong and Brazil, the reference stock market index was used. For exposures to other countries and exposures with missing counterparty, the US stock index was used.

The analysis suggests that insurers partially rebalanced their portfolios to maintain a relatively stable allocation over time.<sup>11</sup> While this analysis relies on the assumption that insurers' investment strategies replicate the performance of corresponding market indices, the estimated cumulative returns are so large that even if insurers were under-performing the market, the conclusion could still be drawn.

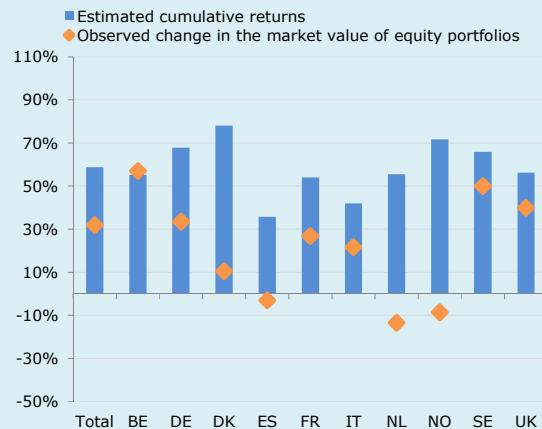
Figure A: Developments in major world indices (2011=100)



Source: Bloomberg.

Note: EIOPA's calculations. Indices were calculated from end-of-year figures. Indices are shown for US (S&P 500), Japan (NIKKEI 225), China (SSE Composite Index), Europe (Stoxx 600 Europe), Hong Kong (Hang Seng Index) and Brazil (Ibovespa).

Figure B: Equity portfolios' developments during 2011-2016



Source: EIOPA and Bloomberg.

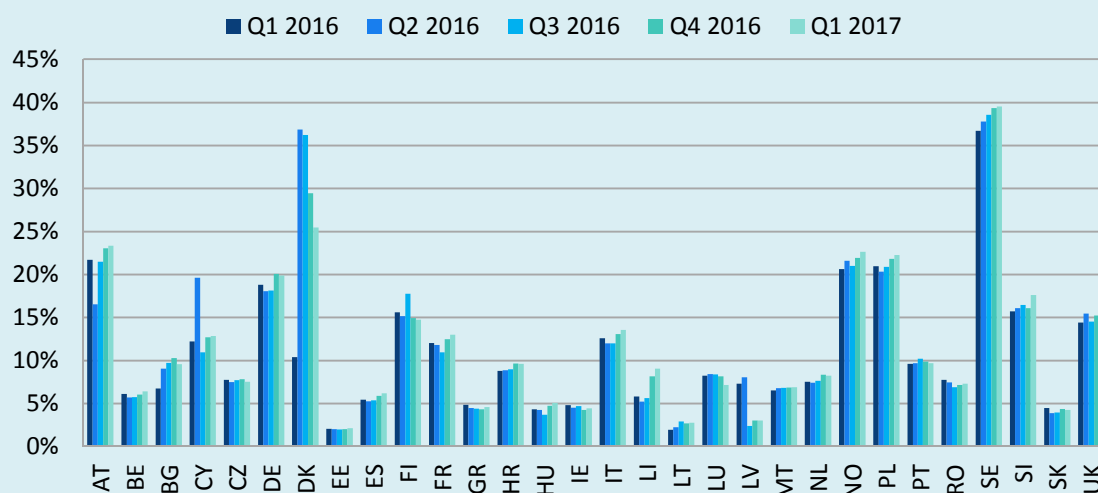
Note: EIOPA's calculations. Cumulative returns are estimated using a weighted average of stock market indices based on 2016 portfolio allocations per country. For exposures to EU/EEA countries, Switzerland, US, Japan, China, Hong Kong and Brazil, the reference stock market index was used. For exposures to other countries and exposures with missing counterparty, the US stock index was used.

<sup>11</sup> The June 2016 report on "Insurance Sector Investments and Their Impact on Financial Stability — an empirical study" by The Geneva Association finds a statistically significant negative relationship between changes in invested equity securities and changes in market indices for Eurozone (including Switzerland and United Kingdom) life insurers using data for 2007Q1-2015Q1.

