# Assistance to EFRAG for impact analysis of IFRS 17 Insurance Contracts

## Final Report

LE Europe

VVA CONSULTING

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# Executive Summary

The purpose of the present study is to provide several analyses to inform EFRAG's ex-ante impact assessment of IFRS 17. In particular, the study provides inputs to EFRAG's impact assessment in the following areas:

- The competitiveness landscape (market structure) in which European insurers operate and the potential impact of a change in financial reporting on competitiveness;
- Observable trends in the business model(s) of European insurers, their causes and the potential impact of a change in financial reporting, in relation to:
    - product mix, product design and/or product pricing by European insurers;
    - investing behaviour of European insurers; and
- Investor perception of the insurance sector.

The research undertaken for this report combines different methods and tools:

- desk research and a literature review;[1]
- a stakeholder consultation exercise;
- a stakeholder on-line survey;
- a statistical analysis of secondary data from a range of sources such as EIOPA, European Central Bank, Thomson Reuters, IMF, Eurostat and OECD;
- a few econometric analyses; and,
- a quantitative assessment of potential one-off and on-going compliance costs arising from IFRS 17.

## Competitiveness landscape and IFRS 17

In general, insurance undertakings from the EU face little competition from non-EU undertakings in EU insurance markets. However, for some, business focused and more niche insurance products, the market is a world-wide market and in such markets EU insurance enterprises compete with undertakings from major insurance centres outside the EU.

Insurance undertakings from the EU face little competition from non-EEA undertakings in EU capital markets but they do when raising funds internationally.

Industry stakeholders mentioned two factors which may impact on their competitive position in capital markets following the implementation of IFRS 17.

First, the financial bottom line of some insurers, especially life insurance undertakings may become more volatile. The limited empirical literature on the issue of P&L volatility and cost of funds suggest that the cost of capital of undertakings showing greater P&L volatility may face higher debt costs in international debt markets.[2]

[1] A list of the articles and documents consulted for this study can be found in the Reference section.

[2] This is analysed in more detail in the "Investor perception of the insurance sector, cost of capital and IFRS 17" section.

Second, industry stakeholders are also concerned that IFRS 17 may make it more difficult to compare the financial statements with those of insurance undertakings from countries not adopting IFRS 17 although it is not clear whether the situation would be worse than at the present time.

Finally, the information provided by the insurance undertakings to EFRAG suggests that the on-going costs are unlikely to have a very marked impact on expenses, in contrast to the one-off costs which may have a more substantial impact on the total expenses of insurance undertakings subject to IFRS 17 in the period or periods in which such costs are incurred.

## Trends in the business models of EU insurance undertakings and IFRS 17 - insurance product mix and insurance prices

The key fact to note in terms of the evolution of the product mix in the EU insurance market since 2005 is the decline of the market share of life-insurance in the total insurance market (measure by gross premiums) from 2005 to 2008 and the increase in the market share of non-life. Life insurance, however, remains still by far the largest insurance segment.

The overall price of insurance grew faster than the general consumer price index over the period 2005 to 2017. In particular, the annual rate of growth of price of insurance connected with health was markedly higher than overall inflation while the price of insurance connected with transport increased only marginally faster than the overall consumer price index.

Stakeholders reported that, in general, financial reporting does not play a big role in product mix and pricing. Thus, IFRS 17 is not expected to have a noticeable impact on the product mix except “Life” and “Credit & Suretyship”.

IFRS 17 is not expected to have significant impacts on short-term insurance contracts measured using the premium allocation approach, as the amount recognised as insurance revenue need not be adjusted for the time value of money. The main changes for short-term insurance contracts will depend upon companies’ existing insurance accounting practices.

However, long-duration contracts (such as life insurance) or product features which expose the P&L to market fluctuations (such as participating contracts evaluated using the general model) may be affected by the adoption of the new standard.

In addition, the majority of industry stakeholders believe that reinsurance contracts are not dealt with appropriately, as the treatment of reinsurance in the standard could add a non-economic pricing constraint to mitigate perceived losses in the financial reporting due to accounting mismatches. In addition, any implications to the pricing of reinsurance will also impact on the pricing of the underlying contract to the policy holder.

## Trends in the business models of EU insurance undertakings and IFRS 17 - allocation of the investment assets

Although there is considerable discussion about insurers moving away from debt securities towards new asset classes and /or equity, the aggregate data from EIOPA on the investments of EU insurers do not show a significant movement out of the debt securities at the EU wide level.

The majority of stakeholders interviewed (i.e. supervisory authorities, insurers and external investors) agree that IFRS 17 alone will not impact the asset allocation of insurance undertakings, as this activity is more driven by risk management and/or asset/liability management.

However, industry stakeholders expressed the view that the effect of applying IFRS 17 in conjunction with IFRS 9 may have an impact on asset allocation. This is because a company is required to account for insurance contracts issued applying IFRS 17 and financial assets held applying IFRS 9. Investments in equity and structured funds may become less attractive following the adoption of IFRS 17 and IFRS 9, as assets characterised by higher volatility that may expose a company's P&L to market fluctuations

## Investor perception of the insurance sector, cost of capital and IFRS 17

In Germany, France, and the UK, the global financial crisis increased the cost of capital in the insurance sector more than in any other of the comparator industries. The difference was particularly sizeable in the several months following the collapse of Lehman Brothers in September 2008, when the effect can be observed even in Italy.

Moreover, in Germany, France, and the UK, the comparatively higher capital costs in many cases did not fully reverse. The difference between the cost of capital faced by insurance companies and the other sectors was in 2017 still greater than the difference in 2005. An exception is the banking sector, where the difference in WACC between insurance and banking returned broadly to its 2005 levels.

Among the stakeholders interviewed and surveyed, there was a general agreement about the difficulties analysts face when evaluating the financial report of an insurance company. Almost all the respondents indicated a level of difficulty in the top tier of the scale.

However, there are differing views on the potential impact of IFRS 17 on the cost of capital for EU insurance undertakings

Most stakeholders interviewed (i.e. the majority of supervisory authorities and some insurance undertakings) agreed on the fact that in the long run, the new accounting standard will bring increased transparency on the financial reporting practises of European insurance companies, improving their ability to raise capital on the market. Furthermore, it was stressed this change could make the insurance industry more attractive to a generalist investor, which would reduce the cost of equity in the long run.

The majority of life insurance undertakings interviewed, instead, stressed that IFRS 17 implementation will negatively affect the life insurance industry and strongly disagree that there are any potential positive outcomes for the industry itself. Those stakeholders commented the increased complexity of accounting rules associated with IFRS 17 will not bring the intended transparency, but on the contrary, it will make the sector even less open to non-highly specialised investors.

The education of external investors and analysts is a major concern for industry stakeholders interviewed (both life and non-life). The challenge will be to explain the balance sheets and underlying financial assumptions to the external investors in the transition time.

Therefore, it is possible that IFRS 17 could lead to a perceived weakening of the financial strength of companies due to changes in the level of retained earnings. IFRS 17 could, at least temporarily, increase the cost of capital for European insurers while investors familiarise themselves with the new standard).

In terms of rating, two major rating agencies (FITCH and S&P) commented that IFRS 17 is unlikely to directly affect insurers' ratings because the economic substance of their balance sheets will not change.

# 1 Introduction

## 1.1 Background

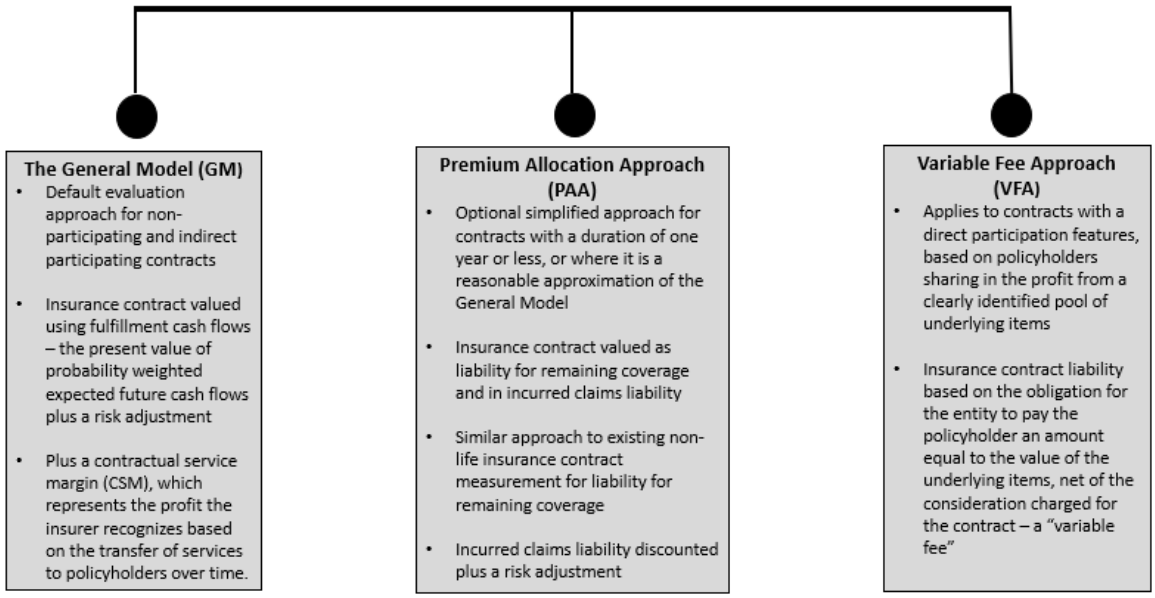
In May 2017, the International Accounting Standards Board (IASB) issued IFRS 17 Insurance Contracts (IFRS 17). The new financial reporting standard IFRS 17 "*sets out the requirements that a company should apply in reporting information about insurance contracts it issues and reinsurance contracts holds*" (IASB)[3]. The implementation of this new standard represents one of the most substantial change to insurance accounting requirements in over 20 years.

The objective of IFRS 17 is to ensure that an entity provides relevant information that faithfully represents those contracts. This information gives a basis for users of financial statements to assess the effect that insurance contracts have on the entity's financial position, financial performance and cash flows.

Whereas the current standard allows insurers to use their local GAAP (IFRS 4), IFRS 17 defines rules that will markedly increase the comparability of financial statements of insurance undertakings. The transition to IFRS 17 will affect the way insurance undertaking present the information on their financial performance in their financial statements and on key performance indicators.

IFRS 17 provides for three different approaches (see figure below for details).[4]

**Figure 1: Impacts of IFRS 17**




***Source: adaptation from EY, 2017***

The **general model** requires entities to value an insurance contract at initial recognition at the total of the fulfilment cash flows (comprising the estimated future cash flows, an adjustment to reflect

[3] See https://www.ifrs.org/-/media/project/insurance-contracts/ifrs-standard/ifrs-17-project-summary.pdf

[4] For a more in-depth review of the details of IFRS 17 see: https://www.ifrs.org/-/media/project/insurance-contracts/ifrs-standard/ifrs-17-project-summary.pdf

the time value of money and an explicit risk adjustment for non-financial risk) and the contractual service margin. The fulfilment cash flows are re-valued on a current basis in each reporting period. The unearned profit (contractual service margin) is recognised over the coverage period.

Besides this general model, IFRS 17 provides as a simplification, the **premium allocation approach**. This simplified approach is applicable for certain types of contracts, including those with a coverage period of one year or less.

For insurance contracts with direct participation features, the **variable fee** approach applies. The variable fee approach is a variation on the general model. When applying the variable fee approach, the entity's share of the fair value changes of the underlying items is included in the contractual service margin. As a result, the fair value changes are not recognised in the profit or loss in the period in which they occur but over the remaining life of the contract.

The new IFRS standard is applicable for annual periods beginning on or after 1 January 2021, subject to EU endorsement. Early application is permitted for entities that apply IFRS 9 Financial Instruments, and IFRS 15 Revenue from Contracts with Customers, at or before the date of initial application of IFRS 17. The standard can be applied retrospectively but it also contains a "modified retrospective approach" and a "fair value approach" for transition depending on the availability of data (EY, 2017).

It is important to note that, at the level of European regulation, IFRS 17 applies only to the consolidated financial statements of listed (i.e. public) insurance undertakings. Non-listed and mutual insurance undertakings, and the individual financial statements of listed insurance undertakings, will continue to be subject to their local GAAP unless the relevant competent authorities decide to extend the application of IFRS 17 to such insurance undertakings (on a mandatory or voluntary basis).

## 1.2 The objectives of the present study

The purpose of the present study is to provide a number of analyses to inform EFRAG's ex-ante impact assessment of IFRS 17. In particular, the study provides inputs to EFRAG's impact assessment in the following areas:

- The competitiveness landscape (market structure) in which European insurers operate and the potential impact of a change in financial reporting on competitiveness;
- Observable trends in the business model(s) of European insurers, their causes and the potential impact of a change in financial reporting, in relation to:
    - product mix, product design and/or product pricing by European insurers;
    - investing behaviour of European insurers; and
- Investor perception of the insurance sector.

## 1.3 The structure of the report

This report is structured as follows:

- Chapter 1 is the present introduction to the report
- Chapter 2 describes the research methodology
- Chapter 3 discusses the state of competition between EU insurers and insurers from outside the EEA in the insurance market and in capital markets, and the potential impact of IFRS 17 on such competition

- Chapter 4 provides information on the evolution of the insurance product mix and insurance prices over the past 10 to 15 years, and the potential impact of IFRS 17 on the insurance product mix and insurance prices
- Chapter 5 discusses developments in the asset allocation of EU insurance undertakings and the potential impact of IFRS 17 on such asset allocation
- Chapter 6 presents information on investors' perception of the clarity of the financial reports of EU insurance undertakings, the cost of capital faced by EU insurance undertakings and the potential impact of IFRS 17 on the funding costs faced by EU insurers
- Chapter 7 summarises the key findings

# 2 Research methodology

The research undertaken for this report combines a number of methods and tools:

- desk research and a literature review;[5]
- a stakeholder consultation exercise;
- a stakeholder on-line survey;
- a statistical analysis of secondary data from a range of sources such as EIOPA, European Central Bank, Thomson Reuters, IMF, Eurostat and OECD;
- a few econometric analyses; and,
- a quantitative assessment of potential one-off and on-going compliance costs arising from IFRS 17.

## 2.1 Stakeholder consultations and survey

In undertaking this study, we have performed various information gathering tasks, including

- an online survey of insurance undertakings and external analysts/investors (165 replies overall); and
- stakeholder interviews (47 interviewees).

Our "*bottom-up approach*" aimed at collecting information directly from major participants in the EU insurance market. The primary data collection tool for this exercise was a questionnaire-based survey of insurance stakeholders in all Member States (please refer to Annex 2 for a full overview of the key characteristics of the sample of survey respondents).

The online survey covered a representative selection of stakeholders working in the insurance industry in regulatory/compliance and/or asset management, and external investors (e.g. regulators, asset management, pension funds and bank analysts). Some respondents did not provide responses to all the questions (20% completion rate). Consequently, a high response rate for the overall questionnaire (165 answers) does not necessarily imply that all questions were addressed equally by all respondents.[6]

To overcome these data-gaps, information collected through stakeholder interviews explored the research questions more in depth. Interviews were conducted with:

- officials from EU Insurance Supervisory Authorities;
- representatives of international, European and national insurance associations;
- CFOs of listed/non-listed insurance companies;
- external investors (such as asset management, pension funds and bank analysts); and

[5] A list of the articles and documents consulted for this study can be found in the Reference section.

[6] Some questions were only relevant for a smaller group of stakeholders which explains a low response rate in some instances.

- organisations supplying insurance-related consulting services.[7]

Finally, data and information were also obtained from a wide range of published sources.

- Major sources include, first, a variety of international bodies devoted to insurance matters or providing data on insurance. These bodies include, but are not limited to, the Organisation for Economic Co-operation and Development (OECD), Insurance Europe, the International Association of Insurance Supervisors (IAIS) and the IFRS Foundation.
- Information was also obtained from bodies operating at the level of the individual Member States, including national supervisory authorities and national insurance associations of the 28 EU Member States (representing insurance companies).
- Further data was gathered from reports and other publications produced by a large number of individual insurance firms and commercial organisations supplying insurance-related consulting services.
- Position papers from European and national industry associations as well as external investors were also considered.

The general objective of the review of such documents was to gather and analyse relevant and up-to-date information related to the following aspects:

1. Concepts and definitions of IFRS 17;
2. Link between Solvency II and IFRS 17;
3. Economic impacts of IFRS 17 in the insurance industry;
4. Competitiveness of European insurance companies against other international competitors;
5. Implications in terms of product design, mix and pricing.

The documentary review had also the secondary objective to fill data gaps after the direct consultation of stakeholders.

A limitation to the use of secondary sources consulted for this study is the difficulty to obtain data relating exclusively to life, non-life and business insurance or to isolate such data from each other. For example, data on insurance usually distinguishes between life insurance and non-life insurance (or general insurance), but within the latter category there is rarely a division between business insurance and retail lines of insurance. So, in some cases, non-life insurance had to be taken as a rough proxy for business insurance. In addition, there are a number of areas where data generally are very thin in some or all EU Member States.

## 2.2 Quantitative analysis

The quantitative analysis presented in the report involves:

- a descriptive statistical analysis of secondary data from EIOPA, Eurostat and Thomson Reuters;
- a simple correlation analysis to assess whether two variables of interest are moving systematically moving together (in the same or opposite direction); and
- more technical econometric analysis to test specific hypotheses. The technical details of the analysis are presented in the Annex part of the report and the main results of the analysis are highlighted in the report itself.

[7] The complete list of stakeholders who have been interviewed is provided at Annex 1.

# 3 Competition from non-EU insurers faced by EU insurers in product and capital markets

The present chapter provides an assessment of the extent to which EU insurance undertakings face competition in product and capital markets from non-EU insurance undertakings (sections 3.1 and 3.2 respectively) and provides the views of stakeholders on the potential impact of IFRS 17 on competition in these two markets.

As well, the chapter discusses potential additional costs that listed EU insurers may face due to the one-off and on-going compliance costs with IFRS 17 (section 3.3). Finally, section 3.4 brings together the main takeaways from chapter 3.

## 3.1 Competition from non-EU insurers in the EU insurance product markets

### 3.1.1 Data sources

Four different data sources were consulted to assess the extent to which EU insurance undertakings compete with insurance undertakings from outside the EU. These are:

1. The EIOPA Solvency I statistics which provide information on all undertakings which are active in a Member State and are subject to Solvency I reporting.[8] The database distinguishes:
    a. national insurance undertakings
    b. branches of EEA undertakings
    c. branches of undertakings from outside the EEA

    Solvency I statistics are available for the period 2005 – 2015. As Solvency II became effective 1st January 2016, the latest insurance data collected by EIOPA cover the insurance undertakings subject to Solvency II. Unfortunately, the Solvency II statistics no longer provide information by origin of the insurance undertaking shown above.

2. Annual reports and filings at securities commissions of the 15 largest publicly traded EU and 20 non-EU insurance companies, selected on the basis of their total revenues in the 2018 Forbes Global 2000 ranking.[9] The reported geographical structure of revenues at group-level provides information on the combined revenues of branches and subsidiaries of non-EEA insurance undertakings in the EU, as well as EU insurance undertakings outside the EEA. It is important to note, however, that there are major inconsistencies in the way geographically segmented data is reported in the financial statements and any results are at best broad approximations and should therefore be treated with caution.[10]

[8] The EIOPA data are available at https://eiopa.europa.eu/Pages/Financial-stability-and-crisis-prevention/Insurance-Statistics.aspx.

[9] See https://www.forbes.com/global2000.

[10] In some cases, geographically segmented revenues are reported, while in other case segmented net premiums are shown. The region "Europe" (or even "EMEA") is often reported, with no disaggregation for EEA and non-EEA countries. In some cases, the most recent data available are from 2013, while in others, 2016 or 2017 data are available. In some cases, revenues from insurance activities are reported separately, while in other cases they are grouped with revenues from non-insurance activities.

3. The ECB insurance statistics.[11] However, these statistics provide only information on the assets and liabilities of the insurance corporations in the euro area. Therefore, these statistics were not used in the analysis below.
4. The OECD insurance statistics[12] which provide information on the market share of foreign controlled undertakings and branches/agencies of foreign undertakings in total domestic business. However, the database does not distinguish between foreign undertakings from within and outside the EEA. Moreover, the database provides only information for OECD countries and some other countries. For these two reasons, the OECD database was not used for the assessment of the extent to which EEA and non-EEA insurance undertakings compete in the EU.

### 3.1.2 Extent of competition between insurance undertakings from the EU and outside the EEA in EU insurance markets

The EIOPA Solvency I data show that very few insurance undertakings from outside the EEA operate through branches in EU Member States.[13] [14]

- In the large majority of Member States (20), no insurance undertakings from outside the EEA were active in 2015
- In the other Member States
  - only 1 non-EEA undertaking was active in AT, ES and NL
  - 2 were active in EL
  - 3 were active in IT
  - 4 were active in FR
  - 5 were active in DE
  - 22 were active in the UK, reflecting in large part the international business underwritten in the London market place.

It is not possible to derive an estimate of the overall number of non-EEA insurance undertakings active through branches in the EU as a same undertaking may be active in more than one Member State. However, it can be safely concluded that the number is very low – for example, if each of the branches of the non-EEA undertakings active through branches in one Member State is not active in any other Member State, then the total number of non-EEA insurance undertakings active through branches in the EU-28 would have been at most 38.

While the data provide below relate to the year 2015, the time series information in Annex 3 shows that the number of non-EEA undertakings active through branches declined in almost all Member States in which such non-EEA entities were operating in 2005 (the first year for which EIOPA data are available) and did not increase in any Member State other than the UK.

[11] The ECB data are available at https://sdw.ecb.europa.eu/browse.do?node=9691121.

[12] The OECD statistics are available at https://stats.oecd.org/Index.aspx?DatasetCode=INSIND.

[13] According to the Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (recast).a *'branch' means an agency or a branch of an insurance or reinsurance undertaking which is located in the territory of a Member State other than the home Member State* (article 13.11). Moreover, the Directive specifies that *for the purposes of this Chapter, 'branch' means a permanent presence in the territory of a Member State of an undertaking referred to in paragraph 1, which receives authorisation in that Member State and which pursues insurance business (article 162.3*).

[14] In a number of cases, insurance undertakings from outside the EEA may operate through subsidiaries in EEA Member States. In such cases, the subsidiaries are considered to be national insurance undertakings by the Insurance Directive (see footnote above). We did not find a database which provides comprehensive information on the presence of such subsidiaries in the EU and the size of their activities.

**Table 1 Number of insurance undertakings active in Member States - 2015**

| | Number of national insurance undertakings | Number of branches of EEA undertakings | Number of branches of undertakings from outside the EEA | Total number of insurance undertakings |
|---|---|---|---|---|
| AT | 41 | 31 | 1 | 73 |
| BE | 80 | 43 | 0 | 123 |
| BG | 46 | 12 | 0 | 58 |
| CY | 30 | 5 | 0 | 35 |
| CZ | 32 | 23 | 0 | 55 |
| DE | 372 | 86 | 5 | 463 |
| DK | 106 | 0 | 0 | 106 |
| EE | 12 | 4 | 0 | 16 |
| EL | 46 | 18 | 2 | 66 |
| ES | 239 | 75 | 1 | 315 |
| FI | 49 | 13 | 0 | 62 |
| FR | 297 | 0 | 4 | 301 |
| HR | 24 | 0 | 0 | 24 |
| HU | 30 | 16 | 0 | 46 |
| IE | 215 | 43 | 0 | 220 |
| IT | 114 | 103 | 3 | 220 |
| LT | 10 | 13 | 0 | 23 |
| LU | 302 | 16 | 0 | 318 |
| LV | 8 | 14 | 0 | 22 |
| MT | 58 | 7 | 0 | 65 |
| NL | 175 | 0 | 1 | 176 |
| PL | 57 | 25 | 0 | 82 |
| PT | 46 | 33 | 0 | 79 |
| RO | 35 | 9 | 0 | 44 |
| SE | 167 | 34 | 0 | 201 |
| SI | 17 | 6 | 0 | 23 |
| SK | 17 | 21 | 0 | 38 |
| UK | 335 | 45 | 22 | 402 |

Note: Insurance undertakings subject to Solvency I reporting requirements. Includes re-insurance undertakings

***Source: EIOPA insurance statistics Solvency I Table 1 Number of enterprises***

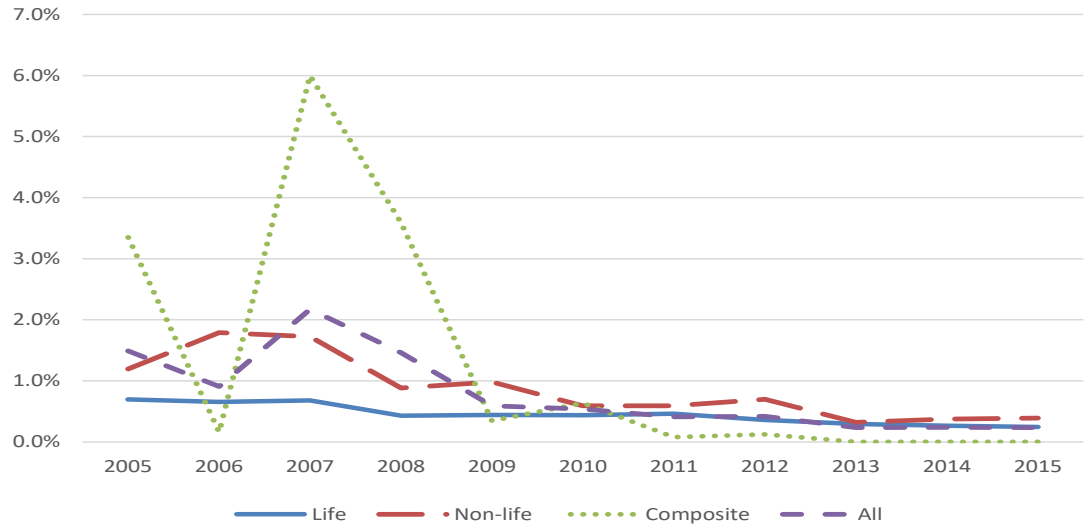
Not only is the number of non-EEA undertakings operating in the EU through branches very small, but their market share (in terms of premiums) is also very small.

The figure below shows the market share of:

1. life insurance branches from outside the EEA in total gross insurance premiums collected by life insurance enterprises in the EU
2. non-life insurance branches from outside the EEA in total gross premiums collected by non-life insurance enterprises in the EU
3. composite (life and non-life) branches from outside the EEA in total gross premiums collected by composite insurance enterprises in the EU
4. all branches from outside the EEA in total gross premiums collected by all insurance enterprises in the EU

In all cases, the market share of branches from outside the EEA is very low, less than 1% in all four cases from 2010 onwards.

**Figure 2: Market share of non-EEA branches operating in the EU**




Note: Insurance undertakings subject to Solvency I reporting requirements.
***Source: EIOPA insurance statistics Solvency I Table 2 Gross premiums written (in million euro)***

As already noted, non-EEA insurance undertakings may operate in the EEA market through subsidiaries rather than through branches.

The market share of subsidiaries of non-EEA companies in the EEA is quantified at a high level on the basis of information from the consolidated financial statements of the 20 largest non-EEA insurance undertakings in the world. In particular, the group-level geographical distribution of revenues provides a broad indication of the combined revenues from branches and subsidiaries in the EEA.

The estimated market share of the 20 largest non-EEA insurers in the EEA market is 4.6%. However, this figure should be seen as an upper range estimate due to the fact that in the non-EEA companies' financial statements, the geographical segment "Europe" is often reported rather than "EEA" segment, which notably also includes Switzerland, Russia, and in some cases Turkey. This overstates the revenues attributable to the EEA market. In addition, the European *revenues* of non-EEA companies are in some cases compared with the total *premiums* written in the EEA. While the two variables are closely linked, revenues can, for example, also include income from non-insurance activities (e.g. asset management). This will further overstate the insurance market share of non-EEA insurers in the EEA.

Disaggregating by country among the top 20 non-EEA companies, the market share of Swiss insurers in the EEA is 3.2%, of Japanese insurers 0.8%, and of American insurers 0.7%.

Reversing the focus of the analysis and zooming in on the revenues that the 15 largest EU insurers generate outside the EEA, the financial statements of these insurance undertakings show that non-EEA operations generate approximately a third of total revenues of the top 15 largest EU insurers, with 12% generated in the USA and 7% in Japan.

In the case of five of the top 15 EU insurers, non-EEA revenues represent more than 40% of the group's revenues. Three insurance undertakings generate more than 20% of their revenues in the US market and one insurer generates more than 20% of revenues in the Japanese market.

**Table 2 EU and non-EEA insurance undertakings included in the analysis**

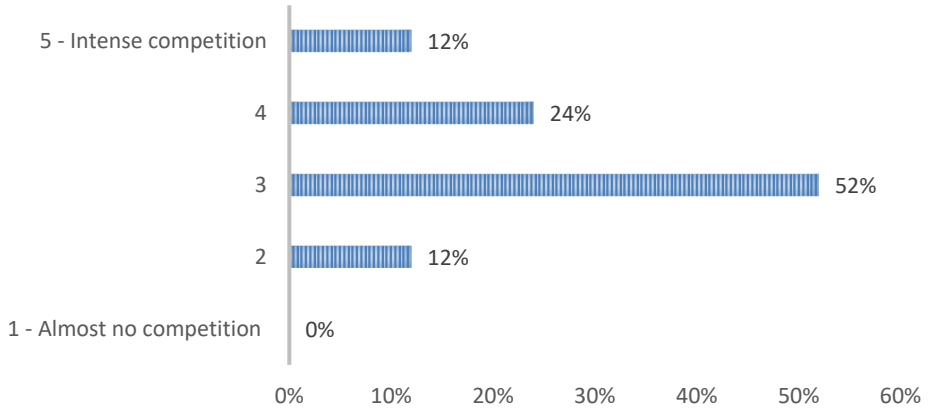
| Non-EEA insurers | EU insurers |
|---|---|
| AIA Group (Hong Kong) | AXA Group |
| Allstate (United States) | Aegon |
| American International Group (United States) | Ageas |
| China Life Insurance (China) | Allianz |
| China Pacific Insurance (China) | Aviva |
| Chubb (Switzerland) | CNP Assurances |
| Dai-ichi Life Insurance (Japan) | Generali Group |
| Japan Post Holdings (Japan) | Legal & General Group |
| Manulife (Canada) | Mapfre |
| MetLife (United States) | Munich Re |
| MS&AD Insurance (Japan) | NN Group |
| People's Insurance (China) | Poste Italiane |
| Ping An Insurance Group (China) | Prudential |
| Progressive (United States) | Standard Life |
| Prudential Financial (United States) | Talanx |
| Sompo (Japan) | |
| Swiss Re (Switzerland) | |
| Tokyo Marine Holdings (Japan) | |
| Travelers (United States) | |
| Zurich Insurance Group (Switzerland) | |

***Source: Forbes Global 2000***

All stakeholders interviewed (i.e. prudential and supervision authorities, insurance undertakings and external investors) tend to agree that the rivalry for customers between EU insurance undertakings and non-EU insurance undertakings in Europe is low.

This view is confirmed by the results of the online survey, as 52% of the survey respondents report that the competition between the two types of economic operators is neither intense nor very intense.

**Figure 3: Perceived level of competition for customers between EU and non-EU insurers – stakeholders' assessment**




***Source: VVA's elaboration of the online survey results – sample: 25 responses***

Stakeholders indicated that the European life retail segments and non-life retail segments are dominated by local market players or other large European groups. For example, in the Lithuanian market, there are 21 market players: 9 local insurance undertakings and 12 branches of other EU

insurance undertakings. A similar competitive landscape was reported in Belgium, Croatia and Denmark.

Moreover, some interviewed stakeholders (industry and supervisory authorities) commented that intense competition is observed in the motor vehicle segment in the Netherlands and in the UK and for collective insurance contracts in accident and health in Italy.

Beyond these particular observations, no systematic pattern across countries is observed among the stakeholders' responses.

Stakeholders noted that the most intense competition between EU and non-EU companies manifests mainly in the business-focused segments, such as "marine, aviation and transport", "fire and other damage to property", "credit and suretyship" and "reinsurance". These segments are considered more global and competition with US companies, and Bermuda companies for the maritime segment, is reported to have increased in the last years.

In general, the majority of industry players and supervisory authorities commented that Europe is not an attractive market to enter for a non-European insurance undertaking, as there are high entry costs and most of the local markets are saturated with limited growth.[15]

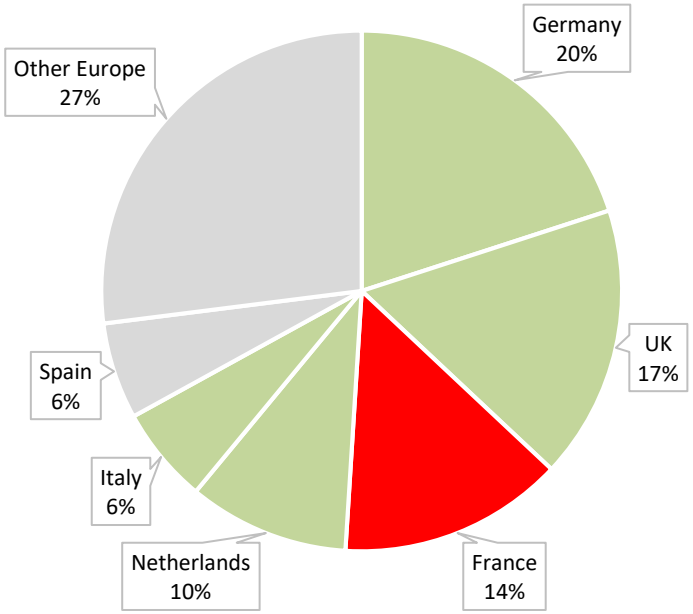
Stakeholder perceptions about limited market growth are also confirmed by data from Moody's (2017). As shown in Figure 4, the rating agency expects a stable outlook in most European countries under analysis, apart from:

- France: negative outlook in the property and casualty (P&C) market due to fierce competition (which limits price increases) and a low interest rate environment that adds further pressure on profits (Moody's, 2017);
- Germany: negative outlook in the life market as around one third of life insurers had to submit a solvency remediation plan to the regulator (Solvency II ratio below 100% without transitional measures- year-end 2016 figures) and due to low interest rate which continue to erode life insurers' profits (Moody's, 2017).

