Duisenberg school of finance

DSF Policy Paper Series

# Cross-border Insurance in Europe

*Dirk Schoenmaker, Jan Sass*

**November 2014**

**DSF Policy Paper, No. 45**

# Cross-border Insurance in Europe[1]

*Dirk Schoenmaker and Jan Sass* *

**Abstract**

This paper employs a new dataset to construct a comprehensive overview of cross-border insurance in the European Union. Cross-border insurance -measured as the foreign share in total gross written premium- appears to be persuasive at 36 percent, which is higher than in banking with 25 percent. Looking more detailed at cross-border insurance, 29 out of this 36 percent is from other EU countries, while 7 percent is from third countries (outside Europe). This international insurance market provides a challenging background, against which Solvency II will start in January 2016.

The European Insurance and Occupational Pensions Authority (EIOPA) is already playing a coordinating role in the regulatory implementation of Solvency II. It also participates in the supervisory colleges, which will need to decide on the approval of internal models across the large European insurance groups. Nevertheless, final authority remains with national supervisors in this coordination model. This paper suggests that the increasing share of cross-border insurance may tilt the supervisory balance towards centralisation. Insurance Union may also be an effective solution to address level playing field issues.

* Duisenberg School of Finance

[1] Dirk Schoenmaker and Jan Sass are at Duisenberg School of Finance. Part of this research was done at EIOPA in Frankfurt. We would like to thank Sandra Desson and her team for their support and aid during this research. The paper reflects the opinions of the authors and not necessarily of EIOPA.

## 1. Introduction

While insurance is traditionally an international business, the degree of internationalisation is difficult to measure due to a lack of data. By contrast, cross-border banking and capital markets transactions are well documented, which supports both policymakers and business leaders in their decision-making. With the advance to Solvency II, the single market in insurance will be reinforced by the new common capital framework. This may also lead to market restructuring (Stoyanova and Gründl, 2014). Earlier examples of regulatory driven market structuring are the adoption of the third life and non-life directives, which introduced home country control (i.e. the single market) and the introduction of the euro, both in the 1990s. The subsequent wave of intra-European consolidation was stronger in the insurance sector than in other financial sectors (Berger *et al*.,1999).

The new risk-based capital framework will leave room for supervisory interpretation and discretion (e.g. in the model approval process or Pillar 2). Solvency II will thus give rise to level playing field discussions between the insurance industry and supervisors. A detailed overview of the market would aid an informed debate about the materiality of level playing field issues. It would also help supervisors to assess the impact of Solvency II across Europe.

The aim of this paper is to provide a comprehensive overview of cross-border insurance in Europe. The data sources on international insurance provide a scattered view of the European market. The European Insurance and Occupational Pensions Authority (EIOPA) publishes data on cross-border branches, while the OECD Insurance Statistics provide an aggregate, albeit incomplete, overview of foreign subsidiaries. Furthermore, Insurance Europe, the federation of European insurers, publishes worldwide premiums, but without a country breakdown.

Consistent and effective supervision of European cross-border insurers is enhanced by the so-called colleges of supervisors, with representatives from the home country, host countries and EIOPA. These colleges are led by a group supervisor, usually the supervisor from the country where the holding company is located. The Helsinki Protocol describes the required collaboration between European insurance supervisors in the group supervision of these insurance groups. As part of this group supervision, the network of European insurance supervisors presented in EIOPA have collected the "Helsinki List" of European insurance groups, with a detailed breakdown of branches and subsidiaries by country of the major insurers across the European Economic Area (EEA).[2] We develop a methodology to link the Helsinki data to the EIOPA data on foreign branches and OECD data on foreign subsidiaries. The result is a comprehensive dataset of cross-border insurance in Europe at country level.

The results confirm the international orientation of insurance found in earlier studies (Van der Zwet, 2003; Focarelli and Pozzolo, 2008). Cross-border insurance, measured by Gross Written Premium (GWP), amounts to 36 percent in EU countries in 2012, while the comparable number for banking, measured by assets, stands at 25 percent. Next, the main vehicle for cross-border insurance is the subsidiary form at 31 percent, with a minor role for branches at 5 percent. Nevertheless, we discern a recent trend of establishing more branches abroad and transforming European subsidiaries into branches. Moving from country to individual firm level, the results indicate that the 25 largest European insurers are very international with 32 percent of GWP in the rest of Europe and 27 percent in the rest of the world. Again the large banks are less international with 24 percent in the rest of Europe and 23 percent in the rest of the world.

[2] The Helsinki list data is confidential. We use data aggregated at country level. These data cannot be related to individual insurance groups.

Comparing the main regions, it appears that the large European insurers are far more international (at 60 percent), than their American (at 22 percent) and Asian (at 4 percent) counterparts. It is therefore no surprise that five out of the nine global systemically important insurers (G-SIIs) are from Europe, while only three from the US and one from China.

Insurance appears thus to be more international than banking. This raises the question whether there is a case for an Insurance Union following the Banking Union. After the crisis, national supervisors (both in Europe and beyond) tend to require overcapitalisation of local subsidiaries. Insurance groups have thus pockets of capital locked up in the various jurisdictions in which they operate. Consolidated supervision, including centralised capital management, would be an argument in favour of centralised supervision. Another argument is the business practice of integrated asset management at large insurers. Finally, some supervisors will no doubt be tougher than other supervisors, also under the new harmonised Solvency II framework. A centralised supervisor would be an effective solution to address level playing field issues.

On the contrary, insurance is less subject to systemic risk and related externalities than banking (Weiss and Mühlnickel, 2014). Cross-border externalities are the main reason for Banking Union (Schoenmaker, 2013). Moreover, insurance is largely local business, as products are attuned to local tax, social security and legal rules (e.g. liability law).

The paper is organised as follows. The next section reviews the existing literature on internationalisation and describes methodology and data. The subsequent sections presents results on the current state of cross-border insurance activities at a country level and at a firm level. We also show the internationalisation of the global systemically important insurers. The final section presents conclusions and policy implications.

## 2. Methodology and Data

### 2.1 Methodology

In the literature, a variety of indicators are used to measure internationalisation. Research on the internationalisation of financial firms is extensive, but most studies focus on banks (see Moshirian, 2006, for an overview). At the country level, the first line of research looks at the Foreign Direct Investment (FDI) flows in banking. Soussa (2004) looks at the FDI inflows into the banking sector in emerging markets and finds that between 1990 and 2003 most investments were directed to Latin America and Eastern Europe. Later research is carried out by De Nicolo et al. (2004) who measure internationalisation through foreign bank ownerships, i.e. the amount of total assets in which foreign banks have an equity share of 50% or more. Alternatively, Claessens and Van Horen (2014) define foreign bank presence as the number of foreign banks as a share of total banks in a country. In Schoenmaker (2013) international banking is measured by the amount of foreign lending as a share of total lending in a country.

At the firm level, early research focuses on non-financial institutions, but more recent papers also examine the degree of internationalisation of financial firms. A first line of research measures internationalisation for non-financial institutions by a single variable. Examples are the foreign sales to total sales ratio (Stopford and Wells, 1972), the foreign asset ratio (Geringer *et al.*, 1989), the number of foreign countries in which a firm has operating subsidiaries (Tallman and Li, 1996) or the foreign employees ratio (Kim *et al.*, 1989). However, measuring the degree of internationalisation based on just one variable might not be ideal. Sullivan (1994) reviews 17 papers that research the measurement of internationalisation based on a single variable and finds that using only one single indicator increases the possibility of measurement errors. He recommends using a multidimensional

measurement method, called the Trans Nationality Index (TNI). Sullivan's findings are challenged by Ramaswamy *et al.* (1996) who find little support for his findings.

To measure internationalisation at the firm level, early research from Berger et al. (2003) and Focarelli and Pozzolo (2005) examine the number of countries a financial institution provides cash management services to. Drawback is that this does measure the scope of internationalisation, but not its scale or intensity. In order to obtain a more complete measurement, another approach is to look at the full set of activities of a financial institution. Slager (2004) and Schoenmaker and Oosterloo (2005) have applied Sullivan's proposed approach of looking at more than one variable when measuring internationalisation. This was done by looking at foreign revenue, foreign assets and foreign employees. Gulamhussen *et al.* (2014) also establish a more complete set of measures, examining i) the number of foreign countries in which a bank is active divided by the maximum amount of foreign countries in which the most international active bank is active, ii) the share of foreign assets and iii) a transformed Hirsch-Herfindahl Index that measures international concentration.

As mentioned before, internationalisation of the insurance industry has not been covered as extensively as of the banking sector. One of the first relevant papers is by Eppink & Van Rhijn (1988) who research the degree of internationalisation of several Dutch insurance companies. The degree of internationalisation is obtained by looking at the geographic distribution of revenues, profits and employees. More extensive research is carried out by Van der Zwet (2003) who uses data on the 53 largest financial groups worldwide, based on market capitalisation in 2000. By looking at the geographical diversification of total revenues (Gross Written Premium), van der Zwet finds that insurance groups are more internationally oriented than banks.

In sum, sales, assets, employees and a count of foreign country activity are generally used to measure internationalisation for non-financial firms. For banks, these variables are broadly the same. Generally, the amount of foreign assets is a very good indicator. For insurance companies, Gross Written Premium (GWP) is the most commonly used indicator. GWP is also taken as measurement for internationalisation by Van der Zwet (2003) and Schoenmaker, Oosterloo and Winkels (2008). Assets have become less meaningful as indicator of internationalisation. Insurers are increasingly adopting a centralised asset management strategy, by which they acquire assets globally, irrelevant of their geographical insurance underwriting activities. Following Ramaswamy *et al.* (1996), we use the dominant indicator to determine geographical segmentation in the insurance industry. This variable is the amount of GWP. If data on the geographical split of GWP is unavailable, we turn to a geographical split of employees and subsequently to the location of assets.

These premiums are divided into three segments: premiums from the Home Country, premiums from the rest of the Region and premiums from the Rest of the World. The GWP for each segment region will be divided by the total premium written by the insurer to determine the percentage GWP in each geographical segment. In some parts of the analysis Region and World are separated, while in other parts they are added together under International. Throughout the paper, we use weighted averages to establish the internationalisation of a group of insurers (e.g. the top 20) or a group of countries (e.g. the EU).

### 2.2 Data

At the country level, comprehensive cross-border data are not available. The data sources on international insurance provide a scattered view of the European market. EIOPA publishes data on cross-border branches, while the OECD Insurance Statistics provide an aggregate, albeit incomplete, overview of foreign subsidiaries. A complete picture of the European insurance market and its degree of internationalisation has therefore not yet been established. This paper has circumvented the unavailability of these data by combining publicly available data with data from EIOPA. These data are obtained via the so called Helsinki List. The Helsinki List is a list with data on all *significant* cross border activities of European insurance groups that are active across borders in the European Economic Area (EEA). The Helsinki List was originally established to share contact details among supervisors to improve cooperation. By including figures on GWP, it is currently also used to improve the oversight of cross-border insurance groups in Europe. Every year, EIOPA receives data from each group supervisor with a summary of cross-border activities such as the number of EU/EEA branches, EU/EEA subsidiaries, the number of branches/subsidiaries in non EU/EEA countries, the GWP written by each insurance entity and finally also the Solvency Ratio at group and subsidiary level. All the major cross-border insurers are included in this list which makes the cross-border coverage very extensive (See Statistical Annex A12 for a template of the Helsinki List).

For the analysis on the number of enterprises, we use the Statistical Annex to EIOPA Financial Stability Reports. This dataset contains statistical information submitted by national authorities to EIOPA from 2005 to 2012. It reports the number of national enterprises, the number of branches from EU/EEA and number of branches from non-EU/EEA countries per country. Moreover, we use the EIOPA Register of Insurance Undertakings. This is the online register of registered insurance undertakings in the EU that states the number and details of the national enterprises, EU/EEA branches and non-EU/EEA branches (also called third country branches). With these data, national enterprises[3] could be split into home and foreign controlled enterprises (also called foreign subsidiaries). Finally, we also use a list of the subsidiaries and branches of insurers from the United States (US) in the EEA, provided by EIOPA (Statistical Annex A2). For links to the sources and a detailed description of the data, please see the Appendix.

To analyse the premiums written by these different enterprises, we start by assigning the GWP from every subsidiary or branch on the Helsinki List to the relevant country. By doing this, we can establish a first insurance cross-border overview. Moreover, we use the OECD Insurance Statistics 2005-2012, another source with information on cross-border insurance activities in Europe. Among other data, it contains information for OECD countries on the number of foreign controlled insurance entities and the GWP written by these foreign controlled insurance entities. The OECD Insurance Statistics are very useful as they cover the majority of the large insurance markets in Europe. Germany, Italy, the Netherlands and the UK are covered. However, for other larger countries such as France and Ireland no data from the OECD were available. Finally, similar data on branches are used from a Statistical Annex published by EIOPA. When combining these three sources, we can cover around 75% of the total EU insurance market and around 90% of all cross-border activities in the EU (see Table 1). We have thus data with which we can reliably estimate the degree of cross-border insurance activities in Europe. Data from the Helsinki List is confidential and can thus only be provided in aggregated form. Tables A8 and A9 in the Statistical Annex show the aggregated data from the Helsinki List for 2011 and 2012.