## Box 2: Equity investments in 2016-2017 for solo undertakings<sup>12</sup>

A further analysis of equity investments of insurers at member state level suggests that there is a high heterogeneity among the countries regarding their equity investments. According to Solvency II QRT data, equity investments seem to be high in countries like SE, DK, NO, PL and AT.

Figure C: Total equity (as a % of Total Investment Assets, in %) by member state



Source: EIOPA QRTs.

Note: The above chart includes equity participations and equity investments made through collective investment undertakings for the companies which provided this information. The chart does not contain equity investments made through index linked and unit linked products.

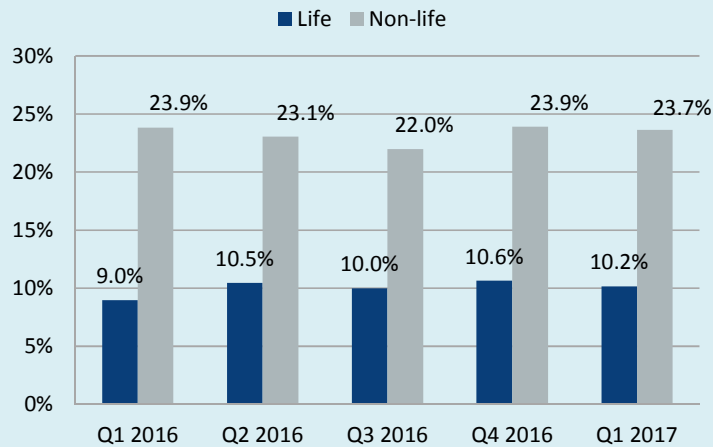
The split between types of business among insurers shows a different approach between life and non-life insurers. As life insurers are more focused on asset-liability matching than non-life insurers, their percentage of equity in total investment assets is lower compared to non-life insurers.

On aggregate level, equities as a percentage of total investment assets for non-life insurers have been relatively high, varying from 22%-24% during the period Q1 2016 – Q1 2017.

In the case of life undertakings, equities represent, on average, 10% of their investment portfolio. By the end of the first quarter of 2017, the QRT data indicates that at an aggregate level life insurers have allocated higher amounts to equities increasing by 1 percentage point compared to the same quarter of the previous year.

<sup>12</sup> The sample used in the analysis of this Box is different than the rest of the report. It is based on Solvency II data from 1649 solo undertakings operating across the EU.

Figure D: Equity as a % of Total Inv. Assets for Life vs. Non-life undertakings



Source: EIOPA QRTs

Note: The above chart includes equity participations and equity investments made through collective investment undertakings for the companies which provided this information. The chart does not contain equity investments made through index linked and unit linked products.

As equities bear a higher risk charge than e.g. bonds in the SCR coverage calculation, it is important to see the connection between equity investments and the SCR ratio among insurers. **Figure E shows that in aggregate terms the share of equity investments seems to be higher in well capitalised undertakings.** Nonetheless, increased investments in equity could also be attributed to other reasons such as the different business models.

Figure E: Equity as a % of Total Inv. Assets vs. SCR for 2016



Source: EIOPA QRTs

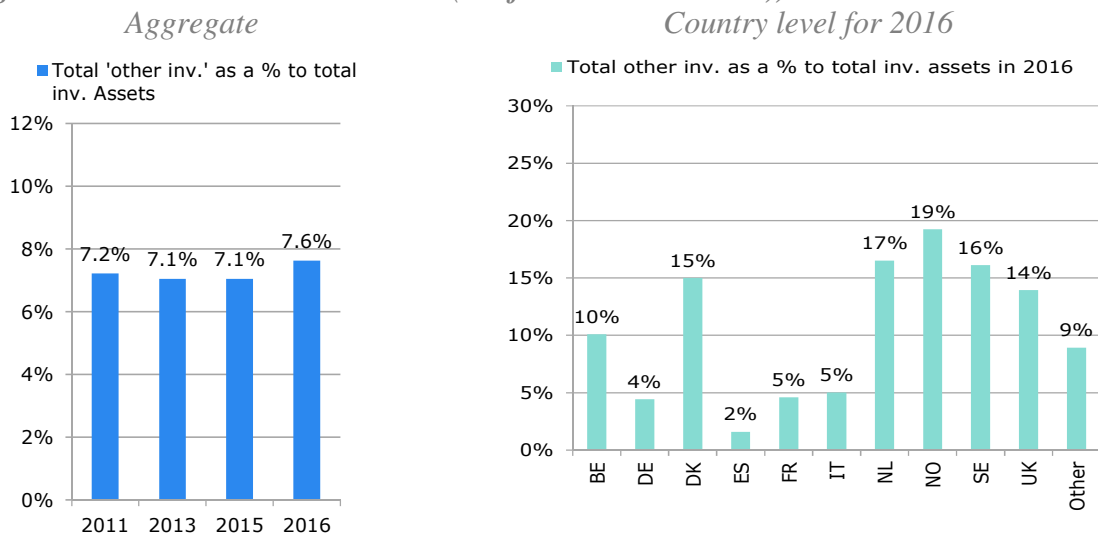
Note: The above chart includes equity participations and equity investments made through collective investment undertakings for the companies which provided this information. The chart does not contain equity investments made through index linked and unit linked products.