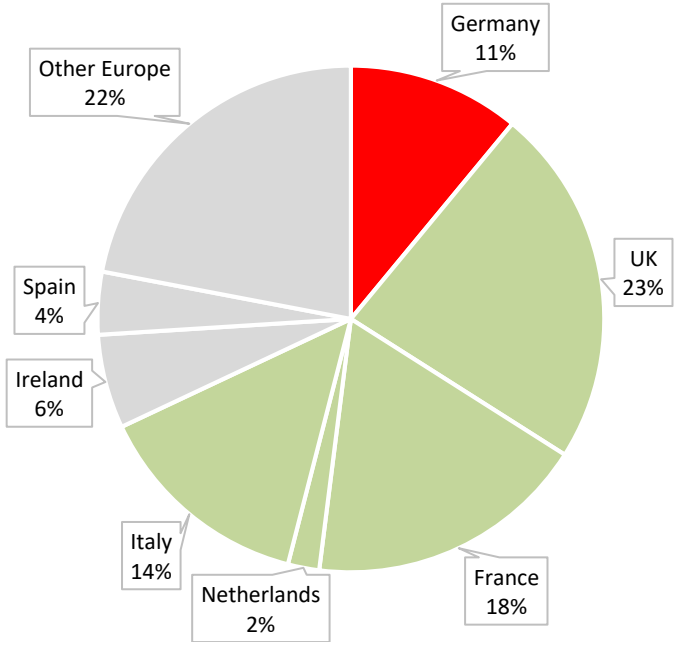
[15] There are some exceptions in this case as well. For instance, in 2017, the Lithuanian insurance market experienced a 12% growth fostered by the non-life insurance sector (Bank of Lithuania, 2017). Similarly, the Polish non-life premiums increased by 15.9% driven by an expansion of the motor insurance segment (OECD, 2017).

## Figure 4: Outlooks for major European insurance sectors

**Europe non-life premiums by country – 2016**




**Europe life premiums by country - 2016**





*Source: Moody's Investors Service, 2017*

Further evidence of the relative "unattractiveness" of the EU insurance markets for insurance undertakings from outside the EEA is provided in the *Global insurance trends analysis 2018* published by E&Y, which reports that the global increase in the value of insurance premiums in 2017 was mainly driven by growth in emerging markets such as China, India and Indonesia (E&Y, 2018).

In contrast, in recent years, the European market was characterised by:

- Stable profitability in most non-life segments, even though the property and casualty business in several markets remained unprofitable due to rising claims inflation (mainly in the motor line) and the excess capacity among insurers (E&Y, 2017);
- A decline in premiums in the life segment, as most major markets either declined or stayed flat mainly due to reduced attractiveness of insurance products in a low interest rate environment (E&Y, 2018).

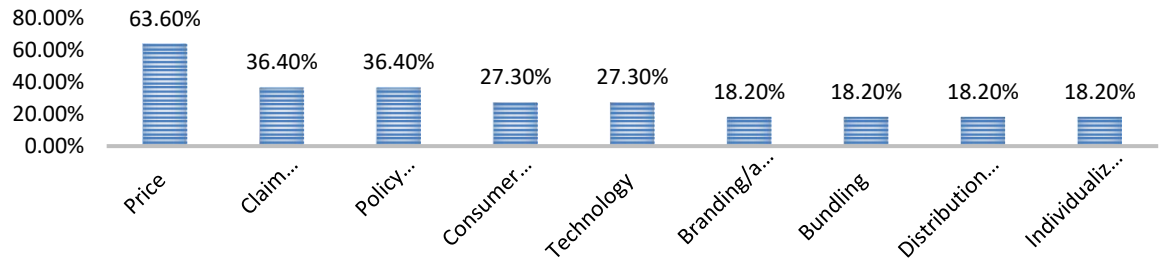
In addition to the general market trends, an industry player commented that the "*General Good*" provision[16] , a principle that has been reinforced in the recent Insurance Distribution Directive[17], combined with the existence of specific requirements imposed by National GAAP, impedes the widespread diffusion of products that have been designed to target a specific market outside the EU. In fact, every operator must comply with National GAAP and EU/national regulations, which tend to be very stringent, according to the opinion of EU insurance undertakings interviewed.[18]

### 3.1.3 Drivers of competition in EU insurance markets

In terms of competition drivers, most industry stakeholders commented that even though "*claim and policy servicing*" and "*customer and broker relationships*" are key aspects in customer behaviour, ultimately the negotiation will always come to "*price"*.

None of the stakeholders believe that "*country*" or "*brand*" are key determinants affecting customer's choice.

**Figure 5: Most important competition drivers**




***Source: VVA's elaboration of the online survey results – sample: 29 responses***

[16] A principle that intendeds to promote transparency for cross-border activity and lists requirements to be observed by insurance undertakings and/or intermediaries that intend to carry on business in EU/EEA Member State(s). More information available at: https://eiopa.europa.eu/consumer-protection/general-good-provisions.

[17] For more information, see: https://www2.deloitte.com/content/dam/Deloitte/gr/Documents/financial-services/gr_insurance%20distribution%20directive_noexp.pdf.

[18] For instance, Europe and the US – the world's two largest insurance markets - maintain fundamentally different regulatory standards. Europe is about to finalise the world's most advanced, ambitious and complex regulatory standard with Solvency II. It aims to capture an economic concept of risk, provides market-consistent valuations, and is essentially based on mark-to-market accounting. In contrast, the US maintains its longstanding risk-based capital standard, and national regulators explicitly exclude replacing the US capital framework with any international standard (WEF, 2014). More information available at: https://www.weforum.org/agenda/2014/10/regulations-global-insurance-industry-systemic-risk/.

In addition, online platforms, aggregators and technology developments have been cited as important competition factors in the distribution landscape and in insurance pricing. For instance, in the UK nearly half of new home insurance sales and more than two-thirds of motor insurance sales are through aggregators/platforms (E&Y, 2017). In Italy, a key reason for soft motor prices is high telematics penetration, which has led to a downward adjustment of average insurance rates (E&Y, 2017).

Furthermore, most stakeholders agree that further advances in technology (such as artificial intelligence (AI), the Internet of Things (IoT) and blockchain) will become key enablers for developing new products, business models and distribution channels. According to some stakeholders interviewed (supervisory authorities and industry), new players from *InsurTech*[19] are already creating pressure along the value chain. This will likely drive greater acquisitions, venture capital investments and market repositioning for some industry players.

Another current competition driver cited by industry stakeholders from the life insurance industry is the reduced attractiveness of life insurance and retirement products to consumers (due to a low interest rate environment). According to these stakeholders, demand has moved towards more asset management types of products. For example, in the UK, life insurance undertakings perceive a strong competition for customers from other financial services providers that provide similar but different products.

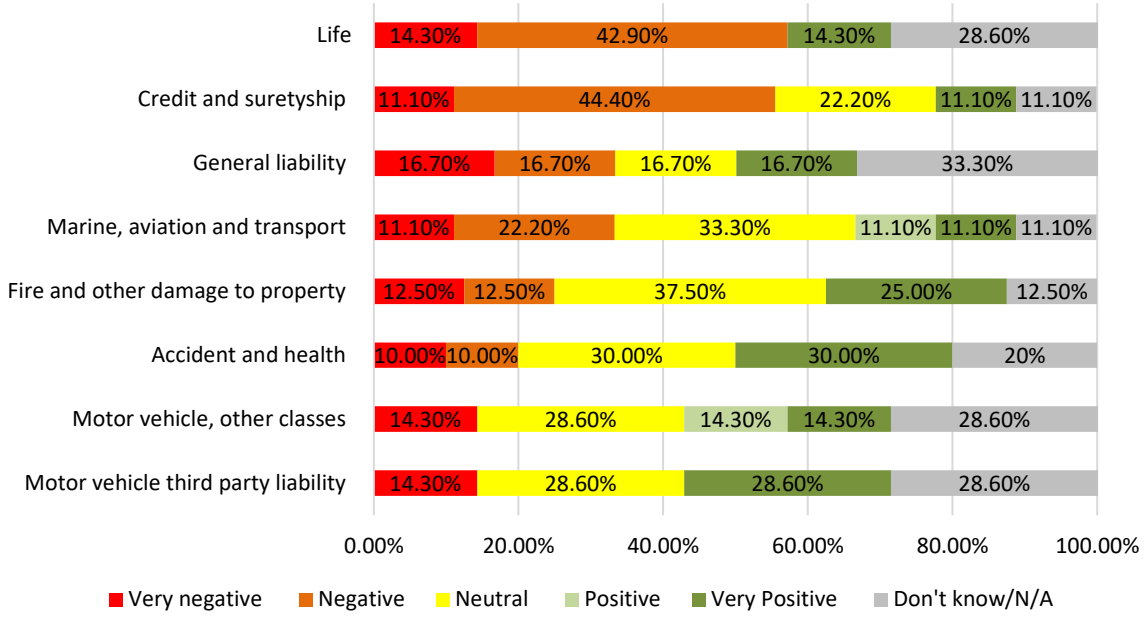
### 3.1.4 Potential impact of IFRS 17

According to the results of our survey, the majority of respondents believe that the implementation of IFRS 17 will have a "*negative*" or "*very negative*" impact on their competitive position in the segments "*Life*" and "*Credit & Suretyship*"[20] (Figure 6).

[19] According to Investopedia, *iInsurtech refers to the use of technology innovations designed to squeeze out savings and efficiency from the current insurance industry model. Insurtech is a portmanteau of "insurance" and "technology" that was inspired by the term fintech. The belief driving insurtech companies is that the insurance industry is ripe for innovation and disruption. Insurtech is exploring avenues that large insurance firms have less incentive to exploit, such as offering ultra-customized policies, social insurance, and using new streams of data from internet-enabled devices to dynamically price premiums according to observed behaviour* (https://www.investopedia.com/terms/i/insurtech.asp).

[20] This line of business includes obligations which cover insolvency, export credit, instalment credit, mortgages, agricultural credit and direct and indirect suretyship (EIOPA, 2009). For more information, please refer to: https://eiopa.europa.eu/ceiops-archive/documents/advices/ceiops-l2-final-advice-technical-provisions-segmentation.pdf.

**Figure 6: Do you expect that IFRS 17 will have very strong negative, negative, neutral, positive, very positive impact on the competitive market position?**




***Source: VVA's elaboration of the online survey results – sample: between 9-12 responses[21]***

Most interviewees (supervisory authorities and insurance undertakings) reported that life insurers are expected to be the most affected by IFRS 17. This is because, there are significant differences between the methods used currently to account for such long-term contracts and the requirements of IFRS 17 (IASB, 2017).[22]

In addition, the majority of stakeholders from life insurance undertakings believe that the adoption of IFRS 17 will damage their competitive position against asset management companies, as these other financial services providers will not be subject to the same reporting standards and the costs associated with IFRS 17 compliance (e.g. these players will not have to report under IFRS 17 because they do not issue insurance contracts).

As shown in Figure 6, the majority of respondents believe that the implementation of IFRS 17 will also worsen their competitive position in the segment "*Credit & Suretyship*". This is due to the fact that the adoption of current value accounting under IFRS 17 will imply that the volatility of the market will be reflected in the P&L. Industry stakeholders are concerned that this volatility might be even greater for segments where the frequency of claims is high.[23] Therefore, considering a general aversion against volatility, some insurance undertakings interviewed speculated that there might be a re-positioning of European players on products/lines of business where the volatility is lower, leaving market niches available for new players.

Some industry stakeholders also expressed concerns about the competitiveness of their operations outside Europe. For instance, following the implementation of IFRS 17, US companies that are subsidiaries of European holding companies will be obliged to report under IFRS 17 for the purpose

[21] This question was addressed only to regulatory/compliance officers working for an insurance undertaking whose headquarters are based in the EU

[22] Please refer to chapter 4.4 for more information about the potential impacts on life products

[23] Please refer to chapter 4.4 for more information about the potential impacts on non-life products

of the holding company consolidated financial statements, whereas other US competitors will report under US generally accepted accounting principles. This change in asymmetry in reporting obligations and the associated costs could, according to those stakeholders, act as a disincentive for EU companies owning US insurance companies and could lead potentially to lower profitability compared to US peers.

However, as Figure 6 shows, there is still a lot of uncertainty about the potential impacts of IFRS 17 on the competitive market position of European players and on their product portfolios.

## 3.2 Trends in market shares of EEA/non-EEA insurers in the EU capital markets

Available data suggest that the market share of non-EEA insurers in the EU capital markets is relatively low. Bond and equity markets of EU Member States are predominantly used by EU insurance companies to raise capital. However, EU insurers also raise capital in foreign and international markets, where they are likely to face stronger competition from non-EEA insurance companies.

The chapter draws primarily from a database of loans, bonds, and equity offerings collected by Thomson Reuters. EU/EEA/non-EEA insurers are defined as insurers headquartered in the EU/EEA/non-EEA respectively. Narrowing the scope to bonds issued by the insurance sector after 2000, the database covers globally 4523 fixed income instruments with maturities of at least 2 years. The availability of loan data is more limited. Over the same period, the global sample of syndicated loans by insurers includes 259 entries. In equity markets, the Thomson Reuters deals database provides information on 480 equity offerings by insurers headquartered in the EU/EEA on EU/EEA stock exchanges since 2000.

In all cases, while the datasets reflect the most comprehensive information available to us, they are not necessarily complete or representative. In addition, the global interconnectedness of capital markets and investment flows limits the extent to which national capital markets can be seen as being separate and distinct. For both reasons, results should be interpreted with caution.

The next section discusses in more detail competition in debt markets (section 3.2.1) and equity markets (section 3.2.2).

### 3.2.1 Competition in debt markets

The available data on EU loan and bond markets suggest that EU insurers face relatively limited competition from non-European insurers in national debt capital markets in EU Member States. The competition for debt funding posed by non-EU insurers seems more pronounced in international bond markets.

The Thomson Reuters loan dataset comprises 259 loans by insurance companies, issued between 2003 and 2018 and collectively worth EUR 119 billion. Of these, 43 loans worth EUR 35 billion were issued in EU Member States. While a majority of the loans issued in the EU market were taken out by borrowers domiciled in the EEA, 7 loans issued in the UK and worth EUR 1.3 billion were taken by borrowers headquartered outside of the EEA (three companies from Bermuda and one from the US).

Similarly, an analysis of bond statistics shows that the bond markets of EU Member States are rarely used by non-EU insurance companies to raise debt finance. The relevant database covers 4523 debt

instruments (notably bonds, promissory notes, debentures, and insurance linked securities) issued by insurance companies after 2000 with a minimum of two-year maturity length. Only 141 of these – together worth EUR 21.7 billion – were issued in national bond markets of EU Member States and in practically all cases by EU insurers.

This estimate includes bond issues by both public and private EU companies. Table 3 shows the respective shares of bonds issued by publicly listed and privately-owned companies. The table shows that since 2000, privately owned companies have consistently comprised a substantial market share.

**Table 3 Bonds issued by EEA insurers in bond markets of EU Member States**

| Period | Bonds issued by publicly listed companies (EUR billion) | Bonds issued by private companies (EUR billion) |
|---|---|---|
| 2000-2002 | 1.2 | 0.1 |
| 2003-2005 | 1.8 | 0.4 |
| 2006-2008 | 1.9 | 1.0 |
| 2009-2011 | 1.1 | 1.7 |
| 2012-2014 | 3.3 | 1.3 |
| 2015-2017 | 4.0 | 2.4 |
| 2018 H! | 1.2 | |

Note: The Thomson Reuters database does not provide ownership information for all companies. The data disaggregated by public or private ownership therefore do not add up to the total of EUR 21.7 billion

***Source: London Economics analysis of Thomson Reuters data***

However, the national bond markets of EU Member States represent only 16% of the value of bonds issued by European insurers. The largest market, in which EU insurers raise debt finance, is the international Eurobond market. Of the total of EUR 132 billion raised by EU insurers through bonds since 2000, EUR 99.6 billion was raised through the Eurobond market and a further EUR 2.65 billion in other global bond markets. In addition, EU insurers raised EUR 5.5 billion in the US bond market and a combined EUR 2.7 billion in the Australian, Norwegian and Swiss bond markets.

Unlike the bond markets of EU Member States, which are used predominantly by EU insurers to access finance, the Eurobond market is widely used by both EU and non-EU insurers. In the dataset obtained from Thomson Reuters, the Eurobonds issued by insurers based in the EU represent just over half (51%) of all Eurobonds issued by insurance companies, with US insurers representing a quarter (28%) of the market and insurers from Australia, Canada, China, Japan Hong Kong and other countries also active in the market.

**Table 4 Market share of EU insurers in the international Eurobond market**

| Period | Bonds issued by EU insurers (EUR billion) | Bonds issued by non-EU insurers (EUR billion) | *Of which…* | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | US | Japan | Australia | Canada | China | Hong Kong |
| 2000-2002 | 14.46 | 2.22 | 2.00 | | | | | |
| 2003-2005 | 7.33 | 8.42 | 6.58 | 1.06 | 0.40 | | | |
| 2006-2008 | 16.01 | 6.63 | 4.84 | 0.00 | 1.44 | | | |
| 2009-2011 | 9.17 | 14.08 | 12.28 | 0.93 | 0.50 | 0.35 | | |
| 2012-2014 | 28.54 | 24.89 | 12.58 | 7.27 | 1.40 | 0.45 | | 2.14 |
| 2015-2017 | 20.13 | 29.58 | 8.80 | 8.23 | 1.61 | 2.33 | 4.49 | 2.23 |
| 2018 H1 | 3.93 | 11.48 | | | | | | |

***Source: London Economics analysis of Thomson Reuters data***

EU insurers therefore seem to face most competition for debt finance from non-EU insurers in foreign and global bond markets.

### 3.2.2 Competition in equity markets

To analyse the competitive environment in EU equity markets, we limit our attention to the primary market.[24] Initial public offerings (IPOs) and follow-on offerings (FPOs) provide information on the capital raised by insurance companies in the equity markets of EU Member States. The Thomson Reuters database covers 480 IPOs and FPOs filed by insurance companies in EU stock exchanges after 2000, collectively worth EUR 126.5 billion.

Of all stock offerings in the dataset, 90% were issued by insurance companies headquartered in the EU/EEA[25], representing 93% of the total value of the raised capital. Just under 5% of the equity capital was raised by companies based in the Channel Islands (Guernsey, Jersey) and 1.5% by firms based in Bermuda. Only one US insurance company in the dataset raised capital through a public offering on a stock exchange in an EU Member State, with the IPO worth only EUR 11 million.

**Table 5 Equity capital raised by insurance companies at stock exchanges in the EU, 2000-2017**

| Period | Equity raised by EEA companies (EUR billion) | Equity raised by non-EEA companies (EUR billion) |
|---|---|---|
| 2000-2002 | 30.77 | 0.32 |
| 2003-2005 | 26.06 | 0.93 |
| 2006-2008 | 13.42 | 1.04 |
| 2009-2011 | 19.56 | 3.17 |
| 2012-2014 | 15.20 | 0.64 |
| 2015-2017 | 13.16 | 1.20 |
| 2018 H1 | | 1.02 |

***Source: London Economics analysis of Thomson Reuters data***

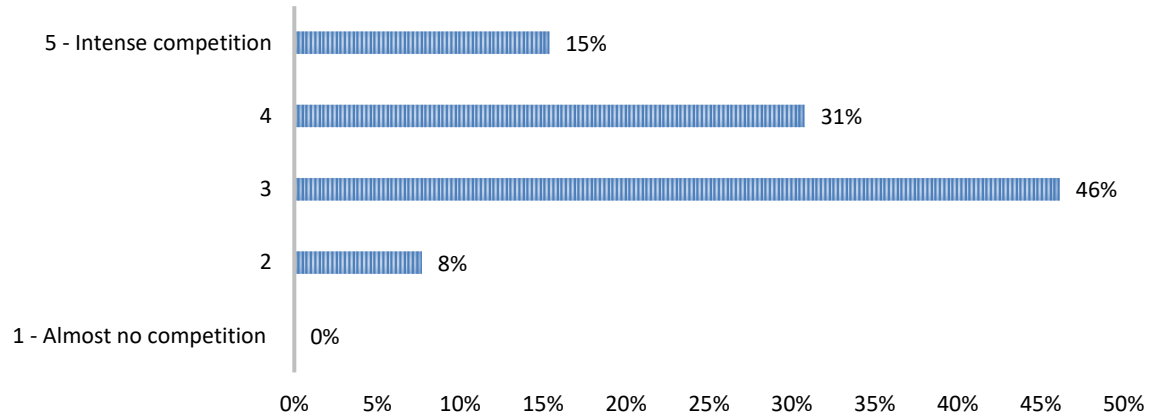
### 3.2.3 Factors affecting the ability of EU insurance undertakings to raise funding

Most participants in the interview consultation noted that, currently, competition faced in raising capital from non-EU insurers is limited. This is also confirmed by the results of the online survey where 46% of respondents agreed that competition between economic operators from the EU and from outside the EU is "neutral" and an additional 8% think that it is "low" (Figure 7). Another 15%, however, commented that the competition for funds is intense, as investors are global and thus, competition takes place globally.

[24] Newly issued stock is sold in the primary market. In the secondary market, only existing shares are traded. Therefore, capital is being raised only in the primary market.

[25] There are no records of IPOs/IFOs of insurance companies from Iceland, Liechtenstein and Norway. Thus, the EU and EEA shares are identical.

**Figure 7: Perceived level of competition for funds between EU and non-EU Insurers – stakeholders' assessment**

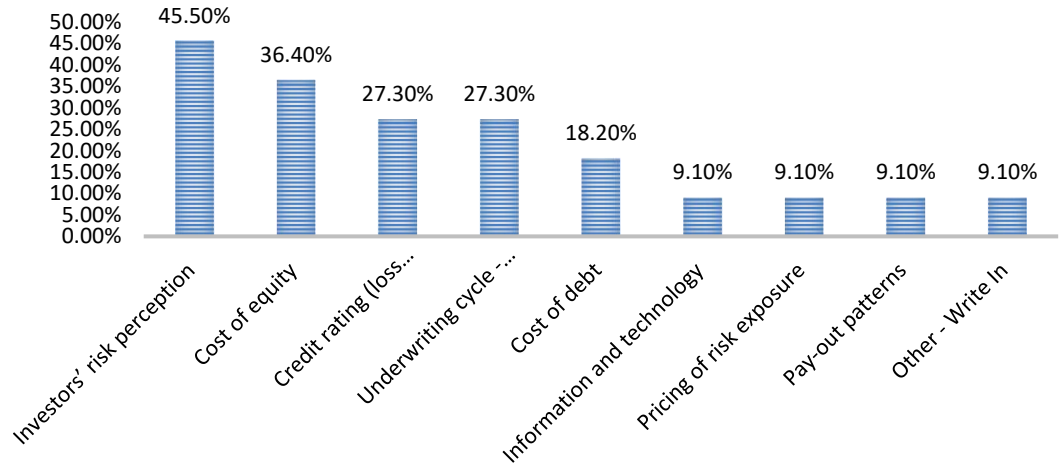



***Source: VVA's elaboration of the online survey results – sample: 13 responses***

Most stakeholders (insurance undertakings and external investors) stated that a key factor in raising funds is the ability to meet earnings expectations. This aspect is key in influencing the asset allocation decisions of investors. In addition, the rating assigned by specialised rating agencies was quoted as another important driver in the ability to raise equity at favourable conditions for companies.

These findings are also confirmed by the result of the online survey. Most respondents consider "*Investors' risk perception*", "*Cost of equity*", "*Credit rating (loss experience - frequency and severity)*" and "*Underwriting cycle - premiums and profitability*" as the most important factors influencing their ability to raise funds (Figure 8).

**Figure 8: Most relevant competition drivers in capital markets**




***Source: VVA's elaboration of the online survey results – sample: 21 responses***

However, most interviewees commented that given the low interest rate environment in Europe, investors are looking for higher yield return than what bonds/debt instruments can actually offer. Therefore, they are willing to invest in equity (for the right price and risk exposure). Furthermore, insurers are typically funded over long-term time horizons (to meet the claims of policy holders), thus they do not frequently seek additional capital.

The results of the interviews suggest that there is, however, a geographical factor which influences the perceived level of competition in capital markets. Listed insurance undertakings from large Member States (e.g. France, Germany, Italy, Spain and UK) reported a higher level of competition for funds than insurance undertakings from smaller Member States, which may suggest that competition increases with market capitalisation.

In addition, some industry stakeholders commented that it is common practice for major listed groups to raise funds internationally rather than focusing exclusively on the local market. In recent years the cost of raising capital in the EEA has been higher than in overseas markets such as Asia and the US, even taking account of the cost of hedging the risk. This has led to an increase in European insurers looking to expand their investor base overseas and made it less attractive for overseas firms to look to raise capital in the EEA.

It was also stressed that, for the time being, inter-sector competition is much more important than competition with non-EU insurers.

### 3.2.4 Potential impact of IFRS 17

After the implementation of IFRS 17, 37% of industry stakeholders believe that their competitive position in capital markets will erode, especially in the short term (Figure 9). In fact, they expect that the volatility of the P&L will increase following the adoption of IFRS 17.[26]

IFRS 17 requires that a company update the estimated insurance obligations at each reporting date, using current estimates of the amount, timing and uncertainty of cash flows and of discount rates (IASB, 2017b). Accounting mismatches may arise following the adoption of IFRS 17, especially for those companies not reporting using current value principles. This, in turn, may distort a company's financial position and performance (IASB, 2017b). However, if an insurer's assets and liabilities are economically matched and are measured using current value principles, the insurer's financial statements would not show volatility arising from economic or accounting mismatches (IASB, 2017b).

The issue of the impact of the volatility of a company's financial bottom line and its cost of capital has attracted relatively little academic interest even though some form of income smoothing by companies is typically found to be prevalent among companies. The existing small body of empirical academic research has found that income smoothing has a positive impact on stock prices[27] and reduces the cost of debt[28]. This suggests, that if the implementation of IFRS 17 increases the volatility of the P&L of some insurance undertakings, such a development may have an adverse impact on the competitive position of insurance undertakings in capital markets.

The stakeholders that expressed a negative view on the potential impact of IFRS 17 (Figure 9, especially those from the life insurance sector) believe that IFRS 17 introduces too many complexities and assumptions into the valuation basis which will reduce comparability against US peers (which will not report under IFRS 17 but under US GAAP). There are concerns that this will put the European industry at disadvantage in the eyes of global investors. This contrasts with the view

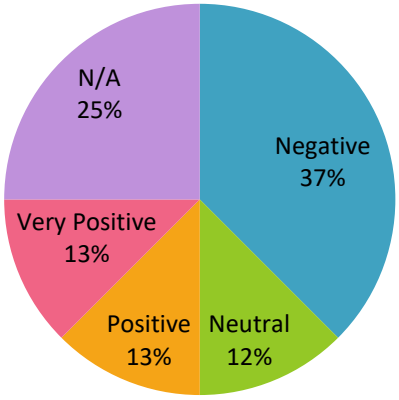
[26] Please refer to section 6.1 – Investors' perceptions of the clarity of the financial reports of EU insurance companies.

[27] See, for example, Subramanyam (1996) and Hunt, Moyer and Shevlin (2000).

[28] See, for example, Li and Richie 2016).

of the IASB Board, which foresees that the new Standard will result in a significant increase in global comparability and enhance the quality of financial information (IASB, 2017b).

**Figure 9: Responses to the survey question "*Do you expect that IFRS 17 will have very strong negative, negative, neutral, positive, very positive impact on the competitive position in capital markets of European insurance undertakings?*"**




***Source: VVA's elaboration of the online survey results – sample: 8 responses***

The majority of insurance undertakings also reported that following the introduction of Solvency II, European insurers face an increase in the costs of capital compared to other players, as differences in capital regimes (i.e. equity, goodwill, deferred tax assets and other intangibles) have an impact on the cost of funds. Most industry stakeholders tended to agree that the adoption of IFRS 17 will have a similar impact, especially in the short term, while external investors do not yet have enough experience of the new regime to fully understand how to read and the implication of the new standard.[29]

## 3.3 Cost of IFRS 17

Like any new regulation or new standard, the implementation of IFRS 17 will entail some one-off and some recurring costs for the entities subject to the new standard (and for entities responsible for enforcing this new standard). At the same time, the intervention is also expected to yield some benefits.

One issue which arises in the case of IFRS 17 is that it may not apply to non-listed insurance undertakings from the EU and will not apply to all insurance undertakings from jurisdictions having decided that they would not implement IFRS 17 (for example, Japan and the United States). As a result, EU insurance undertakings subject to IFRS 17 may face a competitive disadvantage.

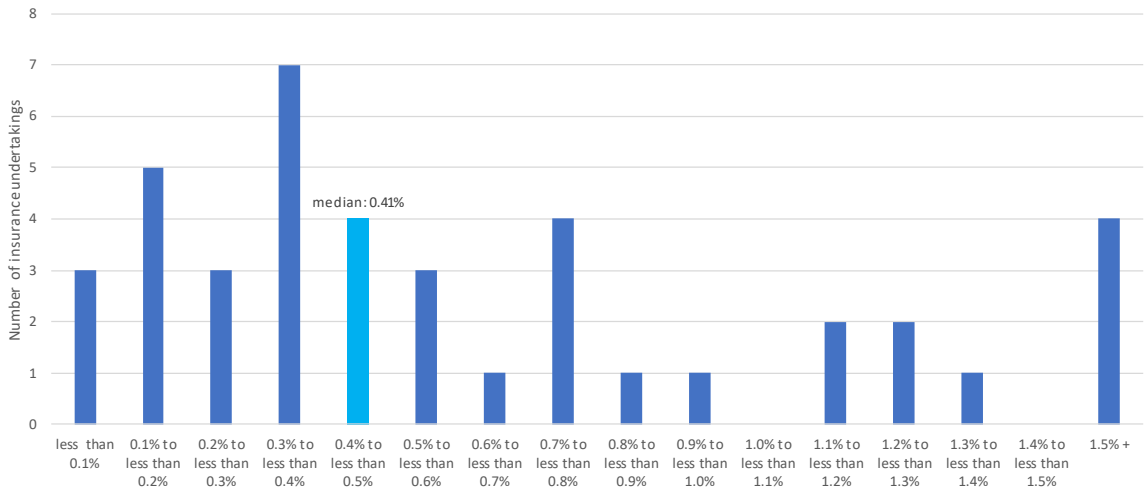
In order to gain a better understanding of the potential cost impact of IFRS 17, the present sub-section presents a high-level assessment of the cost that EU insurance industry may face.

[29] Please refer to section 6.1 – the views of investors.

As part of its preparatory work for the impact assessment of IFRS 17, EFRAG has collected information from insurance undertakings on their estimates of one-off and recurring costs of implementing IFRS 17. In total, 41 insurance undertakings provided estimates of the one-off costs[30] In order to be able to compare estimated costs across undertakings and with the estimated costs of Solvency II, as reported in the impact assessment of Solvency II[31], the costs reported below are expressed as a percentage of gross annual premiums.

While the one-off costs estimates reported by some insurance undertakings vary sometimes markedly, most of them are clustered in a relatively narrow range around the median one-off cost estimate of 0.41% of gross premium (see Figure 10).

**Figure 10 Estimates of the one-off costs of IFRS 17 (as % of gross premiums)**




***Source: EFRAG case studies of insurance undertakings***

In order to derive an estimate of the one-off costs faced by the whole insurance sector in the EU, an upper and lower range were derived by first discarding two outliers showing very high costs (2.5% and 7.5% of gross premiums respectively) and secondly taking the mean of the cost estimates in the first quartile as a lower range and the mean of the fourth quartile as an upper range.

These lower and upper range of the one-off costs estimates are respectively 0.13% of gross annual premiums and 1.24%. The Solvency II estimates were much tighter ranging from 0.4% to 0.6% of gross annual premiums.[32] While these Solvency II costs were estimated in 2007, well before the implementation of Solvency II, more recent estimates suggest that the 2007 estimates may have significantly underestimated the actual costs. For example, a 2011 impact assessment by the UK

[30] As of July 2018. Eleven undertakings provided such one-off cost information as part of the extensive case study work undertaken by EFRAG and 30 as part of the simplified case studies.

[31] Commission Staff Working Document Accompanying the Proposal for a Directive of the European Parliament and of the Council on the taking-up and pursuit of the business of Insurance and Reinsurance - Solvency II, Impact Assessment report, SEC(2007) 87, Brussels 10 July 2007.

[32] This equivalent to EUR 4.0 to 6.0 billion in 2007 prices or EUR 4.7 to 7.1 billion in 2017 prices

government suggested that the one -off costs of Solvency II for the UK insurance sector were likely to be in the order of 1.6% of gross annual premiums.[33]

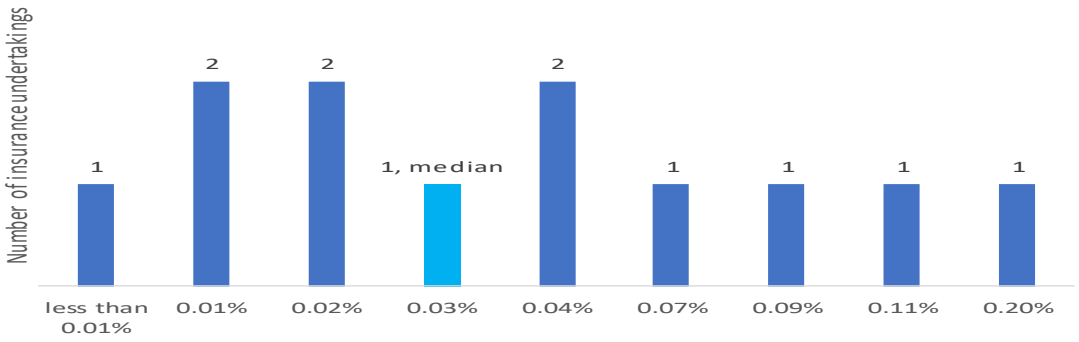
As, according to the latest EIOPA statistics, the EEA-wide ratio of gross premiums to expenses stood at 6.24 in 2017 Q4, the cost estimates reported above imply that annual expenses of insurance undertakings subject to IFRS could be subjected to one-off increase of between 0.8% and 7.7%.