[3] Definition by EIOPA: *"Enterprises with their head office in the country"*.

**Table 1 – Coverage of the available data in the EU**

| | 2011 | 2012 |
|---|---|---|
| **Total** | | |
| GWP from sources | 789,106 | 823,067 |
| Total GWP | 1,082,937 | 1,115,402 |
| *%* | *73%* | *74%* |
| | | |
| **Cross-border** | | |
| GWP from sources | 346,631 | 365,411 |
| Total GWP | 387,548 | 402,020 |
| *%* | *89%* | *91%* |

*Note*: Percentage number display the % of Total GWP written in the European Union. GWP from sources includes the Helsinki List, OECD Insurance Statistics and EIOPA's Statistical Annex.
*Source*: Helsinki List, OECD Insurance Statistics, EIOPA Statistical Annex.

At the firm level, we examine the consolidated balance sheets and income statements of insurers in Europe, North America and Asia. For Europe, we study the largest 25 Insurers between 2000 and 2012. To make a comparison between Europe, North America and Asia, we study the largest 20 insurers between 2000 and 2012 from those continents. All the just mentioned lists are established based on GWP and updated yearly, according to that year's Gross Written Premium. Company financials used for this part of the geographic segmentation analysis are collected from insurers' annual reports and end-of-year exchange rates are taken from the Online Statistics of the ECB.

### 2.3 Transforming Helsinki List to country level cross-border data

In our research of internationalisation at the country level we examine two aspects: 1) the number of cross-border subsidiaries and branches and 2) the total amount of premiums written in Europe by cross-border subsidiaries or branches. This section explains the methodology to transform the Helsinki List data into cross-border data at the country level.

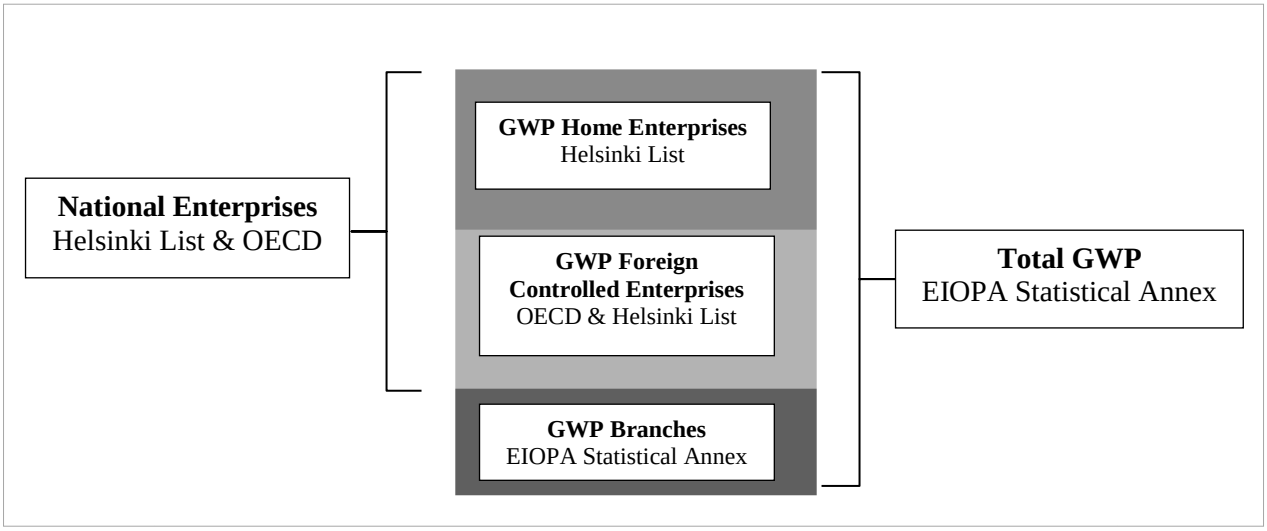
To compare the number of (cross-border) subsidiaries and branches across European countries, we use the Statistical Annex to EIOPA's Financial Stability Reports and OECD Insurance Statistics as a starting point. Data on national enterprises are taken from the EIOPA Statistical Annex. To determine how many of these enterprises are in foreign control, we combine data from the Helsinki List, the OECD, EIOPA's list on US insurance activity in Europe and EIOPA's Register of Insurance Undertakings. As illustration we take the case of Germany. In 2012, the number of foreign controlled insurance undertakings from the OECD report is 50. However, with the detailed information from the Helsinki and US Subsidiary List, we obtain 53 foreign controlled undertakings. This information is assumed to be more accurate and is thus used instead of the OECD data. For branches a similar methodology was performed. For instance, for Austria the EIOPA Statistical Annex reports 1 non-EU/EEA branch in 2012, while we obtain 1 Swiss branch through the Helsinki List and 4 US Branches from the US List. This adds up to 5 non-EU/EEA branches in 2012. Through this procedure, we fill gaps in the data and thus improve the reliability.

The case for the research on the (cross-border) GWP in Europe is more complicated. Figure 1 illustrates how we determine GWP for Home Enterprises and Foreign Controlled Enterprises (for those countries for which OECD data are available). From EIOPA's Statistical Annex, we take the total amount of GWP per country and the amount written by national enterprises. By combining the

data from the Helsinki List with the OECD Insurance Statistics, we then split this latter amount into GWP written by home enterprises and foreign controlled enterprises. To illustrate this we take the UK as example. In 2012, the amount of GWP written by foreign controlled enterprises from the OECD Statistics is € 94,273 bn. From the Helsinki List we only find € 20,968 bn. The remaining € 73,305 bn thus needs to be written by other foreign controlled insurers. An overview of the OECD data and countries for which these are used can be found in the Statistical Annex A1. If OECD values are lower than Helsinki List values, we use Helsinki List data as these are more detailed. Same procedure as just described is also performed for EU/EEA and non-EU/EEA branches with data from the EIOPA Statistical Annex. Countries for which this is performed are provided in the Appendix.

Having deduced GWP figures on foreign branches and subsidiaries in some countries, we still need to go from around 90% to 100% of the cross-border market in the EU. In order to do this, we need to make certain approximations and assumptions to determine the remaining 10%. For the remaining countries for which subsidiaries are uncovered by OECD data and/or branches uncovered by EIOPA data, we do know the number of subsidiaries and branches for which GWP is disclosed by the Helsinki List and the number of subsidiaries and branches for which GWP is not disclosed. In order to determine GWP for these still uncovered entities, we need to make assumptions, as no other data are available. Examining the OECD data more closely, we discover that enterprises that are not on the Helsinki List write about 85% as much GWP as enterprises on the Helsinki List. A figure below 100% is to be expected as the material entities are covered by the Helsinki List. For branches, we discover that branches not on the Helsinki List write around 30% as much GWP as branches on the Helsinki List. With these assumption we can calculate the GWP that is written by the remaining enterprises. After adding these figures to the existing GWP, the remainder of the GWP must be written by Home Enterprises, as all foreign subsidiaries and branches are now covered. This leads to a complete picture of the insurance market in the European Economic Area. In Table 7 in the Appendix we show the GWP amounts that are approximated for 2011 and 2012. As can be seen, only around 3-4% of total GWP in Europe is estimated.

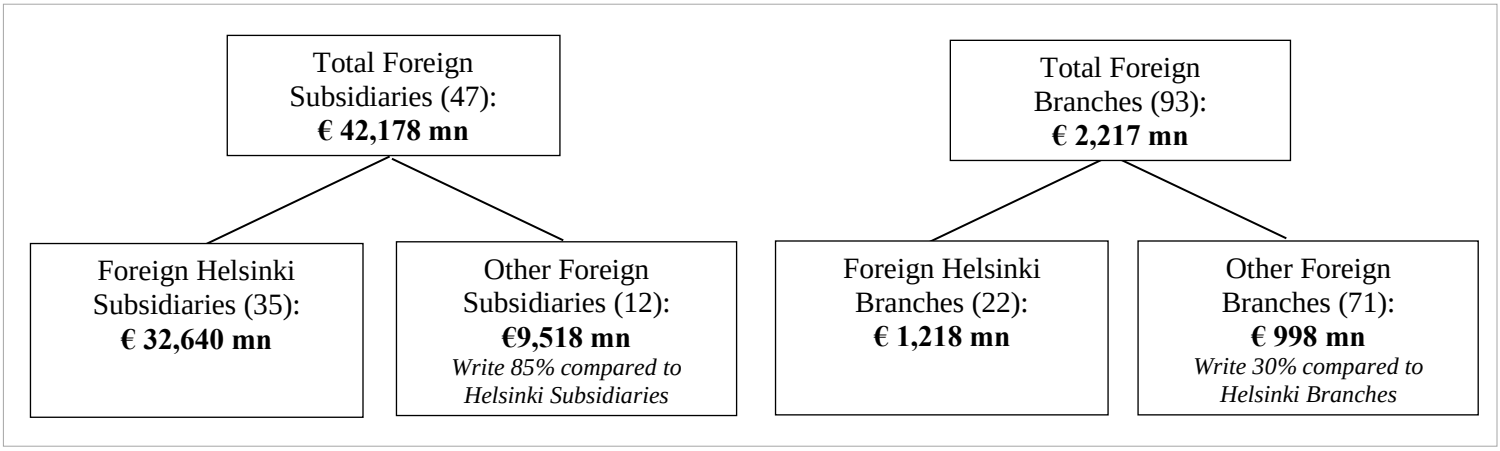
**Figure 1 – Transforming Helsinki and OECD Statistics into cross-border data**




*Note:* The data are illustrated in bold and the sources in non-bold letters.

To get a full picture of our methodology, Figure 2 illustrates the case for France 2012. From the EIOPA's Statistical Annex we obtain that GWP in France was € 200 bn, of which € 0.1 bn was written by non EU/EEA branches and information on EU/EEA branches was not available. By adding up the information from the Helsinki List we obtain GWP from 163 Domestic Insurers of € 140 bn, GWP from 35 Foreign Subsidiaries of € 33 bn, GWP from 8 EU-Branches of € 0.8 bn and GWP from 2 non-EU branches of € 0.4 bn. The information so far is already more detailed than the EIOPA Statistical Annex. However, comparing these figures to our established total number of branches and subsidiaries, we find that we need to approximate GWP for 12 Foreign Subsidiaries, 10 non-EU/EEA branches and 61 EU/EEA branches as these are not in the Helsinki List. With the assumption that these subsidiaries write 85% as much as subsidiaries from the Helsinki List and the branches write 30% as much as branches from the Helsinki List, Figure 2 provides cross-border insurance data for France.

**Figure 2 – Overview for France**




*Source:* EIOPA, OECD, Authors calculations.

The next step is to split the GWP that is approximated for some foreign subsidiaries and foreign branches into GWP from EU/EEA and non-EU/EEA. Table 3 shows that in the European Economic Area about 80% of the branches is from the EU/EEA and 20% from non-EU/EEA countries. We thus assume that about 80% of the GWP that is approximated is written by EU/EEA enterprises and 20% by non-EU/EEA enterprises. The overview for France at this stage is presented in Table 2.

**Table 2 – Overview for France**

| **France** | **GWP (€ mn)** |
|---|---|
| National Enterprises | 200,337 |
| *Of which EU/EEA subsidiaries* | *36,385* |
| *Of which non-EU/EEA subsidiaries* | *5,792* |
| EU/EEA branches | 1,631 |
| Non-EU/EEA branches | 585 |
| Total | **202,553** |

Finally, in order to compare the results with the results found for the banking sector, we need to obtain the amounts written by *EU* Branches and *EU* Subsidiaries. We thus need to filter GWP from EEA countries that are not in the EU (i.e. Iceland, Liechtenstein and Norway). We start this filtering with the GWP amounts written by EEA insurers from the Helsinki List. These are only two insurers: Storebrand and Gjensidige ASA from Norway. Secondly, we need to adjust our previously calculated ratio of 80:20 that was used to approximate the GWP of EU/EEA to non-EU/EEA enterprises. Table 3 indicates that about 2% of the total GWP is written in EEA countries. Therefore, we adjust our ratio to 78:22 EU to non-EU, as the EU share needs to be slightly lower and the third country share accordingly higher. Results do not change significantly but for the sake of completeness this adjustment is performed.

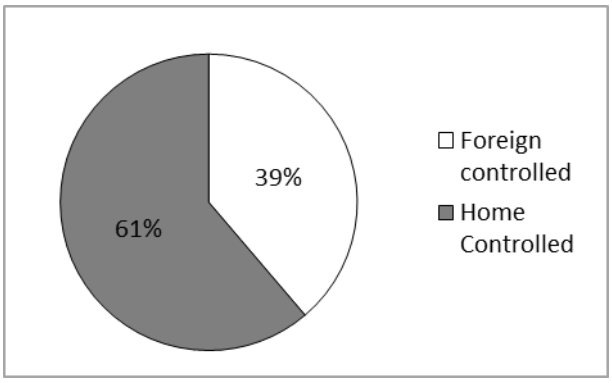
Overall, our results have to be approached with some caution as the data are collected from different sources.