#### iv. Other Investments

##### Quantitative information

Overall the amount of 'other investments' as a percentage of total investment assets has remained broadly stable across the sample (Figure 16). A small increase is observed between years 2015 and 2016. Like in the previous investment categories there is a significant heterogeneity among countries and groups with regard to this component. In countries such as DE, ES, FR, and IT, they are a very minor share of total investments assets whereas in the Scandinavian countries they account for more than 15%.

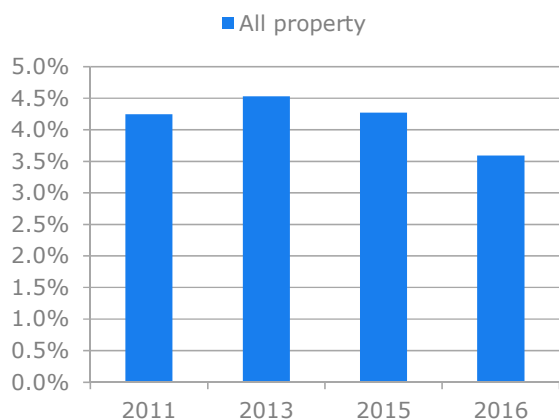
Figure 16: Total 'other investments' (% of Total Investments))



Note: The chart includes commercial property, residential property, loans excluding mortgages and derivatives. It also includes property investments made through collective investment undertakings for the companies which provided this information. The chart does not contain investments made through index linked and unit linked products.

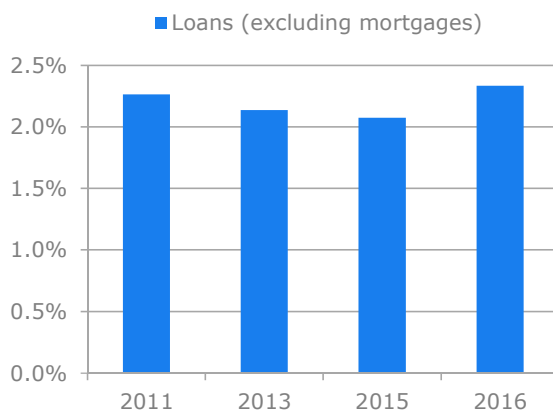
The overall increase in 'other investments' can be decomposed into the increase in 'loans (excluding mortgages)' and 'derivatives' against a small decrease in the 'all property' component for 2016 compared to the previous years (Figures 17 and 18). The qualitative information confirms a high interest in increasing exposures towards loans.