Only 12 insurance undertakings provided estimates of the recurring cost of implementing IFRS 17. In contrast to the estimates of the one-off costs, the estimates of the recurring costs vary much less, ranging from less than 0.01% of gross premiums to 0.2% of gross premiums with a median estimate of 0.03% (Figure 11)

Using the same ratio of gross premiums to expenses as for the analysis of the one-off costs, the recurring cost estimates reported by the insurance undertakings suggest that expenses of the undertakings subject to IFRS 17 may increase by between 0.06% and 1.2%.

Overall, the information provided by the insurance undertakings suggest that the one-going costs are unlikely to have a very marked impact on expenses, in contrast to the one-off costs which may have a more substantial impact on the total expenses of insurance undertakings subject to IFRS 17 in the period or periods in which such costs are incurred.

**Figure 11 Estimates of the recurring cost of IFRS 17 (annual recurring costs as % of gross premiums)**




***Source: EFRAG case studies of insurance undertakings***

## 3.4 Key takeaways from chapter 3

Five key point emerge from the quantitative analysis and analysis of the results of the stakeholder consultation and survey:

1. In general, insurance undertakings from the EEA face little competition from non-EEA undertakings in EU insurance markets,
2. However, for some, business focused and more niche insurance products, the market is a world-wide market. In such cases, EU insurance undertakings compete with insurance enterprises from major insurance centres outside the EU.

[33] See Regulatory Policy Committee (2015) *Opinion on HM Treasury Impact Assessment Transposition of Solvency II Directive (2009/138/EC) and Omnibus II* which states that HM Treasury estimates the one-off costs to businesses to be approximately EUR 3.2 billion (£2.6 billion) at 2014 prices.

3. Insurance undertakings from the EEA face little competition from non-EEA undertakings in EU capital markets. Obviously, they face such competition when raising funds in overseas and international markets.
4. Industry stakeholders expressed a concern that the adoption of IFRS 17 may increase the volatility of the P&L due to accounting mismatches and this may distort a company's financial position and performance.[34] The limited economic literature on this topic suggests that more volatile P&L may increase the cost of capital of insurance undertakings, and hence impact adversely on their competitive situation in capital markets (mainly international bond markets) where they compete for funds against insurers who do not have to implement IFRS 17.
5. Industry stakeholders are concerned that IFRS 17 may make it more difficult to compare the financial statements with those of insurance undertakings from countries not adopting IFRS 17, thus losing competitiveness in the eyes of global investors. This opinion contrasts sharply with the view of the IASB Board, which foresees that the new Standard will result in a significant increase in global comparability.
6. Although stakeholders disagree on the potential effect of IFRS 17 in terms of comparability, there is no evidence that the adoption of IFRS 17 will make comparability against US or Japanese peers worse compared to the existing Standard (IFRS 4).
7. The information provided by the insurance undertakings suggest that the on-going costs are unlikely to have a very marked impact on expenses, in contrast to the one-off costs which may have a more substantial impact on the total expenses of insurance undertakings subject to IFRS 17 in the period or periods in which such costs are incurred.

[34] Please refer to section 6 - Investors' perception of the clarity of the financial reports of EU insurance undertakings.

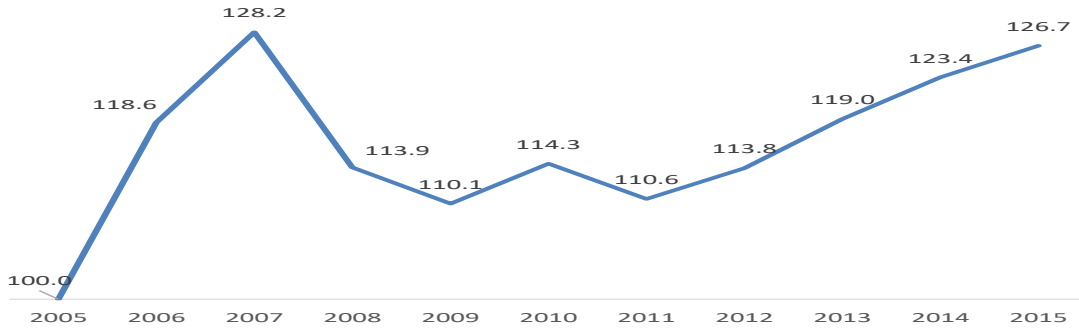
# 4 Development of the EU insurance markets since 2005

The present chapter presents some key facts about the evolution since 2005 of the product mix in the EU insurance market (section 4.1), and insurance prices (section 4.2). Next, it discusses the key factors which explain the observed trends (section 4.3) and presents stakeholder views on the potential impact of IFRS 17 (section 4.5).

## 4.1 Trends in insurance product mix

The overall insurance market in the EU expanded rapidly from 2005 to 2007. However, during the financial and economic crisis of 2008 and 2009, the market retrenched and broadly stagnated from 2009 to 2011. Robust, steady growth resumed in 2012 (Figure 12).

**Figure 12: Evolution of total value of gross insurance premiums 2005 -2010 (2005=100)**

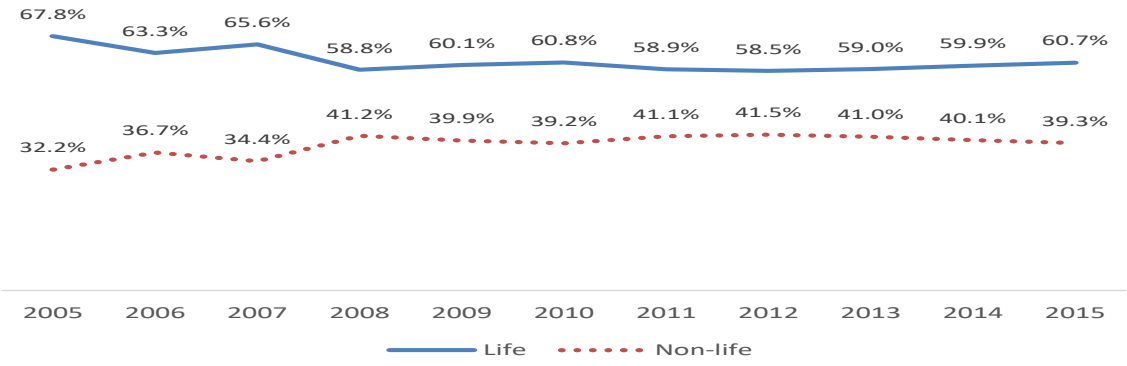



Note: Insurance undertakings subject to Solvency I reporting requirements.
***Source: EIOPA insurance statistics Solvency I Table 2 Gross premiums written (in million euro)***

In terms of the split between life insurance and non-life insurance, two sub-periods can be distinguished. From 2005 to 2008 the share of life insurance in total gross premiums collected by insurance undertakings in the EU insurance markets declined. Thereafter, however, the market share of life insurance stabilised and fluctuated in a narrow range of 58% to 61% (Figure 13).

Obviously, the market share of non-life insurance shows the opposite pattern, increasing from 2005 and 2008 and stabilising thereafter.

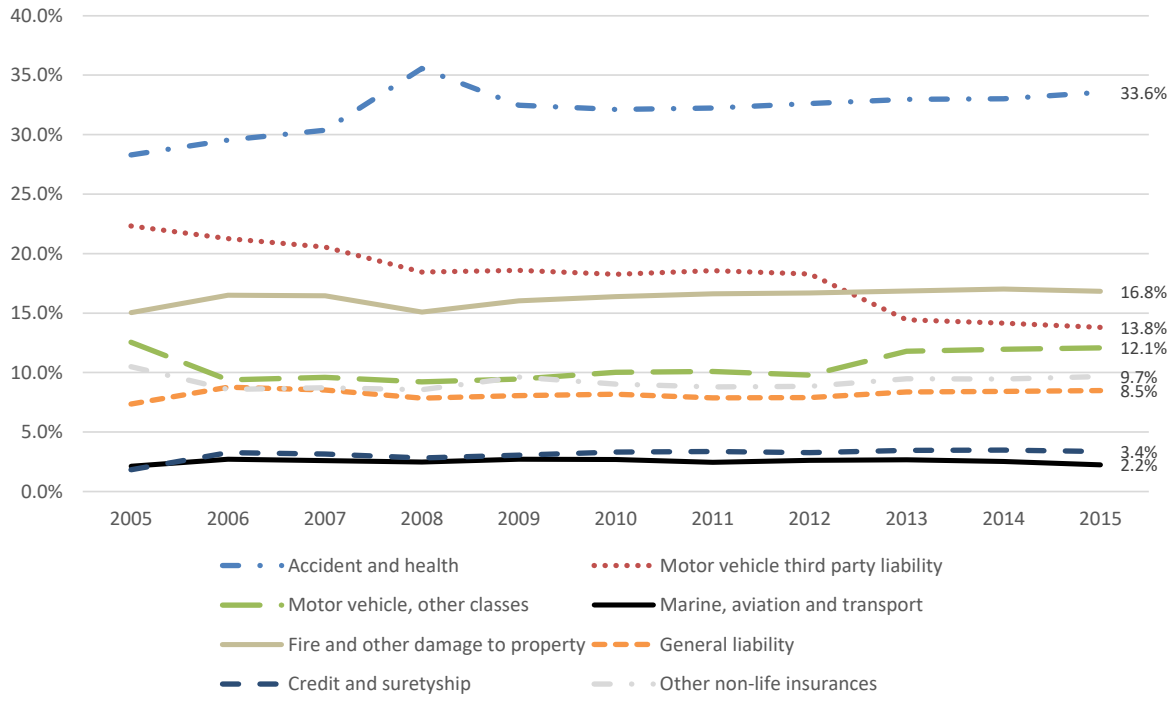
**Figure 13: Market share of life and non-life insurance premiums in total insurance premiums in the EU 2005 - 2015**




Note: Insurance undertakings subject to Solvency I reporting requirements.
***Source: EIOPA insurance statistics Solvency I Table 3.1 Breakdown of the main items of the gross technical account in non- life insurance (direct business only, in million euro) and Table 4 Breakdown of the gross direct premiums written and gross technical provisions in life insurance (in million euro)***

Within the non-life segment of the EU insurance market, 'accident and health' is the most important sub-segment, followed by 'fire and other damage to property', 'motor vehicle third party liability' and 'motor vehicle third party liability' (Figure 14). All these sub-segments but 'motor vehicle third party liability' show a small upward trend in their market share. In contrast, 'motor vehicle third party liability' shows a declining market share.

**Figure 14: Market share of premiums of different non-life insurance products in total non-life insurance premiums in the EU 2005 - 2015**




Note: Insurance undertakings subject to Solvency I reporting requirements.
***Source: EIOPA insurance statistics Solvency I Table 3.1 Breakdown of the main items of the gross technical account in non- life insurance (direct business only, in million euro)***

In order to assess whether some movements in the market share of some sub-segments of the EU non-life insurance market are systematically offset by movements in the opposite direction of the market share of some other sub-segment(s), the table below reports the correlation between annual changes in the market share of different pairs of sub-segments of the non-life insurance market.

Only four pairs show a negative and statistically significant correlation, namely:

- 'marine, aviation and transport' and 'motor vehicles other than third party liability'
- 'fire and other damage to property' and 'accident and health'
- 'fire and other damage to property' and 'motor vehicles other than third party liability'
- 'credit and suretyship' and 'other non-life insurance'

Overall, the results in the table below suggest that, in general, insurance undertakings did not systematically offset decreases in the market share of one type of insurance product with increases in other sales of other particular products.

**Table 6 Contemporaneous correlation between annual changes in the market share of different non-life segments in EU insurance market - 2005-2015**

| | Accident and health | Motor vehicle third party liability | Motor vehicle, other classes | Marine, aviation and transport | Fire and other damage to property | General liability | Credit and suretyship | Other non-life insurances |
|---|---|---|---|---|---|---|---|---|
| Accident and health | 1 | -0.46 | -0.25 | -0.21 | ***-0.70*** | -0.31 | -0.19 | -0.38 |
| Motor vehicle third party liability | | 1 | -0.29 | -0.10 | 0.29 | -0.15 | -0.19 | -0.07 |
| Motor vehicle, other classes | | | 1.00 | ***-0.59*** | ***-0.39*** | -0.49 | -0.67 | **0.80** |
| Marine, aviation and transport | | | | 1.00 | **0.71** | **0.80** | **0.82** | -0.41 |
| Fire and other damage to property | | | | | 1.00 | **0.83** | **0.82** | -0.31 |
| General liability | | | | | | 1.00 | **0.92** | -0.49 |
| Credit and suretyship | | | | | | | 1.00 | ***-0.70*** |
| Other non-life insurances | | | | | | | | 1.00 |

Note: Insurance undertakings subject to Solvency I reporting requirements.

***Source: EIOPA insurance statistics Solvency I Table 3.1 Breakdown of the main items of the gross technical account in non- life insurance (direct business only, in million euro)***

## 4.2 Trends in insurance prices

Comprehensive, pan-European information on insurance prices is not available from any of the sources considered in the previous chapter. However, as part of the data collection undertaken for the construction of the consumer price index, Eurostat collects information on prices faced by consumers for selected insurance products. These prices relate to:

1. insurance overall
2. insurance connected with the dwelling
3. insurance connected with health
4. insurance connected with transport
5. other insurance

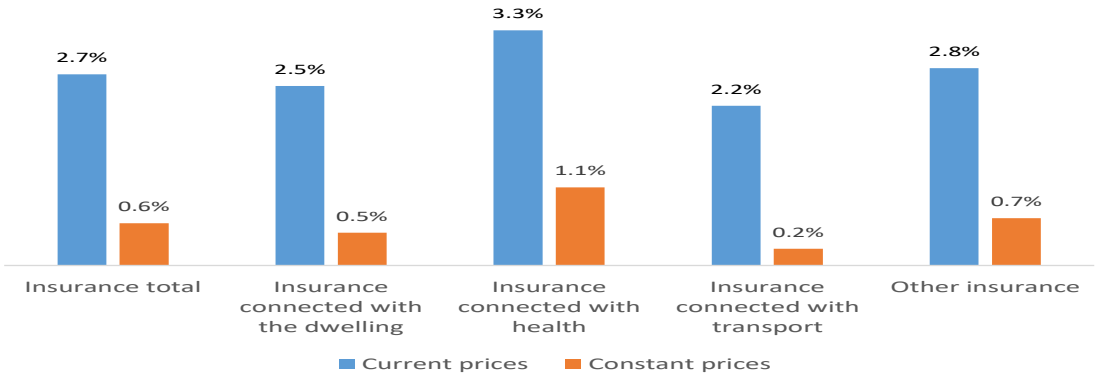
The analysis below focuses on the evolution of insurance prices net of general inflation, i.e. on the evolution of insurance prices in real terms. In other words, the focus is on whether insurance prices grew more rapidly or more slowly than the general price index over the period 2005-2017.

At the EU-wide level, the prices of all four categories of insurance bought by consumers and the overall insurance price grew faster than the general consumer price index from 2005 to 2017 (Figure 15):

- insurance related to health shows the fastest rate of price growth, with its price (in real terms) increasing at average annual rate of 1.1%;
- in contrast, the price of insurance connected with transport grew (in real terms) at an annual average rate of only 0.2%; and

- the overall cost of all insurance bought by consumers increased in real terms at an annual average rate of 0.6% with the prices of insurance connected with the dwelling and other insurance increasing at about the same rate.

**Figure 15: Average annual growth rate of consumer insurance prices in the EU 2005 - 2017**

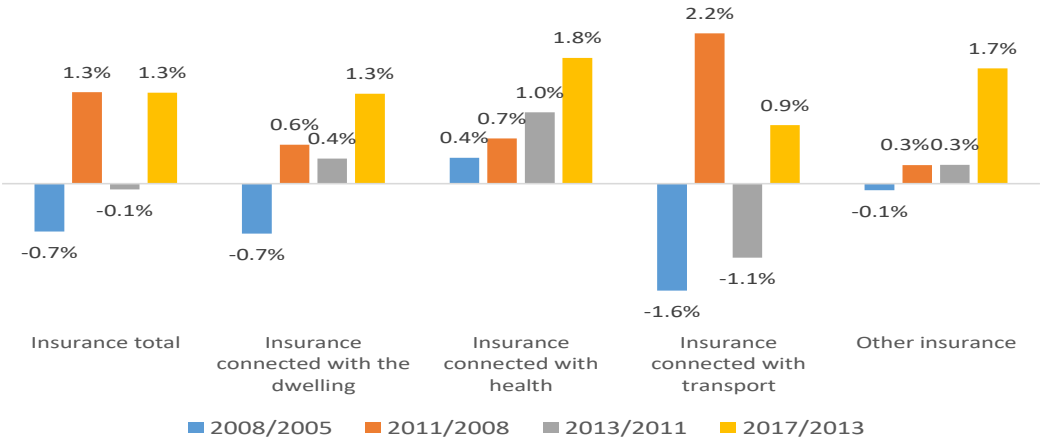



***Source: Eurostat HICP (2015 = 100) - annual data (average index and rate of change)***

Generally, the price increases (in real terms) occurred during two sub-periods, namely from 2008 to 2011 and from 2013 to 2017. During the other two periods, 2005 to 2008 and 2011 to 2013, prices (in real terms) actually fell or increased only very moderately.

The exception is insurance related to health which shows an accelerating rate of growth of its price (in real terms) through the four sub-periods.

**Figure 16: Average annual growth rate of consumer insurance prices in the EU over different sub-periods of the period 2005 - 2017**




***Source: Eurostat HICP (2015 = 100) - annual data (average index and rate of change)***

## 4.3 Factors explaining the observed trends

According to the *"Global insurance trends analysis 2017"* published by E&Y, the following trends could be observed in Europe in relation to products and prices:

*Life:*

- The overall growth among the advanced markets diminished in 2016 (approx. +1.6%) vs. 2015 (+3.6%) as all key markets aimed to rebalance their product portfolios in favour of long-term savings and protection products (E&Y, 2017);

- Capital-intensive products (such as annuities) and guaranteed products continued to see a reduced focus across markets (primarily in the UK) as the preference shifted to unit-linked products (E&Y, 2017);
- Due to persistent low interest-rates, insurers continued to find legacy policies with high assured rate of return as a key area of concern (E&Y, 2017);

*Non-life:*

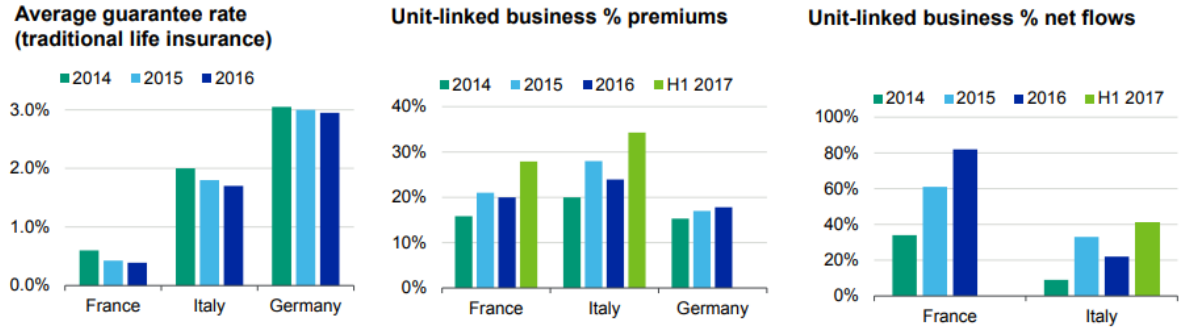
- Pricing pressures and persistent macro-economic challenges have implied that the global non-life insurance sector's growth continued to slowdown (E&Y, 2017);
- Uncertainty related to the global political landscape that promises to revive growth but at the same time is becoming increasingly protectionist (E&Y, 2017).

Most insurance undertakings confirmed that these general trends are valid also for the year 2018.

Furthermore, industry stakeholders commented that in the last years, *life insurance* has been impacted by three main factors. First, life insurers have been adapting their product mix to **low interest rates**. Some insurers commented that traditional life products (i.e. offering guaranteed return) are not attractive anymore. Companies have been moving towards products with no or a lower guarantee, shifting both interest rate risk and market risk to policyholders, and reduced profit sharing (like **unit-linked products**).[35] This has translated into a reduction of the average guaranteed rate on the business as a whole, but at the same time these products are less sensitive to interest rates (Moody's, 2017) and they offer the possibility of diversifying assets held in a life assurance contract.

It is believed that the weight of unit-linked products will continue to increase as smaller insurers join their larger peers in the strategy to boost unit-linked sales (Moody's, 2017).

**Figure 17: Product mix trends in life insurance**




***Source: Moody's, 2017***

However, life products with lower or no guarantees (unit-linked) are less attractive to policyholders (Moody's, 2017), as they expose them to excessive risks, especially in long term products. Hence, overall sales or net flows are expected to remain below historical levels in 2018-19 in many countries (Moody's, 2017).

Another important factor quoted by stakeholders affecting the general insurance product mix is **demographic change**. More health insurance products and retirement solutions are sold due to Europe's ageing population (Moody's, 2017).

Last, **regulatory changes** have been reported to have had a major impact in product mix and pricing. In particular, there are two main regulatory trends that have severely impacted the life insurance industry in the last 10 years (Moody's, 2017):

1. Changes in tax regulations for insurance products;
2. The introduction of Solvency II.

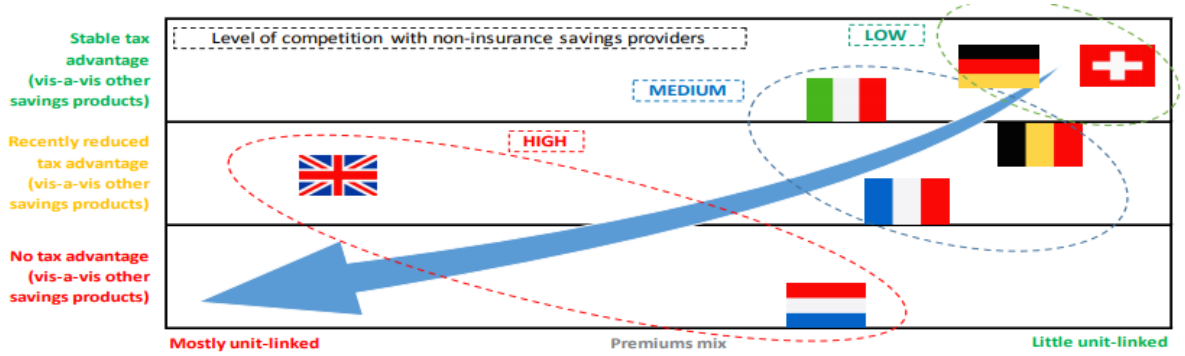
In most Member states, **tax advantages of insurance products** compared with other savings products **are diminishing** (Moody's, 2017):

- Netherlands (2008): Banking products attract the same tax treatment as insurance products;
- Belgium (2013): Tax on life insurance premiums increased;
- UK (2016): Reduction in tax free limit on pension contributions;
- France (2017): Flat tax introduced for all savings products.

Considering that insurers' unit-linked or low guarantee products are very similar to banking or asset management products, as tax advantages reduce, the increasing competition between savings providers is likely to put pressure on margins (Moody's, 2017).

Protection features remain a key differentiator for insurance products, but insurers may struggle to stand out and grow their market share in the savings space (Moody's, 2017).

**Figure 18: Tax advantage of insurance products and competition from other savings providers**




***Source: Moody's, 2017***

Insurers' strategies for capturing a greater share of savings flows vary by country (Moody's, 2017):

- France/Italy: Insurers combine guaranteed and unit-linked features within the same product;
- Germany: Insurers continue to sell mostly guaranteed products, but with guarantees paid only at maturity;
- Netherlands: Insurers are growing in banking and in asset management;
- UK: Insurers are growing their asset management business. Some insurers are becoming asset managers (e.g. Standard Life Aberdeen).

In addition, **Solvency II** has brought significant disruption due to additional capital requirements. As a consequence of the new solvency regulation, insurers pay even more attention to capital costs and the risk involved when developing products than has been the case in the past (Munich Re, 2011). According to most of the life insurance undertakings interviewed, Solvency II has brought about a shift to products that are less capital intensive, more fee driven and with lower/simplified guarantees. In fact, products with a low risk capital requirement cost less than those with a high-risk capital requirement (Munich Re, 2011). As consequence, Solvency II incentivised life insurers to shift more risks to policyholders and third-party asset managers (BCG, 2010).

According to the stakeholders interviewed for this study, the implementation of Solvency II had the following consequences for life insurance:

- Liabilities for long-term life products with guarantees have increased;
- Life and health risks have become more onerous, particularly in terms of meeting the matching adjustment qualifying requirements;
- Risk margin caused increased capital requirement for annuities.

For the *non-life insurance sector*, industry stakeholders commented that there have been three main factors that have influenced the product mix and pricing in recent years.

The macroeconomic context can have a significant impact on the insurance industry, leading to a higher demand of insurance products during economic growth but, conversely, lower demand when the economy slows down (OECD, 2017). **Economic stagnation in Europe** has translated into limited growth in business insurance lines. For example, the premium growth in "*property-casualty*" and "*marine, aviation and transport*" is generally in line with GDP (according to Eurostat data, the average GDP growth in the last 10 years has been 0.47%) (McKinsey, 2014);

As in the life sector, **Solvency II** has imposed additional capital requirements which in turn had also an effect on product mix and pricing. According to industry stakeholders interviewed, Solvency II has led to a greater awareness of risk and to better risk management. For example, in property-casualty, pricing depends on the calibration of individual parameters (e.g. catastrophe risks) in the standard formula for the Solvency Capital Requirement calculation. In addition, cross-subsidisation between product lines has become more transparent than it has been in the past, making it sustainable only if based on clear strategic rationale (BCG, 2010).

According to some industry stakeholders, under Solvency II reinsurance has gained importance as a means of covering shortages of capital, especially for underwriting risk. Reinsurers have brought products onto the market that enable insurers to reduce their capital requirements, so that reinsurance plays an even more vital role under Solvency II (McKinsey, 2014).

As already mentioned in section 3.1, **online aggregators** have put under pressure on prices for non-life retail products, especially motor insurance. For instance, UK aggregators have attained a very large share of the private automobile insurance market, accounting for an estimated 60 to 70 percent of new business premiums (Accenture, 2016).

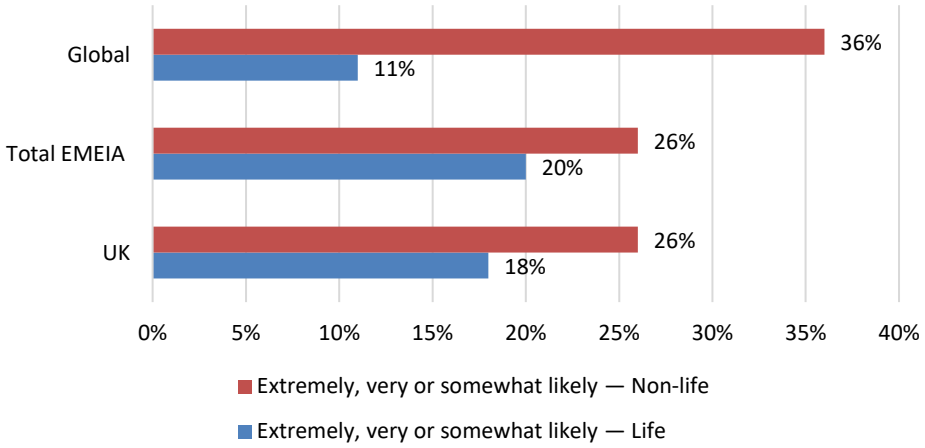
Aggregators are considered disruptive by nature (Accenture, 2016) and will continue to significantly change the distribution economics of the insurance industry:

- Insurance undertakings dealing with (or competing against) aggregators tend to suffer from the "winner's curse": they sell more "lower-priced policies", limit the number of product

features that they offer or otherwise diminish the quality of the product, develop low-cost brands, or reduce their marketing expenditures in an effort to maintain margins. For players with established brands, this represents a competitive dilemma as, in selling through aggregators, they may cannibalise their higher-profit lines. They also run the risk of diluting their hard-won brand value (Accenture, 2016);

- Exclusive, captive and independent agents find themselves providing at least the same value and personalised services for a lower level of commissions after paying the aggregator. They subsidise the payments made to aggregators, putting more pressure on their own profitability and accelerating the transition to more centralised operating models from branch-based models (Accenture, 2016).
- Customers find it easier to choose insurance products based exclusively on price. This erodes customer loyalty, decreasing retention rates and making switching more prevalent. According to *EY Global Consumer Insurance Survey 2014*, globally, and in EMEIA (Europe, Middle-East, India & Africa), consumers primarily switch to get a better price or better coverage, but there are also other reasons. The UK market (which has a particularly high usage of aggregators) appears to be dominated by price, and other reasons are completely overshadowed (E&Y, 2014). However, buying habits such as consumers' price sensitivity, and consumer loyalty, vary dramatically from country to country (E&Y, 2014). In Germany, the Netherlands, the Nordics, Belgium and South Africa, he switching percentages are much lower, which suggests either that customers are generally more passive or that they are genuinely more satisfied with the service they receive (E&Y, 2014). Additional analysis by E&Y suggests the former, with passivity possibly reinforced by products with high guarantees, a product structure that does not encourage switching, and restrictions on the breadth of products on offer (E&Y, 2014).

**Figure 19: Likelihood to switch in the next 12 months**



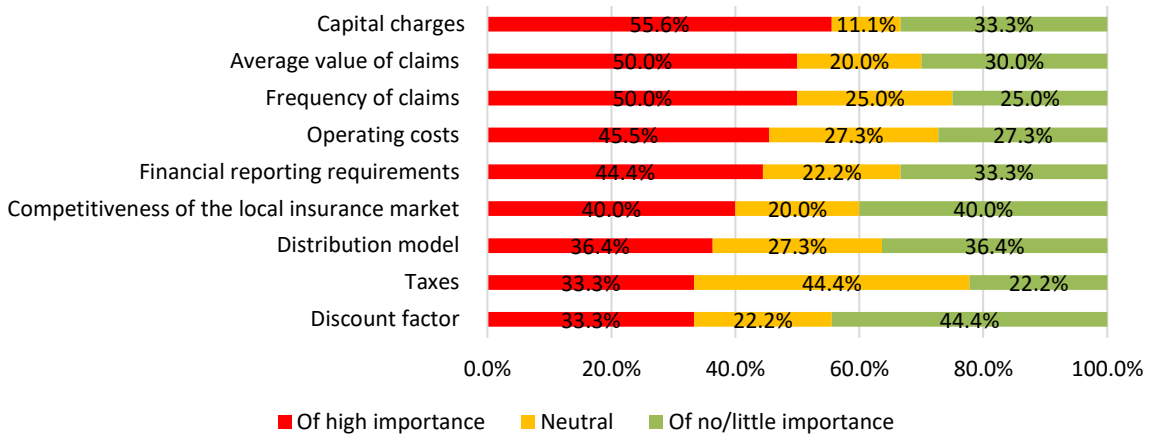

***Source: E&Y, 2014***

## 4.4 Potential impact of IFRS 17 on insurance product mix and prices

According to the majority of industry stakeholders interviewed, financial reporting does not play a big role in product mix and pricing. Instead, capital requirements and regulation do. In particular, changes in capital requirements would impact insurance pricing. The majority of the respondents to our online survey also agree that "*capital charges*" (imposed by Solvency II) have been one of the main factors that have impacted their product mix and pricing strategies in the last 5 years (Figure 20). In contrast, "*financial reporting requirements*" are considered relevant (44.4% of respondents agree with that statement) but not a key driving factor. Claims frequency, severity and operating

costs are considered by respondents much more relevant factors considering that they drive a company's underwriting earnings.

**Figure 20: How the indicated factors impacted your product mix & pricing strategies in past the 5 years?**




***Source: VVA's elaboration of the online survey results – sample: 9-12 responses[36]***

A change in accounting requirements does not affect the underlying economic reality within the business (IASB 2017). Changes in the products available on the insurance market typically occur because of either (IASB, 2017):

a. changes in the economic environment; or
b. regulatory changes.

Therefore, according to the IASB Board, changes in insurance product design, price or demand should not occur as a direct result of applying IFRS 17 (IASB, 2017).

Most industry stakeholders interviewed agree as IFRS 17 is an accounting framework based on current value, the new financial reporting requirements will inevitably bring closer pricing and underwriting with more careful consideration of segment profitability. Therefore, a majority of industry stakeholders interviewed believe that the new external reporting requirements might have an impact on some features of the products offered (rather than on pricing). For instance, because IFRS 17 is expected to make the performance of insurance products more transparent, some companies might decide not to continue offering specific product lines.

Under IFRS 17, insurance undertakings will present an item described as "insurance revenue" in their statement of comprehensive income. This item will replace items described as "premium income", "written premiums" or "earned premiums" in their existing statement of comprehensive income (IASB, 2017). "Insurance revenue" will be determined and presented in a way that is consistent with the approach in IFRS 15 for the recognition of revenue from contracts with customers (IASB, 2017). Consistently with that approach, the insurance revenue recognised will reflect the amount that the company expects to receive for the services it has provided in the period (IASB, 2017).

[36] This question was addressed only to regulatory/compliance officers working for an insurance undertaking whose headquarters are based in the EU

As existing insurance accounting practices typically differentiate between different types of contracts (such as short-term and long-term insurance contracts or non-life and life insurance contracts), the effects of IFRS 17 are expected to be different for each type (IASB, 2017):

- For contracts with a coverage period of one year or less (short-term insurance contracts) measured using the premium allocation approach in applying IFRS 17, the amount recognised as insurance revenue need not be adjusted for the time value of money. Consequently, for most insurers, the insurance revenue presented in each period is not expected to be significantly different from the earned premiums currently presented under most measurement models (IASB, 2017).

- For long-term insurance contracts, the insurance revenue presented in each period, and over the duration of a contract, may be significantly different from the premiums presented when applying IFRS 4. This will be the case in particular for:
    a) contracts containing a deposit component: many companies recognise premiums due in full, including deposit components. IFRS 17 excludes from profit or loss the deposit components that many companies currently include in premium income (and claims expenses). This is because the obligation to repay deposit components is not an obligation to provide services.
    b) annuities and other single premium contracts: for example, a multi-year contract for which the premium is paid by the policyholder only at the inception of the contract. For instance, in the case of UK annuities, IFRS 17 will definitely lead to a deferral in the recognition of the profits for accounting purposes.
    c) other contracts in which the pattern of premium payments differs from the pattern of coverage: for example, long-term life insurance contracts with fixed premiums and fixed death benefits.