**3. Cross-border insurance in Europe**

In this section we present the findings on the current cross-border insurance activity in Europe. We start by examining the size of the insurance markets in every European country in absolute terms and in terms of Gross Domestic Product (GDP). Findings for 2012 can be found in Table 3. As could be expected, the insurance industry in France, Germany, Italy, the Netherlands, Spain and the United Kingdom are the largest in Europe in absolute terms. Combined they represent 76% of the European market, including Switzerland, and 81% of all the insurance premiums written in the European Union. In terms of relative size, countries such as Ireland, Liechtenstein and Luxembourg score extremely high with written premiums being 21%, 85% and 54% of GDP. Legal and tax benefits, such as a 12.5% corporate tax rate in Ireland, can encourage insurers to locate insurance entities in such a country. From Table 9 in the Appendix it can also be seen that the European insurance market has grown from 2011 to 2012. This is in line with research from Insurance Europe (2014). Figures for 2011 can be found in the Statistical Annex A3.

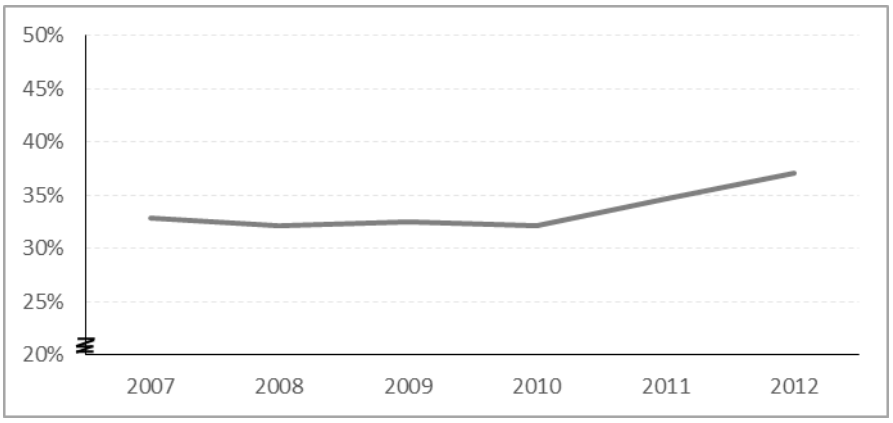
We will now turn to the number of subsidiaries and branches in Europe and the GWP written by these entities. In Tables A4 to A7 in the Statistical Annex, detailed figures are obtained for years 2007 to 2012. A few trends can be spotted. Due to consolidation and bankruptcies, the total amount of national enterprises had a compounded annual growth rate (CAGR) of -3% between 2007 and 2012. Another trend is that the percentage of national enterprises that is in foreign control is slightly increasing (Figure 4). While in 2007 33% of all national enterprises in a country were controlled by foreign parents, this percentage has increased to 37% in 2012. This ratio only includes countries for which data are available for the whole period, as for many countries data are missing for the period from 2007 to 2010 (Statistical Annex A5). In this comparison, France is the only country from the group of large European insurance countries that is missing though, so this image can be regarded as representative. For years 2011 and 2012 we have data available for all countries. Results for these years are that in the EU, around 38% of all national enterprises was in foreign control in 2011 and 39 % in 2012 (Figure 3). These findings are in line with research from the European Commission Expert Group (2014).

**Figure 3 – National insurance enterprises in the EU (2012)**




*Note:* National Enterprises are split into Foreign Controlled Subsidiaries and Home Enterprises.
*Source:* EIOPA Statistical Annex, EIOPA's Register for Insurance Undertakings, OECD Insurance Statistics.

**Figure 4 – Number of foreign controlled subsidiaries as percentage of national enterprises**




*Note:* Only for countries for which data were available throughout 2007 to 2012. Please refer to Table A5 in the Statistical Annex for data.
*Source:* EIOPA Statistical Annex, OECD Insurance Statistics, EIOPA Register of Insurance Undertakings.

Another option for an insurer is to obtain presence in a country through branches instead of subsidiaries. The main difference has a legal character, as subsidiaries are separate entities in the foreign country whereas branches are not. The number of branches can be found in the Statistical Annex Tables A6 and A7. We can separate branches into branches from EU/EEA countries and non-EU/EEA countries. The main development here is that when adding up national enterprises and branches, the percentage of branches has increased between 2007 and 2012 (Figure 11 in the Appendix). Another trend is that the total number of branches from EU/EEA countries has increased since 2007 while branches from non-EU/EEA countries have decreased. In 2007, 80% of all the branches in the EU/EEA were branches from EU/EEA countries while in 2012 this had increased to 83%.

Apart from writing insurance premiums in foreign countries through subsidiaries or branches, there is a third way to enter a foreign market; international activity under the Freedom of Providing Services (FPS). An insurer that uses the internet or other communication tools to sell insurance in foreign market is allowed to do so as part of the Single European Market. A challenge is that these specific

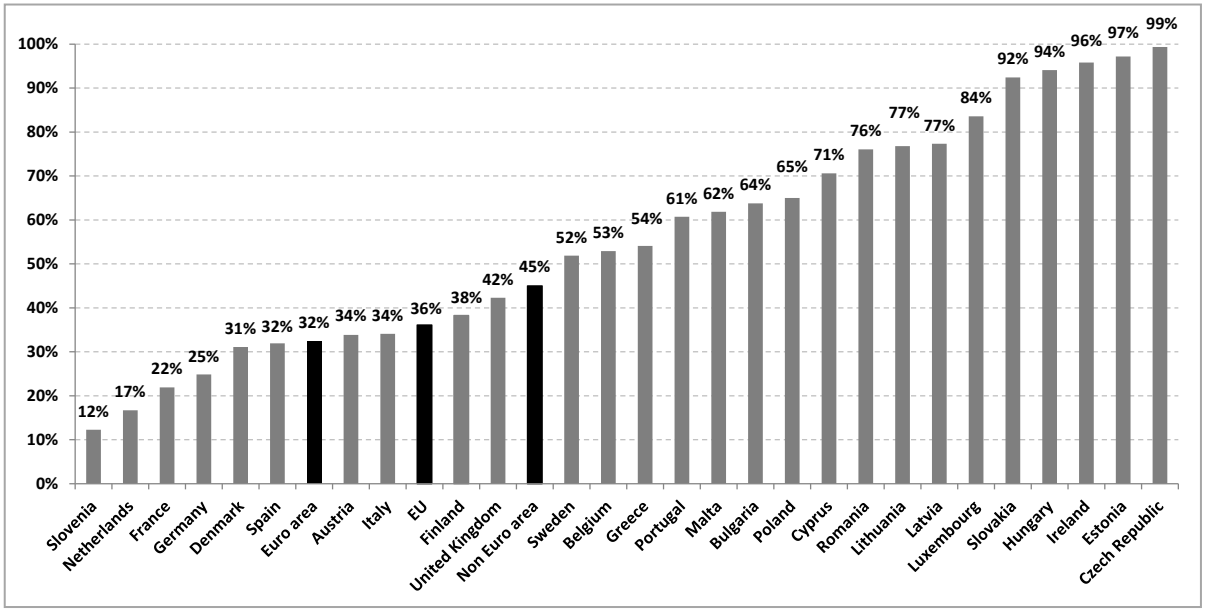
data are difficult to obtain. Insurers do not specify in which way they write foreign insurance. Supervisors and EIOPA have started to capture FPS of national enterprises, but do not specify the location of these premiums. It thus remains impossible to deduce the country of origin of this FPS activity. Table 11 in the Appendix shows the insignificance of the FPS data from EIOPA that are available at this point. If added to our GWP figures, premiums through FPS would only add up to about 3% of total GWP in 2011 and 2012. We thus do not include FPS figures in our research, which implies that we are slightly understating cross-border insurance.

The most important aspect of this analysis is the challenge to establish the geographical segmentation of the GWP written and whether it is written through subsidiaries or branches. Table 4 provides an overview of the GWP written in the European Union and European Economic Area. More detailed figures can be found in Appendix Tables 8, 9 and 10. By adding up the GWP written by EU enterprises, it appears that in the EU around 29% of the GWP is written by subsidiaries or branches from other EU countries. Around 7% is written by foreign subsidiaries or branches from non-EU countries. This means that 36% of total GWP in the EU is written by foreign controlled subsidiaries or branches. Looking at individual countries, Figure 5 illustrates that countries such as the Czech Republic, Ireland, Luxembourg and Slovakia are extremely internationally oriented with more than 80% of GWP written by foreign entities. Countries that are not very internationally oriented are France, Germany, Netherlands, and Slovenia. Possibly, insurers do not try to enter some of the large European insurance markets as the insurance density (i.e. the amount of GWP written per capita) is already extremely high and competition is fierce. Large insurers from these countries in turn move to Eastern-European countries to take advantage of the low density in those countries.

When studying the means through which cross-border premiums are written, it appears that in general most of the GWP is written through subsidiaries and not through branches. In the EU, around 31% of the cross-border GWP is written through subsidiaries and only 5% through branches. See Figure 6 for a graphical representation of results. Branches thus turn out to be a less attractive way for an insurer to write cross-border premiums. Though in some countries such as Portugal, Norway, Lithuania and Latvia, the GWP amount written through foreign branches is relatively high.

With respect to the difference between Euro and non-Euro countries, there is a relatively large difference in internationalisation between these countries. In 2012, about 45% of GWP in non-Euro countries was written by entities controlled from abroad while this was only 32% in Euro countries. In order to understand this, we will have a look at the largest insurance companies from Europe in Table 5. When comparing the Euro area to the non-Euro area, the comparison depends on the large countries. For the Euro area these countries are Germany, France, Italy, Spain and the Netherlands and for the non-Euro area the United Kingdom and Sweden. In Table 5, we find that insurers from non-Euro countries are very internationally oriented. Prudential obtains 77% of its GWP from abroad and for RSA this is 64%. In the UK, the domestic insurers are very internationally focused. This could explain the high degree of internationalisation.

**Figure 5 – Degree of Internationalisation of European insurance markets (% of GWP)**




*Note:* GWP from foreign subsidiaries and foreign branches is added together and divided by total GWP in order to arrive at the degree of internationalisation for each country.
*Source:* Authors calculations, EIOPA Statistical Annex, OECD Insurance Statistics, List on US insurance in Europe.

Finally, it would be interesting to examine the difference in Internationalisation with the banking system. As described in Section 2, total foreign assets is often used to establish the degree of Internationalisation for Banks. In Table A10 and A11 in the Statistical Annex, total assets for the European banking system are split into foreign subsidiaries or branches. It appears that the same countries as in the insurance market are the big players in Europe. These countries are Germany, France, Italy, the Netherlands, Spain and the United Kingdom. The most striking fact however is that the degree of internationalisation is lower than in the insurance market, with 'only' about 25% of activity coming from the foreign market compared to 36% in the insurance market (Figure 7). This is in line with findings of van de Zwet (2003) and Focarelli and Pozzolo (2008) which have found the insurance sector to be more internationally oriented than the banking sector. Again, the non-Euro area is more internationally oriented, the same as in the insurance industry. For a per country comparison, please see Figure 12 in the Appendix. Surprisingly, the difference in internationalisation in some countries is extremely high, with Ireland, Sweden and Portugal having a much more internationally oriented insurance market and Finland, Belgium and Slovenia a much more internationally oriented banking sector.

To summarise, we are able to establish a comprehensive overview of the European insurance market through combining data from the Helsinki List, OECD Insurance Statistics and EIOPA's Statistical Annex. Results are that in 2012, around 36% of total GWP in the EU was written by foreign controlled insurance entities. This is a very high degree, and much higher than in the banking industry (25%).