**Figure 17: All property (% to total investments)**



*Note: The chart includes all property investments as well as property investments made through collective investment undertakings for the groups which provided this information. The chart does not contain: Property (for own use), Plant and equipment (for own use) and Property (under construction for own use). The chart also does not include property investments made through index linked and unit linked products.*

**Figure 18: Loans excluding mortgages (% to total investments)**

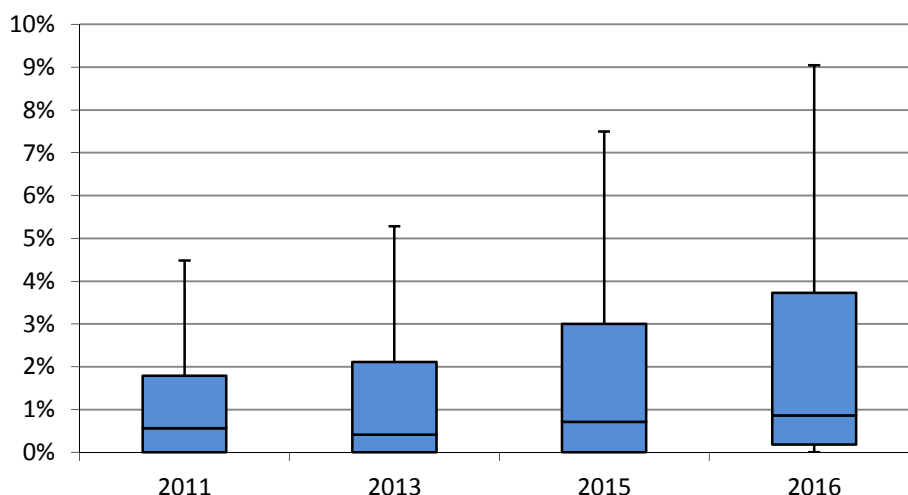


*Note: The chart includes all loan (excluding mortgages) investments. It does not include loans investments made through collective investment undertakings for 2016. The chart does not contain loan investments made through index linked and unit linked products.*

**Further analysis indicates that since 2011 loans represent an increasing amount in the balance sheets for some of the groups of the sample.**

Overall, the distribution of loans in total investment assets at undertaking level shows a very stable and low median. However, the increasing 75<sup>th</sup> and 90<sup>th</sup> percentiles of the distribution since 2011 indicate that some groups have increased interest in lending which may reach up to approximately 8.5% of total investment assets (90<sup>th</sup> percentile value for 2016, Figure 19)

**Figure 19: Distribution of Loans (excluding mortgages) as % to total investment assets - Median, interquartile range and 10th and 90th percentile**

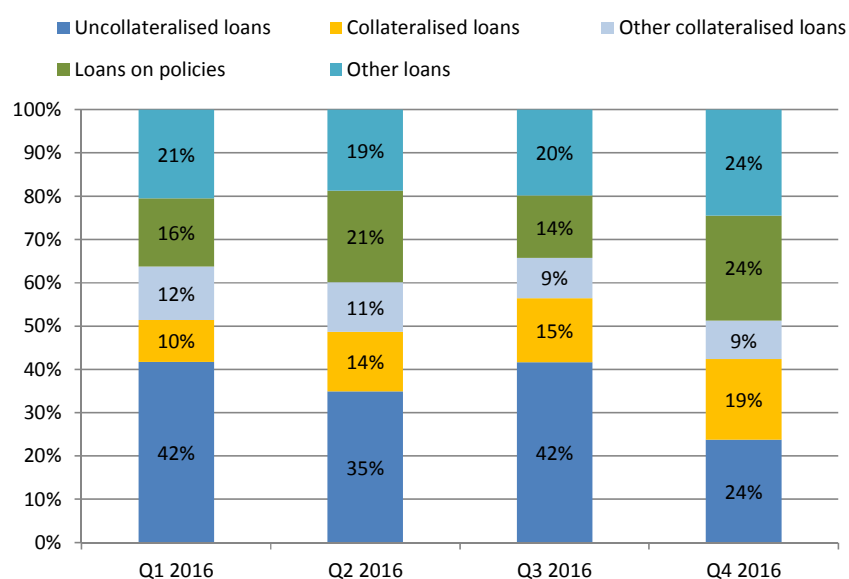


*Note: Sample of this figure is all the undertakings which participate in the survey.*

## Loans decomposition in 2016

The decomposition of all loans category shows a high amount of uncollateralized loans across the sample within 2016 data. At an aggregated level, the loans made without collateral represent more than one third of the loans breakdown in the first three quarters of 2016 (Figure 20). At the same time, a smooth ascending trend for collateralized loans can be observed over the same period. Given that uncollateralized loans are not guaranteed by any type of property they bear higher risks for the lenders. A more detailed look in the data reveals significant heterogeneity across groups regarding this loan segment, however, in aggregate terms they represent less than 1% of total investments.