Life insurers typically sell products that cover risks over longer periods, possibly many decades. Most interviewees (supervisory authorities and insurance undertakings) reported that these companies are expected to be the most affected by IFRS 17. This is due to the fact that there exist significant differences between the methods used currently to account for such long-term contracts and the requirements of IFRS 17 (IASB, 2017).

According to life insurance undertakings interviewed for this study, there are two critical points that might have an impact on the product mix offered by life insurance undertakings:

- *Current value vs. historic rate*: IFRS 17 will require a company to use current estimates in measuring insurance contracts issued. Considering the long-term nature of life insurance contracts, it is believed that the IFRS 17 requirements to reflect economic changes in the measurement of insurance contracts in a timely way would result in volatility that most of the life insurance undertakings see as “artificial” in their performance. This greater volatility in the P&L Statement may induce insurance undertakings to offer less long-term insurance contracts.
- *Level of granularity and annual cohort requirement*: Under IFRS 17, there are requirements on the level of granularity at which the recognition and measurement principles should be applied. IFRS 17 requires insurers to organise insurance contracts into groups according to three criteria (Moody’s Analytics, 2018):

1) Product portfolio;[37]
2) Degree of profitability;
3) Year of issue.

With regard to point 2), contracts must be classified into groups according to the degree of profitability at initial recognition[38] using the following criteria:

a) Groups of contracts that are onerous at initial recognition;
b) Groups of contracts that at initial recognition have no significant possibility of becoming onerous;
c) Groups of remaining contracts.

Groups of contracts meeting the various profitability criteria must be further split into "*cohorts*" that represent an issuing period of one year (or less) (Moody's Analytics, 2018). The definition of cohorts has an important role in the release of Contractual Service Margin (CSM) to insurance revenue, since the size of the cohort will indirectly determine the amount of CSM released into revenue over time (Moody's Analytics, 2018). [39]

One of the challenging aspects of the IFRS 17 standard, is that it requires separate reporting of onerous groups from profitable groups, which impacts when the entity must reveal these onerous groups and their total liability. Under the current accounting practices (IFRS 4), life insurance undertakings interviewed reported that they group contracts in large pools to calculate profitability. Following the implementation of IFRS 17, losses cannot be diluted in a large pool and must be made explicit when they are recognised. According to some life insurance undertakings, this may lead them to increase the premium in contracts where the risk is perceived to be higher and/or change the product offering.

Another perceived issue relates to the annual cohort requirement and data management. Splitting an insurance product sold over several years means significantly multiplying the number of groups, which bears an extra operational cost in terms of systems updates and changes (Moody's Analytics, 2018). The proliferation of the number of groups creates data management issues, having to store CSM balances by group, permanently retain group assignment, and manage the demanding roll-forward process by group (Moody's Analytics, 2018). The current accounting practice (IFRS 4) monitors profitability at a higher level of aggregation. According to most of the industry stakeholders interviewed, granularity that is too detailed may introduce noise and increase complexity in terms of data volumes.

According to the *Institute and Faculty of Actuaries*, participating contracts that are evaluated using the *General Model*, may be affected by the adoption of IFRS 17. Typical participating contracts include for example (Institute and Faculty of Actuaries, 2017):

- Unit linked contracts;
- With-profit contracts;

[37] Product portfolio means contracts subject to the same risk type and managed together as a single pool. For example, contracts in the same product line – like whole life insurance, annuities, or car insurance – are expected to belong to the same portfolio (Moody's Analytics, 2018).

[38] Under IFRS 17, the groups cannot be reassessed or modified subsequently during the coverage period. This implies that losses should be immediately recognised and that loss-making contracts should not be allowed to offset profitable ones.

[39] The amount of CSM released within each reporting period is based on an average CSM per coverage unit for the group. This reflects the ratio of the service provided during the coverage period to the total projected future service until the last contract of the group matures portfolio (Moody's Analytics, 2018).

- Continental European participating contracts;
- Universal life contracts;
- Variable annuity contracts.

In participating contracts, the entity shares additional risks and rewards with the policy holder.[40] Participating contracts include significant investment related services, as they "spread out" market fluctuations for policyholders (Institute and Faculty of Actuaries, 2017). The *General Model* approach requires changes resulting from market movements to be recognised in the statement of comprehensive income. Considering their general aversion to volatility, it may result that in the long term, insurance undertakings may focus more on products/lines of business where the volatility is lower.

For short-term insurance contracts (typically non-life contracts, such as car and home insurance), the IASB Board expects little change in the accounting. The main changes for short-term insurance contracts will depend upon companies' existing insurance accounting practices.[41] For instance, IFRS 17 could change the profit recognition pattern for some products, and, depending on existing time discounting practices, it could result that some products will be perceived as less profitable due to deferred recognition.

In line with the views of the IASB Board, most respondents to our survey agree that IFRS 17 will have a neutral impact on the *property and casualty segment* – which are typically contracts providing insurance coverage over a relatively short period of time, such as one year.

Nevertheless, the majority of insurance undertakings believe that the implementation of IFRS 17 will worsen their competitive position in the segment "*Credit & Suretyship*" (despite the contract issued are generally for the short term). The reason is that IFRS 17 will require insurance undertakings to adopt current value accounting practices, which implies that the volatility of the market will be reflected in the P&L. Some insurance undertakings interviewed expressed their concern that this volatility might be even greater for corporate segments where the frequency of claims is already high (such as credit insurance, which relates back to the European economic stagnation).

A majority of stakeholders interviewed (supervisory authorities, insurance undertakings and other stakeholders) also expressed concern about the treatment of reinsurance contracts under IFRS 17. Insurers typically manage some risks assumed by issuing insurance contracts by transferring a portion of the risk on those underlying insurance contracts to another insurance company, by entering into reinsurance contracts (IASB, 2017). IFRS 17 requires a company to account for reinsurance contracts held using an approach consistent with that for the underlying insurance contracts (IASB, 2017). Consequently, the effects of IFRS 17 on these companies will depend on the type of reinsurance contracts they hold.

A majority of stakeholders believe that reinsurance contracts are not dealt with appropriately, as this asymmetric, non-economic treatment of reinsurance in the standard could add a non-economic pricing constraint to mitigate perceived losses in the financial reporting due to accounting mismatches. Further, any implications to the pricing of reinsurance which can be acquired will also impact on the pricing of the underlying contract to the policy holder.

[40] Participating contracts foresee profit sharing based on "underlying items", such as: specific assets, groups of assets and liabilities, the profit made by a fund or company or an index (Institute and Faculty of Actuaries, 2017).

In addition, according to *The Investment & Life Assurance Group*, further areas of concern for reinsurance contracts arise from the following accounting mismatches:

- *Difference in the recognition of profits and losses on direct insurance contracts and the recognition of profits and losses on reinsurance contracts*;
- *Different measurement methods for insurance and reinsurance contracts*;
- *Inclusion of new business in the valuation of reinsurance contracts*;
- *Different discount rates used for insurance contracts written and reinsurance contracts held*;
- *Different groupings used for insurance contracts written and reinsurance contracts held*.

Some supervisory authorities commented that most likely, new products with mixed features (e.g. insurance or service features - with clear separation from each component) will be introduced and there will be more transparency in the way tariffs are calculated (because this will be directly affecting the account under IFRS 17). This greater transparency will probably eliminate a number of redundancies in terms of reporting and costs associated with it (that could also lead to the shut-down of legacy systems) and probably a more efficient way to run the business which eventually will absorb the short-term costs.

However, there is still considerable uncertainty about the potential impacts of IFRS 17 on products and pricing among industry players.

## 4.5 Key takeaways from chapter 4

1. The key fact to note in terms of the evolution of the product mix in the EU insurance market since 2005 is the decline of the market share of life-insurance in the total insurance market (measure by gross premiums) from 2005 to 2008 and the increase in the market share of non-life. Life insurance, however, remains still by far the largest insurance segment.
2. Within the non-life segment of the EU insurance market, the most important sub-segment is 'accident and health', followed by 'fire and other damage to property', 'motor vehicle third party liability' and 'motor vehicle third party liability'. All these sub-segments but 'motor vehicle third party liability' show a small upward trend in their market share. In contrast, 'motor vehicle third party liability' shows a declining market share.
3. The overall price of insurance grew faster than the general consumer price index over the period 2005 to 2017. In particular, the annual rate of growth of price of insurance connected with health was markedly higher than overall inflation while the price of insurance connected with transport increased only marginally faster than the overall consumer price index.
4. Stakeholders reported that, in general, financial reporting does not play a big role in product mix and pricing. Thus, IFRS 17 is not expected to have a noticeable impact on the product mix except "Life" and "Credit & Suretyship".
5. IFRS 17 is not expected to have significant impacts on short-term insurance contracts measured using the premium allocation approach, as the amount recognised as insurance revenue need not be adjusted for the time value of money. The main changes for short-term insurance contracts will depend upon companies' existing insurance accounting practices.
6. However, long-duration contracts (such as life insurance) or product features which expose the P&L to market fluctuations (such as participating contracts evaluated using the general model) might be affected by the adoption of the new standard.
7. In addition, the majority of industry stakeholders believe that reinsurance contracts are not dealt with appropriately, as the treatment of reinsurance in the standard could add a non-economic pricing constraint to mitigate perceived losses in the financial reporting due to

accounting mismatches. In addition, any implications to the pricing of reinsurance will also impact on the pricing of the underlying contract to the policy holder.

# 5 Developments in the asset allocation of European insurers

This chapter describes first changes since 2005 in the European insurers' allocation of investments to different asset classes (section 5.1). A number of different data sources were used for the allocation analysis. Unfortunately, these data sources provide different decompositions of the insurers' investment portfolio and, therefore, it is not possible to compare the granular information from these sources.

Next, the chapter provides information on the factors which explain the observed trends (section 5.2) and presents the views of stakeholders on the impact of IFRS 17 on the insurers' asset allocation (section 5.3). A final section (section 5.4) lists the key points resulting from the analysis in the present chapter).

## 5.1 Trends in the allocation of investment assets held by insurance undertakings

### 5.1.1 World-wide trends in the asset allocation of insurers

Insurance companies accumulate substantial amounts of cash that are used to purchase invested assets (NAIC, 2013). Assets accumulated by insurers include those associated with the company's policyholders' surplus (or capital), as well as assets that support the insurance company's policy reserves, which are used to pay policyholder obligations as they become due (NAIC, 2013). The nature and size of an insurer's invested assets vary substantially depending on the specifics of the insurer, but a general trend reported by industry stakeholders interviewed is that the players maintain an asset-liability business model with a focus on the risk profile of the policyholders in order to meet their obligations when they are due.

An insurer's investment strategy is generally driven by three main variables (Insurance Europe, 2013):

- the profile of liabilities;
- the asset universe and associated risk-return profiles;
- the framework conditions created by regulatory decisions.

Insurers' investment strategies are primarily determined by the duration and predictability of their liabilities. Duration determines the time horizon over which the insurer can invest, while predictability (which depends on the type of risk insured and the policyholder options built into the contract) determines the required liquidity of investments (Insurance Europe, 2013).

Insurance undertakings interviewed reported that their asset allocation strategy is based on maximizing the risk-reward trade-off between individual assets and asset classes, focusing on investments aligned with the broader corporate strategy.

According to the OECD data covering all insurance undertakings, in 2016 in most countries, bonds usually account for the largest part of insurers' portfolios, irrespective of whether they are engaged in life or non-life insurance activities, or both (OECD, 2017).

According to these OECD data, despite the low interest rate environment, bonds continued to represent a large portion of direct investments of life insurance companies in 2016 (in most reporting countries). Life insurance companies (33 out of 43 reporting countries under review) held more than 50% of their assets in bonds (excluding assets held for unit-linked products). Most

investments in bonds were directed towards bonds issued by public institutions (OECD, 2017). Life insurers invested more in public sector bonds than in private sector bonds in 26 out of 37 countries, for which the breakdown by issuer is available (OECD, 2017).

Life insurers in Argentina, Greece, Hungary, India, Israel, Italy, Japan, Lithuania, Mexico, Poland, Portugal, Puerto Rico, Spain and the United States held more than half of their overall portfolio (excluding unit-linked products) in public sector bonds (OECD, 2017). The overall exposure of life insurers to bonds may be even higher when taking into account their investment in collective investment schemes. Life insurers invest almost 50% of their assets through collective investment schemes in Austria, and a bit more than 30% in Germany (OECD, 2017).

Life insurers in some countries invested significantly in equities. In five countries, life insurers invested more than 20% of their assets in equities: Denmark, Singapore, South Africa, Sweden and Turkey. In some countries, life insurers held a significant share of their assets in cash and deposits. Life insurers had 21.4% of their assets in cash and deposits in Israel, 22.6% in Estonia and 38.3% in Turkey (OECD, 2017).

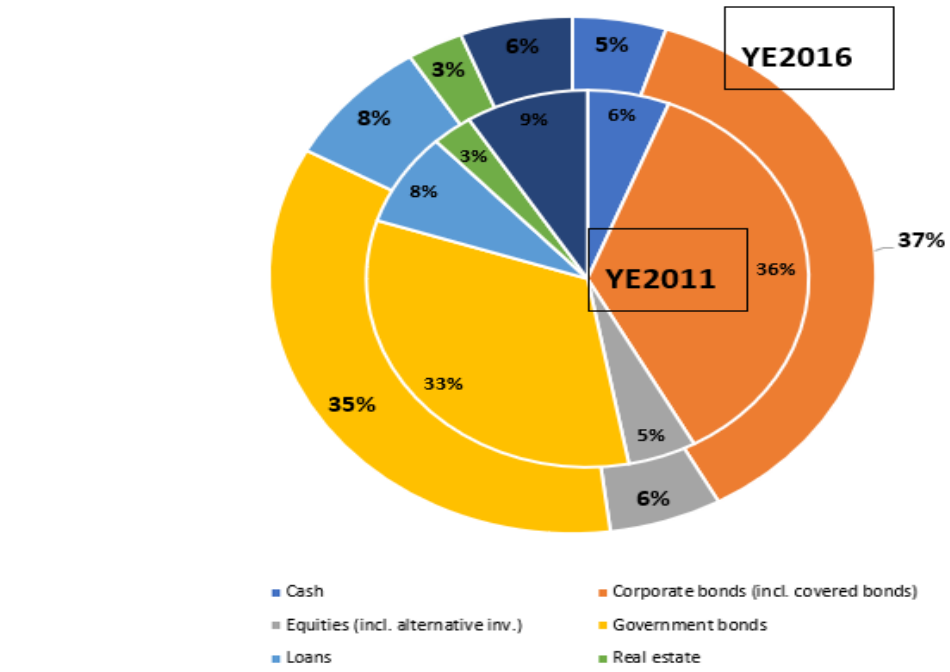
Life insurers can also invest in other instruments than the ones mentioned above. For example, life insurers invested more than 10% of their assets in land and buildings in Chile, Norway and Switzerland; in loans in Belgium, Chile, Germany, Korea, Norway, Switzerland and the United States (OECD, 2017).

### 5.1.2 Trends in the asset allocation of major EU insurers

A similar picture is painted by Moody's when analysing the asset portfolio composition of major European insurance undertakings.[42] In fact, bonds (corporate and government) represent the most important asset category and have kept stable in the last 5 years (69% of the portfolio composition in 2011 and 72% in 2016 (Figure 21).

Nevertheless, the rating agency highlights that some changes in the asset mix has been occurring: insurers are seeking to invest more in illiquid assets, but the difficulties in sourcing such assets are limiting the pace of change (Moody's, 2017).

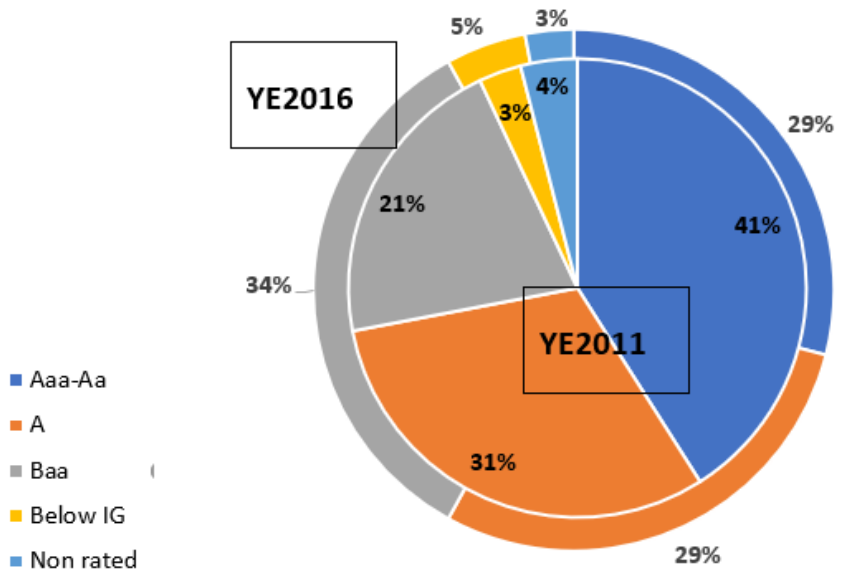
**Figure 21: European insurers' asset mix 2011 vs. 2016**




*Source: Moody's, 2017*

Another interesting trend identified by the rating agency, it is that the quality of corporate bond portfolio has deteriorated (Figure 22).

**Figure 22: Quality of corporate bond portfolio 2011 vs. 2016**



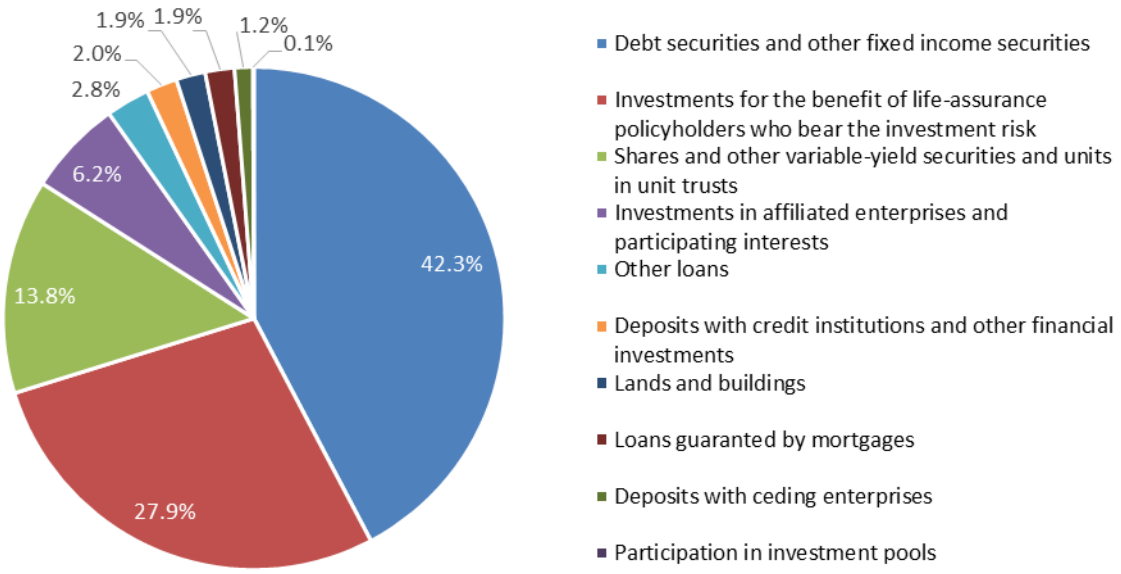

*Source: Moody's, 2017*

### 5.1.3 Asset allocation of European insurance undertakings subject of Solvency I reporting over the period 2005 to 2015

The data provided by EIOPA cover all EEA insurance undertakings which are subject to Solvency I and II reporting requirements.

The section offers a disaggregated view of investment assets based on Solvency I for EU-28 insurers by country. The numbers presented in this report refer to the total of life, non-life and composite insurance companies (excluding reinsurance). 'Debt securities and other fixed income securities' make up the largest share of investment assets across most countries and years. For the aggregate of all EU28 countries, it amounts to 42.3% in 2015 (Figure 23). 'Investments for the benefit of life-assurance policyholders who bear the investment risk' (27.9%), 'Shares and other variable-yield securities and units in unit trusts' (13.8%) and 'Investments in affiliated enterprises and participating interests' (6.2%) are the only other asset categories with a share above 5% for the EU28.

**Figure 23: Shares of EU28 investment per category in 2015**

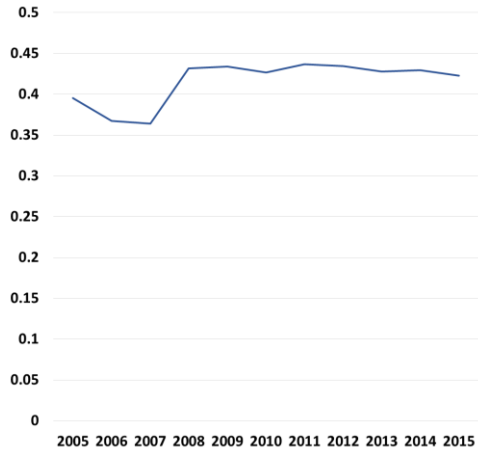



*Note: The share refers to the amount of investments per category over the total investment assets.*
***Source: London Economics based on EIOPA data***

When looking at the data over time, one can also identify trends for individual countries and patterns across countries. These trends differ significantly for some instances before and after the financial crisis in 2008/2009.

The financial crisis impacted the market, risk affinity as well as the interest rate for products, which has been identified in the literature review as a major contributor to changes in insurers' investment strategy. The data provide an insight as to whether and how insurance companies have shifted their assets in response to these changes. In addition, the level of the share per category also varies significantly across countries pointing to difference in investment behaviour. In the following, this report presents trends for the largest investment assets as well as smaller ones with particularly striking trends. The graphs show the development of the share of investment for the total of all EU28 countries.

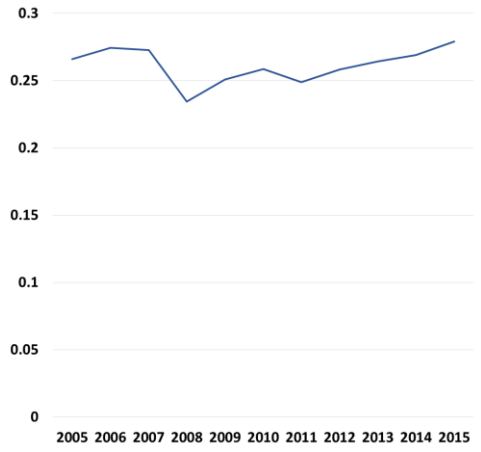
### Figure 24: Debt securities and other fixed income securities




The share of **Debt securities and other fixed income securities** in all EU28 countries experiences a small dip before the crisis, after which it remains constant at a higher level of around 43%. Individual countries show a very similar pattern for France, the UK and the Netherlands. On the other hand, Italy and Spain experience a continuous rise after the crisis, which is even more distinct for Latvia and Romania. Among the largest EU28 countries, the shares in Italy and France are the highest in terms of level with above 50% and 60% respectively. The UK is at about half of the EU28 level.

*Source: London Economics based on EIOPA data*

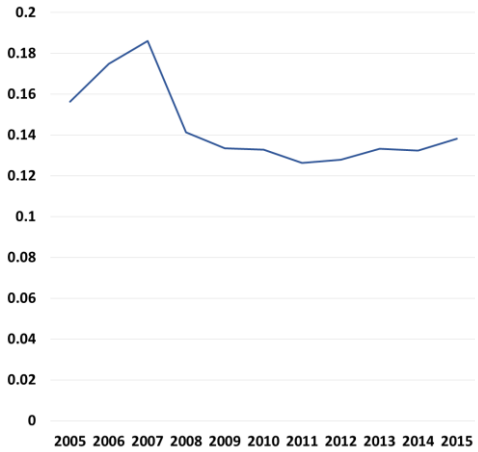
### Figure 25: Investments for the benefit of life-assurance policyholders who bear the investment risk




The share of **Investments for the benefit of life-assurance policyholders who bear the investment risk** increases in most countries either after the crisis or over the entire period. While the upward trend has been moderate for EU28, Austria, Germany and the UK, the share has increased steeply for Denmark and Finland with more than 20 and 30 percentage point increases. Historically, the share has been very low at around 10% for these countries except the UK, which starts at about 50%. The investments in Italy and the Netherlands are also already on a level of 30% in 2005 but these countries experience a downward trend over time.

*Source: London Economics based on EIOPA data*

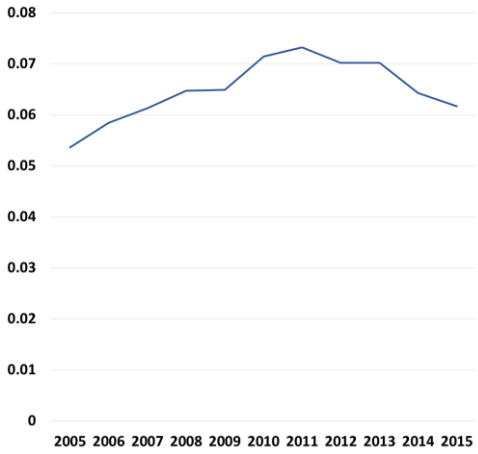
### Figure 26: Shares and other variable-yield securities and units in unit trusts




Investments in **Shares and other variable-yield securities and units in unit trusts** **show a sharp rise in 2006 and 2007**, followed by a sharp decline in the crisis for the aggregated EU28 countries. The level is kept constant during the years thereafter. This is a common pattern over many countries, which is particularly prevalent in the UK, Austria, the Netherlands, France and Germany. Italy and Germany have also experienced an increase in their insurers' share of investment in this asset category over the last years. Finland, which is among the countries starting with the highest shares in 2005 (around 30%) is the only country among the EU28 that experiences a continuing and steep downward trend after the crisis.

***Source: London Economics based on EIOPA data***

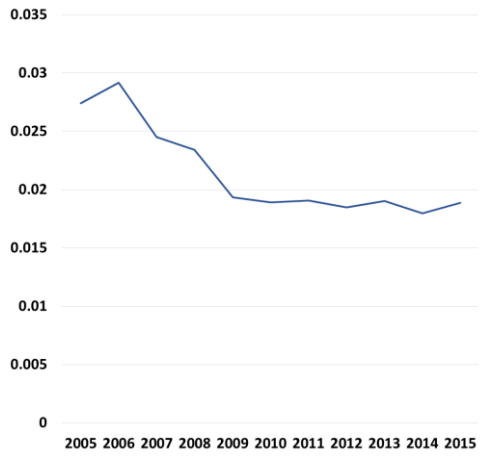
### Figure 27: Investments in affiliated enterprises and participating interests




The share of **Investments in affiliated enterprises and participating interests** increases for the EU28 until 2011 and declines thereafter. The investment behaviour resulting in the concave shape of the graph is observed in Austria, the UK, Romania and France. In most other countries a constant and low share in this investment asset is observed. When looking at the structural breakdown of these assets and considering the subcategories a) **affiliated undertakings**, b) **debt securities issued by, and loans to, affiliated undertakings** and c) **participating interests** it becomes apparent that shares in a) affiliated undertakings make up most of this category for the majority of countries. The overall increase and decline over time reflects generally the pattern of the share of investments in affiliated undertakings (for example, UK, France, Bulgaria and Romania) Nonetheless, some differences emerge between countries, as the share in the Netherlands is driven particularly by the component of c) participating interests. The declining share of c) participating interests in Italy seems to be offset by a slight incline in b) debt securities issued by, and loans to, affiliated undertakings, resulting in a balanced share overall. An increase in the share of investments in affiliated and participating interests in Spain following 2009, on the other hand, is driven by b) debt securities issued by, and loans to, affiliated undertakings.

***Source: London Economics based on EIOPA data***

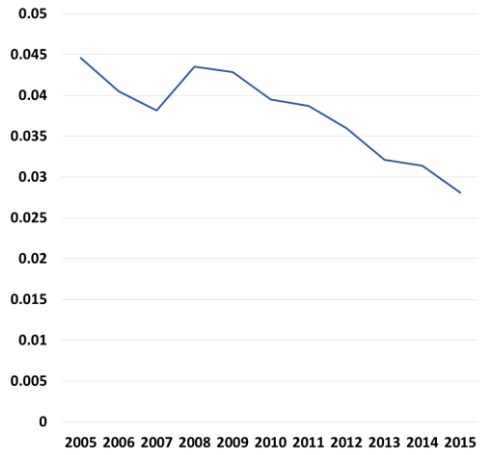
### Figure 28: Land and buildings




*Source: London Economics based on EIOPA data*

The share of **Land and buildings** decreases in the EU28 from just below 3% in 2006 to just below 2% in 2009. It stays constant on this level until 2015. The Netherlands, Greece, the UK, Lithuania and Latvia experience similar but larger drops before the crisis, remaining on that level afterwards. The declines in Denmark, Austria and Germany are rather slow and continuous, whereas France experiences a slight increase in the share over time.

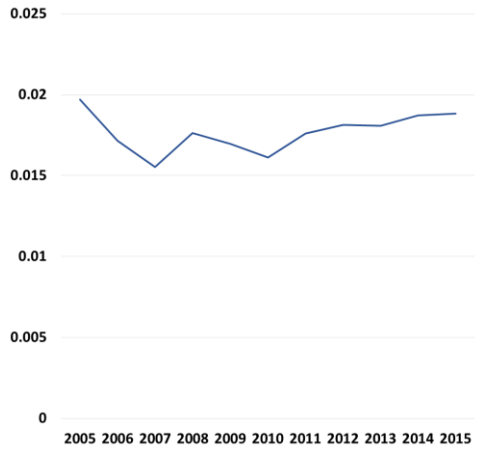
### Figure 29: Other loans




*Source: London Economics based on EIOPA data*

The share of **Other loans** is very small for the EU28, and generally across countries. In about half of the countries the share is below 1%. The downward trend in the EU28 is driven by the evolution of the share in Germany, which stood at 23% in 2005. This share has decreased following the crisis by nearly 10 percentage points by 2015. A few other countries, such as Austria, the Netherlands and Poland, experienced a small but notable share of around 5% in 2005 Only Bulgaria and Poland experience a slight noticeable increase in their share of other loans after 2009.

### Figure 30: Loans guaranteed by mortgages




*Source: London Economics based on EIOPA data*

Asset investments in **Loans guaranteed by mortgages** draw a similar picture to the category Other loans; only few countries have a share higher than 1% and the minor changes in the EU28 figures are driven by a few large countries. Insurers in Germany and the Netherlands hold the largest shares ranging between 7.0% and 7.7% in 2005 and 4.5% and 9.8% in 2015, respectively. The United Kingdom is at a much lower level of 1% at the beginning of the period but doubles this share over time. Latvia decreases the share of Loans guaranteed by mortgages by 4 percentage points.

The investigation of investments in different asset categories over time showed that there are certain patterns among groups of countries but there is always a varying degree of heterogeneity

across countries. This coincides with the findings from the literature, as it points to different market settings and varying incentives for insurance companies.

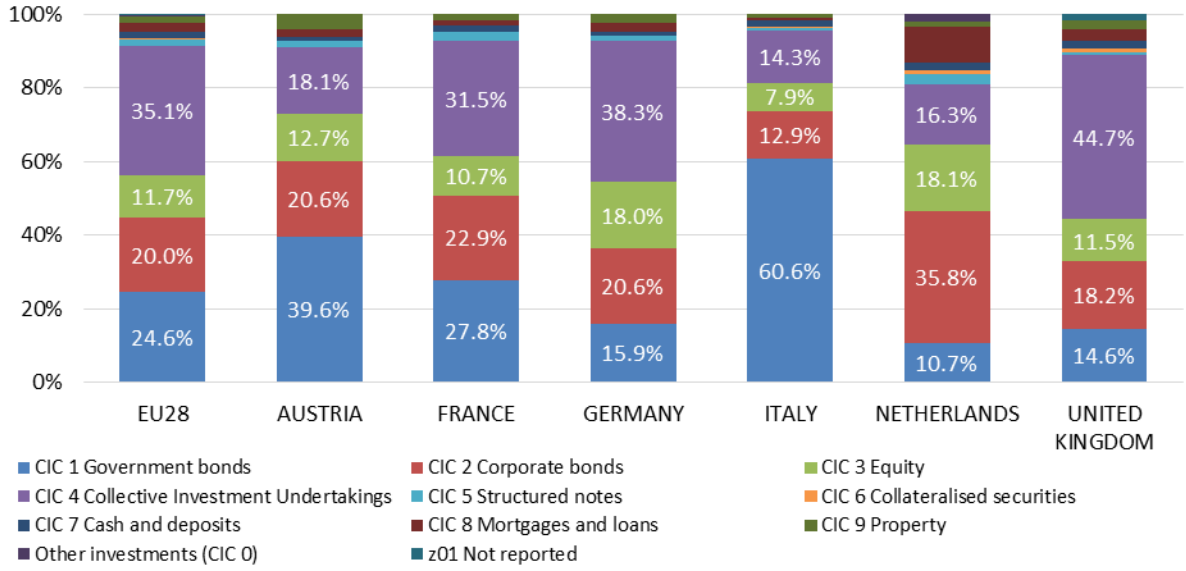
Overall, the shares of **Debt securities and other fixed income securities** in the insurers' investment portfolio jump up before the crisis and remain high afterwards. This might be the result of increased uncertainty during the crisis. The fact that insurers in Spain and Italy keep increasing the share might be caused by higher economic uncertainty in these markets compared to other countries even after the crisis. The insurers' share of their investment portfolio in **Investments for the benefit of life-assurance policyholders who bear the investment risk** also shows a rise after the crisis in many countries. The shares in **Investments in affiliated enterprises and participating interests** paints a mixed image, as it increases in the EU28 until 2011, after which it decreases. Across countries the trend is also mixed, in particular, since increases vary across different subcategories in each country.