**Table 3 – European insurance market overview (2012)**

| | Euro (€), millions | % of GDP | Home Enterprises | Foreign Controlled Enterprises | EU/EEA Branches | Non-EU/EEA Branches |
|---|---|---|---|---|---|---|
| Austria | 17,697 | 6% | 27 | 20 | 28 | 5 |
| Belgium | 32,388 | 9% | 53 | 37 | 46 | 5 |
| Bulgaria | 901 | 2% | 10 | 24 | 10 | 0 |
| Croatia | 1,244 | 3% | n.a. | n.a. | n.a. | n.a. |
| Cyprus | 846 | 5% | 19 | 8 | 5 | 1 |
| Czech Republic | 6,433 | 4% | 11 | 24 | 18 | 2 |
| Denmark | 25,485 | 10% | 119 | 13 | 44 | 8 |
| Estonia | 300 | 2% | 3 | 9 | 5 | 0 |
| Finland | 8,546 | 4% | 50 | 4 | 20 | 5 |
| France | 202,554 | 10% | 287 | 47 | 80 | 13 |
| Germany | 192,530 | 7% | 334 | 53 | 78 | 15 |
| Greece | 4,829 | 2% | 35 | 18 | 19 | 3 |
| Hungary | 2,824 | 3% | 9 | 26 | 15 | 1 |
| Iceland | 435 | 4% | 11 | 2 | 1 | 0 |
| Ireland | 35,174 | 21% | 66 | 179 | 33 | 11 |
| Italy | 116,933 | 7% | 77 | 58 | 98 | 21 |
| Latvia | 304 | 1% | 4 | 5 | 13 | 0 |
| Liechtenstein | 3,620 | 85% | 17 | 23 | 1 | 17 |
| Lithuania | 518 | 2% | 3 | 8 | 14 | 0 |
| Luxembourg | 23,285 | 54% | 27 | 285 | 15 | 0 |
| Malta | 306 | 4% | 25 | 33 | 7 | 1 |
| Netherlands | 79,009 | 13% | 190 | 22 | 73 | 12 |
| Norway | 20,805 | 5% | 71 | 3 | 34 | 6 |
| Poland | 15,615 | 4% | 14 | 45 | 18 | 5 |
| Portugal | 8,471 | 5% | 23 | 19 | 36 | 8 |
| Romania | 1,935 | 1% | 24 | 17 | 10 | 1 |
| Slovakia | 2,283 | 3% | 2 | 16 | 19 | 2 |
| Slovenia | 2,002 | 6% | 14 | 4 | 5 | 0 |
| Spain | 62,166 | 6% | 211 | 59 | 79 | 19 |
| Sweden | 18,651 | 5% | 117 | 55 | 37 | 12 |
| United Kingdom | 252,173 | 13% | 210 | 156 | 61 | 17 |
| **EU/EEA** | **1,115,402** | **8.5%** | **2,063** | **1,272** | **922** | **190** |
| **EU** | **1,140,262** | **8.6%** | **1,964** | **1,244** | **886** | **167** |

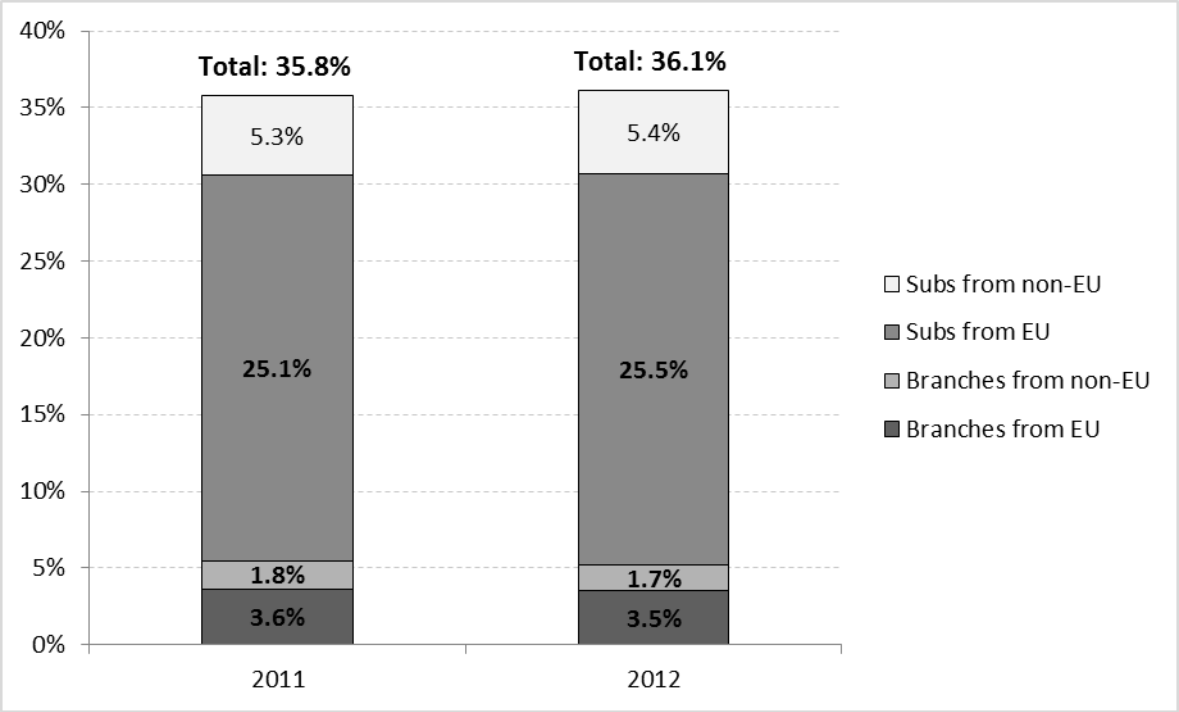
*Note:* n.a. is not available. Enterprises and branches are in numbers.
*Sources:* EIOPA Statistical Annex, Eurostat, OECD Insurance Statistics.

**Table 4 – Internationalisation in the European insurance market, measured by GWP (2012)**

| | GWP | | | |
|---|---|---|---|---|
| **Countries** | **Home** | **Region** | **World** | **International** |
| Austria | 66% | 29% | 5% | 34% |
| Belgium | 47% | 46% | 7% | 53% |
| Bulgaria | 36% | 63% | 0% | 64% |
| Croatia | 56% | 39% | 5% | 44% |
| Cyprus | 29% | 53% | 18% | 71% |
| Czech Republic | 1% | 98% | 1% | 99% |
| Denmark | 69% | 28% | 3% | 31% |
| Estonia | 3% | 96% | 1% | 97% |
| Finland | 62% | 37% | 1% | 38% |
| France | 78% | 19% | 3% | 22% |
| Germany | 75% | 18% | 7% | 25% |
| Greece | 46% | 52% | 2% | 54% |
| Hungary | 6% | 92% | 2% | 94% |
| Iceland | 87% | 13% | 0% | 13% |
| Ireland | 4% | 61% | 35% | 96% |
| Italy | 66% | 29% | 5% | 34% |
| Latvia | 23% | 58% | 20% | 77% |
| Liechtenstein | 16% | 47% | 38% | 84% |
| Lithuania | 23% | 74% | 3% | 77% |
| Luxembourg | 16% | 68% | 16% | 84% |
| Malta | 38% | 44% | 18% | 62% |
| Netherlands | 83% | 14% | 2% | 17% |
| Norway | 73% | 26% | 0% | 27% |
| Poland | 35% | 63% | 2% | 65% |
| Portugal | 39% | 50% | 10% | 61% |
| Romania | 24% | 73% | 3% | 76% |
| Slovakia | 8% | 90% | 3% | 92% |
| Slovenia | 88% | 12% | 0% | 12% |
| Spain | 68% | 26% | 6% | 32% |
| Sweden | 48% | 38% | 13% | 52% |
| United Kingdom | 58% | 32% | 10% | 42% |
| **Euro Area** | **68%** | **26%** | **6%** | **32%** |
| **Non Euro Area** | **55%** | **36%** | **9%** | **45%** |
| **EU** | **64%** | **29%** | **7%** | **36%** |
| **EU/EEA** | **64%** | **29%** | **7%** | **36%** |

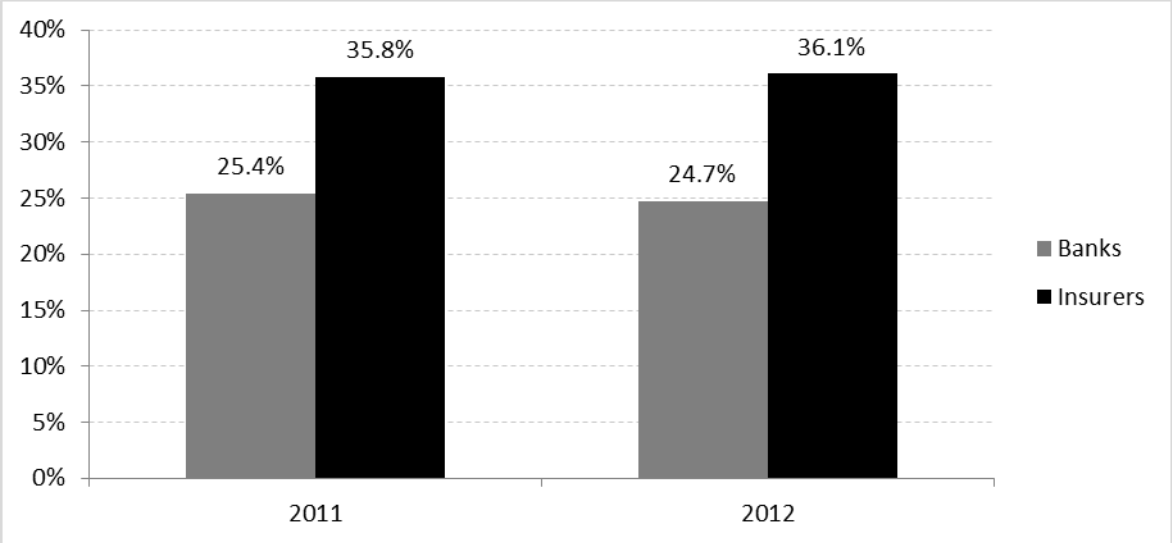
*Note:* Regional is rest of EU, World is non-EU, International is Regional and World combined. Due to rounding, figures will not always exactly add up to 100.
*Source:* Authors calculations, EIOPA Statistical Annex, OECD Insurance Statistics, List on US insurance in Europe.

**Figure 6 – Insurance: Origin of cross-border activity**




*Note:* This graph represents the origin of cross border GWP and makes a split in EU/non-EU branches and subsidiaries. The percentage represents the % of GWP that comes from abroad.
*Source:* Authors calculations, EIOPA Statistical Annex, OECD Insurance Statistics, list of US insurance in Europe.

**Figure 7 – Cross-border state of banks and insurers in EU countries**




*Note:* This graph represents the degree of internationalisation in countries from the EU for both banking and insurance. The percentage represents the % of GWP that comes from abroad.
*Source:* ECB Structural Financial Indicators, Authors calculations, EIOPA Statistical Annex, OECD Insurance Statistics, list of US insurance in Europe.

## 4. Internationalisation of large insurance companies

Having found a high degree of internationalisation from a country perspective, we now turn to internationalisation of insurance groups from a firm perspective. Extending earlier work from Schoenmaker *et al.* (2008), this section looks at the largest insurers from Europe and their international activities measured by GWP. This section also makes a comparison between the largest insurers from Europe, North-America and Asia and investigates the internationalisation of the so-called global systemically important insurers (G-SIIs).

### 4.1 Internationalisation of the largest European insurers

We start with constructing an overview of the largest insurers from Europe and their degree of internationalisation in 2012. Following Schoenmaker *et al.* (2008), we classify insurers into 'domestic', 'semi-international', 'regional' and 'global'. An insurer is 'domestic' if 75% or more of the premium is written in the home country. A 'semi-international' insurer writes between 50 and 75% of its premium in the home country. A 'regional' insurer writes less than 50% of its premium in the home country and a majority of the remaining international premium in the rest of Europe. Finally, a 'global' insurer also writes less than 50% in the home country but the majority of its international premium in the rest of the world. Table 5 presents an overview of the largest 25 European insurers and their classification. It appears that 15 out of the 25 of the large European insurers are very internationally oriented, with 9 European insurers classified as 'global' and 6 as 'regional'. Furthermore, insurers from the Netherlands and the United Kingdom are more internationally oriented that insurers from France, who have more domestic insurers such as CNP, Covéa and Groupama. The 25 largest insurers write on average 42% of GWP in the home country, 32% in the region and 26% in the rest of the world in 2012.

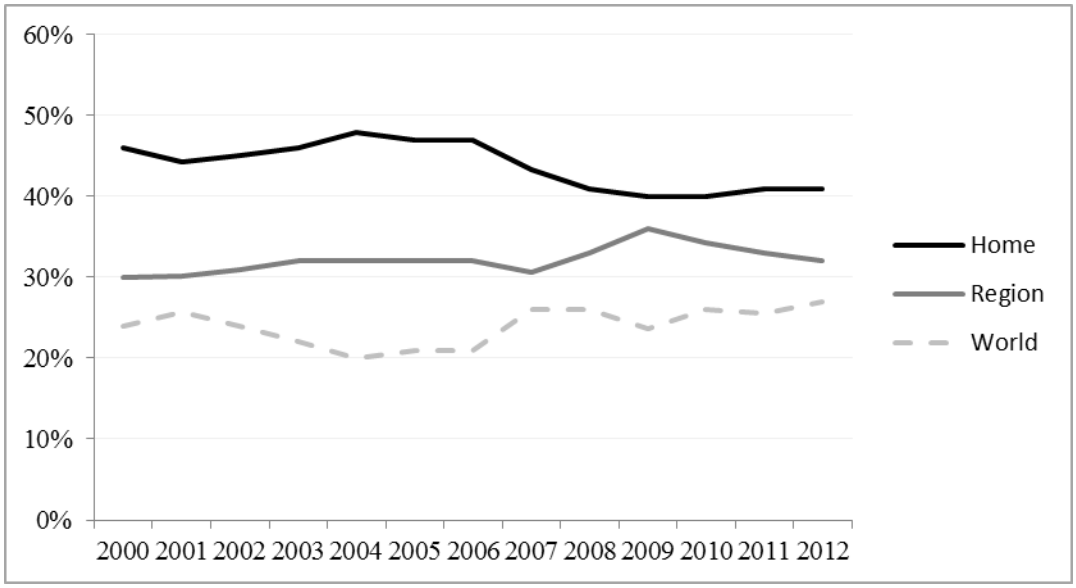
To examine the evolution of internationalisation, Table 12 in the Appendix provides an overview of the biggest insurers and their GWP segmentation in the years 2000, 2007 and 2012. We can observe that there are entries and exits of insurers in the Top 25 and ups and downs of the degree of internationalisation of particular insurers. The largest insurers such as AXA, Allianz, Aviva and Generali obtain most of their business from abroad throughout the 2000 to 2012 period. It also appears that they have increased in size much faster than their competitors. In particular, AXA, Allianz and Generali have grown substantially over the 2000-2012 period, while Aviva has decreased in size through the divestment of its Dutch subsidiary, Delta Lloyd, in 2009.