Figure 20: Decomposition of other Loans (excluding mortgages) in 2016



Source: EIOPA QRT

Note: The chart above includes:

- Uncollateralized loans are defined as loans made without any collateral
- Collateralized Loans are defined as loans made with collateral in the form of financial securities
- 'Other collateralized loans made' are defined as loans made with collateral in any other form
- Loans on policies are defined as loans made with insurance policies as collateral
- 'Other loans' are defined as other mortgages and loans not classified under any of the above categories

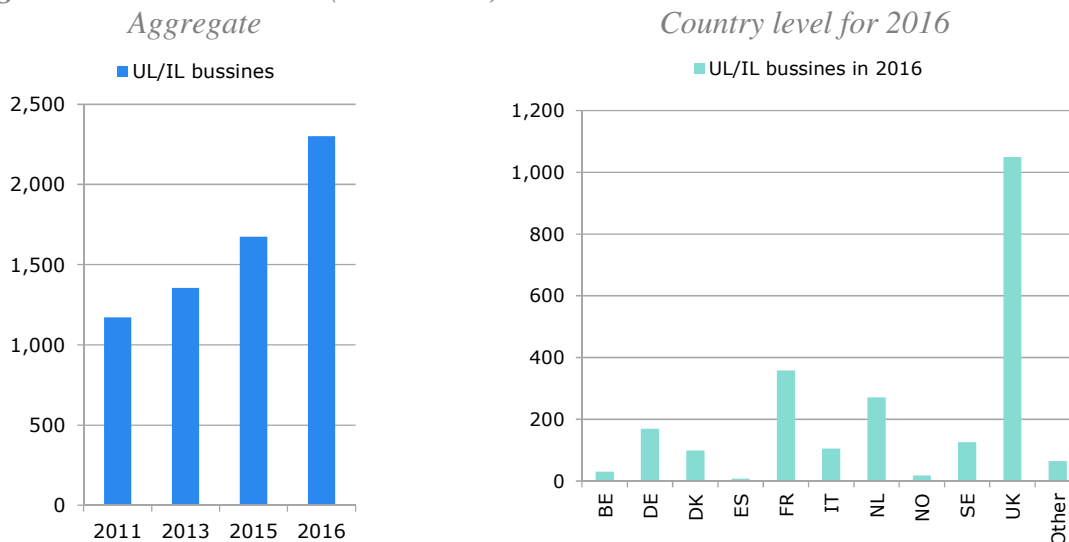
The overall amount of derivatives in the sample has increased from 2011 to 2016. In aggregate terms their share as a percentage to total investment assets still remains low (1.7% to total investment assets). Insurers are using derivatives to hedge underwriting risks (e.g. interest rate guarantees, currency risk on the liability side etc.) as well as for efficient portfolio management.

## 5. UL/IL business

### Quantitative information

**The volume of UL/IL business has significantly increased in the last years.** In terms of volume the business has doubled since 2011. In 2016, the vast majority of the UL/IL business (80%) was managed by DE, FR, NL and UK groups. The dramatic increase in the introduction of UL/IL products reveals a shift of risk from the insurance undertakings to the policy holders (Figure 21).

Figure 21: UL/IL business (in EUR bln)



Note: The figure above includes all unit-linked and index-linked business.

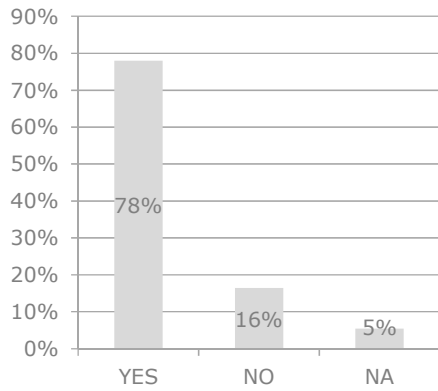
### Qualitative information

Based on the qualitative questionnaire, **the vast majority of the participants (78%) reported they have observed developments in the design of insurance products since 2011.**