On the other hand, the share of the insurers' investment portfolio in **Shares and other variable-yield securities and units in unit trusts** drops before the crisis and remain low afterwards. Following the literature review, one would have expected to see an increase in this share in recent years, but the literature has already mentioned that this expected effect has not shown significantly in the numbers. The broader picture for the category **Other loans** is also one of a continuing downward trend with a small increase during the crisis. This is in line with rational investment behaviour as interest rates on loans have dropped over time, making it a less profitable and a less attractive investment. The share of **Lands and buildings** in the insurers' investment portfolio experiences a sharp decline before the crisis and remains at a constant level thereafter across countries.

### 5.1.4 Asset allocation of European insurance undertakings subject to Solvency II reporting - 2017 Q4

In addition to the time-series data on investments of enterprises by on Insolvency I, EIOPA also publishes aggregated data on insurers' asset allocation of insurance undertakings subject to Insolvency II reporting requirements. Due to the fact that the data are newly collected, they are only available for the last quarter in 2017. Therefore, not sufficient data exist to undertake an analysis of recent trends. Nonetheless, the granularity of the asset classifications provides valuable insights on insurance companies' recent asset exposure and preferences for asset classes; on a country and EU28 level. Figure 31 illustrates the share of exposure by category over total assets for selected countries.

**Figure 31: Asset exposure (by country), Q4 2017**




***Source: London Economics based on EIOPA data***

Looking at the share of **Government bonds** across the countries presented in the figure above, it becomes apparent that Italy stands out with a share of more than 60%. Across the EU-28, in a majority of countries insurers' investment share in government bonds is more than 50% particularly in Southern and Eastern European countries, with this share ranging from 53.3% to 87.2%. Insurance companies in Germany and the UK, on the other hand, have a share of around 15%. This is in line with the findings from the literature review, which suggests that insurers are more likely to invest in government bonds in countries with a lower credit rating due to higher yields on these bonds. In fact, except for Slovakia, none of the 14 countries with a share of above 50% had a credit rating in 2017 higher than A- (Fitch, 2017). Furthermore, all countries with a low medium grade or below (BBB+ and lower) have a share greater than 50% and all countries with a high grade (AA- and above) have a share of less than 50% (with the exceptions of Cyprus and Belgium).

The largest category in the total of investment portfolio of EU-28 insurers is **Collective Investment Undertakings** with 35.1%. Collective undertakings include equity funds, debt funds, money market funds, asset allocation funds, real estate funds, alternative funds, private equity funds, infrastructure funds and other. As for most other investment classes, the investment share varies significantly across countries: Liechtenstein (85.2%), Luxembourg (77.8%), Ireland (67.3%), Finland (47.0%), the UK (44.7%), Germany (38.3%) and Denmark (37.0%) have a share above the EU-28 share, whereas the remaining countries report a share lower than the EU-28 share. Thirteen of these countries have a share of less than 1%.

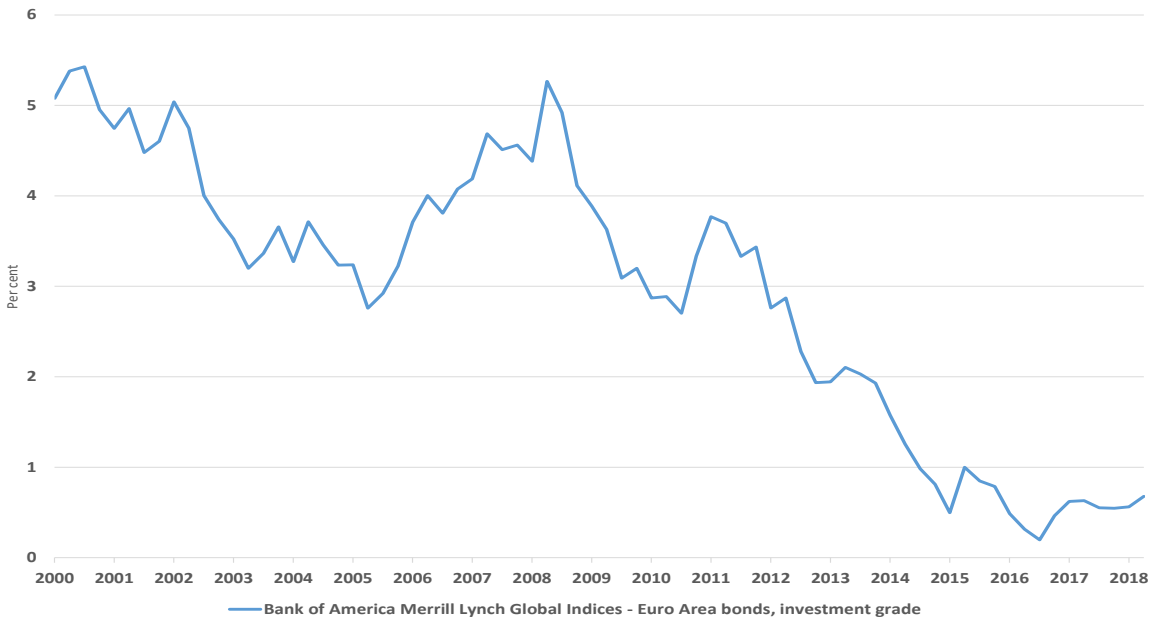
The share of the insurers' portfolio invested in **Equity** ranges between 5% and 15% for most countries as well as the EU28 aggregate. Malta and Cyprus stand out with 70.2% and 35.7% respectively. Other countries that exhibit a larger preference for investing in equity are the Netherlands (18.1%), Germany (18.0%), Sweden (17.1%) and Hungary (15.8%).

The shares of the other investment classes are very small across all countries. Among these other assets, only **Cash and deposits** shows a significant share in some countries, such as Cyprus (26.2%) and Estonia (20.9%).

## 5.2 What factors drove the observed trends in asset allocation of European insurers?

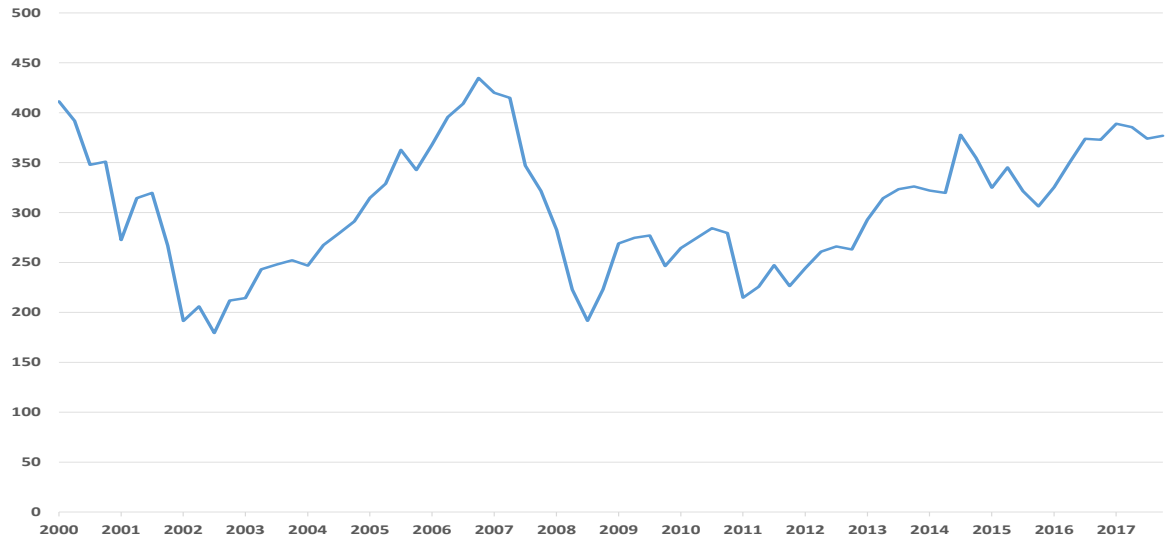
A key characteristic of the post -2008 period has been the combination of very low interest rate (Figure 32) and strong growth in equity markets (Figure 33). The low interest environment has led many investors to "chase yield" by investing in different or new asset classes.[43]

**Figure 32: Yield on investment grade Euro Area bonds 2000 -2018**




***Source: Thomson Reuters***

**Figure 33: EuroStoxx index**




***Source: Thomson Reuters***

[43] See, for example, IMF (2014) and IMF (2016), and ESRB (2015).

Due to historically low interest rates, insurance companies have been facing difficulties generating sufficient investment returns for future insurance obligations during the last years (The Actuary, 2017). In light of these market developments, an array of surveys and market analyses have highlighted a shift in the reported investment strategy of insurance companies. Insurers broaden their investments and turn to riskier assets to realise higher returns (Standard Life Investments, 2015). For this reason, they shift from public assets to private assets while trying to keep the added risk limited (Financial Times, 2017).

According to 2015 data from Standard Life Investments (2015), European insurers are experiencing challenges in generating sufficient returns to meet guaranteed rates to policyholders. While current book returns remain healthy, the low-return environment has caused a future returns gap in the guaranteed savings market (Standard Life Investments, 2015). Rates remaining flat at current levels would further pressure European insurers' profitability and they would likely accelerate deterioration in their asset quality (Moody's, 2017).

In addition, in Europe, the research findings of Standard Life Investments confirmed that the impact of low returns is not uniform, varying by region and insurer type. For instance, Switzerland and Germany are mostly affected by low interest rates, with government bond rates below or at zero for durations less than 20 years (Milliman, 2016). Whereas, southern European insurers differed, expressing fewer concerns about their sovereign and investment grade debt weightings, given the higher yields available. Albeit, southern European equity and high-yield fixed income allocations are increasing gradually (Standard Life Investments, 2015).

According to the results of a survey launched by Standard Life Investments targeting Chief Investment Officers and Chief Risk Officers across Europe, in response to this low interest rate environment, many European insurers are undertaking significant strategic asset allocation and tactical asset allocation changes, expanding traditional investment horizons to maximise returns:

- **Risk appetite is rising**: half of respondents expect to reduce sovereign fixed income exposure while over 60% expect to increase allocations to real estate and/or alternatives;
- 44% of insurers are looking to outsource one or more asset classes, and
- 45% of European insurers suggest the **low-return environment makes it more likely** that they will **outsource to external asset managers**.

This exposure to many lower credit rating government bonds might, on the other hand, also be a reason to "[diversify] away from government bonds" (The Actuary, 2018) according to Mark Azzopardi, an insurance investment expert at BlackRock. This is his assessment for countries like Italy, whereas he identifies low yields to be the reason for insurers in Germany to sell off domestic government bonds.

The trend for change is further stimulated by the new requirements introduced by Solvency II. Risk-based capital requirements induced insurers, according to Mark Azzopardi, to reduce the duration gap between investments and obligations as well as to diversify the portfolio by investing into new asset classes (The Actuary, 2018). As the UK had a similar system already prior to Solvency II, impacts on insurers in the UK have been smaller than in other European countries.

To replace some of the government bonds in their investment portfolios, insurance companies are looking to invest in private markets and illiquid assets. More than half of the respondents of the Standard Life Investments survey (2015) expect to increase investments in real estate and/or alternative investments. This picture is in line with another survey among leading UK and European insurers, in which a quarter of respondents expect to invest in alternatives investments to realise higher profit margins (The Actuary, 2017).

Despite these theoretical arguments for reducing low yield government and "widespread talk about the growing role of private market investments in insurers' portfolios" (The Actuary, 2017), actual numbers for private equity and illiquid assets remain small according to research carried out by Invesco, Schroders and Aon. Some of the reasons for this discrepancy might be a limited supply of appropriate investments and heightened modelling requirements needed for risk management and the approval of supervisors and regulators (Standard Life Investments, 2017). The difficulty in pursuing these investments is also portrayed by the fact that one fifth of insurance internal investment teams are not given specific investment targets (The Actuary, 2017).

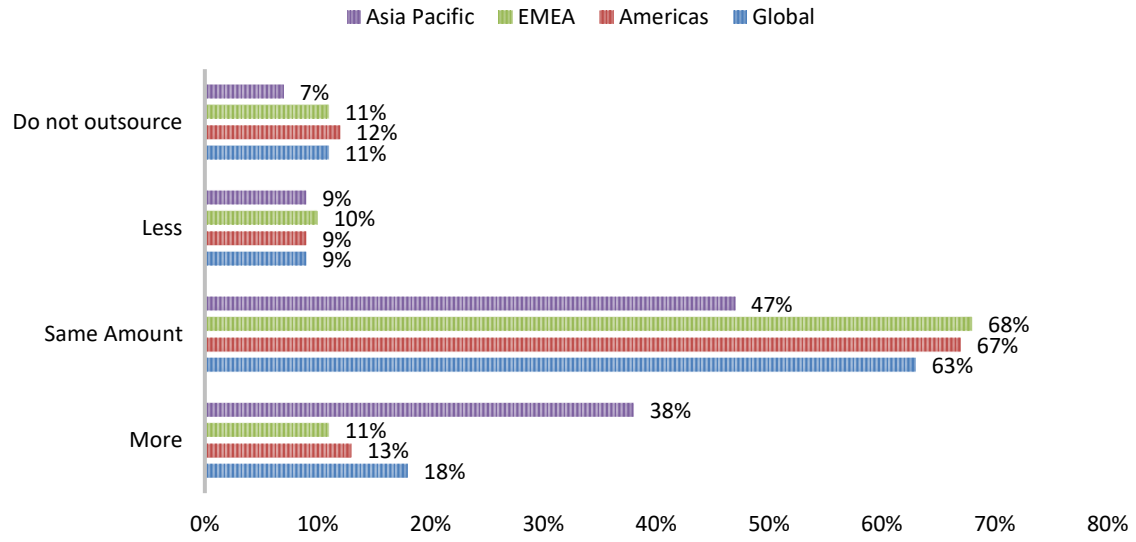
The factors cited above were generally also identified by EIOPA (2017) in a survey of European insurers. Key developments over the period 2011 – 2017 to note are:

> *"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."* (EIOPA 2017)

According to stakeholders interviewed (supervisory authorities and insurance companies), the most important underlying reason for these changes in portfolio composition is related to **low interest rate environment in Europe**, that has led to an increased allocation to less liquid assets to earn a higher spread (Moody's, 2017).

According to the GSAM's 2016 Insurance Survey[44], outsourcing portions of their investment portfolios to third party asset managers is an on-going trend globally. The greatest demand for increased outsourcing comes from the largest insurers in the Asia Pacific region, where almost 40% of insurers replied to intend to outsource more of their portfolios.

**Figure 34: Do you anticipate outsourcing more, the same amount, or less of your investment portfolio in the next 12 months?**




***Source: GSAM, 2016***

The GSAM survey also shows that the asset classes that insurers are looking to outsource investments differ by region:

- US based insurers intend to outsource investments in: US investment grade corporates (28%), private equity (27%), high yield debt (23%), mortgage backed securities (19%), and hedge funds (19%);
- EMEA-based insurers intend to outsource investments in: European investment grade corporates (29%) and government and agency debt (24%);
- Asia Pacific insurers plan to outsource investments in: infrastructure debt (35%) and infrastructure equity (31%).

Insurance undertakings interviewed also reported that another major factor which has influenced their asset allocation decision-making process has been the **Solvency II Directive**.[45]

This finding is also confirmed by the results of a survey launched by *Standard Life Investments*. In details:

- 89% of respondents confirmed that Solvency II has impacted their asset allocation decisions;
- 73% of insurers explained that Solvency II is limiting design of investment portfolios; and
- 38% suggest that Solvency II has made it harder to hedge their liabilities.

The introduction of Solvency II increased the regulatory capital requirements[46] for the products and restricted the investments that could be used to back the liabilities. This has affected asset allocation as insurance undertakings are seeking to take on more risk (for higher returns) while also trying to

[45] Directive 2009/138/EC. Article 132 of Solvency II introduces the "prudent person principle" which determines how undertakings should invest their assets.

[46] A regulatory capital requirement is the amount of excess assets that an insurer must hold above its liabilities, calculated in accordance with relevant rules.

optimise capital charges and the diversification benefits of the new regulatory regime (Standard Life Investments, 2015).

Some insurance undertakings interviewed[47] have reported that Solvency II makes it harder to implement asset allocation changes driven by a low-return environment and this has reduced the attractiveness of certain type of "*more volatile"* and/or *"illiquid*" assets, such as:

- Equity investments;
- Real estate and infrastructure investments;
- Callable bonds.

## 5.3 Potential impact of IFRS 17 on asset allocation of European insurers

Investing activities are important for insurance companies, the time gap between the collection of premiums and the payment of claims enables insurance companies to accumulate funds that are invested to generate investment income (IASB, 2017). For some long-term insurance contracts, the spread between the return on investments and the interest expenses on insurance contract liabilities are typically the primary source of profit or loss (IASB, 2017).

A majority of stakeholders interviewed (i.e. supervisory authorities, insurers and external investors) agree on the fact that IFRS 17 alone will not impact the asset allocation of insurance undertakings, as this activity is more driven by risk management and/or asset/liability management. However, the majority of industry stakeholders interviewed expressed the view that the effect of applying IFRS 17 in conjunction with IFRS 9[48] may have an impact on asset allocation, with IFRS 17 making changes to the valuation of liabilities of insurers and IFRS 9 making changes to the valuation and income recognition of assets (Deloitte, 2017). This is because a company is required to account for:

a) insurance contracts issued applying IFRS 17; and
b) financial assets held applying IFRS 9.

IFRS 9 sets out how a company must classify its financial assets.[49] Classification determines how those assets are accounted for in financial statements and, in particular, how they are measured on an ongoing basis (IASB, 2017). Under IFRS 9, financial assets are measured at either: (a) amortised cost; or (b) fair value. When assets are measured at fair value, gains and losses are recognised either entirely in profit or loss (fair value through profit or loss), or partially in other comprehensive income (IASB, 2017).[50]

[47] It must be said that this trend was not reported by a majority of insurance undertakings interviewed.

[48] IFRS 9 replaced *IAS 39 Financial Instruments*: Recognition and Measurement from 1 January 2018. Some insurance companies can elect to continue to apply IAS 39 until 1 January 2021.

[49] IFRS 9—classification of debt instruments (in brief): If a financial asset is a simple debt instrument and the objective of the company's business model within which it is held is to collect its contractual cash flows, the financial asset is measured at amortised cost. If the simple debt instrument is held in a business model the objective of which is achieved by both collecting contractual cash flows and selling financial assets, then the financial asset is measured at fair value in the balance sheet, and amortised cost information is provided in profit or loss. Gains and losses result from the difference between amortised cost and fair value, and those differences are reported in other comprehensive income. If the business model is neither of these, or the financial asset is not a simple debt instrument, then fair value information is provided both in profit or loss and in the balance sheet (IASB, 2017).

[50]fair value through other comprehensive income for debt instruments and other comprehensive income presentation for equity instruments (IASB, 2017).

Insurance companies typically seek to match the characteristics of their assets with their liabilities to minimise economic mismatches between the two (IASB, 2017). Economic matching depends on several factors, such as: the availability of assets of sufficient duration, the uncertainty as to when pay-outs on insurance contracts will be required, and the company's desire to generate higher returns (IASB, 2017). If an insurer's liabilities and assets are economically matched the accounting does not show mismatches, whereas if they are not matched the economic mismatch will be apparent as a result of the changes introduced by IFRS 17 and IFRS 9 (IASB, 2017).[51]

Indeed, the measurement of financial assets and insurance contract liabilities may change in applying the *current value principles*. When applying IFRS 9, the classification of financial assets will be driven by their cash flow characteristics and by the business models in which the assets are held (IASB, 2017) and consequently, some companies may decide to reassess how they carry out their asset and liability management. It is expected that the extent to which the introduction of the measurement of insurance contract liabilities will change existing asset and liability management practice will vary depending on the extent to which (IASB, 2017):

a) a company currently measures its insurance contracts at current value; and
b) the accounting effect drives management decisions.

For example, existing insurance accounting practices in parts of Continental Europe (e.g. Italy), Asia and the United States do not tend to include current value accounting. The discount rate used to measure an insurance contract liability is not updated after the initial recognition of the insurance contract to reflect changes in market conditions (IASB, 2017). Some insurers operating in these jurisdictions may decide to change their asset and liability management practices in the light of the requirement, introduced by IFRS 17, to measure insurance contract liabilities using current discount rates (IASB, 2017).

In contrast, in Australia, Canada, China, **Denmark**, South Africa and the **United Kingdom**, existing accounting practices tend to measure insurance contract liabilities on a current value basis (IASB, 2017). Accordingly, the changes introduced by IFRS 17 and IFRS 9 are not expected to involve significant changes in accounting and investment practices to manage accounting volatility in those jurisdictions (IASB, 2017).

In terms of impacts on specific asset classes, the type of financial assets held by an insurer typically depends on the characteristics of the liabilities or obligations for which the assets are being held and invested (IASB, 2017).

A trend emerging from interviews with industry stakeholders (especially life insurance undertakings) is that IFRS 9 and IFRS 17 will encourage the use of less volatile and more liquid assets. It was stressed that this might not necessarily be optimal for policy holders. Insurers may avoid particular asset classes to avoid volatility in their balance sheets and income statements, which might be against the interest of customers in the long term. In particular, some insurance undertakings reported that investments in equity and structured funds will become less attractive following the adoption of IFRS 17 and IFRS 9.

[51] For example, when applying IFRS 17, an insurer may need to address mismatches between the carrying amounts of assets and liabilities, by measuring some financial assets—eligible for measurement at amortised cost or at fair value through other comprehensive income—at fair value through profit or loss, using the fair value option in IFRS 9 (IASB, 2017).

With a focus on the life insurance segment, insurance undertakings interviewed expressed their concerns for the underlying tension between accounting and business model. It is argued that life insurances are long term investment products, whereas the accounting is much focused on the short term. According to them, reporting assets at market values (as foreseen in IFRS 9) could expose life insurers to market risks and lead to a misalignment between the interests of policy-holders and insurance entities by impacting the earnings profile of the company.

Other stakeholders interviewed for this study (supervisory authorities and some non-life insurance undertakings), instead, indicated that risks related to asset-liability management are related to the extent to which asset and liability values respond differently to changes in economic conditions. The accounting will not have any impact, or it will not be significant enough to change the asset allocation. Some industry players commented that previous experiences in IFRS did not result in such impacts. Surplus assets will continue to be invested in a way to generate an acceptable return in light of other restrictions on capital and liquidity. Capital requirements, risk and liquidity are likely to continue to be the most important drivers.

In relation to their asset-liability management, most insurance undertakings also commented that hedging is not appropriately dealt in IFRS 17. It is argued that not enough reference links have been made with IFRS 9 and some industry players commented that, under the new accounting rules, they will have to record not only the cost of derivatives but also the volatility of the underlying asset, increasing in turn the volatility of the P&L. Entities using economic hedging and risk mitigation techniques usually want to present information about this in the financial statements in a way that reflects management practices (PWC, 2017) and will have two solutions to achieve this:

- the risk mitigation exception in IFRS 17 for insurance liabilities;[52] or
- hedge accounting in IFRS 9.

However, it is likely that insurers might not be able to reflect all economic risk mitigation in the financial statements in line with the risk management practices. Insurers might choose to use non-GAAP measures in such situations to explain risk management practices to the users of the financial statements in common with entities in other industries (PWC, 2017).

Some supervisory authorities commented that the valuation of financial assets using *the historical cost accounting approach* gives less incentives to hedge, whereas the additional volatility that IFRS 17 and IFRS 9 will impose in the P&L will, instead, provide incentives for adopting more sophisticated hedging techniques. Some supervisory authorities[53] commented that they like this idea of hedging sophistication in order to reduce the inherent market risk in some financial assets, as this may lead to more robust balance sheets, especially for those insurance undertakings which have to bear long term liabilities under their business models (such as life insurance companies).

## 5.4 Key takeaways from chapter 5

1. Although there is considerable discussion about insurers moving away from debt securities towards new asset classes and /or equity, the aggregate data from EIOPA on the investments of EU insurers do not show a significant movement out of the debt securities at the EU wide level.

[52] Measurement exceptions under IFRS 17 apply only to contracts measured under the variable fee approach and do not apply to the contracts to which the general model applies (PWC, 2017).

[53] However, not a majority of them.

2. The majority of stakeholders interviewed (i.e. supervisory authorities, insurers and external investors) agree that IFRS 17 alone will not impact the asset allocation of insurance undertakings, as this activity is more driven by risk management and/or asset/liability management.
3. However, industry stakeholders expressed the view that the effect of applying IFRS 17 in conjunction with IFRS 9 may have an impact on asset allocation. This is because a company is required to account for: insurance contracts issued applying IFRS 17; and financial assets held applying IFRS 9.
4. Insurance companies typically seek to match the characteristics of their assets with their liabilities to minimise economic mismatches between the two (IASB, 2017). If an insurer's liabilities and assets are economically matched the accounting does not show mismatches, whereas if they are not matched the economic mismatch will be apparent as a result of the changes introduced by IFRS 17 and IFRS 9 (IASB, 2017). Indeed, the measurement of financial assets and insurance contract liabilities may change in applying the *current value principles*.
5. Existing insurance accounting practices in parts of Continental Europe (e.g. Italy) do not tend to include current value accounting. In contrast, in Denmark, and in the United Kingdom, existing accounting practices tend to measure insurance contract liabilities on a current value basis. Accordingly, the changes introduced by IFRS 17 and IFRS 9 are not expected to involve significant changes in accounting and investment practices to manage accounting volatility in these two jurisdictions.
6. Other stakeholders interviewed for this study (i.e. supervisory authorities and some non-life insurance undertakings) believe that changes in accounting will not have any impact or will not be significant enough to change the asset allocation of insurance undertakings, as the asset-liability management risks are related to the extent to which asset and liability values respond differently to changes in economic conditions.
7. Nevertheless, some insurance undertakings reported that investments in equity and structured funds will become less attractive following the adoption of IFRS 17 and IFRS 9, as assets characterised by higher volatility will expose a company's P&L to market fluctuations.

# 6 The cost of capital faced by EU insurance undertakings and investors' perception of the clarity of the financial reports of EU insurance undertakings

The chapters describes the evolution of the cost of capital faced by EU insurance undertakings (in absolute terms and relative to other economic sectors) (section 6.1) and reports the views of stakeholders on whether IFRS 17 will impact the EU insurers' cost of funds (section 6.2). A last section (section 6.3) highlights the key takeaways.

## 6.1 The cost of capital faced by EU insurance undertakings

The sub-section describes first very briefly the methodology used to construct the cost of capital for listed EU insurers and other listed companies. Next it presents information on the actual cost of capital of EU insurers from 2005 to 2017 and compares the evolution of the insurers' cost of capital with that of companies in other sectors of the European economy. Finally, it presents the key results of an econometric analysis of whether the difference between the cost of capital of EU insurers and that of EU companies in other sectors changed after the 2008/9 economic and financial crisis.

### 6.1.1 Approach to estimating the cost of capital

Using Thomson Reuters Datastream, we obtain financial data on 2676 public companies listed on stock exchanges of 27 EU Member States (all except Latvia) and spanning 19 industry sectors.

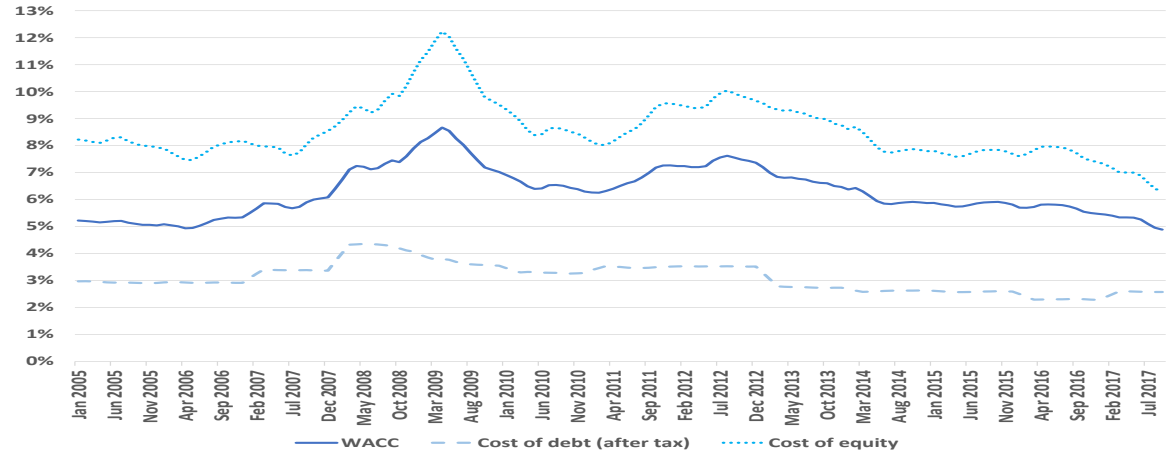
We estimate the cost of capital for each company in our dataset for every month from January 2005 to September 2017. The full historical financial data required for this estimation are available only for 1094 companies in our sample, 30 of which are insurance companies.

We use the Weighted Average Cost of Capital (WACC) method, which estimates cost of debt, cost of equity, and cost of preferred equity and then weights the three components according to the company's capital structure. The use of preferred equity was negligible among the companies in our sample, so that it can be ignored in the estimation of the cost of capital (see Annex 4 for the technical details of the construction of the cost of capital).

### 6.1.2 Cost of capital faced by European insurers in 2005-2017

The estimated cost of capital of EU insurance companies at the beginning of the observation period in 2005 is comparable to the estimated cost at the end of our historical sample in late 2017. However, as Figure 35 shows, the cost of capital varied substantially throughout the period. Mainly driven by rising cost of equity, the average cost of capital of EU insurers climbed steeply through 2007-8 with the onset of the Global Financial Crisis, peaking in April 2009. The rate of return required by investors then fell somewhat, before rising again in the European Sovereign Debt Crisis of 2010-12. Since late 2012, the cost of capital in the EU insurance sector has been declining.

### Figure 35: Cost of capital faced by European insurers

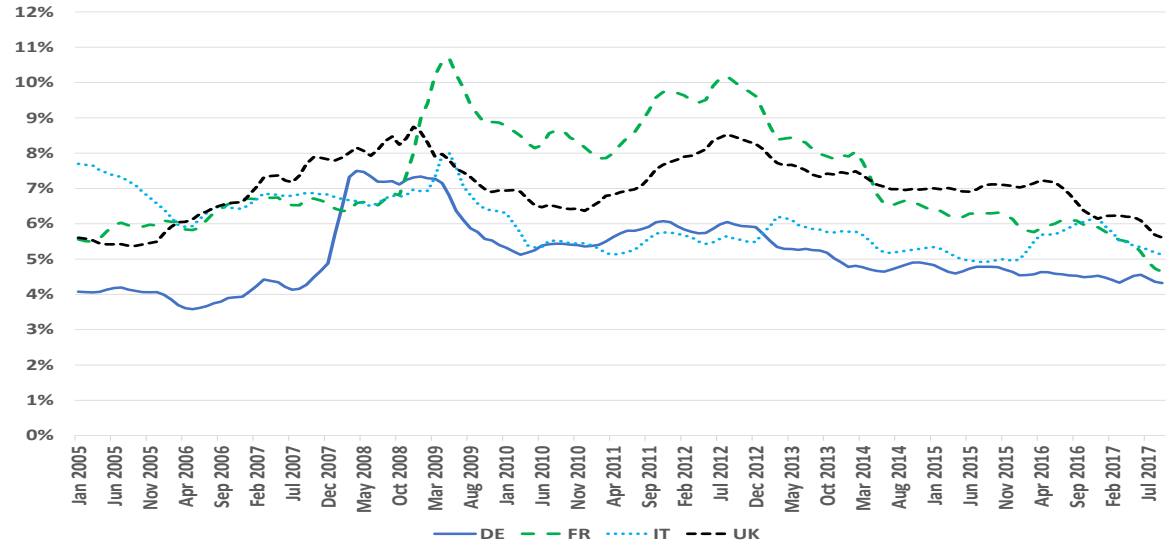



Note: Estimates based on 30 listed EU insurance companies, weighted by their market capitalisation.

***Source: London Economics WACC model based on Datastream and IMF data***

Disaggregating the developments by Member State, we find that the pattern has been broadly consistent in the EU's four largest economies. Nevertheless, the cost of capital estimates in Figure 36 suggest that British and French insurers experienced more pronounced fluctuations in their cost of capital than their German and Italian peers. This is largely attributable to their higher Betas. The risk compensation required by equity investors is higher for companies that are more volatile than the wider equity market. As Figure 37 shows, British and French insurers exhibited more volatile returns relative to their national equity markets than German and Italian insurers. A similar increase in the equity risk premium (see Figure 38) therefore translates to a larger increase in the cost of equity.