Figures 8 and 9 show a graphical representation from 2000 to 2012. Figure 8 makes a split between home, region and world, while Figure 9 combines region and world and thus shows an overall foreign percentage GWP. The percentage of GWP that is written in the home country has decreased since 2000, although a slight increase can be identified between 2004 and 2006. The percentage of GWP that is written at home has reduced from 46% in 2000 to only 42% in 2012. Accordingly, the percentage of international GWP has increased from 54% of GWP in 2000 (30% from region and 24% from world) to 58% in 2012 (32% from region and 26% from world).

Next, it appears that the geographical share of world is increasing over the last few years and 'catching up' with the premium share from the region. Figure 8 illustrates that the share of world has increased from 24% in 2009 to around 26% in 2012. In contrast, the share of region has decreased from 35% in 2009 to 32% in 2012. Prudential, ACE, Allianz have all seen a decrease in the relative importance of regional GWP, while these insurers as well as Zurich Financial Services, and MAPFRE have greatly increased their presence in countries outside of Europe.

In sum, large insurers in Europe are very internationally oriented with about 58% of their GWP written abroad in 2012. Since 2000 these insurers have increased their international presence from 54% to 58% and especially the percentage GWP written outside of Europe is increasing. Maybe somewhat surprisingly, the 2008-2009 global financial crisis has not lead to a reduction of internationalisation.

**Figure 8 – Geographical segmentation Top 25 insurers Europe**




*Note:* This figure shows the geographical segmentation of the 25 biggest European insurance companies for the years 2000-2012. The segmentation is established by assigning the Gross Written Premium per insurer to the classes Home (Domestic), Region (Europe) and World (non-Europe). Calculations are made on a weighted average basis.

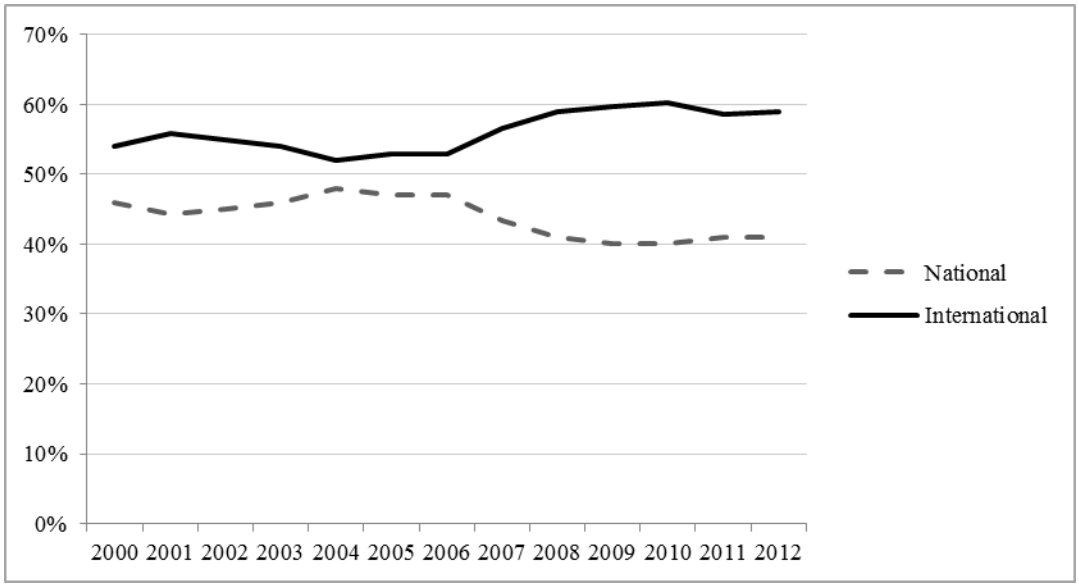
*Source:* Authors calculations.

**Table 5 – Classification of the largest European insurance groups (2012)**

| Global Insurance Groups | Country | GWP | Total Assets | H | R | W |
|---|---|---|---|---|---|---|
| Zurich Financial Services | CH | € 38,843 | € 309,980 | 11% | 40% | 49% |
| Prudential | UK | € 36,812 | € 380,165 | 23% | 0% | 77% |
| Talanx | DE | € 26,659 | € 130,254 | 35% | 32% | 33% |
| MAPFRE | ES | € 21,579 | € 56,983 | 37% | 7% | 56% |
| ING Group | NL | € 20,277 | € 339,513 | 36% | 23% | 41% |
| AEGON | NL | € 19,526 | € 366,118 | 19% | 35% | 46% |
| ACE | CH | € 21,593 | € 70,094 | 18% | 0% | 82% |
| Royal & Sun Alliance [RSA] | UK | € 11,566 | € 28,043 | 36% | 30% | 34% |
| SCOR | FR | € 9,514 | € 32,590 | 22% | 20% | 58% |
| | | | | | | |
| **Regional** | | | | | | |
| AXA | FR | € 84,592 | € 761,849 | 23% | 50% | 27% |
| Allianz | DE | € 72,086 | € 694,621 | 25% | 44% | 31% |
| Generali | IT | € 69,613 | € 441,745 | 29% | 65% | 6% |
| BNP Paribas | FR | € 19,813 | € 170,000 | 32% | 45% | 23% |
| Swiss Life | CH | € 9,978 | € 125,787 | 49% | 47% | 4% |
| Vienna Insurance Group | AT | € 9,686 | € 42,336 | 43% | 57% | 0% |
| | | | | | | |
| **Semi International** | | | | | | |
| Aviva | UK | € 27,993 | € 388,540 | 50% | 34% | 16% |
| Credit Agricole | FR | € 22,914 | € 291,100 | 66% | 30% | 4% |
| Ageas | BE | € 9,947 | € 97,113 | 64% | 33% | 3% |
| | | | | | | |
| **Domestic** | | | | | | |
| Lloyds | UK | € 31,385 | € 80,736 | 82% | 5% | 13% |
| CNP | FR | € 26,439 | € 353,216 | 81% | 8% | 11% |
| Achmea | NL | € 20,455 | € 94,817 | 94% | 6% | 0% |
| ERGO | DE | € 17,091 | € 147,208 | 77% | 18% | 5% |
| Covéa | FR | € 14,815 | € 87,334 | 89% | 10% | 1% |
| Groupama | FR | € 10,764 | € 87,946 | 80% | 20% | 0% |
| Unipol Gruppo Finanziario | IT | € 11,925 | € 83,109 | 100% | 0% | 0% |
| | | | | | | |
| **Top 25 Insurance Groups** | **-** | **€ 26,635** | **€ 226,448** | **42%** | **32%** | **26%** |

*Note:* This table classifies the largest 25 European Insurance Groups into Global, Regional, Semi International and Domestic Groups. An insurer is Global if it has more than 50% of its premium from abroad with a majority of the foreign premium from the rest of the world (W). If it has more in the rest of the region (R) category it is classified as Regional. If an insurer has 50-75% of its revenue from the home country (H), it is Semi-International. An insurer is Domestic if it obtains more than 75% of its GWP from the home market. In the last row the weighted average is taken (internationalisation weighted by GWP).
*Source:* Authors calculations.

**Figure 9 – Geographical segmentation Top 25 insurers Europe (2)**




*Note:* This figure shows the geographical segmentation of the 25 biggest European insurance companies for the years 2000-2012. The segmentation is established by assigning the Gross Written Premium per insurer to the classes Home (Domestic), Region (Europe) and World (non-Europe). This graph adds up the segments Region and World under the heading International. Calculations are made on a weighted average basis.
*Source*: Authors calculations.

### 4.2 Comparison between regions

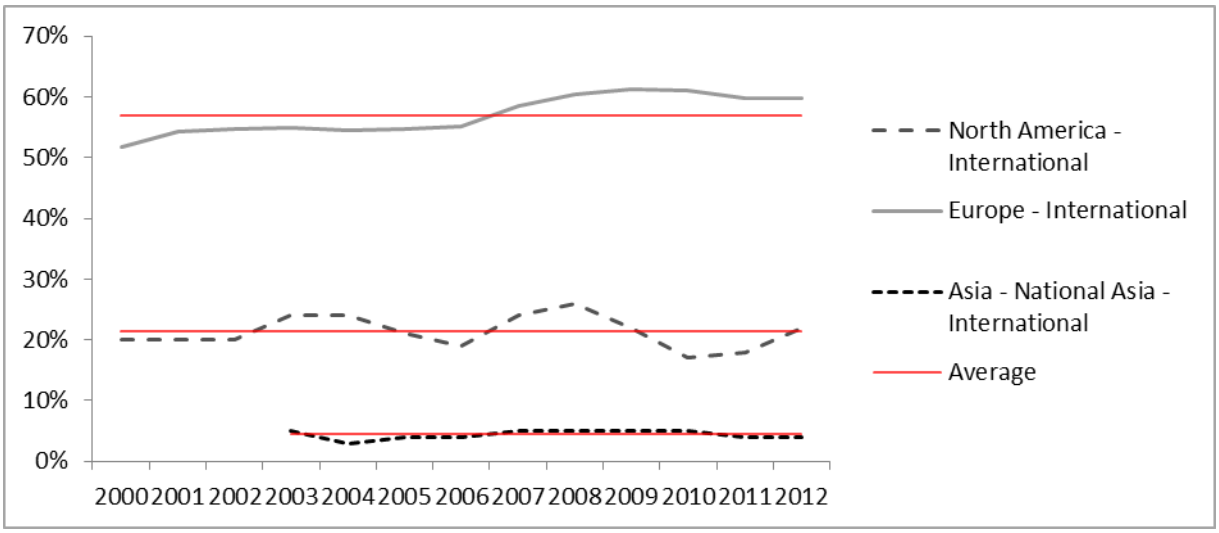
Following the same methodology, we now look at the difference in degree of internationalisation between the largest insurers from Europe, Asia and North America. Tables 13 and 14 in the Appendix provide detailed figures for Asia and North America. Insurers from Asia are generally active in Japan, India, China, South East Asia and Oceania, but very few have income from Europe or America. Table 13 shows that the largest insurers from Asia write almost all of their GWP in the home country. Insurers such as Japan Post, Nippon Life, Zenkyoren (JA-Kyosairen), Ping An Insurance and Life Insurance Corporation of India write more than 98% of their premiums at home.

In Northern America the largest insurers come from the United States and Canada (Table 14). Results here are more diverse than in Asia, although still a majority of the insurers is very locally oriented. Insurance groups such as Wellpoint Inc., United Health Group Inc., and Humana Inc. write more than 95% of their premiums in the home country. More internationally oriented insurance groups are Prudential of America, MetLife and American International Group (AIG) that wrote 77%, 35% and 30% of their premiums abroad in 2012.

Table 15 provides an overview of the weighted average premiums from the three continents. In Asia, 96% of the premiums are written at home. This percentage has remained stable over the years and has even increased slightly from 95% in 2000 and 2007 to 96% in 2012. The share of premiums from World and Region are both only 2% in Asia. This is in line with research from EY (2014) who find little internationalisation in the Chinese Insurance Market. Findings from Asia are in contrast with the current trend in Europe where an increasing amount of written premiums is coming from abroad. In Northern America the share of domestic written premium is 78% in 2012. This is less than in Asia but more than in Europe. Next, Figure 10 shows that the International share of GWP is more volatile in

the US than in Asia or Europe. In the US two peaks in internationalisation can be identified namely in 2005/2006 and in 2010/2011. This volatility cannot be identified in Europe, where international share has increased from 50% in 2000 to almost 60% in 2012, nor in Asia, where the share of internationally written premiums has remained stable at around 5% over the years. The average premium written abroad during the 2000 to 2012 period is 4% in Asia, 21% in North America and 57% in Europe. These findings are in line with Lloyds (2012).