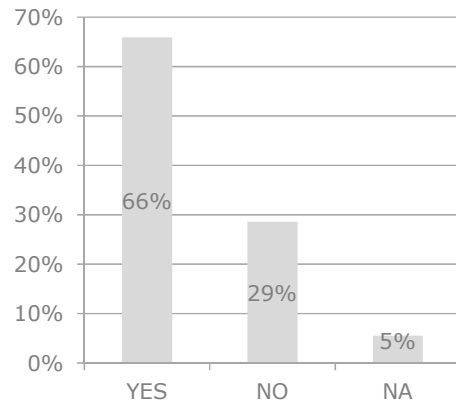
All these developments were directed towards the decrease or the complete elimination of guarantees in their products. **In addition to this, almost two thirds of the groups responded that they plan to extend the product range and the selling of more unit and index linked products in the next three years.** In the meantime more than half of the respondents also plan to further reduce the selling of guaranteed products (Figures 22, 23, 24)



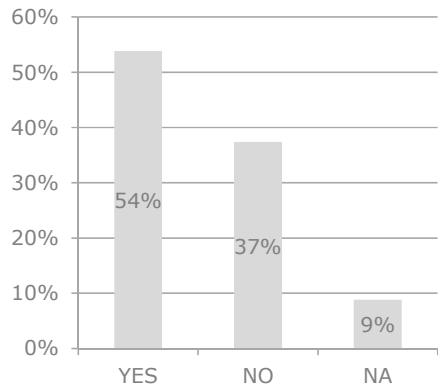
**Figure 22: Have you observed any changes in the product design over the last 5 years (reviewing guarantee structure)?**



**Figure 23: Are you planning to extend the product range and the selling of unit and index linked products**



**Figure 24: Do you aim to further reduce the selling of guaranteed products?**



## 6. Annex

### i) Data disclaimer and limitations of the dataset

- 1) The survey focused on the asset side of the balance sheet of insurance groups. The analysis is based on end of year data which provided a snapshot of the groups' balance sheets. Investment flow data which could possibly reveal additional insights was not used.
- 2) The analysis includes data based on balance sheet information under the Solvency I (SI) regime for the years 2011, 2013 and 2015. Data was submitted by groups on a 'best effort' basis. The dataset was then complemented with Solvency II (SII) data for the year 2016 for the same investment categories. Given the two different regulatory frameworks in place, for the investigated period (SI and SII) some differences in reporting may have occurred, due to different definitions in some investment sub categories. However, the aggregates of the main investment categories e.g. government and corporate bonds, listed and non-listed equity, property, loans and UL/IL assets were in line with 2016 data.
- 3) Investments made through collective investment undertakings (look through) were included by 44% of the sample for the years 2011, 2013 and 2015. When adding 2016 most of the asset categories included 'look through' for the same companies which provided the information for the years 2011-2015. However, it was not the case for figures 7, 9, 12, 15, 18 and 19. Hence, these figures should be seen with caution.
- 4) Finally it should also be noted 11% of the total investments made through collective investment undertakings were not available via the look through templates. In terms of total assets this percentage is equal to 2%.

### ii) Abbreviations

#### Country List

AT	Austria
BE	Belgium
DE	Germany
DK	Denmark
ES	Spain
FI	Finland
FR	France
IE	Ireland
IT	Italy
LU	Luxemburg
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
SE	Sweden
UK	United Kingdom

## Other

SI	Solvency I
SII	Solvency II
CoCo bonds	Contingent Convertible Bonds (or CoCo bonds), subordinated bonds that automatically turn from debt into equity upon the occurrence of a pre-defined situation.
UL/IL	Unit linked and indexed linked

### iii) Participation table: Number of groups per country

<b>Total</b>	<b>DE</b>	<b>UK*</b>	<b>FR</b>	<b>SE</b>	<b>IT</b>	<b>NL</b>	<b>BE</b>	<b>DK</b>	<b>ES</b>	<b>NO</b>	<b>Other</b>
91	21	16	11	7	6	6	5	5	4	3	7
<b>Other</b>	<b>AT</b>	<b>FI</b>	<b>IE</b>	<b>LU</b>	<b>PL</b>	<b>PT</b>					
7	2	1	1	1	1	1					