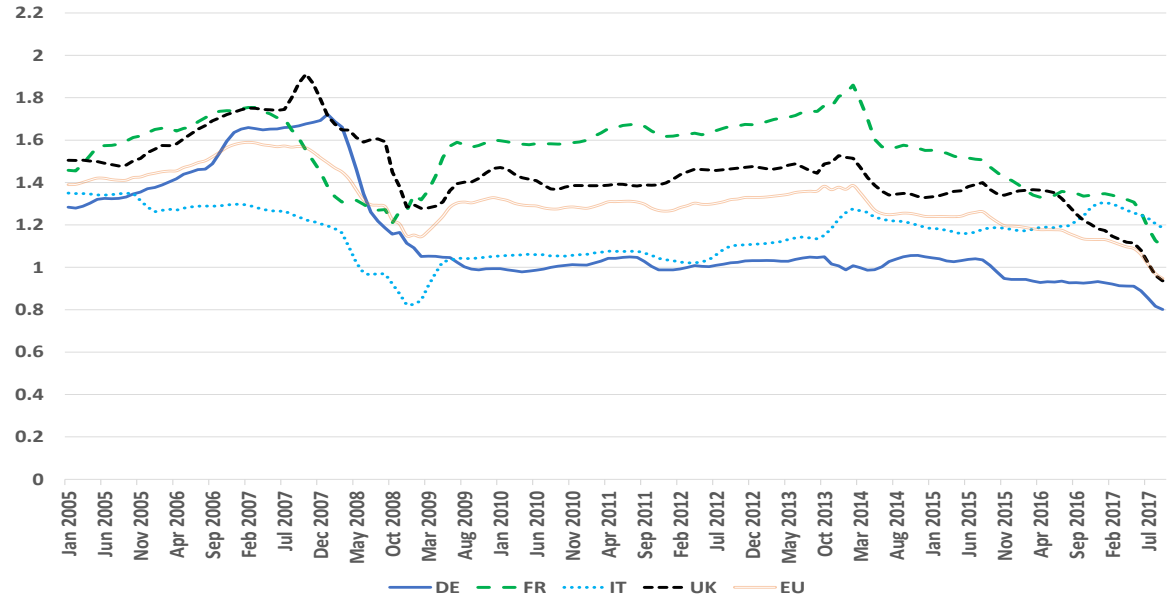
### Figure 36: Weighted cost of capital of EU insurers by country




Note: WACC in each country is calculated as the average WACC of the insurance companies in the country, weighted by market capitalisation. In Germany and France, the estimate is based on 3 companies. In Italy and the UK, it is based on 6 and 8 companies, respectively

***Source: London Economics WACC model based on Datastream and IMF data***

**Figure 37: Average beta of EU insurers in selected Member States**

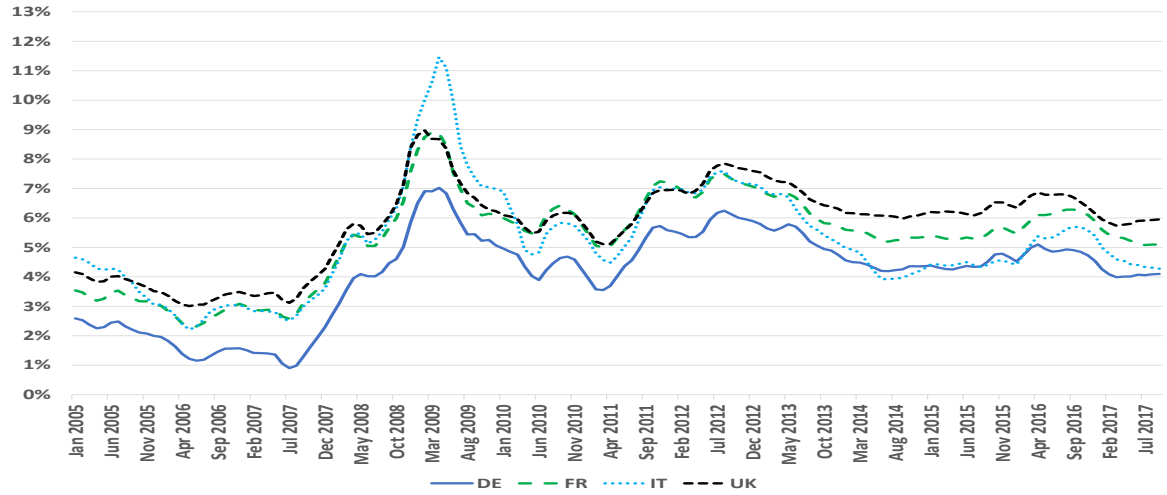



***Source: London Economics WACC model based on Datastream and IMF data***

Nevertheless, in all four countries – as well as in the EU as a whole – the rate of return on equity investment in the insurance sector has historically tended to be more volatile than the return in the wider equity market (i.e. beta greater than one in Figure 37). During the 2007-8 crisis, the EU insurance sector beta fell from a high of 1.6 (i.e. 60% more volatile returns than the market as a whole) to a low of 1.14 (i.e. 14% riskier than the market). In France and the UK, the betas climbed again in early 2014 to as much as 1.86 and 1.51, respectively, while in Germany they stayed close to 1. The beta of Italian insurers also rose from the 2009 low, but only to 1.28 in early 2014. After 2014, betas of insurance firms in all four countries and the EU as a whole gradually fell again and towards the end of 2017 ranged from 0.80 in Germany to 1.19 in Italy. Compared to 2005, EU insurance companies now exhibit lower extra risk relative to their domestic equity markets.

The Member State differences in the historical development of cost of capital do not seem to be driven by the returns to the wider national equity markets. As Figure 38 illustrates, the investor perception of the risk of investing in equity markets varied substantially between 2005 and 2017, but the changes were similar across all four largest EU economies. One exception is Italy in 2009 and 2013. In Italy, the stock market downturn of 2008-9 was associated with a larger temporary increase in investors' risk perception than in Germany, France, or the UK. By contrast, in 2013, the risk premium on Italian stocks fell at a faster pace.

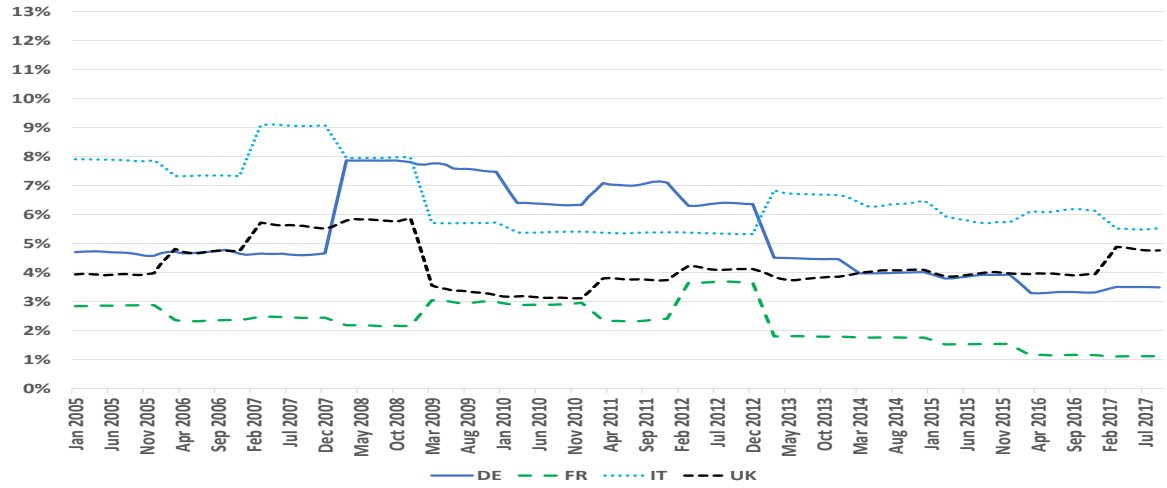
**Figure 38: Equity risk premium in selected EU Member States**




***Source: London Economics WACC model based on Datastream and IMF data***

The differences between Member States in the historical developments of EU insurers' cost of capital reflect to some extent the varying patterns in the cost of debt. The broad pattern in Figure 39 again highlights the impact of the financial and debt crises that hit the EU in 2007-8 and 2010-12. However, the investor perceptions of insurers in different Member States appear to have been affected in different ways. The estimations suggest that the 2007-8 crisis seems to have increased the debt financing costs for German, British, and Italian insurers substantially more than for French insurers. The interest rates paid by German insurers increased again in 2011 but have been steadily falling since. By contrast, the cost of debt faced by British insurers fell sharply already in 2009 and after recording a minor increase in 2011-2012 stayed relatively flat. Rates paid by French insurers increased in 2009, 2010, and 2012, but fell since below pre-2007 levels. Finally, Italian insurers' cost of debt fell after 2009, but increased again in 2013 and stayed relatively high, albeit below pre-2007 levels.

**Figure 39: Cost of debt (before tax) of EU insurers by Member State**

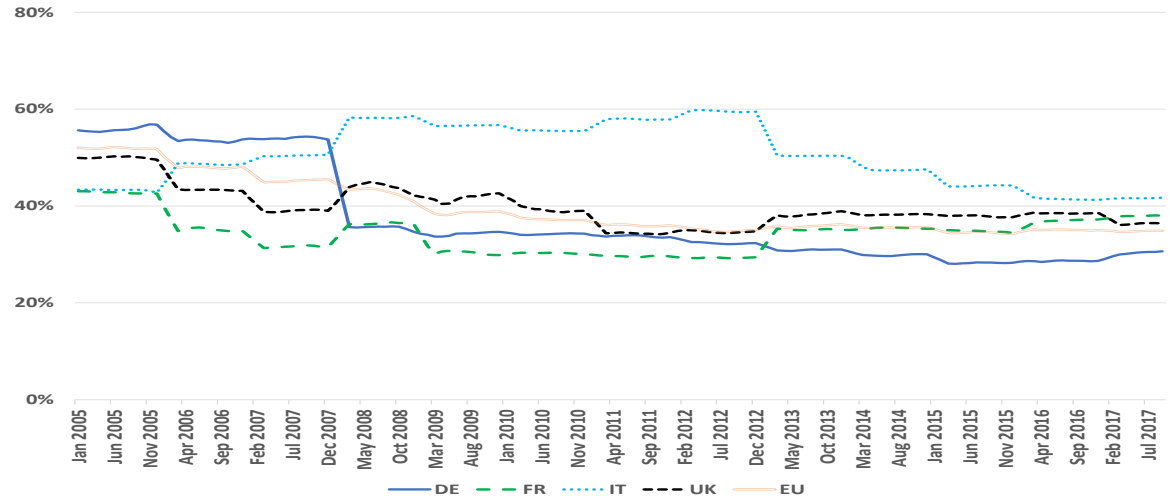



***Source: London Economics WACC model based on Datastream and IMF data***

The importance of debt financing in the weighted cost of capital (WACC) estimates is further affected by the tax rate (since interest payments are tax-deductible) and the share of debt in the company's capital structure. Figure 40 shows that between 2005 and 2017, the importance of debt financing decreased among EU insurers in favour of equity financing. The average share of debt

among the 30 EU insurers in our sample, weighted by the insurer's market capitalisation, declined from 52% in 2005 to 35% in 2017. Italy was the only country of the four largest EU Member States where this trend followed a reverse path between 2005 and 2012. After 2012, the use of debt finance fell even among Italian insurers from 60% to 42% of total capital in late 2017.

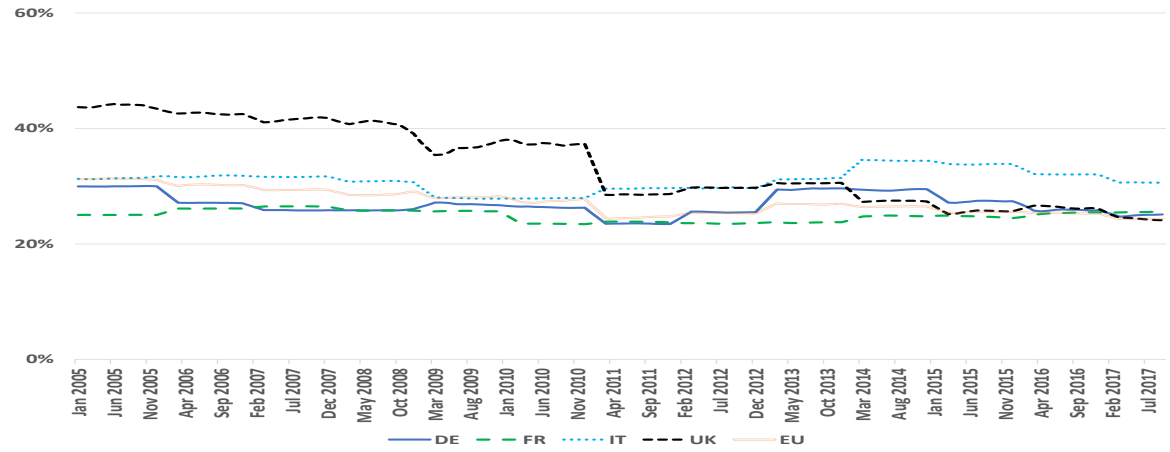
### Figure 40: Share of debt in the capital structure of EU insurers




***Source: London Economics WACC model based on Datastream and IMF data***

Except for the UK, income taxes have not been a major driver of differences in cost of capital faced by insurers from different Member States. As Figure 43 demonstrates, the tax rates expected by investors – estimated as the 5-year moving median of the effective tax rate – remained relatively stable in Germany, France, Italy, as well as the EU as a whole. In the UK, the tax rate fell from 44% in 2005 to 24% in 2017.

### Figure 41: Effective tax rate of EU insurers, 2005-2017

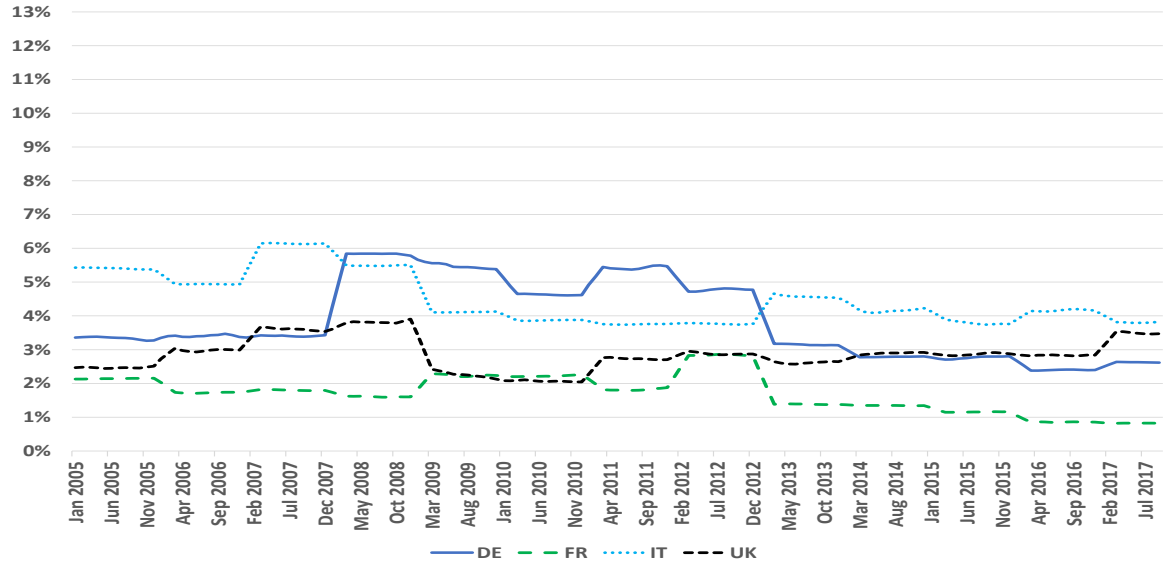



Note: 5-year moving median of the effective tax rate, calculated as (total income tax)/ (pre-tax income)

***Source: London Economics WACC model based on Datastream and IMF data***

The developments in the cost of debt when tax deductions are taken into account closely mirror the pattern observed in pre-tax cost of debt (see Figure 42). One noticeable influence is the declining tax rate in the UK. The relatively higher income tax in 2007-8 to some extent tempered the increase in the cost of debt in the global financial crisis. By contrast, tax deductibility of debt had lower impact during the estimated increase in interest rates in 2017.

**Figure 42: After-Tax Cost of Debt of EU insurers**




***Source: London Economics WACC model based on Datastream and IMF data***

### 6.1.3 Cost of capital of EU insurers compared to other industry sectors

This part of the report compares the estimated trends in cost of capital between different industry sectors. The principal finding is that the 2008 global financial crisis seems to have had a stronger impact on the cost of capital faced by insurers than on other industries. Moreover, this "additional" cost appears to have persisted even after the crisis, raising the suspicion that the 2008 financial crash has had long-term (or even permanent) impact on the cost of capital of insurance companies.

A company's cost of capital depends not only on characteristics specific to the company or the sector, but also on characteristics of the market in which it operates. Our sample of 1094 listed EU companies across 19 industry sectors is not evenly distributed across the 27 national markets covered. We cannot therefore directly compare WACC trends in different industry sectors for the EU as a whole. Some sectors are more heavily concentrated in some Member States, while others in different Member States. Comparing the sectors at EU-level aggregation would necessarily be influenced by country characteristics, not just sector characteristics.

The comparisons between industry sectors are therefore kept at the Member State level. As was the case for the previous section, sufficient data is available only for the EU's four largest economies, Germany, France, the UK, and Italy.

In addition, the insurance sector is not compared with all the other 18 industry sectors. Instead, 7 most relevant comparator sectors were identified based on two criteria. The first criterion looked at each sector's correlation in WACC with the insurance sector in the period before the 2008 global financial crisis.[54] Sectors whose WACC tended to be driven by the same influences as the insurance sector in the pre-crisis years are particularly interesting for comparison in the post-crisis years. The second criterion considered the average Beta of the sector. The insurance sector tends to have a Beta larger than one (see Figure 43), indicating that the returns on equity investment in the sector are more volatile than the market as whole. Sectors with similarly high Betas in the pre-crisis years

[54] Here defined as January 2005 to August 2008. Correlation in first differences used to address series non-stationarity.

are more relevant for comparison, because they represent sectors also perceived by investors as being riskier.

### Table 7 Selection of comparators

| High pre-2008 WACC correlation with insurance sector | High pre-2008 Beta | Chosen as comparator sector |
|---|---|---|
| Banks | Banks | YES |
| Industrial Goods & Services | Industrial Goods & Services | YES |
| Media | Media | YES |
| Technology | Technology | YES |
| Telecommunications | Telecommunications | YES |
| Travel & Leisure | Travel & Leisure | YES |
| | Financial Services* | YES |
| | Basic Resources | NO |

Note: WACC correlations between sectors are computed in first differences, over pre-2008 period, and separately for each Member State. The five sectors most correlated with insurance were identified in Germany, France, Italy, and the UK. If a sector was among the top 5 in more than one country, it is classified as a sector with high WACC correlation with the insurance sector. High Beta is defined as Beta with EU-wide sectoral average above one in more than 50% of time observations over the pre-crisis period. Two sectors – Financial Services and Basic Resources – had high Beta, but not WACC correlation. The Financial Services sector is nevertheless included among comparator industries, because the sector is likely to be economically related to the Insurance sector.

* The category includes financial sector services excluding banking, insurance, and real estate. It includes, for example, asset managers, investment companies, venture capital trusts, exchange-traded funds, pension funds, leasing companies, stock exchanges, consumer finance providers (e.g. payday lenders, pawnbrokers…) and financial advisors.

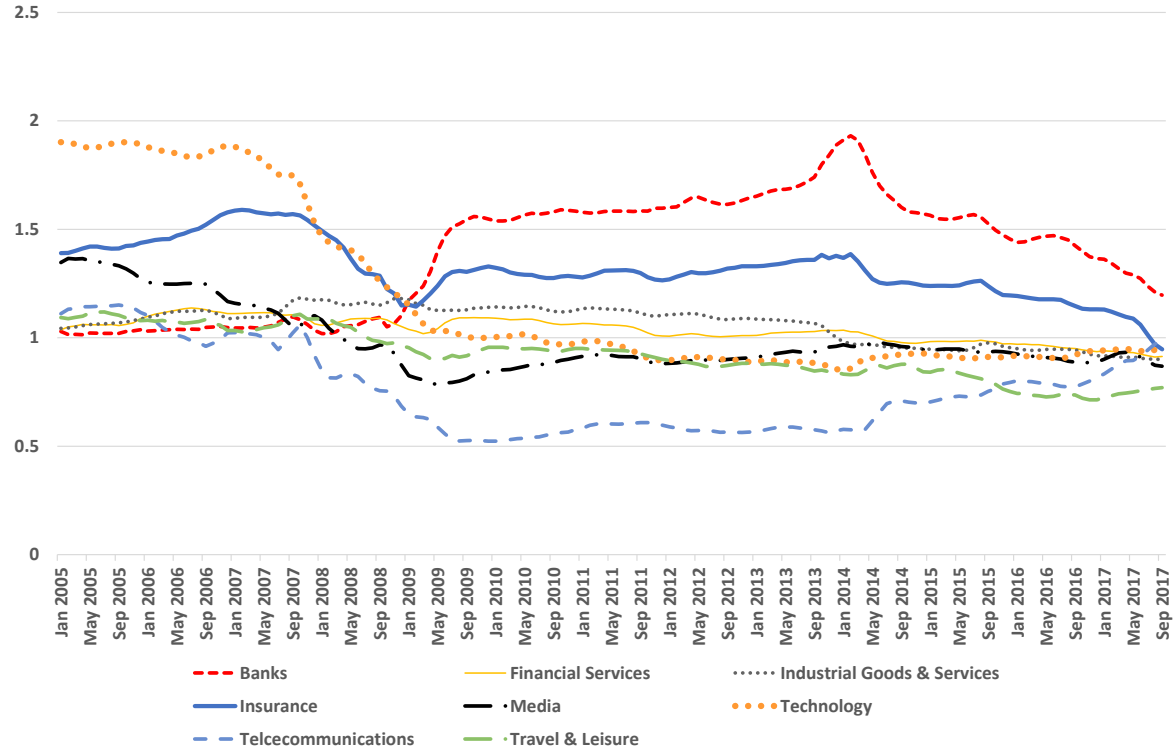
***Source: London Economics WACC model based on Datastream and IMF data***

The companies' Beta is the only indicator that can be aggregated at the EU rather than MS level. This is because Beta measures the riskiness of stock returns relative to the national equity market. Figure 43 plots the average Beta of EU companies in each of the 7 industry sectors considered.

Until 2009, the technology sector exhibited the greatest return variation of the 7 sectors compared to the market as a whole. This changed substantially during 2007-9 – after this period the stock prices in the technology sector broadly track the wider equity market. The opposite pattern can be observed in the banking sector. Generally moving together with the broad equity indices until late 2008, the stocks of EU banks became considerably more volatile afterwards. Peaking at 1.93 in February 2014, investing in the banking sector was 93% more risky than the equity market as a whole. The Betas in the banking sector fell afterwards, down to 1.20 at the end of the observation period. After the technology sector before 2009 and the banking sector after 2009, the insurance sector exhibited the second most volatile returns among the 7 considered industries during 2005-2017.

Meanwhile, media, travel & leisure, and industrial goods & services display no large changes in return volatility over the observed period. The stock price volatility in the telecommunications sector fell steadily between 2005 and late 2009, with Beta dropping to almost to 0.5. The equity returns in the sector have since become riskier, but even in 2017 slightly less than the stock market as a whole.

### Figure 43: Average Beta of EU companies by sector



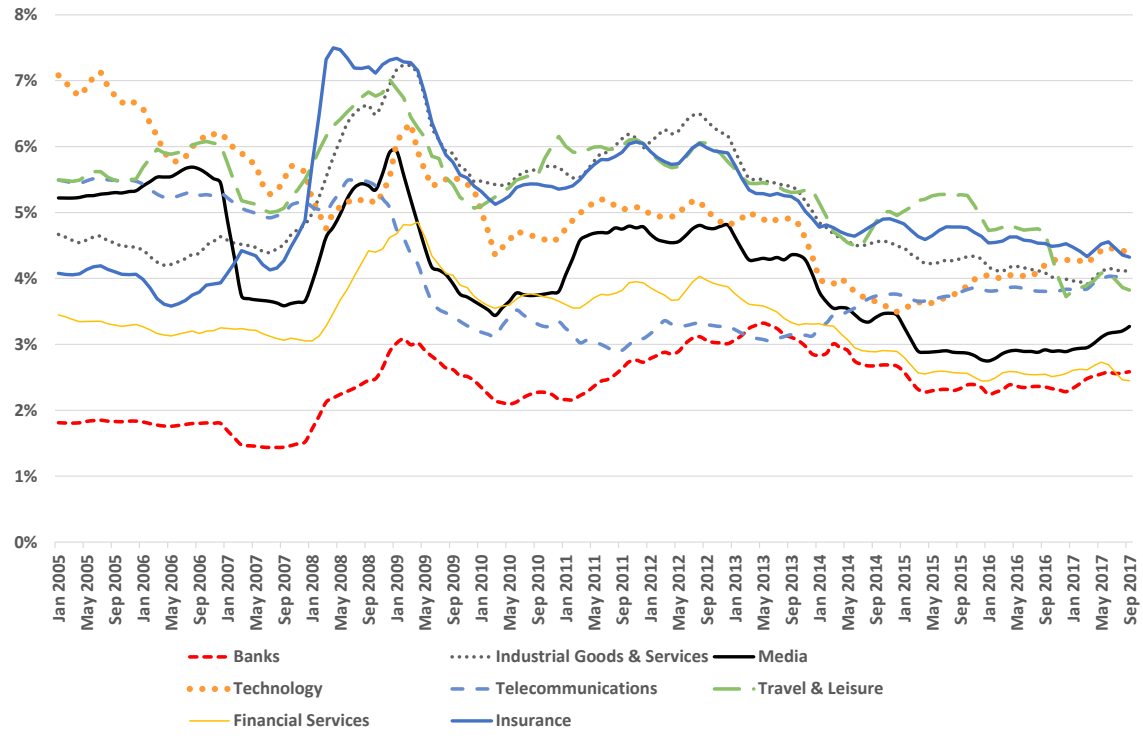

Note: Beta is an indicator of return volatility associated with a particular stock. Beta > 1 indicates that the equity tends to move

***London Economics WACC model based on Datastream and IMF data***

Figure 44 to Figure 47 show the WACC estimates over time in Germany, France, Italy, and the UK. The modelling results suggest that in Germany and France, the insurance sector faced relatively average cost of capital compared to the comparator sectors. This changed after 2008, with insurers facing one of the highest WACC rates. This pattern is to a lesser extent observable also in the UK. In Italy, insurers faced relatively high WACC in the group of comparator industries throughout the observation period.

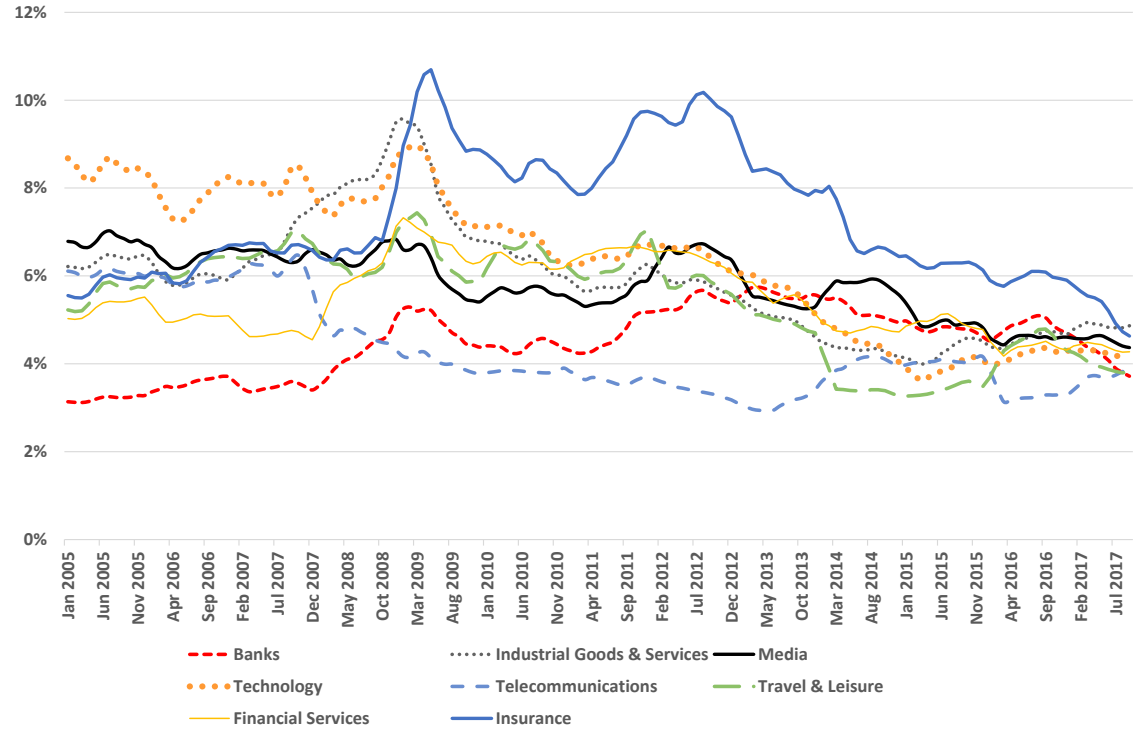
Despite its post-2008 increase in Beta, the banking industry is estimated to have maintained one the lowest WACC rates. This is likely to be driven to a large extent by declining cost of debt as a result of exceptionally loose monetary policy in the EU after 2008-9. A further contributor to the low cost of debt is the debt structure. Banks maintain liquidity through large volumes of short-term borrowing, which is generally considerably cheaper than long-term loans. The available data, however, do not provide information about the respective shares of short- and long-term debt of individual companies. The estimated cost of debt is simply the ratio of total interest payments to the volume of total debt.

Figure 44: **Estimated cost of capital in Germany 2005-2017, by industry**



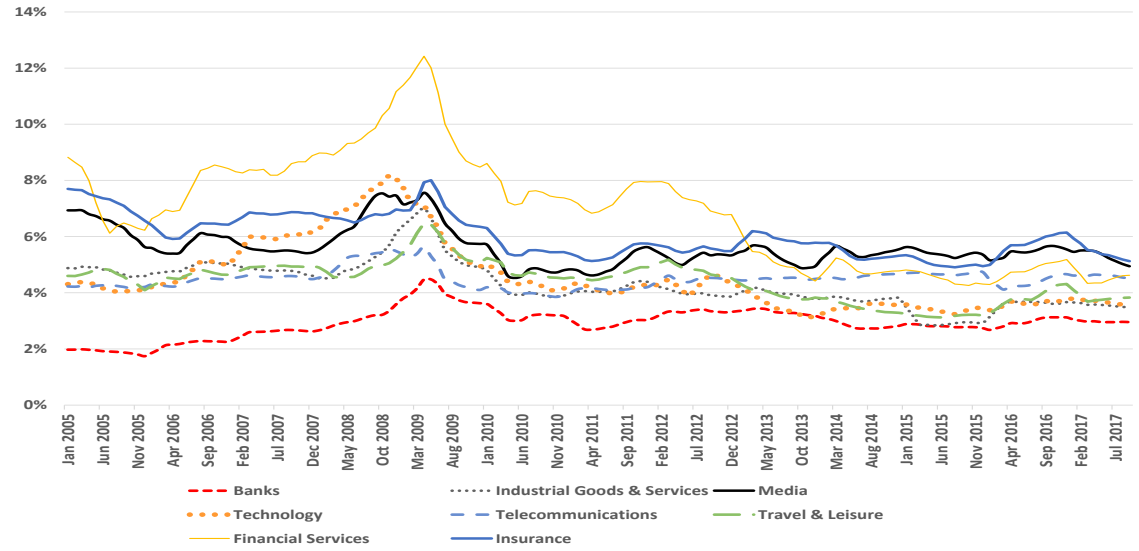

***London Economics WACC model based on Datastream and IMF data***

**Figure 45: Estimated cost of capital in France 2005-2017, by industry**



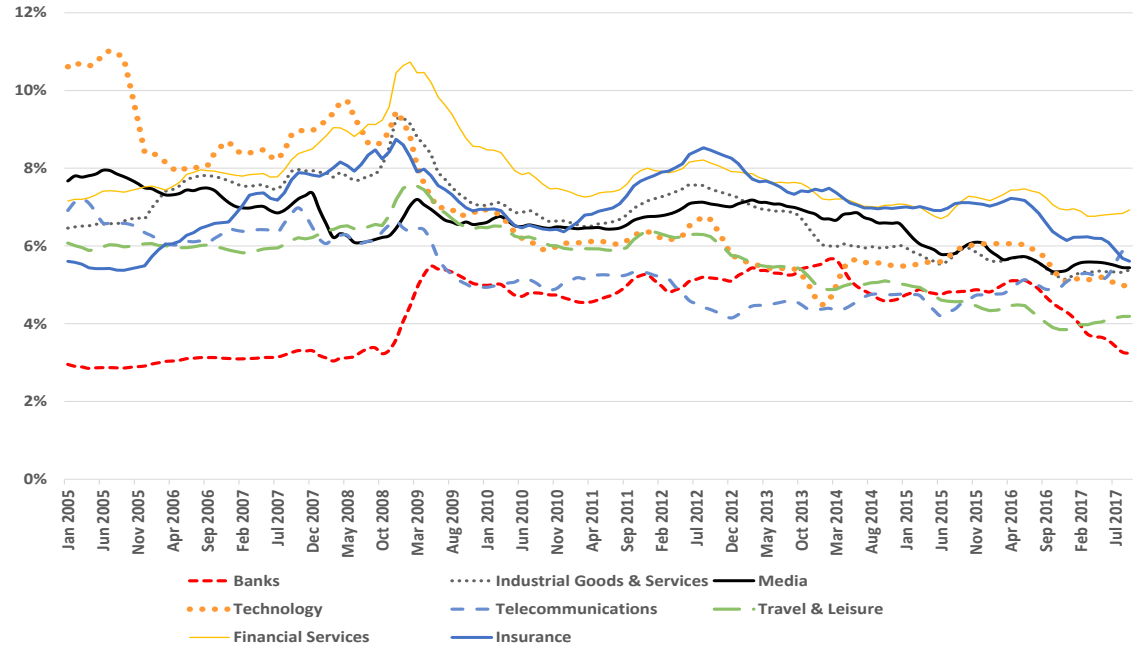

***London Economics WACC model based on Datastream and IMF data***

### Figure 46: Estimated cost of capital in Italy 2005-2017, by industry




*London Economics WACC model based on Datastream and IMF data*

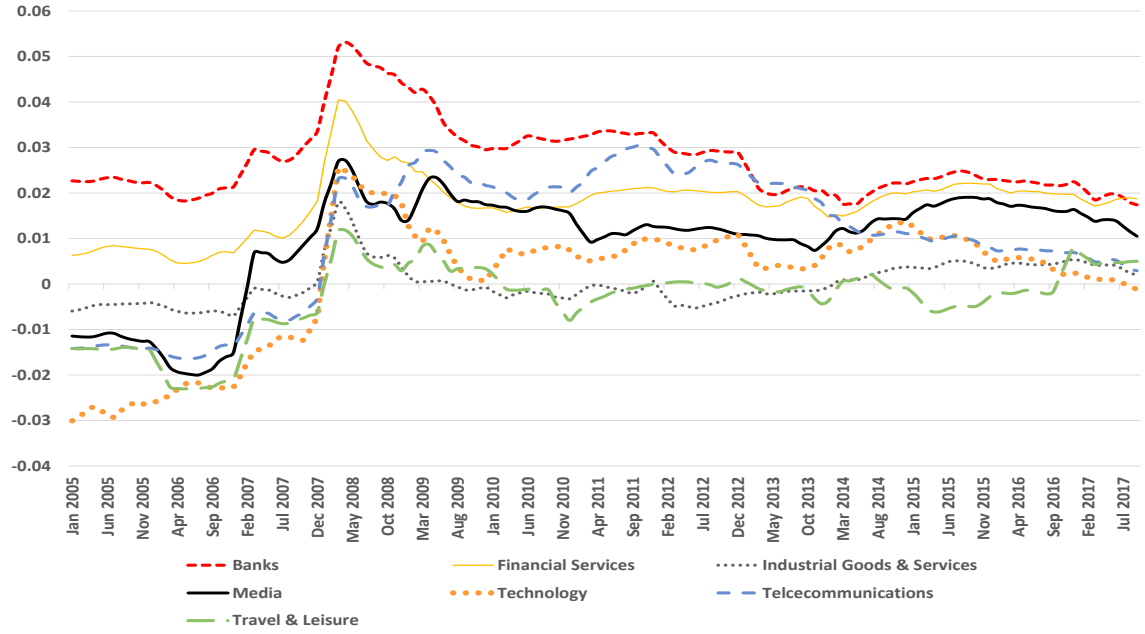
### Figure 47: Estimated cost of capital in the United Kingdom 2005-2017, by industry




*London Economics WACC model based on Datastream and IMF data*

The WACC of the comparator industries in Germany, France, Italy, and the UK – respectively – is contrasted with WACC of the insurance sector in Figure 48 to Figure 51. Specifically, the figures show the additional cost of capital faced by insurers compared to other industry sectors, by subtracting WACC of the comparator industry from WACC of the insurance industry. This representation of the data allows a clearer inspection of trends in WACC faced by insurers compared to other sectors.