**Figure 10 – Comparison between Top 20 insurers Europe, North America and Asia**




*Note:* This graph shows the difference in the Degree of Internationalisation between Europe, North America and Asia. The Degree of Internationalisation is the percentage of GWP earned abroad and is calculated by taking the values for the top 20 biggest insurers, measured by GWP, and by weighting it with the amount of GWP. For Asia, data before 2002 are scarce and are thus not included. Red lines represent the average of the available period.
*Sources:* Authors calculations.

One could argue that it is inappropriate to compare the region segment from Europe with that of North America. As the US and Canada are larger than the individual European countries in terms of geographical size, it may be more appropriate to recognise European countries in the same way as states are recognised in the US or Canada. For instance, if an insurer from California writes insurance in Nevada it would count as home GWP, while a premium that is written by a French insurer in Belgium would be classified as regional. In both cases the geographical distance is comparable. To correct for this bias, we add Home and Regional insurance premiums in Europe to compare these with Home premiums from North America (most insurers are from the US). Figure 14 in the Appendix presents the results. The largest insurance companies from North America are still more domestically oriented than European insurers, except for the period from 2002 to 2004. The North-America home premium is more volatile, moving around a 77% threshold during this period. The European Home and Regional premium is 78% in 2000 and declines to 73% in 2012. The share of premiums from European insurance groups earned outside Europe is thus increasing.

The overall picture is that the largest 20 insurance groups in Europe write relatively more of their premiums abroad than their North American and Asian counterparts. Europe thus seems the most internationalised region, with a still increasing share of international premium (Figure 13). The international outlook of European insurers may be spurred by the creation of the EU Single Market.

Our findings are in line with earlier research by Van der Zwet (2003) and Schoenmaker *et al.* (2008), who find that European insurance groups have a stronger international presence than their American or Asian peers.

### 4.3 Global systemically important insurers

In July 2013 the Financial Stability Board (FSB) created a list with Global Systematically Important Insurers (G-SIIs). This list was established with help of the International Association of Insurance Supervisors (IAIS), who published a methodology to identify systematically important insurance companies. Additional requirements for these systematically important insurers are in line with the policy framework, which was published by the FSB in November 2011, originally intended for banks. These measures include 1) requirements related to effective recovery and resolution planning of failing insurers, 2) enhanced group wide supervision and 3) higher loss absorbency requirements (FSB, 2013). The 2013 list is made up of the following insurance groups: Allianz, American International Group, Generali, Aviva, AXA, Metlife, Ping An Insurance, Prudential Financial Inc., and Prudential plc. Regarding the geographical segmentation of these insurers, there is one insurer from Asia, three from North America and five from Europe. This is consistent with our findings that the major European insurers are the most internationally oriented, followed by North America as medium-international and Asia as very domestic.

Table 6 presents GWP, total assets and geographical segmentation of these insurance companies in 2012. Within the group of G-SIIs, the European insurance groups are generally larger than their North American and Asian peers and more internationally oriented. Prudential is an exception with 77% of its GWP written in Korea and Japan. Looking at the trend over time, it appears that the G-SIIs have become more internationally oriented with 39% of premiums coming from home in 2012, down from 46% in 2003. Also the segment Region has lost ground, down from 36% of premiums in 2003 to 31% in 2012. The degree of internationalisation has thus shifted to World, which increased from 18% in 2003 to 30% in 2012. We conclude that the nine Systematically Important Insurers (except for Ping An Insurance from China) have become truly global players.

**Table 6 – Systematically important insurance companies**

| Insurance Company | Total Assets 2012 (€ mn) | GWP 2012 (€ mn) | 2003 | | | 2012 | | |
|---|---|---|---|---|---|---|---|---|
| | | | H | R | W | H | R | W |
| Allianz SE | € 694,621 | € 72,086 | 32% | 47% | 21% | 25% | 44% | 31% |
| American International Group, Inc. | € 344,404 | € 28,809 | 54% | 37% | 9% | 70% | 21% | 9% |
| Generali S.p.A. | € 441,745 | € 69,613 | 39% | 57% | 4% | 29% | 65% | 6% |
| Aviva plc. | € 388,540 | € 27,993 | 53% | 37% | 10% | 50% | 34% | 16% |
| AXA S.A. | € 761,849 | € 84,592 | 26% | 44% | 31% | 23% | 50% | 27% |
| MetLife, Inc. | € 634,213 | € 31,557 | 91% | 1% | 8% | 65% | 3% | 32% |
| Ping An Insurance (Group) Company of China, Ltd. | € 143,071 | € 37,152 | 99% | 1% | 0% | 99% | 1% | 0% |
| Prudential Financial, Inc. | € 204,577 | € 52,420 | 54% | 0% | 46% | 67% | 0% | 33% |
| Prudential plc. | € 380,165 | € 36,650 | 44% | 2% | 54% | 23% | 0% | 77% |
| **Weighted Average** | **-** | **-** | **46%** | **36%** | **18%** | **39%** | **31%** | **30%** |

*Note:* This table displays the 9 Systematically Important Insurance Companies listed by the Financial Stability Board. Geographical segmentation numbers add up to 100% and show GWP from Home (H), Region (R) and World (W). In the last row, degree of internationalisation is weighted by GWP.
*Source:* Authors calculations.

## 5. Conclusions and policy implications

The use of a new dataset allows us to provide a comprehensive overview of cross-border insurance in Europe. The empirical findings suggest a high degree of cross-border penetration in European insurance. Moreover, the degree of internationalisation is still on the rise.

At the country level, 36 percent of Gross Written Premium (GWP) comes from abroad in the EU. 29 out of this 36 percent is from other EU countries, while 7 percent is from third countries (outside Europe). This strong degree of internationalisation is higher than in banking, which has only 25 percent of its business (measured in assets) from abroad. The dominant channel for cross-border insurance within Europe is the subsidiary form (25.5 percent) with a minor role for branches (3.5 percent). Nevertheless, the relative amount of branches in Europe is increasing.

At the company level, 58 percent of the GWP of the major insurers (top 25) is written abroad, both in the rest of Europe and the rest of the world. Interestingly, the world share (26 percent) is catching up with the Europe share (32 percent). Insurance is thus becoming a truly global business. Again, the large banks are less international, with 47 percent of their assets abroad.

*Policy considerations*

The nationally based regulatory/supervisory system and the high (and increasing) degree of internationalisation of insurance groups pose several challenges. One regulatory challenge is related to foreign branches. As mentioned above, the number of branches is increasing and certain European insurers have announced to transform (some) European subsidiaries into branches. The insurance industry is thus clearly aware of the fact that establishing branches can come with certain capital efficiencies related to the introduction of Solvency II (European Commission, 2010).

Cross-border operations through branches also raise supervisory challenges (IAIS, 2013). In some cases, assets from a foreign branch in a host jurisdiction can be transferred without prior approval by the supervisor. These assets can then be transferred to other parts of the group with consequences to the foreign branch's policyholders that have no access to these assets in case of insolvency and thus face the risk of not being paid in full if claims arise. From the perspective of the host supervisor, enough assets need to be present in the host jurisdiction. Availability and transferability of assets is one of the most significant challenges in branch supervision (IAIS, 2013), as some supervisory tools are not applicable to a branch where they are applicable to a subsidiary (which is a legal entity with a separate licence in the foreign jurisdiction). Another challenge is information asymmetry. The host supervisor may request information of the parent company of a branch in the host jurisdiction, when there are doubts about the solvency of the parent. If this information is not provided on time and accurately, host supervisors cannot act in the interest of the foreign branch's policyholders. Claessens *et al.* (2010) note that home supervisors have an incentive not to tell host supervisors about emerging problems to prevent precautionary ring-fencing of assets in the host jurisdiction.

Moving to subsidiaries, the host country supervisor has control over the assets and operations of foreign subsidiaries in its jurisdiction. Nevertheless, the host country supervisor may need to rely, at least partly, on the home supervisor. A case in point is the approval of internal models under Solvency II. The design and roll-out of an (international) insurance group's internal model are typically done at the head-office.

Another challenge in international regulation and supervision is the level playing field. Even with a harmonised regulatory regime, supervisors may interpret the 'common' rules differently. Moreover, the use of directives in insurance supervision provides scope for national discretions, whereby can countries implement alternative versions of certain rules. Finally, supervisors have become more risk

averse in the aftermath of the global financial crisis. They tend to require some extra capital cushion - above the regulatory minimum- at foreign (as well as domestic) subsidiaries, which is not freely available within the insurance group. Insurance groups can thus be confronted with different pockets of ring-fenced excess capital within the group which they cannot use (see Cerutti and Schmieder (2014) for examples of how ring-fencing can lead to extra capital needs in banking).

During the global financial crisis, the US has experienced the limits of state-based insurance supervision. The Dodd-Frank Reform Act has established the Federal Insurance Office (FIO). This agency is in charge of monitoring, possibly concerning, developments in the insurance industry and their contribution to systemic risk. If the latter is identified, it discusses these findings with the Financial Stability Oversight Council (FSOC). The FIO conducts its monitoring role mostly by collecting information and data from state regulators and other bodies. If an insurer is identified as systematically important, it can face higher capital requirements and tougher stress tests. Finally, the FIO is also authorised to help the Treasury Secretary in the negotiation of agreements that enhance prudential regulation regarding the insurance sector.

Moving to Europe, the European Insurance and Occupational Pensions Authority (EIOPA) has a coordinating role in the supervision of international insurance groups. EIOPA takes the lead in setting secondary rules and harmonising supervisory practices across Europe, in particular with regard to Solvency II. Next, EIOPA participates in the so-called supervisory colleges of cross-border insurance groups in order to contribute to the efficient, effective and consistent functioning of these colleges and to foster coherent application of EU law among colleges. In the case of disagreement on the group internal model in the supervisory college, for example, EIOPA can give advice (Article 231 of the Solvency II Directive). Nevertheless, final authority rests with national supervisors in the EU.

The question arises whether this coordinating role of EIOPA is sufficient for the effective supervision of the large cross-border European insurance groups. Another approach would be giving EIOPA the role as central supervisor – working with the national supervisors – in a future Insurance Union. There are several arguments in favour of centralised insurance supervision. First, large insurance groups typically apply an integrated approach to asset management. Next, Solvency II internal models will be applied group-wide. Moreover, it may be easier to assess the complexity and opacity of an insurance group as a whole, as central supervisor than through supervisory colleges. Group supervision may thus be more effective as well as efficient. Finally, centralised supervision may be an effective answer to level playing issues. Some supervisors are tougher than others, for example on models or capital levels. An unlevel playing field is not always visible, as one supervisor may, for example, apply more conservative rules for valuations or more restrictive assumptions for models than another supervisor.

But there are equally strong arguments against centralisation. First, insurance is less subject to systemic risk and thus less hounded by (cross-border) externalities. Cross-border externalities in banking have been a major driver of the Banking Union (Schoenmaker, 2011). Next, insurance, in particular for retail clients and SMEs, is local business, as products are attuned to national tax and social security laws. More broadly, the national legal setting (e.g. liability law) is important for insurance products.

The large, and still increasing, cross-border share of insurance in Europe may at some point tilt the supervisory balance from coordination to centralisation. Moreover, the insurance industry may push for an Insurance Union to address effectively level playing field issues.

**Bibliography**


Berger, A., R. Demsetz, and P. Strahan (1999), 'The Consolidation of the Financial Services Industry: Causes, Consequences and Implications for the Future', *Journal of Banking & Finance*, 23, 135-194.

Berger, A., Q. Dai, S. Ongena and D. Smith (2003), 'To What Extent will the Banking Industry be Globalized? A Study of Bank Nationality and Reach in 20 European Nations', *Journal of Banking & Finance*, 27, 383-415.

Cerutti, E. and C. Schmieder (2014), 'Ring fencing and consolidated banks' stress tests', *Journal of Financial Stability,* 11, 1-12.

Cetorelli, N. and L. Goldberg (2011), 'Global banks and international shock transmission: Evidence from the Crisis', *IMF Economic Review*, 59, 41-76.

Claessens, S., R. Herring, and D. Schoenmaker (2010), A Safer World Financial System: Improving the Resolution of Systemic Institutions, 12th Geneva Report on the World Economy, ICMB, Geneva, and CEPR, London.

Claessens, S. and N. Horen (2014), 'Foreign banks: Trends and impact', *Journal of Money, Credit and Banking*, 46(s1), 295-326.

Cummins, J. D. and M.A. Weiss (2014), 'Systemic risk and the US insurance sector', *Journal of Risk and Insurance*, 81, 489-528.

Delios, A. and P.W. Beamish (2001), 'Geographic scope, product diversification and the corporate performance of Japanese firms', *Japanese Subsidiaries in the New Global Economy*, 47.

Eppink, D. J. and B.M. van Rhijn (1988), 'The internationalisation of Dutch insurance companies', *Long Range Planning*, 21(5), 54-60.

Ernst & Young (2014), Future Directions for foreign insurance companies in China, November 2014.

European Commission (2010), 'Impact Assessment document to the White Paper on Insurance Guarantee Schemes', SEC 2010 (828), p. 17.

European Commission (2014), 'Final Report of the Commission Expert Group on European Insurance Contract Law', Brussels.