\*The UK is participating with 12 groups and 4 solos

### iv) Survey Questionnaire for the years 2011-2015

#### 1) General Information Table

General Information		
Country:	-	Please select the country from the drop-down list
Company name:		Please type in the group name
Activity	-	Please select the activity of the group from the drop-down list
NSA contact 1 (email):		Please insert NSA contact 1 email
NSA contact 2 (email):		Please insert NSA contact 2 email
Company abbreviation	----	

#### 2) Quantitative Questionnaire - Data

TABLE 1 - INFORMATION	
Currency	-
Assets invested through investment funds are included for all the 3 reference years*	-
Valuation Method	Market Value
Units	1

\*IMPORTANT NOTE: The balance sheet items (including property) reported below should include investments through investment funds (full look through) with the same de Minimis exceptions as in the S II reporting. In case investments through investment funds are not available for ALL 3 reference years (2011, 2013 and 2015) please EXCLUDE it from your submission and indicate NO in the table information above.

TABLE 2 - INVESTMENTS (by type of investment)			
by type (Aggregates)	2011	2013	2015
Total Assets	0	0	0
Bonds	0	0	0
Equity	0	0	0
Assets held for index-linked and unit-linked contracts	0	0	0
Other Investments	0	0	0

Investments/Assets	2011	2013	2015
<b>Total Bonds</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total Government Bonds	0	0	0
Advanced Economies bonds (1)			
Emerging market sovereign bonds (1)			
<b>Total Corporate bonds</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Financial Corporate bonds</b>			
...of which CoCo bonds (2)			
...of which own-group bonds (3)			
<b>Total Non-Financial Corporate bonds</b>			
Corporate bonds which are guaranteed (by sovereigns or sub-sovereigns)			
<b>Other bonds</b>	<b>0</b>	<b>0</b>	<b>0</b>
Structured notes			
Other bonds (in case above breakdown is not available) (4)			
<b>Total Equity</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Equity listed</b>	<b>0</b>	<b>0</b>	<b>0</b>
Total equity listed in advanced markets (1)			
Total equity listed emerging markets (1)			
<b>Total Equity non-listed (5)</b>			
Own group equity (6)			
<b>Assets held for index-linked and unit-linked contracts</b>			
<b>Other investments</b>	<b>0</b>	<b>0</b>	<b>0</b>
Project Finance (7)			
Property - residential (8)			
Property - commercial (9)			
Other loans (excluding mortgage loans)			
Derivatives			
Commodities			
Other (10)			

Notes:

(1) For the country groups please refer to the explanatory table at the Definition-Glossary sheet

(2) Contingent Convertible Bonds (or CoCo bonds), subordinated bonds that automatically turn from debt into equity upon the occurrence of a pre-defined situation. This category should include all types of CoCo bonds.

(3) In this category please include the value of corporate bond holdings issued by the parent company and/or companies of the same group.

In case these holdings are non-financial please include them in this category too.

(4) Including supranational bonds and sub-sovereigns

(5) In this section also please include also equity investments through project finance.

(6) In this category please include the value of equity holdings issued by the parent company and/or companies of the same group.

(7) Project financing is a loan structure that relies primarily on the project's cash flow for repayment, with the project's assets, rights, and interests held as secondary security or collateral.

(8) Residential property that generates income or is otherwise intended for investment purposes rather than as a primary residence.

(9) Commercial property that generates income or is otherwise intended for investment purposes.

(10) Other non-traditional investments

**TABLE 3 - DEBT SECURITIES (bond breakdown by rating)**

	2011	2013	2015
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Investment Grade</b>	<b>0</b>	<b>0</b>	<b>0</b>
AAA			
AA+			
AA			
AA-			
A+			
A			
A-			
BBB+			
BBB			
BBB-			
<b>Total Non-investment Grade</b>			

### 3) Qualitative Questionnaire – YES or NO questions

#### PORTFOLIO TRENDS AND INVESTMENT ALLOCATION

1 Have you increased your investment allocation towards more illiquid assets (e.g. loans, debt and equity from private non-exchange traded companies, participation into infrastructure projects, hedge funds)

2 Have you increased your investment allocation towards more liquid assets (e.g. debt, equity, currencies, commodities generally assets that can be traded in major exchanges)

3 Estimated percentage change towards more illiquid assets - please insert percentage change.

4 Have you observed any changes in the debt structure of the bond portfolio for both corporate and government bonds (maturity structure)?