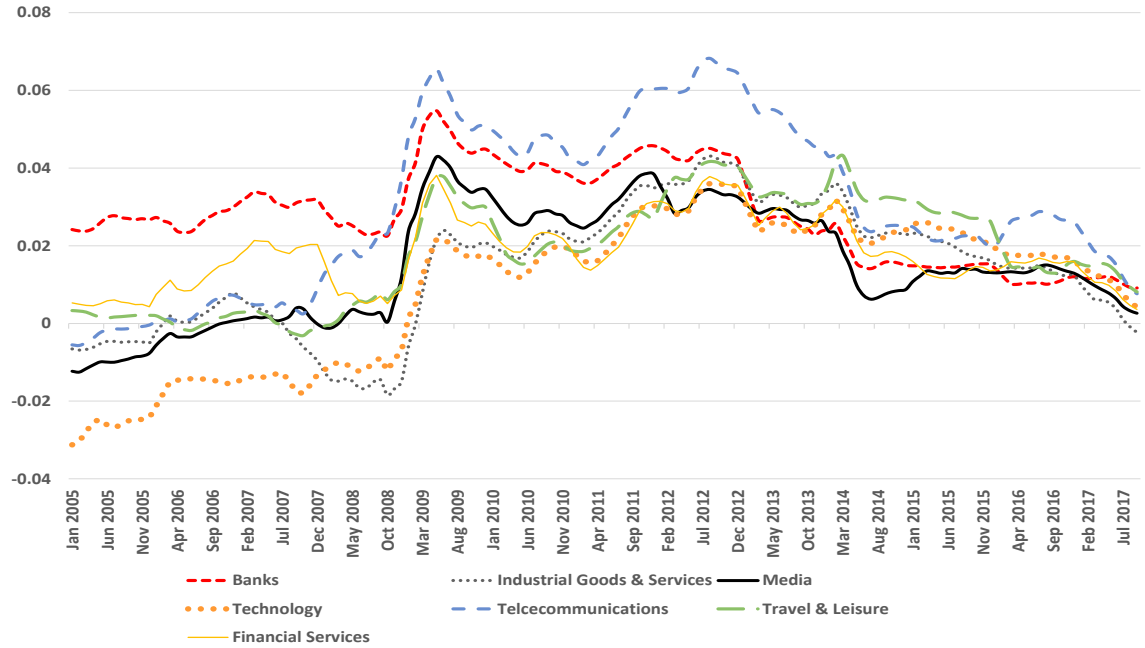
## Figure 48: The additional cost of capital faced by German insurers compared to other industry sectors




Note: The graph plots the difference in cost of capital over time using the formula DIFF = WACC[INSURANCE] – WACC[*INDUSTRY*]. The plotted values are therefore absolute differences in WACC rates (percentage points) rather than relative differences.

***London Economics WACC model based on Datastream and IMF data***

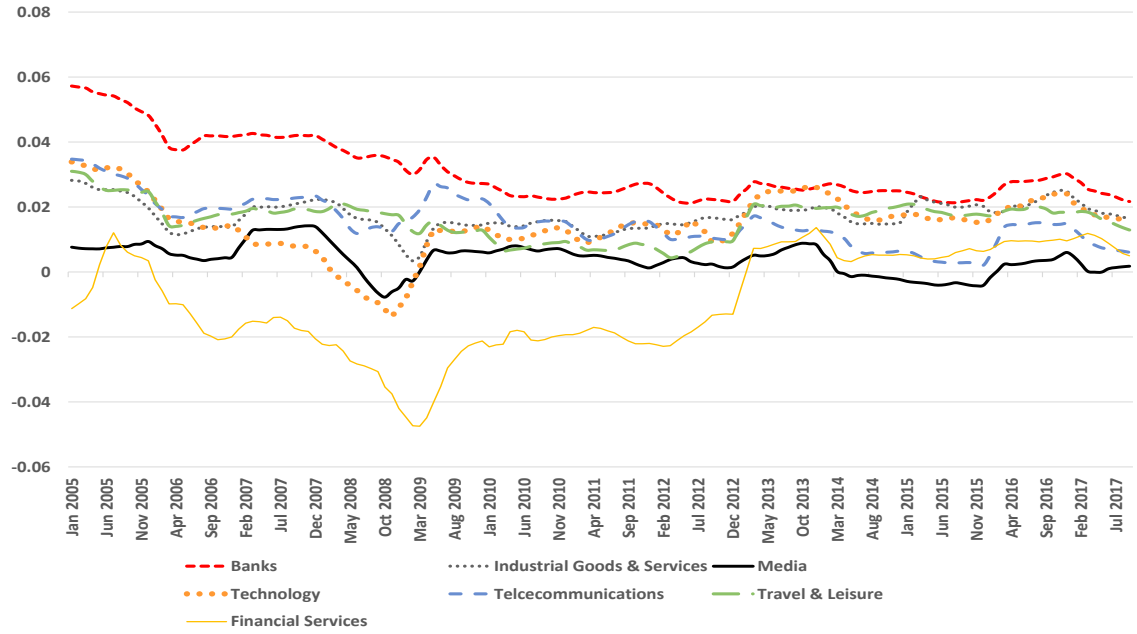
## Figure 49: The additional cost of capital faced by French insurers compared to other industry sectors




Note: The graph plots the difference in cost of capital over time using the formula DIFF = WACC[INSURANCE] – WACC[*INDUSTRY*]. The plotted values are therefore absolute differences in WACC rates (percentage points) rather than relative differences.

***London Economics WACC model based on Datastream and IMF data***

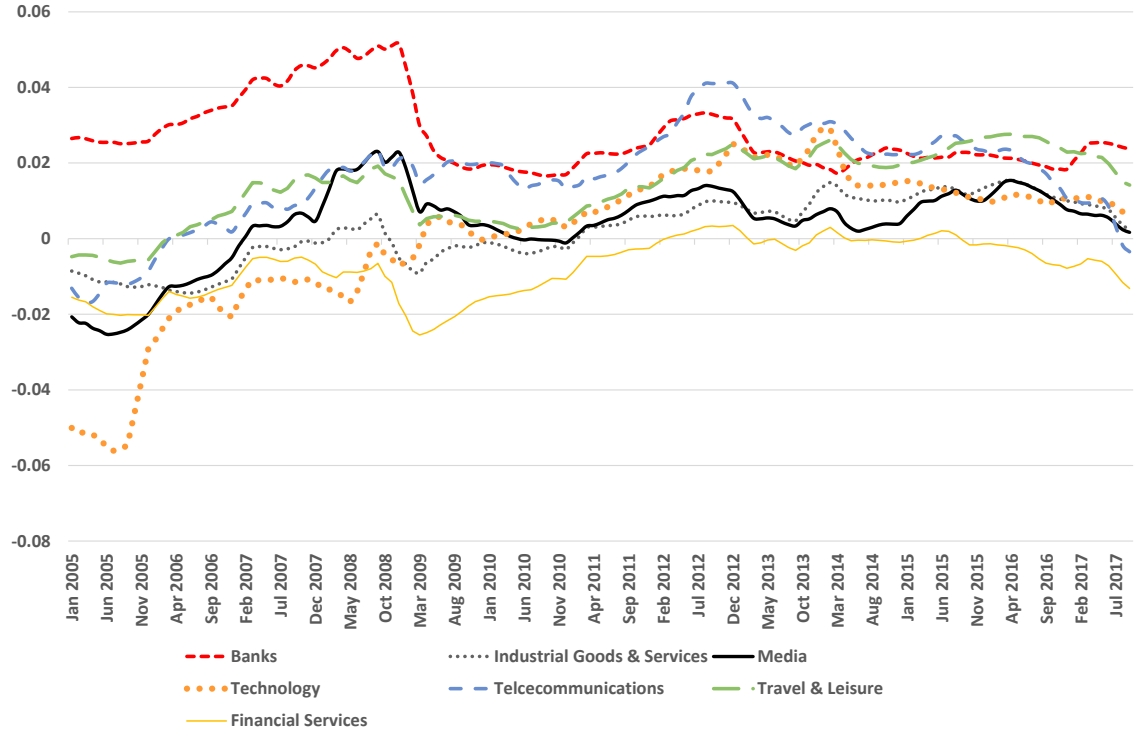
## Figure 50: The additional cost of capital faced by Italian insurers compared to other industry sectors




Note: The graph plots the difference in cost of capital over time using the formula DIFF = WACC[INSURANCE] – WACC[*INDUSTRY*]. The plotted values are therefore absolute differences in WACC rates (percentage points) rather than relative differences.

***London Economics WACC model based on Datastream and IMF data***

## Figure 51: The additional cost of capital faced by British insurers compared to other industry sectors




Note: The graph plots the difference in cost of capital over time using the formula DIFF = WACC[INSURANCE] - WACC[*INDUSTRY*]. The plotted values are therefore absolute differences in WACC rates (percentage points) rather than relative differences.

***London Economics WACC model based on Datastream and IMF data***

Several patterns emerge from the graphical analysis. Firstly, in Germany, France, and the UK, the global financial crisis increased the cost of capital in the insurance sector more than in any other of the comparator industries.[55] In 2007-8, all the curves in the figures above are upward sloping, indicating that the cost of capital faced by insurers was increasing more than the cost faced by companies in other sectors. The difference was particularly sizeable in the several months following the collapse of Lehman Brothers in September 2008, when the effect can be observed even in Italy.

A second observation is that in Germany, France, and the UK, the comparatively higher capital costs in many cases did not fully reverse. The difference between the cost of capital faced by insurance companies and the other sectors was in 2017 still greater than the difference in 2005. An exception is the banking sector, where the difference in WACC returned broadly to its 2005 levels.

The insurance sector in Italy deviates from the trend. Between 2006 and mid-2008, the insurers' WACC premium was decreasing rather than rising. This general trend then continued – albeit at slower pace – after 2009. In 2017, the difference between WACC of Italian insurers and other industry sectors was lower than in 2005. This is true for all the comparator industries.

### 6.1.4 Econometric analysis of divergence in cost of capital

Building on the graphical examination of trends in the previous section, this part of the report presents an overview of the results of an econometric analysis testing the hypothesis that the 2008 financial crisis brought about a structural change in the relationship between WACC of EU insurers and of other industries, which until the crisis displayed similar WACC developments.

The time series plotted in the WACC figures above form the informational base for the model. The model finds some evidence of a structural break in the relationship between WACC of insurers and several other industries. In other words, in several cases, the econometric analysis finds that the increase in 2008 in the difference between the WACC of the insurance industry and the WACC of a comparator industry is statistically significant.

- In Germany, the relationship between the WACC of the insurance sector and of Industrial Goods and Services as well as Financial Services appear to have experienced a structural change in the spring of 2008, as the premium that insurers face in capital markets compared to these two sectors permanent increased.
- In France, a break in late 2008 is also statistically significant for Industrial Goods and Services and Financial Services, but also for Technology and Telecommunications.
- In Italy, the structural change is also estimated in late 2008 and is significant for the comparator sectors of Media and Technology.
- In the UK, the break point is significant in the case of Banks and Industrial Goods and Services in late 2008 and early 2009, respectively.

## 6.2 The views of investors on the potential impact of IFRS 17

One of the core aspects investigated in the stakeholder consultation concerns the ability of current and potential investors to understand the financial reports of European insurance companies and how this may be affected, positively or negatively, by the entry into force of the IFRS 17.

[55] In fact, the cost of capital increased in the insurance sector more than in of the other 18 industry sectors.

The IASB Board expects (ex-ante) that the adoption of IFRS 17 standard will significantly improve the comparability of the financial statements of insurance companies (IASB, 2017). This is because companies will apply a consistent accounting framework for all insurance contracts and the diversity of the existing accounting practices around the world will be removed.

The IASB Board expects that IFRS 17 will improve comparability between:

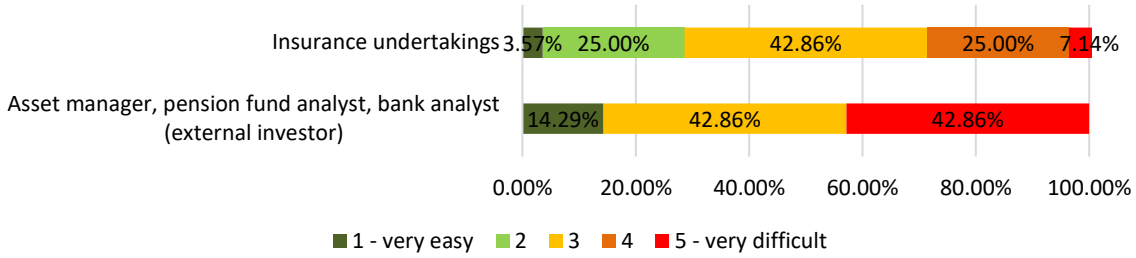
a) *Companies issuing the same type of insurance contracts*: the current standard (IFRS 4) allows companies to apply different practices, based on local insurance accounting requirements, to account for their insurance contracts. As a result, existing insurance accounting practices make it difficult for investors and analysts to understand and compare the financial statements of insurance companies (IASB, 2017). When applying IFRS 17, companies using IFRS Standards will apply a consistent accounting framework for all their insurance contracts. This is supposed to enable investors and analysts to more easily identify economic differences between companies issuing insurance contracts (IASB, 2017).
b) *Similar insurance contracts issued by the same group in different jurisdictions*: When applying IFRS 10 "Consolidated Financial Statements", a company is required to prepare consolidated financial statements using uniform accounting policies for similar transactions. This requirement is because the use of non-uniform accounting policies in consolidated financial statements reduces the relevance of financial information (IASB, 2017). IFRS 4 allows insurers to depart from this general requirement and consolidate their subsidiaries using non-uniform accounting policies for their insurance contracts (and related acquisition costs). IFRS 17 removes the practice of using non-uniform accounting policies for insurance contracts. Consequently, IFRS 17 is expected to eliminate much of the diversity in practice for insurance contracts with similar characteristics and economic features (IASB, 2017). [56]
c) *Companies operating in the insurance industry and companies operating in other industries*: Although insurance contracts have unique features, some long-term insurance contracts incorporate investment features that are economically similar to non-insurance financial service products (IASB, 2017). Existing insurance accounting practices means financial information about products with economic similarities cannot be easily compared with the information produced by companies in other industries (IASB, 2017). IFRS 17 is expected to improve comparability between the relevant aspects of the accounting for insurance contracts and the accounting for other types of contracts (IASB, 2017).

Among the stakeholders interviewed, there was a general agreement surrounding the current difficulty analysts face when evaluating the financial reports of insurance companies. Almost all the respondents indicated a level of difficulty in the top tier of the scale.

This finding is also confirmed in the online survey: 42.86% of the external investment analysts declared that they find it very difficult to read and understand the information provided in the financial statements of EU insurance undertakings under the current accounting procedures (Figure 52).

[56] For multinational insurance companies, IFRS 17 will provide a common measure to assess the performance of subsidiaries (IASB, 2017).

### Figure 52: The readability, understandability and overall usefulness of the information provided in the financial statements of EU insurance undertakings – stakeholders view

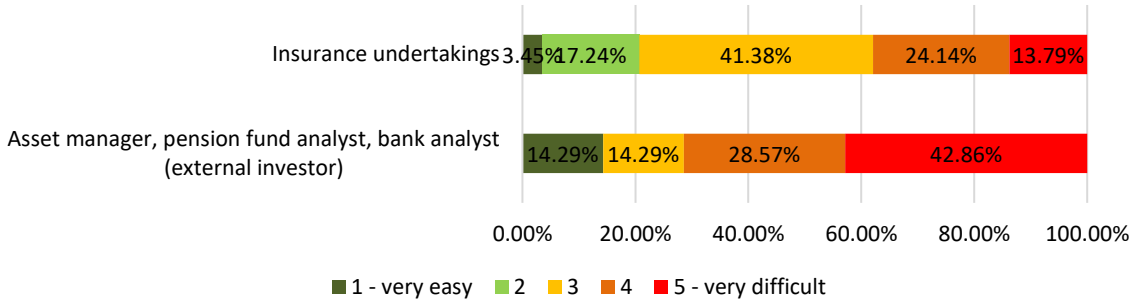



***Source: VVA's elaboration of the online survey results – sample: 35 responses***

Likewise, external analysts find it challenging to "*compare the financial and economic performance of different insurance undertakings*" – 42.86% of the respondents to our online survey agree with this statement (Figure 53).

Investigating the underlying reasons, external analysists interviewed explained that the current accounting practices vary across jurisdictions and the quality of information provided is inconsistent across countries, impeding full comparability. Especially, differences exist between life and non-life insurance undertakings, with the former being characterised by an additional layer of complexity given the long-term nature of the business and the variety of methods to recognise and present revenues.

### Figure 53: Comparing the financial and economic performance of different insurance undertakings – stakeholders view



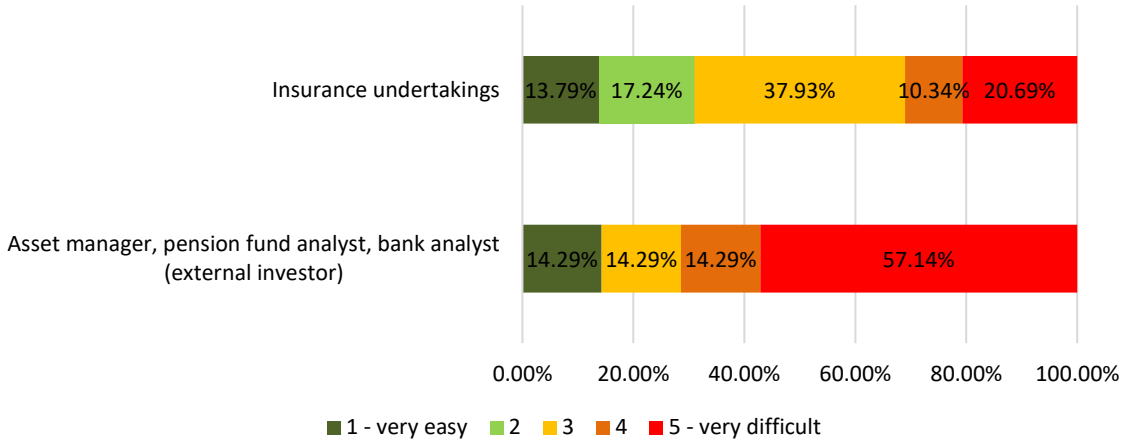

***Source: VVA's elaboration of the online survey results – sample: 36 responses***

The results of the online survey indicate that "*comparing the financial performance of insurance undertakings with the performance of non-insurance companies*", is even more complex for external investors (Figure 54). When asked about the difficulties, investors and analysts responded to view the existing financial reporting for insurance contracts as opaque.

Stakeholders commented that there are gaps in terms of clarity in current accounting practices. For instance, external investors commented that insurance companies use a variety of methods to recognise and present revenue and expenses related to insurance contracts in profit and loss accounts. A common approach is to present all premiums received (or due), as well as deposits, in the period as revenue. However, it is believed that recognising the premium for the contract as revenue at the inception of the contract, when the insurance services could be provided over several years, does not reflect the economics of the transaction.

In contrast, in other industries, where transactions involve the provision of a service, the cash received from customers is recognised as revenue only when it has been earned through the delivery of that service.

**Figure 54: Comparing the financial performance of insurance undertakings with the performance of non-insurance companies – stakeholders view**

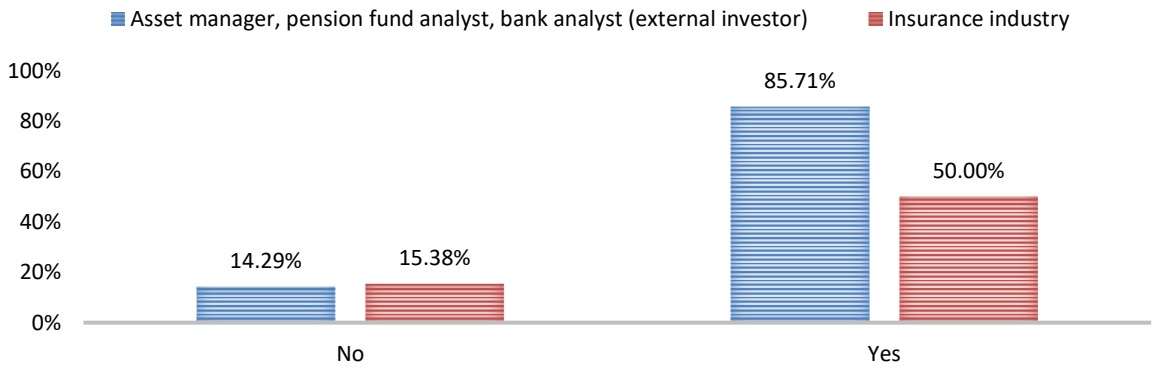



***Source: VVA's elaboration of the online survey results – sample: 36 responses***

There is a consensus among all the stakeholders on the necessity of technical skills and competencies in order to fully understand the financial report of insurance companies. This is the reason behind the different views of insurance undertakings in Figure 52, Figure 53 & Figure 54 whose assessments consider only the point of view of highly-specialised analysts, as it is considered too difficult for general analysts to understand the financial report of insurance companies.

As highlighted at the beginning of the chapter, one of the objectives of IFRS 17 is to increase transparency and comparability of financial reports of insurance companies. According to some external investors, theoretically the model will be a step forward for users of insurance's financial statements, particularly for assessing the profitability by product line (BlackRock, 2017) and this may have consequences on the costs of funds (i.e. the cost of equity and the cost of debt). Indeed, most stakeholders (external investors and insurance undertakings) who replied to the online survey agreed that the costs of funds will change following the adoption of IFRS 17, with approximately 86% of external investors and 50% of insurance undertakings agreeing with that statement.

**Figure 55: Do you expect that the implementation of IFRS 17 will impact the cost of funds faced by EU insurance undertakings?[57]**




***Source: VVA's elaboration of the online survey results – sample: 37 responses***

Some external investors already foresee that, for certain types of businesses, a change in the profit recognition pattern could influence the timing of dividend payments, especially for specialised insurance actors who are focused on a limited number of product lines (BlackRock, 2017). This, in turn, will be reflected by increasing their cost of capital. Rating agencies will also need to adapt their rating models to reflect the deferred recognition of profits (BlackRock, 2017). It is possible that IFRS 17 could lead to a perceived weakening of the financial strength of companies due to changes in the levels of retained earnings.[58] Any credit downgrade that results could, in turn, lead to increased cost of debt, according to the opinion of some industry stakeholders interviewed.

In a recent article FITCH Rating explained that IFRS 17 could, at least temporarily, increase the cost of capital for European insurers while investors familiarise themselves with the new standard (FITCH, 2017).[59] In this consideration, supported by an audience poll at *FITCH's Insurance Roadshow*,[60] 39% thought IFRS 17 would increase insurers' cost of capital, while only 13% thought it would reduce the cost and 48% believe it will stay about the same. [61]

The reasons behind this expectation reflects the fact that IFRS 17 could create confusion when it will be introduced[62] as investors will need time to get used to the new accounts. Some industry stakeholders commented that the same happened with Solvency II. [63] Nevertheless, in the long

[57] While the survey did not ask about the direction or magnitude of any impact, these aspects are discussed in the following paragraphs on the basis of additional desk research and insights from interviews.

[58] Retained earnings will differ due to: 1) retrospective application of the IFRS 17 at inception; & 2) Different emergence of profits (Deloitte, 2017b).

[59] More information available at: https://www.insurancebusinessmag.com/uk/news/breaking-news/what-ifrs-17-could-mean-for-european-insurers-cost-of-capital-90723.aspx

[60] The participants consisted of a pool of investors, insurance issuers, bankers, and other attendees interested in the insurance market.

[61] More information available at: https://www.insurancebusinessmag.com/uk/news/breaking-news/what-ifrs-17-could-mean-for-european-insurers-cost-of-capital-90723.aspx

[62] Like any change in financial reporting. For instance, the majority of insurance undertakings also reported that following the introduction of Solvency II, European insurers face an increase in the costs of capital compared to other players, as differences in capital regimes have an impact on the cost of funds (please refer to section 3.2.3).

[63] Even though it is recognized that Solvency II and IFRS 17 set out to serve different purposes, investors and industry stakeholders advocate for a closer convergence between the Solvency II and IFRS 17 methodologies in the medium-long term, as it would provide a consistent view of both capital adequacy and profitability

term, investors will probably gain trust in IFRS 17 and any opacity premium for the sector will fall back towards, and ultimately perhaps below the pre-IFRS 17 level (FITCH, 2017).

In terms of rating, two major rating agencies (FITCH and S&P) commented that IFRS 17 is unlikely to directly affect insurers' ratings because the economic substance of their balance sheets will not change (FITCH, 2017 and S&P, 2018). An accounting change should (all else being equal) not reshape the fundamental risk of insurance operations nor the views of central aspects in the rating assessment on insurers, such as risk-based capital adequacy and relative operating performance in the competitive landscape (S&P, 2018). Changes in reported shareholder's equity should not fundamentally alter the view of risk-based capital adequacy (S&P, 2018).

However, IFRS 17 could indirectly affect the credit profile in the medium term (FITCH, 2017). For example, as a direct consequence of changes in the way insurers recognise profits, making certain products (as may be the case for life insurance products) more or less attractive, which might result in changes to their business models (FITCH, 2017).

In agreement with the above position of FITCH Rating, insurance companies interviewed commented that IFRS 17 is not supposed to change the economic profile of the underlying business. In many cases, the drivers of dividends and debt repayments are more closely linked to the capital position of the insurer, rather than its profitability reported under IFRS. Thus, an accounting standard should not have significant impacts on corporate strategy or capital policy. Consequently, the cost of equity and the cost of debt should not be materially affected.

Nevertheless, according to some industry stakeholders interviewed, it is expected that IFRS 17 will lead to a deferral in the recognition of the profits for accounting purposes and the complexity of the best estimate calculations will create volatility in the Profit and Loss Statement. This may translate into confusion in the market and speculative investments, especially in the short term. This view is, however, in contrast with the main results of a survey launched by Deloitte. According to the results of this survey, 53% of the 340 global insurance executives who replied, believe that profit volatility will be lower after the new Standard (Deloitte, 2018). The survey also shows that this view on volatility is not supported by all insurers and some life insurers are more concerned about volatility than others: 32% are worried about the potential for increased earnings and or capital volatility, given the long duration of their liability (Deloitte, 2018).

The education of external investors and analysts is a major concern for industry stakeholders interviewed, as it is argued that there are still issues related to the implementation of IFRS 17 that need to be clarified.[64] Accounting mismatches in the representation of the business will undermine the usefulness of financial statements. The challenge of the industry will be to explain the balance sheets and underlying financial assumptions to the external investors in the transition time, especially for the life segment.

Most stakeholders interviewed (i.e. the majority of supervisory authorities and some insurance undertakings) agreed that in the long run, the new accounting standards will bring increased transparency on the financial reporting practises of European insurance companies, improving their ability to raise capital on the market. Furthermore, it was stressed this change could make the insurance industry more attractive to a generalist investor, which would reduce the cost of equity in the long run.

[64] Please refer to the sections about the implication of IFRS 17 on product mix, pricing and asset allocation

The majority of life insurance undertakings interviewed, instead, stressed that IFRS 17 implementation will negatively affect the life insurance industry and strongly disagree that there are any potential positive outcomes for the industry itself. Those stakeholders commented that the increased complexity of accounting rules associated with IFRS 17 will not bring the intended transparency, but on the contrary, it will make the sector even less open to non-highly specialised investors. In addition, they argued that the costs of implementing IFRS 17 will have to be borne either by shareholders or by policy-holders – either lower return on shares or higher prices.

## 6.3 Key takeaways from chapter 6

1. In Germany, France, and the UK, the global financial crisis increased the cost of capital in the insurance sector more than in any other of the comparator industries. The difference was particularly sizeable in the several months following the collapse of Lehman Brothers in September 2008, when the effect can be observed even in Italy.
2. Moreover, in Germany, France, and the UK, the comparatively higher capital costs in many cases did not fully reverse. The difference between the cost of capital faced by insurance companies and the other sectors was in 2017 still greater than the difference in 2005. An exception is the banking sector, where the difference in WACC between insurance and banking returned broadly to its 2005 levels.
3. Among the stakeholders interviewed and surveyed, there was a general agreement about the difficulties that analysts face when evaluating the financial report of an insurance companies. Almost all the respondents indicated a level of difficulty in the top tier of the scale.
4. However, there are differing views on the potential impact of IFRS 17 on the cost of capital for EU insurance undertakings
5. Most stakeholders interviewed (i.e. the majority of supervisory authorities and some insurance undertakings) agreed on the fact that in the long run, the new accounting standards will bring increased transparency on the financial report practises of European insurance companies, improving their ability to raise capital on the market. Furthermore, it was stressed this change could make the insurance industry more attractive to a generalist investor, which would reduce the cost of equity in the long run.
6. The majority of life insurance undertakings interviewed, instead, stressed that IFRS 17 implementation will negatively affect the life insurance industry and strongly disagree that there are any potential positive outcomes for the industry itself. Those stakeholders commented the increased complexity of accounting rules associated with IFRS 17 will not bring the intended transparency, but on the contrary, it will make the sector even less open to non-highly specialised investors.
7. The education of external investors and analysts is a major concern for industry stakeholders interviewed (both life and non-life). The challenge will be to explain the balance sheets and underlying financial assumptions to the external investors in the transition time.
8. Therefore, it is possible that IFRS 17 could lead to a perceived weakening of the financial strength of companies due to lower perceived retained earnings. IFRS 17 could, at least temporarily, increase the cost of capital for European insurers while investors familiarise themselves with the new standard (FITCH, 2017).
9. In terms of rating, two major rating agencies (FITCH and S&P) commented that IFRS 17 is unlikely to directly affect insurers' ratings because the economic substance of their balance sheets will not change.

# 7 Recapitulation of key findings

The present chapter list the main findings by research area.

## 7.1 IFRS 17 and competition between insurers from the EU and outside the EEA in product and capital markets

In general, insurance undertakings from the EEA face little competition from non-EEA undertakings in EU insurance markets,

However, for some, business focused and more niche insurance products, the market is a world-wide market. In such cases, EU insurance undertakings compete with insurance enterprises from major insurance centres outside the EU.

Insurance undertakings from the EEA face little competition from non-EEA undertakings in EU capital markets. Obviously, they face such competition when raising funds in overseas and international markets.

Industry stakeholders expressed a concern that the adoption of IFRS 17 may increase the volatility of the P&L due to accounting mismatches and this may distort a company's financial position and performance.[65] The limited economic literature on this topic suggests that more volatile P&L may increase the cost of capital of insurance undertakings, and hence impact adversely on their competitive situation in capital markets (mainly international bond markets) where they compete for funds against insurers who do not have to implement IFRS 17.

Industry stakeholders are concerned that IFRS 17 may make it more difficult to compare the financial statements with those of insurance undertakings from countries not adopting IFRS 17, thus losing competitiveness in the eyes of global investors. This opinion contrasts sharply with the view of the IASB Board, which foresees that the new Standard will result in a significant increase in global comparability.

Although stakeholders disagree on the potential effect of IFRS 17 in terms of comparability, there is no evidence that the adoption of IFRS 17 will make comparability against US or Japanese peers worse compared to the existing Standard (IFRS 4).

Finally, the information provided by the insurance undertakings to EFRAG suggests that the on-going costs are unlikely to have a very marked impact on expenses, in contrast to the one-off costs which may have a more substantial impact on the total expenses of insurance undertakings subject to IFRS 17 in the period or periods in which such costs are incurred.

## 7.2 IFRS 17 and the insurance product mix and insurance prices in the EU

The key fact to note in terms of the evolution of the product mix in the EU insurance market since 2005 is the decline of the market share of life insurance in the total insurance market (measure by

[65] Please refer to section 6 - Investors' perception of the clarity of the financial reports of EU insurance undertakings.

gross premiums) from 2005 to 2008 and the increase in the market share of non-life. Life insurance, however, remains still by far the largest insurance segment.

Within the non-life segment of the EU insurance market, the most important sub-segment is 'accident and health', followed by 'fire and other damage to property', 'motor vehicle third party liability' and 'motor vehicle third party liability'. All these sub-segments but 'motor vehicle third party liability' show a small upward trend in their market share. In contrast, 'motor vehicle third party liability' shows a declining market share.

The overall price of insurance grew faster than the general consumer price index over the period 2005 to 2017. In particular, the annual rate of growth of price of insurance connected with health was markedly higher than overall inflation while the price of insurance connected with transport increased only marginally faster than the overall consumer price index.

Stakeholders reported that, in general, financial reporting does not play a big role in product mix and pricing. Thus, IFRS 17 is not expected to have a noticeable impact on the product mix except "Life" and "Credit & Suretyship"

IFRS 17 is not expected to have significant impacts on short-term insurance contracts measured using the premium allocation approach, as the amount recognised as insurance revenue need not be adjusted for the time value of money. The main changes for short-term insurance contracts will depend upon companies' existing insurance accounting practices.