Financial Stability Board (2013), 'Global Systematical Important Insurers (G-SIIs) and the policy measures that will apply to them', 18 July, Basel.

Focarelli, D. and A.F. Pozzolo (2005), 'Where Do Banks Expand Abroad? An Empirical Analysis', *The Journal of Business*, 78, 2435-2464.

Focarelli, D. and A.F. Pozzolo (2008), 'Cross-border M&A's in the financial sector: Is banking different from insurance?', *Journal of Banking & Finance*, 32, 15-29.

Geneva Association (2010), 'Systemic risk in Insurance: An Analysis of Insurance and Financial Stability', Special Report of the Geneva Association Systemic Risk Working Group, Geneva.

Geringer, J.M., P.W. Beamish, and R.C. DaCosta (1989), 'Diversification strategy and internationalization: implications for MNE performance', *Strategic Management Journal*, *10,* 109–119.

Gulamhussen, M. A., C. Pinheiro, and A.F. Pozzolo (2014), 'International diversification and risk of multinational banks: evidence from the pre-crisis period', *Journal of Financial Stability*, 13, 30-43.

Insurance Europe (2014), 'European Insurance in Figures', Statistics No. 48, February, Brussels.

IAIS (2010), 'Position Statement on Key Financial Stability Issues', International Association of Insurance Supervisors, 4 June, Basel.

IAIS (2013), 'Issues paper on the supervision of cross-border operations through branches', International Association of Insurance Supervisors, October, Basel.

Kim, W. C., P. Hwang, and W.P. Burgers (1989), 'Global diversification strategy and corporate profit performance', *Strategic Management Journal*, 10, 45-57.

Lloyds (2012), 'Insurance Regulation: International Horizons', Presentation at October 26, London.

Moshirian, F. (2006), 'Aspects of international financial services', *Journal of Banking & Finance*, 30, 1057–1064.

Nicoló, G. D., P. Bartholomew, J. Zaman, and M. Zephirin (2004), 'Bank consolidation, internationalization, and conglomeration: Trends and implications for financial risk', *Financial markets, institutions & instruments*, 13(4), 173-217.

Ramaswamy, K., K.G. Kroeck, and W. Renforth (1996), 'Measuring the degree of internationalization of a firm: A comment', *Journal of International Business Studies*, 27, 167-178.

Schoenmaker, D. (2011), 'The Financial Trilemma', *Economics Letters*, 111, 57-59.

Schoenmaker, D. (2013), 'Post-crisis reversal in banking and insurance integration: An empirical survey', Economic Papers No. 496, DG ECFIN, European Commission, Brussels.

Schoenmaker, D. and S. Oosterloo (2005), 'Financial Supervision in an Integrating Europe: Measuring Cross-Border Externalities', *International Finance*, 8, 1-27.

Schoenmaker, D., S. Oosterloo, and O. Winkels (2008), 'The Emergence of Cross-Border Insurance Groups within Europe with Centralised Risk Management', *The Geneva Papers on Risk and Insurance-Issues and Practice*, 33, 530-546.

Schoenmaker, D., J. de Haan, and S. Oosterloo (2015), 'Financial Markets and Institutions: A European Perspective', Third Edition, Cambridge University Press, Cambridge, UK, *forthcoming*.

Slager, A. M. (2004), 'Banking Across Borders: Internationalization of the World's Largest Banks between 1980 and 2000', PhD dissertation at Erasmus Research Institute of Management (ERIM), Erasmus University, Rotterdam.

Soussa, F. (2004), 'A Note on Banking FDI in Emerging Markets: Literature Review and Evidence', Working Paper, Bank of England, London.

Stopford, J. and L.T. Wells Jr. (1972), 'Managing the Multinational Enterprise: Organization of the Firm and Ownership of the Subsidiary', Basic Books, New York.

Stoyanova, R. and H. Gründl (2014), 'Solvency II: A Driver for Merger and Acquisitions?', *The Geneva Papers on Risk and Insurance-Issues and Practice*, 39, 417-439.

Sullivan, D. (1994), 'Measuring the degree of internationalization of a firm', *Journal of International Business Studies*, 25, 325-342.

Tallman, S. and J. Li (1996), 'Effects of international diversity and product diversity on the performance of multinational firms', *Academy of Management Journal*, 39, 179-196.

Weiss, G. and J. Mühlnickel (2014), 'Why Do Some Insurers Become Systemically Relevant?', *Journal of Financial Stability*, 13, 95-117.

Van der Zwet, A. (2003), 'The blurring of distinctions between financial sectors: fact or fiction?', DNB Occasional Studies 1(2), 1–26.

## Appendix

### 1.Data

#### 1.1 Sources used to establish the number of Subsidiaries and Branches

- Statistical Annex to EIOPA Financial Stability Reports. This dataset contains statistical information submitted by national authorities to EIOPA from 2005 to 2012. It reports the number of *National Enterprises* (i.e. Enterprises with their head office in the country), the branches from EU/EEA and branches from non-EU/EEA countries per country. For more information please consult: https://eiopa.europa.eu/en/publications/financial-stability/statistics/index.html
- The EIOPA Register of Insurance Undertakings. This is the online register of EU registered insurance undertakings. It states the number and details of the Domestic Undertakings (i.e. an undertaking that has been granted the appropriate authorisation for the taking-up of the business of direct insurance or reinsurance in the country where the undertaking has its legal seat), Third Country Branches and EU/EEA branches. Two updates are used, as they are provided by EIOPA: *The Register June 2012* (in which the data are from January 2012) and the *June 2013 update* for 2012 data. These data are used to research the number of domestic undertakings that are controlled by a foreign enterprise. Also it serves as double check of the EIOPA Financial Stability Report Data. Information on the EIOPA Register can be found under the following link: https://eiopa.europa.eu/en/publications/register-of-insurance-undertakings/index.html
- OECD Insurance Statistics 2005-2012. This report contains information for OECD countries on the number of foreign controlled insurance entities. The data for each country is received from the relevant national insurance authority. The report can be found under the following link: http://www.keepeek.com/Digital-Asset-Management/oecd/finance-and-investment/oecd-insurance-statistics-2013_ins_stats-2013-en#page1
- For France, a report called “2012, The French insurance market in Figures”, issued by the ACPR Banque de France is used to obtain the number of Branches from EU/EEA countries.
- For the United Kingdom, Switzerland, Spain and Portugal, specific calculations are performed. For the UK and Switzerland, the total number of Life and Non-Life companies and the market share of foreign Life and Non-life companies are found in the OECD Insurance Statistics. The number of foreign controlled entities is then calculated on the basis of market share. For Spain and Portugal, the absolute changes in number of foreign controlled entities during the years 2007-2012 is taken from the OECD report as these numbers are higher and more in detail.
- For a small number of years, proxies must be taken as no information is available. In most cases, the proxy is the value of the number of branches or subsidiaries from the last available observation.

#### 1.2 Sources used to establish the GWP split per country

- The basis for this part of the research is the Statistical Annex to EIOPA Financials Stability Reports. In worksheet 2 of the Statistical Annex (Excel File), the Gross Written Premium in millions of Euro’s can be found for life, non-life and composite enterprises. Figures used in this report are from the row *Total excluding Reinsurance*. In this file, a split is made between *National Enterprises* (which are Enterprises with their head office in the country, excluding gross premiums written abroad), *EU/EEA Branches* and *non-EU/EEA branches.* A limitation of this dataset is that not all figures are available (See for instance the Netherlands). In our research these gaps are filled with hand-collected data and data from other sources/reports. Link of Statistical Annex: https://eiopa.europa.eu/en/publications/financial-stability/statistics/index.html
- Also, the so called “Helsinki List” is used, which was kindly provided by EIOPA. The Helsinki List is a relatively new data gathering source and as a result is only available for years 2011 and 2012. The *Helsinki List* data are provided by national supervisory authorities to EIOPA. It covers all (92 in 2011 and 93 in 2012) insurance undertakings in Europe that have subsidiaries in foreign EU/EEA

countries. This list is established to improve the oversight of cross-border insurance groups in Europe. Data from the Helsinki List are confidential and can thus only be provided at the aggregate level. Please find these data in the Statistical Annex A8 and A9.

- OECD Insurance Statistics 2005-2012. In this report, the amount of GWP written by foreign controlled insurance undertakings is provided for some OECD countries. Data and countries for which these data are used can be found in Statistical Annex A1. http://www.keepeek.com/Digital-Asset-Management/oecd/finance-and-investment/oecd-insurance-statistics-2013_ins_stats-2013-en#page1

## 2. Methodology

### 2.1 Number of Subsidiaries and Branches

Some data from the EIOPA Statistical Annex and OECD Insurance Statistics are corrected as more reliable data are found through own research. This mainly concerns data on foreign controlled insurers and non-EU/EEA Branches. These data are obtained by using the Helsinki List in combination with EIOPA data on US insurers active in Europe. By adding up the numbers found in these documents, an upward adjustment of the data reported by the EIOPA Statistical Annex or OECD Insurance Statistics is made.

The most important methodology aspect is made clear through the following example: For Germany 2011 and 2012, the number of foreign controlled insurance undertakings from the OECD report is 50 for both years. However, with the detailed information from the Helsinki and US Subsidiary List, we obtain 53 foreign controlled undertakings for both years (for both years 51 from Helsinki List and 2 US Subs). This information is assumed to be more accurate and is thus used instead of the OECD data. The same holds for Italy 2011, Portugal 2011 and 2012 and Spain 2011 and 2012.

Apart from the information from the Helsinki List, EIOPA's register provides detailed information for the years 2011 and 2012. After having filtered the register to only *Domestic Undertakings*, research on the country source of control of every undertaking is performed. As a result, the total amount of *Domestic Undertakings* are split into *Foreign* and *Domestic Controlled* and certain gaps are filled.

For the number of EU/EEA Branches, the base of our research is once again the EIOPA Statistical Annex. In combination with the January 2012 (for data concerning 2011) and June 2013 EIOPA Register (for data for 2012), some data gaps are filled. For instance, EU/EEA Branches for the Netherlands are not available in the EIOPA report. By using the EIOPA Register, we obtain 75 and 73 EU/EEA branches for 2011 and 2012 respectively.

Finally, also the number of branches from non-EU/EEA countries is taken from the EIOPA statistical annex and adjusted or filled with data from the Helsinki List and the US Branch & Sub list. For instance, for Austria the EIOPA Statistical Annex reports 1 *third country branch* in 2011 and 2012. We obtain 1 Swiss branch through the Helsinki List and 4 US Branches from the US List. This adds up to 5 non-EU/EEA branches in 2012. As this information is only available for 2011 and 2012, the trend for years 2007-2012 is taken from the EIOPA Statistical Annex, whereby the hand collected numbers are taken for 2011 and 2012. Through this procedure, it is possible to adapt numbers for many countries such as Belgium, Denmark, France, Germany, Ireland, Italy, Poland and the UK.

### 2.2 Gross Written Premium split per country

As described before, the premium written through a number of unknown branches is deduced from the EIOPA Statistical Annex if the Helsinki List amount was lower than the Statistical Annex amount. By doing this, the amounts for the EU/EEA branches are estimated for Cyprus, Estonia, Finland,

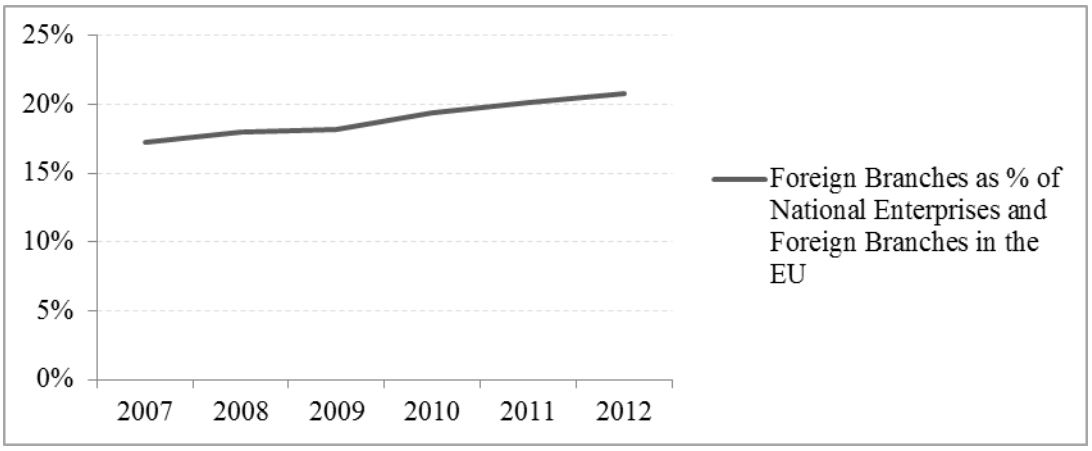
Germany, Iceland, Ireland, Italy, Lithuania, Luxembourg, Latvia, Poland, Sweden and Spain and for non-EU/EEA branches for Cyprus, Greece and Ireland (all in 2012). In 2011 the countries for which the GWP from EU Branches is used are Finland, Germany, Iceland, Ireland, Italy, Lithuania, Luxembourg, Latvia, Poland, Sweden and Spain. For 2011 GWP written by non-EU/EEA branches, EIOPA data is used for Cyprus and Ireland.