5 Has the average duration of the government bond portfolio been increased?

6 Has the average duration of the corporate bond portfolio been increased?

7 Have you observed any changes in the debt structure of the bond portfolio? (convertible vs non convertible corporate bonds)

8 Have you observed any increases in investments in equity of financials?

9 Have you observed any increases in investments in equity of non-financials?

10 Have you observed any other changes in investment allocation not mentioned above?

11a Have you observed a decrease in the average investment grade of your investments?

11b if yes, is the decrease due to a change in the rating of the assets hold in a long term?

12 Do you plan to increase your exposure in infrastructure projects? If yes, to which extent?

13 Have you observed weakening lending standards – either in your company or externally? - if yes, please explain

14 Have you already invested in credit funds or do you plan to invest in such vehicles? - if yes, to which extent/time horizon?

**OTHER**

- 15 Did you change your investment return targets? (if yes- please provide additional details)
- 16 Do you take into account the risk of a drop in the value of the investments due to a strong correction of search for yield?
- 17a During the last 5 years, has your company changed significantly its shareholder structure? (e.g. M&A)
- 17b if yes, has this change dramatically changed the structure of the portfolio or the investment strategy?
- 18 Do you have different allocation policy according to the nature of the flows?
- 19 Do you have different allocation policy according to flows linked to new business underwritten by policyholders? If yes, please specify by distinguishing also the nature of the business underwritten (guaranteed or unit-linked products).
- 20 Do you have different allocation policy according to flows linked to reinvestment of assets having reached the maturity date? If yes, please specify.
- 21 Do you have different allocation policy according to outflows linked to policies surrounded by policyholders? If yes, please specify.

**Other factors influencing the change in the investment profile**

- 22 Did the introduction of the risk-based Solvency II framework influence your investment allocation?
- 23 Are there other factors that forced your company to adjust its investment risk profile over the last 5 years (e.g. supervisory pressure or a change in the long-term investment strategy of the company?)

**ACTIVE VS PASSIVE ASSET MANAGEMENT against rating evolutions**

- Would you characterise your investment strategy more as: (if both strategies are used please base your answer on the one prevailing by more than 50%)
- 24 Passive – objective is to reproduce the same returns as the market (by picking the composition of S&P 500 or trackers etc.) - i.e. same performance as the market.
  - 25 Active – objective is to obtain a higher return than the market is providing at the time (by stock picking etc.) - i.e. outperform the market
  - 26 Not applicable

**LIABILITY SIDE**

- 27 Did you reduce administrative costs as a result of the low interest rate environment?
- 28 Have you observed any changes in the product design over the last 5 years (reviewing guarantee structure)?
- 29 Have you observed any increase in the surrender fees?
- 30 Have you observed any changes in the duration gap between assets and liabilities over the last 5 years?

**FORWARD LOOKING QUESTIONS**

- 31 Do you aim to further reduce the selling of guaranteed products?
- 32 Are you expecting an increased number of lapses?
- 33 Are you planning to extend the product range and the selling of unit and index linked products?
- 34 Do you plan to reduce or hedge your exposures against a specific asset type and/or issuer?
- 35 Do you plan to increase your exposures in derivatives?
- 36 Do you plan to increase the average duration of the government bond portfolio?
- 37 Do you plan to increase the average duration of the corporate bond portfolio?
- 38 Do you plan to increase the exposure in equities?
- 39 Do you plan to increase your exposure to another asset category, not mentioned above (i.e. direct loans, or investments in infrastructure)?

**FREE TEXT SUPPORTING QUESTIONS**

Please provide your description to the following questions:

- 40 How does the board make sure, that the undertaking have the needed competencies for the desired alternative investments?
- 41 How is the valuation validated?
- 42 Which type of sensitivity analyses are carried out?
- 43 What type of risks do the board associate with these alternative investments and how are these risks measured?
- 44 How is the risk-return ratio evaluated and hereunder; how is the liquidity risk premium for the low depth, low liquidity and lack of transparency measured?
- 45 How does the undertaking perform back tests and how is the board informed about the results of the back tests?