However, long-duration contracts (such as life insurance) or product features which expose the P&L to market fluctuations (such as participating contracts evaluated using the general model) may be affected by the adoption of the new standard.

In addition, the majority of industry stakeholders believe that reinsurance contracts are not dealt with appropriately, as the treatment of reinsurance in the standard could add a non-economic pricing constraint to mitigate perceived losses in the financial reporting due to accounting mismatches. In addition, any implications to the pricing of reinsurance will also impact on the pricing of the underlying contract to the policy holder.

## 7.3 IFRS 17 and the EU insurers' allocation of the investment assets

Although there is considerable discussion about insurers moving away from debt securities towards new asset classes and /or equity, the aggregate data from EIOPA on the investments of EU insurers do not show a significant movement out of the debt securities at the EU wide level.

The majority of stakeholders interviewed (i.e. supervisory authorities, insurers and external investors) agree that IFRS 17 alone will not impact the asset allocation of insurance undertakings, as this activity is more driven by risk management and/or asset/liability management.

However, industry stakeholders expressed the view that the effect of applying IFRS 17 in conjunction with IFRS 9 may have an impact on asset allocation. This is because a company is required to account for insurance contracts issued applying IFRS 17 and financial assets held applying IFRS 9.

Insurance companies typically seek to match the characteristics of their assets with their liabilities to minimise economic mismatches between the two (IASB, 2017). If an insurer's liabilities and assets are economically matched the accounting does not show mismatches, whereas if they are not matched the economic mismatch will be apparent as a result of the changes introduced by IFRS 17

and IFRS 9 (IASB, 2017). Indeed, the measurement of financial assets and insurance contract liabilities may change in applying the current value principles.

Existing insurance accounting practices in parts of Continental Europe (e.g. Italy) do not tend to include current value accounting. In contrast, in Denmark, and in the United Kingdom, existing accounting practices tend to measure insurance contract liabilities on a current value basis. Accordingly, the changes introduced by IFRS 17 and IFRS 9 are not expected to involve significant changes in accounting and investment practices to manage accounting volatility in these two jurisdictions.

Other stakeholders interviewed for this study (i.e. supervisory authorities and some non-life insurance undertakings) believe that changes in accounting will not have any impact or will not be significant enough to change the asset allocation of insurance undertakings, as the asset-liability management risks are related to the extent to which asset and liability values respond differently to changes in economic conditions.

Nevertheless, some insurance undertakings reported that investments in equity and structured funds may become less attractive following the adoption of IFRS 17 and IFRS 9, as assets characterised by higher volatility will expose a company's P&L to market fluctuations.

## 7.4 IFRS 17 and the EU insurers' cost of capital

In Germany, France, and the UK, the global financial crisis increased the cost of capital in the insurance sector more than in any other of the comparator industries. The difference was particularly sizeable in the several months following the collapse of Lehman Brothers in September 2008, when the effect can be observed even in Italy.

Moreover, in Germany, France, and the UK, the comparatively higher capital costs in many cases did not fully reverse. The difference between the cost of capital faced by insurance companies and the other sectors was in 2017 still greater than the difference in 2005. An exception is the banking sector, where the difference in WACC between insurance and banking returned broadly to its 2005 levels.

Among the stakeholders interviewed and surveyed, there was a general agreement about the difficulties that analysts face when evaluating the financial report of an insurance companies. Almost all the respondents indicated a level of difficulty in the top tier of the scale.

However, there are differing views on the potential impact of IFRS 17 on the cost of capital for EU insurance undertakings

Most stakeholders interviewed (i.e. the majority of supervisory authorities and some insurance undertakings) agreed on the fact that in the long run, the new accounting standards will bring increased transparency on the financial report practises of European insurance companies, improving their ability to raise capital on the market. Furthermore, it was stressed this change could make the insurance industry more attractive to a generalist investor, which would reduce the cost of equity in the long run.

The majority of life insurance undertakings interviewed, instead, stressed that IFRS 17 implementation will negatively affect the life insurance industry and strongly disagree that there are any potential positive outcomes for the industry itself. Those stakeholders commented the increased complexity of accounting rules associated with IFRS 17 will not bring the intended

transparency, but on the contrary, it will make the sector even less open to non-highly specialised investors.

The education of external investors and analysts is a major concern for industry stakeholders interviewed (both life and non-life). The challenge will be to explain the balance sheets and underlying financial assumptions to the external investors in the transition time.

Therefore, it is possible that IFRS 17 could lead to a perceived weakening of the financial strength of companies due to changes in the level of retained earnings. IFRS 17 could, at least temporarily, increase the cost of capital for European insurers while investors familiarise themselves with the new standard (FITCH, 2017).

In terms of rating, two major rating agencies (FITCH and S&P) commented that IFRS 17 is unlikely to directly affect insurers' ratings because the economic substance of their balance sheets will not change.

# 8 References

Accenture (2016), Coming to Terms with Insurance Aggregators: Global lessons for carriers. *Available at*: https://www.accenture.com/_acnmedia/PDF-10/Accenture-Coming-To-Terms-With-Aggregators.pdf

ANIA (2017), IFRS 17: criticità per il mercato assicurativo italiano Il punto di vista dell'ANIA.

Bank of Lithuania (2017), Review of the Lithuanian Insurance Market 2017. *Available at*: http://www.lb.lt/en/publications/review-of-lithuania-s-insurance-market-2017

BlackRock (2017), IFRS 17: An Investor Perspective

BCG (2010), The Solvency II Challenge – Anticipating the Far-Ranging Impact on Business Strategy. *Available at*: https://www.bcg.com/documents/file63004.pdf

Deloitte (2014), Asset management for insurers – a brave new world. *Available at*: https://www2.deloitte.com/content/dam/Deloitte/lu/Documents/financial-services/performancemagazine/articles/lu-asset-management-insurers-06102015.pdf

Deloitte (2017), IFRS 17 and IFRS 9 Bridging the Gap. *Available at*: https://www2.deloitte.com/content/dam/Deloitte/za/Documents/financial-services/ZA_Bridging-the-gap_FSI_070617.pdf

Deloitte (2017b), IFRS 17 Insurance Contracts Breakfast Briefing Series Launch event. *Available at*: https://www2.deloitte.com/content/dam/Deloitte/ie/Documents/FinancialServices/ie_2017_IFRS_17_Breakfast_Briefing_May_Deloitte_Ireland.pdf

Deloitte (2018), Global IFRS Insurance Survey 2018. *Available at*: https://www2.deloitte.com/global/en/pages/financial-services/articles/global-ifrs-insurance-survey.html?id=gx:2sm:3li:4gblifrssurvey:5amp:6fsi:07172018

EIOPA (2017), Investment Behaviour Report, EIOPA-BoS-17/230, 16 November

E&Y (2014), Reimagining customer relationships - Key findings from the EY Global Consumer, Insurance Survey 2014. *Available at*: https://www.ey.com/Publication/vwLUAssets/ey-2014-global-customer-insurance-survey-emeia/$FILE/ey-global-customer-insurance-survey-emeia.pdf

E&Y (2017), Global Insurance Trend 2017. *Available at*: http://www.ey.com/Publication/vwLUAssets/ey-2017-european-insurance-outlook/$FILE/EY-2017-european-insurance-outlook.pdf

E&Y (2018), Global Insurance Trend 2018. *Available at* https://www.ey.com/Publication/vwLUAssets/ey-global-insurance-trends-analysis-2018/$File/ey-global-insurance-trends-analysis-2018.pdf

ESRB (2015), Report on systemic risks in the EU insurance sector, December

Fitch (2017) What IFRS 17 could mean for European insurers' cost of capital. *Available at*: https://www.insurancebusinessmag.com/uk/news/breaking-news/what-ifrs-17-could-mean-for-european-insurers-cost-of-capital-90723.aspx

Fitch (2017), Sovereign credit rating, Long Term IDR, 31/12/2017. *Available at*: www.fitchconnect.com

*Finance Magazin*, Allianz: „IFRS 17 kostet uns Millionen". *Available at*: https://www.finance-magazin.de/finanzabteilung/bilanzierung/allianz-ifrs-17-kostet-uns-millionen-1410031/

Financial Times (2017), Insurers plan greater exposure to private assets. *Available at*: https://www.ft.com/content/636ae924-a1f8-11e7-b797-b61809486fe2

GSAM (2016), GSAM Insurance Survey. *Available at* : https://www.gsam.com/content/dam/gsam/direct-links/us/en/institutions/2016-gsam-insurance-survey.pdf?sa=n&rd=n

Hunt, A., Moyer, S. and Shevlin, T (2000), Earnings volatility, earnings management and equity value, Working Paper, University of Washington

IASB Board (2017), Effects Analysis, IFRS 17 Insurance Contracts, May 2017. *Available at*: https://www.ifrs.org/-/media/project/insurance-contracts/ifrs-standard/ifrs-17-effects-analysis.pdf/

The Investment & Life Assurance Group (ILAG), IFRS 17 – Insurance Contracts – position paper

IMF (2014), Global Financial Stability Report, October

IMF (2016), Global Financial Stability Report, April

Insurance Europe (2013), Funding the future. *Available at*: https://www.insuranceeurope.eu/sites/default/files/attachments/Funding%20the%20future.pdf

Insurance Europe (2017), Annual Report 2016-2017. *Available at*: https://www.insuranceeurope.eu/annual-report-2016-2017

Li, S. and Richie, N. (2016), Income smoothing and the cost of debt, Working Paper, March

McKinsey & Company (2014), Global Insurance Industry Insights. *Available at*: https://www.mckinsey.com/~/media/mckinsey/dotcom/client_service/Financial%20Services/Latest%20thinking/Insurance/Global_insurance_industry_insights_An_in-depth_perspective.ashx

Milliman (2016), Capital Efficient Products in the European Life Insurance Market. *Available at*: http://ch.milliman.com/uploadedFiles/insight/2016/Capital-efficient-products-European-life-insurance-market.pdf

Moody's Investors Service (2017), Insurance – Europe, Outlook research, *Available at* : http://www.actuarialpost.co.uk/downloads/cat_1/Moodys-Insurance%20Outlook-EMEA.pdf

Moody's Analytics (2018), Level of Aggregation in IFRS 17. Available at: https://www.moodysanalytics.com/-/media/whitepaper/2018/level-of-aggregation-in-ifrs17.pdf

NAIC (2013), Year-End 2013 Update to the Insurance Industry's Exposure. *Available at*: http://www.naic.org/capital_markets_archive/141219.htm

Nielsen, J.P., Poulsen, R. & Mumford, P. (2010), "*Capital Allocation for Insurance Companies: Issues and Methods*", Belgian Actuarial Bulletin, Vol. 9, No. 1, 2010.

OECD (2017), Global insurance Market Trends 2017. *Available at*: https://www.oecd.org/daf/fin/insurance/Global-Insurance-Market-Trends-2017.pdf

PWC (2017), A look at current financial reporting issues. *Available at*: https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-17-marks-a-new-epoch-for-insurance-contract-accounting.pdf

S&P Global (2018), Credit FAQ: How Will IFRS 17 Affect the Credit Quality of Insurers? *Available at*: https://www.spglobal.com/our-insights/How-Will-IFRS-17-Affect-The-Credit-Quality-Of-Insurers.html

Standard Life Investments (2015), European Insurance – Unprecedented pressure and change. *Available at*: https://www.standardlifeinvestments.com/INS_EU_Survey.pdf

Standard Life Investments (2017), How insurers are navigating persistent market volatility and Solvency II. *Available at*: https://www.standardlifeinvestments.com/WP_Asian_Insurance_Survey.pdf

Statista (2017), European insurance dossier. *Available at* : https://www.statista.com/study/29008/european-insurance-statista-dossier/

Subramanyam, K. (1996), "*The pricing of discretionary accruals*", Journal of Accounting and Economics, vol. 22, pp. 249-281

The Actuary (2017), *Insurer to change investment plans in preparation for rising interest rates*. Available at: http://www.theactuary.com/news/2017/12/insurers-turn-to-alternative-investments-in-face-of-possible-interest-rate-rises/

The Actuary (2017b), *General insurance: The wide-ranging implications of IFRS 17*. Available at: http://www.theactuary.com/features/2017/06/the-wide-ranging-implications-of-ifrs-17/

The Actuary (2018), *Investing in change*. Available at: http://www.theactuary.com/features/2018/05/investing-in-change/

# Annex 1 Stakeholder list

## Table 8 List of stakeholders interviewed

| | Title | Name/Surname | Affiliation | Category | Country |
|---|---|---|---|---|---|
| 1 | Mr | Olav Jones | Insurance Europe | Association | Belgium |
| 2 | Mr | Philippe Angelis | Insurance Europe | Association | Belgium |
| 3 | Mr | Lars Lange | IUMI - International Union of Marine Insurance | Association | Germany |
| 4 | Ms | Anne Mette | Forsikring & Pension | Association | Denmark |
| 5 | Ms | Eleni Ashioti | Accountancy Europe | Association | Belgium |
| 6 | Mr | Jean Jacque Dussutour | ACPR - Banque de France | Insurance Supervisor | France |
| 7 | Mr | Bostjan Vock | Agencija za zavarovalni nadzor | Insurance Supervisory Authority | Slovenia |
| 8 | Dr | Markus Grund | Bundesanstalt für Finanzdienstleistungsaufsicht | Insurance Supervisory Authority | Germany |
| 9 | Dr | Arco J. van Oord | De Nederlandsche Bank | Insurance Supervisory Authority | The Netherlands |
| 10 | Dr | Hielke D. De Boer | De Nederlandsche Bank | Insurance Supervisory Authority | The Netherlands |
| 11 | Mr | Tom De Meyer | FSMA - Supervisory of Pensions | Insurance Supervisory Authority | Belgium |
| 12 | Ms | Andreja Radić Blažin | Hrvatska agencija za nadzor financijskih usluga | Insurance Supervisory Authority | Croatia |
| 13 | Dr | Alberto Corinti | IVASS – Italian Institute for the Supervisory of Insurance | Insurance Supervisory Authority | Italy |
| 14 | Dr | Roberto Novelli | IVASS – Italian Institute for the Supervisory of Insurance | Insurance Supervisory Authority | Italy |
| 15 | Ms | Jessica Stivala | Malta Financial Services Authority | Insurance Supervisory Authority | Malta |
| 16 | Mr | Miguel Caballero Pérez | Ministerio de Economia y Competititvidad | Insurance Supervisory Authority | Spain |

| | Title | Name/Surname | Affiliation | Category | Country |
|---|---|---|---|---|---|
| 17 | Mr | Dominik Smoniewski | National Bank of Belgium | Insurance Supervisory Authority | Belgium |
| 18 | Mr | Edel Akid | National Bank of England | Insurance Supervisory Authority | UK |
| 19 | Mr | Kallol Sen | National Bank of England | Insurance Supervisory Authority | UK |
| 20 | Mr | Paul Ebling | National Bank of England | Insurance Supervisory Authority | UK |
| 21 | Mr | David Rule | National Bank of England | Insurance Supervisory Authority | UK |
| 22 | Ms | Loreta Daškevičienė | National Bank of Lithuania | Insurance Supervisory Authority | Lithuania |
| 23 | Mr | Jens Freiberg | BDO | Consulting | Germany |
| 24 | Mr | Francesco Nagari | Deloitte | Consulting | Hong Kong/UK |
| 25 | Mr | Matteo Brusatori | E&Y | Consulting | Italy |
| 26 | Ms | Vasilka Bangeova | Grant Thornton | Consulting | UK |
| 27 | Ms | Evangelia Soultani | *Independent consultant* - Actuarial Contractor IFRS 17 | Consulting | Belgium |
| 28 | Ms | Liz Murrall | The Investment Association | External investor | UK |
| 29 | Dr | Roman Sauer | Allianz | Industry | Germany |
| 30 | Mr | Eric Holstvoogdt | Atradius | Industry | The Netherlands |
| 31 | Ms | Sophie Massol | AXA | Industry | France |
| 32 | Mr | Kosta Cholakov | DZI | Industry | Bulgaria |
| 33 | Ms | Clarisse Fauville | Euler Hermes | Industry | France |
| 34 | Mr | Massimo Romano | Generali | Industry | Italy |
| 35 | Mr | Massimo Tosoni | Generali | Industry | Italy |
| 36 | Ms | Isabelle Esteves | Groupement français des Bancassureurs | Industry | France |
| 37 | Mr | Jean- Michel Pinton | Groupement français des Bancassureurs | Industry | France |
| 38 | Mr | Andreas Märkert | Hannover RE | Industry | Germany |
| 39 | Mr | Paolo Lazzaretto | Intesa SanPaolo | Industry | Italy |

| | Title | Name/Surname | Affiliation | Category | Country |
|---|---|---|---|---|---|
| 40 | Mr | Jeff Davies | Legal&General | Industry | UK |
| 41 | Mr | Steve Jules | Lloyd's | Industry | UK |
| 42 | Mr | Tony O'Riordan | New Ireland Assurance | Industry | Ireland |
| 43 | Mr | Harm van de Meerendonk | NN Group | Industry | The Netherlands |
| 44 | Mr | David Martin | Prudential | Industry | UK |
| 45 | Mr | Richard Oslwang | Prudential | Industry | UK |
| 46 | Mr | Joakim Kase | Storebrand | Industry | Norway |
| 47 | Ms | Susanne Walmar Steensen | Tryg | Industry | Denmark |

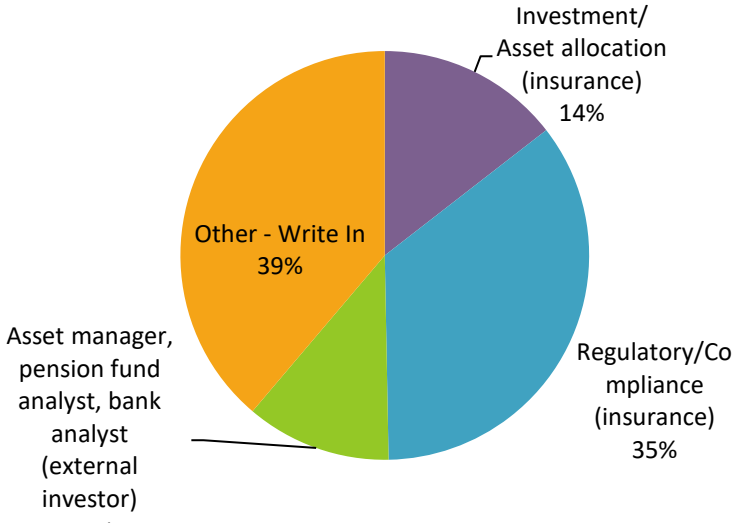
# Annex 2 A few characteristics of the respondents to the online survey

**Figure 56: Survey completion rate**

| | Percent |
|---|---|
| Complete | 19.2 % |
| Partial | 80.8 % |
| Totals | 100% |

***Source: On-line survey***

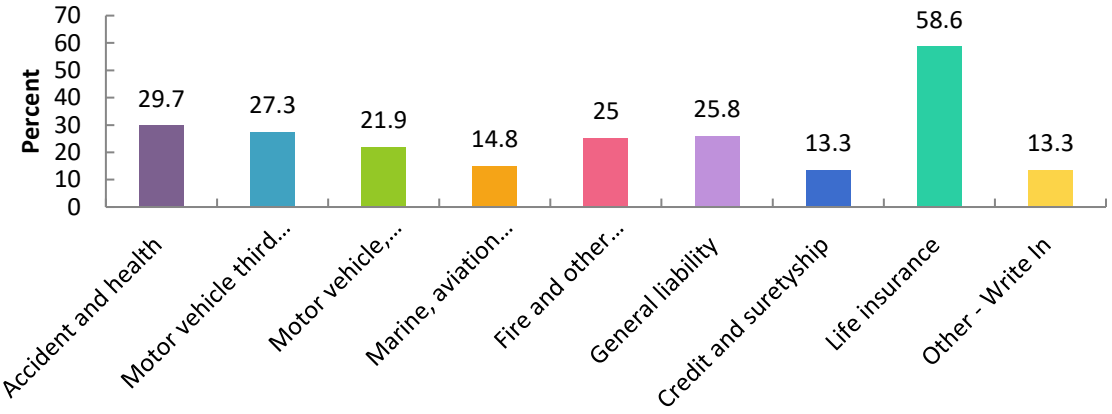
**Figure 57: Department in which survey respondent works**




| Value | Percent | Count |
|---|---|---|
| Investment/ Asset allocation (insurance) | 14.5% | 24 |
| Regulatory/Compliance (insurance) | 35.2% | 58 |
| Asset manager, pension fund analyst, bank analyst (external investor) | 11.5% | 19 |
| Other - Write In | 38.8% | 64 |
| Total | 100% | 165 |

***Source: On-line survey***

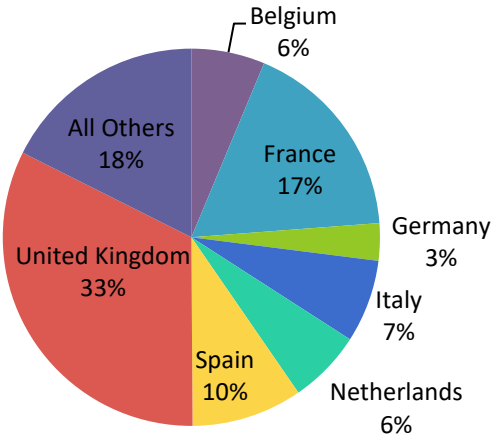
### Figure 58: Response to question "Which is your main product line(s) (multiple choices)?




| Value | Percent | Count |
|---|---|---|
| Accident and health | 29.7% | 38 |
| Motor vehicle third party liability | 27.3% | 35 |
| Motor vehicle, other classes | 21.9% | 28 |
| Marine, aviation and transport | 14.8% | 19 |
| Fire and other damage to property | 25.0% | 32 |
| General liability | 25.8% | 33 |
| Credit and suretyship | 13.3% | 17 |
| Life insurance | 58.6% | 75 |
| Other - Write In | 13.3% | 17 |

***Source: On-line survey***

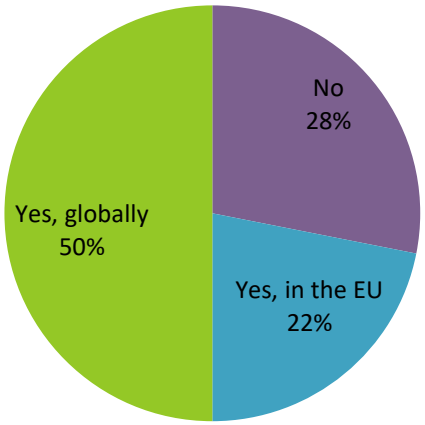
### Figure 59: Response to question "Where is your headquarters (group level) in the EU?"



| Value | Percent | Count |
|---|---|---|
| Austria | 0.8% | 1 |
| Belgium | 6.3% | 8 |
| Bulgaria | 0.8% | 1 |
| Croatia | 1.6% | 2 |
| Cyprus | 0.8% | 1 |
| Czech Republic | 1.6% | 2 |
| Denmark | 2.4% | 3 |
| Estonia | 1.6% | 2 |
| Finland | 0.8% | 1 |
| France | 17.5% | 22 |
| Germany | 3.2% | 4 |
| Greece | 1.6% | 2 |
| Ireland | 0.8% | 1 |
| Italy | 7.1% | 9 |
| Netherlands | 6.3% | 8 |
| Slovakia | 0.8% | 1 |
| Slovenia | 1.6% | 2 |
| Spain | 9.5% | 12 |
| Sweden | 2.4% | 3 |
| United Kingdom | 32.5% | 41 |
| | Totals | 126 |

***Source: On-line survey***

### Figure 60: Response to question "Does your company operate in any other countries?"




| Value | Percent | Count |
|---|---|---|
| No | 28.1% | 32 |
| Yes, in the EU | 21.9% | 25 |
| Yes, globally | 50.0% | 57 |
| | Totals | 114 |

***Source: On-line survey***

# Annex 3 Presence of branches of non-EEA insurance undertakings in EU Member States – 2005 to 2015

## Table 9 Number of branches from non-EEA insurance undertakings

| Member State | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| AT | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 | 1 | 1 | 1 |
| BE | 3 | - | - | - | - | - | - | - | - | - | - |
| CY | 4 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | - | NA | - |
| CZ | - | 1 | 1 | 1 | 1 | - | - | - | - | - | - |
| DK | 9 | 9 | 9 | 9 | 7 | 7 | 6 | 6 | 6 | 6 | 5 |
| ES | 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 1 | 1 | 1 |
| FR | 12 | 11 | 11 | 11 | 9 | 6 | 5 | 5 | 4 | 4 | 4 |
| EL | NA | NA | 3 | 3 | 3 | 3 | 3 | 2 | 2 | 2 | 2 |
| HU | 6 | 6 | - | - | - | - | - | - | - | - | - |
| IE | 2 | 2 | 2 | 2 | 2 | 5 | 2 | 1 | - | - | - |
| IT | 4 | 5 | 4 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 3 |
| LU | 1 | 1 | - | - | - | - | - | - | - | - | NA |
| MT | 4 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 1 | 1 | - |
| NL | 9 | 8 | 7 | 6 | 6 | 6 | 4 | 2 | 1 | 1 | 1 |
| PL | 1 | 1 | 1 | 1 | 1 | - | - | - | - | - | - |
| PT | 1 | 1 | 2 | 2 | 2 | 1 | 1 | 1 | - | - | - |
| UK | 3 | 9 | 10 | 10 | 14 | 16 | 15 | 15 | 10 | 31 | 22 |

Note: Includes re-insurance undertakings. "-" = 0

***Source: EIOPA Solvency 1 insurance statistics***

# Annex 4 Measuring the cost of capital

The estimates of the cost of capital reported in chapter 6 **Error! Reference source not found.** is calculated according to the methodology used by Thomson Reuters in the production of their cost capital data. The equations used to construct the cost of capital are shown below.

$$WACC = \left(\frac{Total\ debt}{Total\ capital}\right) \times (Cost\ of\ debt) \times (1 - tax\ rate) + \left(\frac{Total\ equity}{Total\ capital}\right) \times (Cost\ of\ equity)$$

The cost of debt represents the marginal cost to the company of issuing new debt. Given data limitations, we use as a proxy the company's total interest payments as a percentage of its total debt. This method is not forward-looking and ignores the structure of the company's debt and can therefore understate the cost of debt for companies with a high share of (cheaper) short-term debt. The data is also only available on an annual basis.

$$Cost\ of\ debt = \frac{Total\ interest\ payments}{Total\ debt}$$

Corporate tax reduces the cost of debt because the tax base is calculated net of interest expenses. We approximate the forward-looking *marginal* tax rate using a 5-year moving median of the *effective* tax rate, i.e. the ratio of actual (income) tax to the company's pre-tax income. The moving median estimates investor tax expectations based on past observations, while eliminating outliers.

$$Tax\ rate = \frac{Income\ tax}{Pretax\ income}$$

The cost of equity is the rate of return required by equity investors. Unlike interest on debt instruments, the return required by investors on equity is not directly observable and needs to be estimated. We follow the standard practice of using the Capital Asset Pricing Model (CAPM) for the estimation:

$$Cost\ of\ equity = (riskfree\ rate) + (companu's\ beta) \times (equity\ risk\ premium)$$

$$Equity\ risk\ premium = (equity\ market\ rate\ of\ return) - (riskfree\ rate)$$

The risk-free rate is the rate of return paid on assets considered risk-free (or nearly risk-free), such as U.S. Treasury bonds. A company's beta is a measure of risk compared to the local stock market as a whole. It is calculated using a regression on the company's stock price. A beta of less than 1 indicates that the company's stock price is less volatile than the market; a beta of more than 1 means that the company's stock price is more variable than the market rate of return. A company with higher beta needs to compensate its shareholders for the extra risk and is therefore (*ceteris paribus*) likely to face a higher cost of equity.

$$Equity\ market\ rate\ of\ retun = (dividend\ yield) + (growth\ rate\ of\ dividends)$$

We estimate the rate of return for the wider equity market using a valuation framework derived from the Gordon Growth model. In theory, equity market returns should in the long run be driven by dividend returns to shareholders and the growth of those dividends. The Gordon Growth model assumes that future dividends grow at a constant rate. We estimate dividend returns with the aggregate dividend yield for the equity market in each Member State, obtained from Datastream. The expected growth in dividends is approximated using a long-term (5y) GDP forecast, obtained from the IMF's semi-annual forecast in the World Economic Outlook.

# Annex 5 Econometric analysis of the evolution of the cost of capital faced by insurance undertakings and other companies

This Annex presents the methodology of an econometric analysis testing the hypothesis that the 2008 financial crisis brought about a structural change in the relationship between WACC of EU insurers and of other industries, which until the crisis displayed similar WACC developments.

The time series plotted in **Figure 48**, **Figure 49**, **Figure 50**, and **Figure 51** form the informational base for the model. A first step in any econometric analysis is to test whether the time series are stationary.[66]

The most common test of stationarity – the augmented Dickey-Fuller Test (ADF) – finds evidence that almost all of the series have a "unit root" and are therefore not stationary.[67] However, the ADF test is biased towards this result if the data include a structural break.[68] Therefore, a test is needed that can distinguish between a structural change and non-stationarity. The Zivot-Andrews (1992) test is typically used as a unit root test in datasets that are likely to include a structural break. For most comparator industries in all four countries considered, the Zivot-Andrews test confirms the results of the ADF test. It is unable to reject the hypothesis of a unit root, even when a structural break is allowed for.[69]

If the data generating process that underlies a time series has a unit root, random shocks have lasting consequences. The pattern observed in Figure 48, Figure 49, Figure 50, and Figure 51– particularly in the case of Germany and France – show that in 2007-8, the cost of capital increased more in the insurance sector than in the other industries and that the following correction in 2009 did not completely offset the gain. A share of the premium paid by insurers persisted until the end of the observation period in 2017. Given the evidence for non-stationarity, the observed development is consistent with several interpretations. One possibility is that the 2008 crisis represented a tail-event random shock, but the underlying stochastic process was unchanged. The shock had a lasting impact because of the non-stationarity in the series. Alternatively, it is possible that in 2008, the relationship between the cost of capital faced by insurers and other industries experienced a structural change. The difference is important both for the understanding of the impact of the financial crisis, as well as to a potential forecast of the future behaviour of the series.

Formal econometric models can help disentangle the two mechanisms, but typically require stationarity. The lack of stationarity in processes with a unit root can be addressed by subtracting the first lag from the series, i.e. by transforming the series into its "first difference". Stationarity with and without the presence of a structural break are again tested using the ADF and Zivot-Andrews tests on the differenced series. Table 10 shows the results. Both tests provide evidence that the

[66] A time series is stationary if its statistical properties such as mean and variance are all constant over time. A unit root is one type of non-stationarity, characterised by the series exhibiting a stochastic trend that can be eliminated by subtracting from the series its first lag.

[67] For more details refer to the Annex.

[68] Perron (1989)

[69] For the full test results refer to the Annex.

differenced series is stationary.[70] In addition, the Zivot-Andrews test reports the most likely date of a structural break.[71] In most cases, the identified date is in 2008-9.

The stationarity of the differenced series allows fitting formal econometric models on the data. We use a univariate autoregressive (AR) model to test if the date identified by the Zivot-Andrews test indeed represents a statistically significant structural change. The model regresses the series on its lagged values and an exogenous (dummy) variable that takes a value of 1 in the period identified as the structural break and 0 otherwise.[72] If the estimated coefficient associated with the exogenous variable is found statistically significant, there is evidence that the time period indeed marked a structural change that cannot be explained by the other parameters of the model.

[70] By design, the Zivot Andrews test has lower power than the ADF test, so in many cases it rejects non-stationarity only at higher significance levels.

[71] The Zivot-Andrews test repeats sequentially the ADF test, each time specifying a different break point. It then chooses the break point that minimises the ADF test statistic. If the series is split at that point in time, the evidence is strongest that both before and after the break the series is stationary (compared to all other possible break points).

[72] This tests for a level break (rather than trend break) in the original series. A level break (called "intercept break") in the original series manifests as a one-time pulse in the differenced series.

## Table 10 Augmented Dickey Fuller Test and Zivot-Andrews Test of a stochastic trend in the first differences

| Comparator sector | ADF test rejects unit root | ZA test rejects unit root | Date of structural change identified by ZA test | Structural change significant in AR model |
|---|---|---|---|---|
| **GERMANY** | | | | |
| **Banks** | *** | ** | Jul-08 | |
| **Industrial Goods & Services** | *** | *** | Apr-08 | *** |
| **Media** | *** | ** | Apr-08 | |
| **Technology** | *** | *** | Jul-08 | |
| **Telecommunications** | *** | *** | May-09 | |
| **Travel & Leisure** | *** | *** | Jul-08 | |
| **Financial Services** | *** | *** | Apr-08 | *** |
| **FRANCE** | | | | |
| **Banks** | *** | ** | May-09 | |
| **Industrial Goods & Services** | *** | *** | Nov-08 | *** |
| **Media** | *** | ** | Jun-09 | |
| **Technology** | *** | *** | Nov-08 | *** |
| **Telecommunications** | *** | | May-09 | ** |
| **Travel & Leisure** | *** | * | Mar-14 | * |
| **Financial Services** | *** | ** | Nov-08 | ** |
| **ITALY** | | | | |
| **Banks** | *** | ** | Sep-10 | |
| **Industrial Goods & Services** | *** | ** | Mar-09 | |
| **Media** | *** | | Nov-08 | ** |
| **Technology** | *** | *** | Dec-08 | *** |
| **Telecommunications** | *** | ** | Aug-09 | |
| **Travel & Leisure** | *** | ** | Jul-10 | |
| **Financial Services** | *** | *** | Mar-09 | |
| **UNITED KINGDOM** | | | | |
| **Banks** | *** | | Dec-08 | *** |
| **Industrial Goods & Services** | *** | *** | Apr-09 | *** |
| **Media** | *** | ** | Dec-08 | |
| **Technology** | *** | *** | Jul-07 | |
| **Telecommunications** | *** | ** | Jan-11 | |
| **Travel & Leisure** | *** | ** | Sep-10 | |
| **Financial Services** | *** | *** | Jun-09 | |

Note: *** - The test rejects non-stationarity at 1% significance level; ** - 5% significance level, * 10% significance level.

***Source: London Economics econometric modelling using estimated WACC time series***

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