**Table 7 – Approximated GWP in Europe**

| | Total GWP written in the EU (€ mn) | GWP that had to be approximated (€ mn) | **Percentage** |
|---|---|---|---|
| **2011** | 1,082,937 | 40,917 | **3.8%** |
| **2012** | 1,115,402 | 36,609 | **3.3%** |

*Note:* To arrive at the approximated GWP, we add up the GWP for branches and subsidiaries that have to be estimated. The right column shows the percentage of total GWP in Europe. Figures in € million. Including Switzerland.
*Source*: Authors calculations.

**Figure 11 – Total insurance activity by number of branches in the EU (as a %)**




*Note:* The total number of branches and national enterprises are added up and percentages are taken.
*Source:* EIOPA Statistical Annex, OECD Insurance Statistics, EIOPA's Register of Insurance Undertakings, Authors calculations.

**Table 8 – Internationalisation of branches and subsidiaries in Europe (2012)**

| Countries | Branches from EU | Branches from non-EU | Subsidiaries from EU | Subsidiaries from non EU | Total Cross Border |
|---|---|---|---|---|---|
| Austria | 1.8% | 0.1% | 27.3% | 4.6% | 33.8% |
| Belgium | 2.9% | 0.6% | 43.4% | 6.0% | 52.9% |
| Bulgaria | 9.3% | 0.0% | 54.1% | 0.4% | 63.8% |
| Croatia | 3.7% | 0.0% | 35.4% | 4.8% | 43.9% |
| Cyprus | 8.2% | 4.6% | 44.5% | 13.3% | 70.6% |
| Czech Republic | 9.6% | 0.4% | 88.6% | 0.8% | 99.3% |
| Denmark | 4.5% | 0.3% | 23.9% | 2.3% | 31.1% |
| Estonia | 17.0% | 0.0% | 78.7% | 1.5% | 97.2% |
| Finland | 8.5% | 1.0% | 28.8% | 0.0% | 38.3% |
| France | 0.8% | 0.3% | 18.0% | 2.9% | 21.9% |
| Germany | 3.1% | 2.4% | 15.0% | 4.4% | 24.9% |
| Greece | 11.1% | 0.1% | 41.4% | 1.5% | 54.1% |
| Hungary | 6.2% | 0.8% | 86.2% | 0.9% | 94.1% |
| Iceland | 4.8% | 0.0% | 8.6% | 0.0% | 13.4% |
| Ireland | 5.2% | 1.7% | 56.0% | 32.9% | 95.8% |
| Italy | 6.0% | 3.2% | 23.3% | 1.6% | 34.1% |
| Latvia | 30.6% | 0.0% | 27.1% | 19.6% | 77.3% |
| Liechtenstein | 5.6% | 5.6% | 41.2% | 32.2% | 84.5% |
| Lithuania | 40.3% | 0.0% | 33.8% | 2.6% | 76.8% |
| Luxembourg | 0.5% | 0.0% | 67.5% | 15.5% | 83.6% |
| Malta | 10.0% | 1.5% | 33.6% | 16.8% | 61.8% |
| Netherlands | 4.2% | 0.8% | 10.1% | 1.6% | 16.7% |
| Norway | 19.2% | 0.4% | 6.9% | 0.0% | 26.6% |
| Poland | 3.6% | 0.8% | 59.5% | 1.1% | 65.0% |
| Portugal | 21.3% | 9.9% | 28.9% | 0.6% | 60.7% |
| Romania | 5.0% | 2.6% | 68.5% | 0.0% | 76.1% |
| Slovakia | 9.9% | 0.9% | 79.9% | 1.7% | 92.4% |
| Slovenia | 4.0% | 0.0% | 8.3% | 0.0% | 12.3% |
| Spain | 4.2% | 3.1% | 21.9% | 2.8% | 31.9% |
| Sweden | 7.9% | 2.9% | 30.5% | 10.6% | 51.9% |
| United Kingdom | 3.0% | 1.9% | 29.5% | 7.9% | 42% |
| **EU: Euro area** | **3.5%** | **1.7%** | **22.5%** | **4.7%** | **32.4%** |
| **EU: non Euro area** | **3.7%** | **1.7%** | **32.5%** | **7.0%** | **45.0%** |
| **EU** | **3.5%** | **1.7%** | **25.5%** | **5.4%** | **36.1%** |
| **EU/EEA** | **3.8%** | **1.7%** | **25.2%** | **5.4%** | **36.1%** |

*Note:* Absolute figures from Table 9 are used to arrive at a percentage split for 2012. The last column adds up columns 2 to 5.
*Source:* Helsinki List, OECD Insurance Statistics, Authors calculations.

**Table 9 – Insurance GWP split in foreign branches and subsidiaries (GWP in € mn)**

| | Branches from EU | | Branches from non-EU | | Subs from EU | | Subs from non-EU | | Total GWP | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Countries** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** |
| Austria | 214 | 315 | 19 | 20 | 5,641 | 4,837 | 818 | 816 | 17,741 | 17,697 |
| Belgium | 3,073 | 935 | 227 | 203 | 13,961 | 14,059 | 2,215 | 1,938 | 31,823 | 32,388 |
| Bulgaria | 86 | 84 | - | - | 481 | 487 | 4 | 4 | 909 | 901 |
| Croatia | 53 | 46 | - | - | 355 | 440 | 54 | 59 | 1,216 | 1,244 |
| Cyprus | 56 | 69 | 65 | 39 | 371 | 377 | 111 | 112 | 883 | 846 |
| Czech Republic | 237 | 616 | 24 | 26 | 5,473 | 5,697 | 50 | 50 | 5,938 | 6,433 |
| Denmark | 1,174 | 1,159 | 164 | 73 | 6,712 | 6,098 | 859 | 592 | 25,040 | 25,485 |
| Estonia | 42 | 51 | - | - | 234 | 236 | 11 | 4 | 287 | 300 |
| Finland | 722 | 729 | 82 | 82 | 2,338 | 2,461 | - | - | 8,030 | 8,546 |
| France | 1,636 | 1,631 | 554 | 585 | 37,668 | 36,385 | 5,810 | 5,792 | 208,870 | 202,554 |
| Germany | 6,026 | 6,030 | 4,847 | 4,646 | 27,486 | 28,811 | 8,116 | 8,383 | 188,123 | 192,530 |
| Greece | 623 | 536 | 486 | 4 | 2,079 | 1,997 | 51 | 74 | 5,626 | 4,829 |
| Hungary | 155 | 175 | 113 | 21 | 2,448 | 2,435 | 3 | 25 | 3,187 | 2,824 |
| Iceland | 20 | 21 | - | - | 36 | 37 | - | - | 317 | 435 |
| Ireland | 1,283 | 1,814 | 600 | 609 | 18,329 | 19,695 | 11,589 | 11,589 | 34,045 | 35,174 |
| Italy | 5,237 | 7,027 | 3,643 | 3,692 | 29,127 | 27,299 | 2,189 | 1,839 | 121,983 | 116,933 |
| Latvia | 73 | 93 | - | - | 98 | 82 | 55 | 59 | 270 | 304 |
| Liechtenstein | 49 | 201 | 201 | 201 | 2,366 | 1,491 | 1,235 | 1,164 | 4,389 | 3,620 |
| Lithuania | 210 | 209 | - | - | 345 | 175 | 18 | 13 | 570 | 518 |
| Luxembourg | 119 | 124 | - | - | 12,919 | 15,721 | 3,613 | 3,613 | 16,737 | 23,285 |
| Malta | 25 | 30 | 4 | 5 | 122 | 103 | 61 | 51 | 337 | 306 |
| Netherlands | 2,973 | 3,282 | 777 | 649 | 8,336 | 7,977 | 1,289 | 1,278 | 82,430 | 79,009 |
| Norway | 3,278 | 3,999 | 89 | 89 | 1,400 | 1,442 | - | - | 16,938 | 20,805 |
| Poland | 610 | 555 | 108 | 127 | 6,632 | 9,288 | 475 | 177 | 14,552 | 15,615 |
| Portugal | 1,114 | 1,807 | 827 | 835 | 2,896 | 2,450 | 54 | 54 | 8,258 | 8,471 |
| Romania | 95 | 96 | 51 | 51 | 1,329 | 1,325 | - | - | 1,960 | 1,935 |
| Slovakia | 233 | 226 | 20 | 20 | 1,839 | 1,824 | 36 | 39 | 2,294 | 2,283 |
| Slovenia | 63 | 80 | - | - | 169 | 166 | - | - | 1,982 | 2,002 |
| Spain | 2,767 | 2,612 | 2,233 | 1,926 | 14,337 | 13,584 | 1,752 | 1,722 | 65,921 | 62,166 |
| Sweden | 1,334 | 1,467 | 547 | 544 | 5,237 | 5,690 | 1,865 | 1,971 | 17,346 | 18,651 |
| United Kingdom | 9,165 | 7,610 | 4,629 | 4,770 | 64,723 | 74,323 | 15,812 | 19,950 | 216,575 | 252,173 |
| **EU: Euro Area** | **26,275** | **27,368** | **14,320** | **13,276** | **177,933** | **178,128** | **37,713** | **37,311** | **795,976** | **790,020** |
| **EU: Non Euro Area** | **13,121** | **12,041** | **5,701** | **5,651** | **93,751** | **105,896** | **19,196** | **22,895** | **286,961** | **325,382** |
| **EU** | **39,396** | **39,409** | **20,020** | **18,927** | **271,684** | **284,024** | **56,909** | **60,206** | **1,082,937** | **1,115,402** |
| **EU/EEA** | **42,744** | **43,630** | **20,310** | **19,216** | **275,486** | **286,995** | **58,144** | **61,370** | **1,104,582** | **1,140,262** |

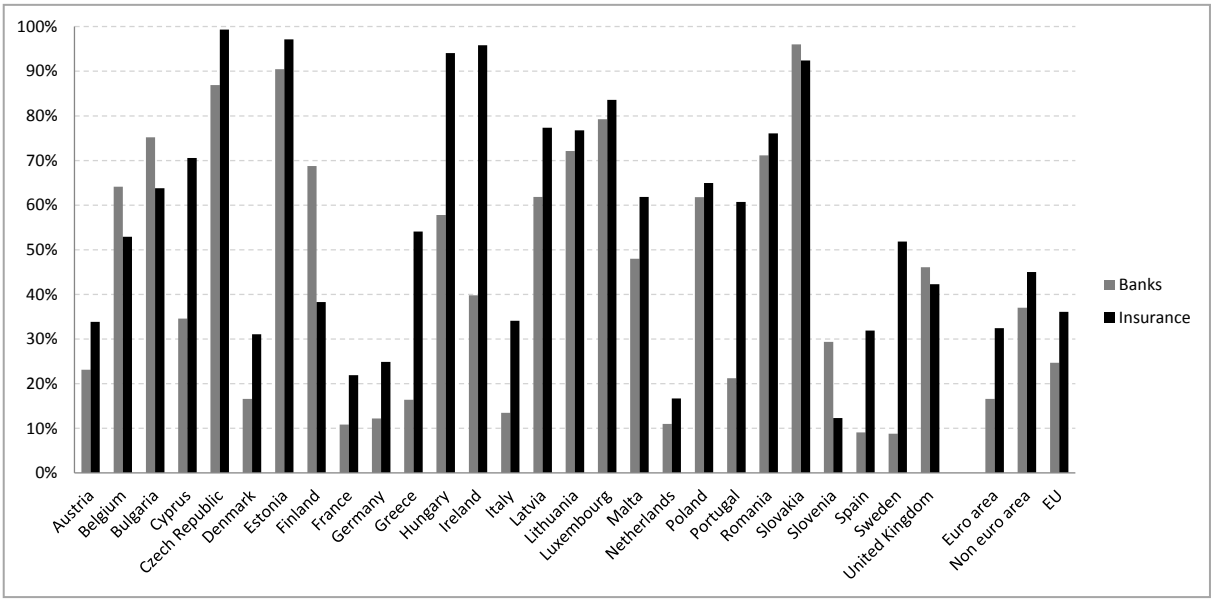
*Note:* The last column provides total GWP for each year.
*Source:* Helsinki List, OECD Insurance Statistics, Authors calculations.

**Table 10 – Insurance GWP split in foreign branches and subsidiaries (% of GWP)**

| | Branches from EU | | Branches from non-EU | | Subs from EU | | Subs from non-EU | | Total foreign GWP | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Countries** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** | **2011** | **2012** |
| Austria | 1.2% | 1.8% | 0.1% | 0.1% | 31.8% | 27.3% | 4.6% | 4.6% | 37.7% | 33.8% |
| Belgium | 9.7% | 2.9% | 0.7% | 0.6% | 43.9% | 43.4% | 7.0% | 6.0% | 61.2% | 52.9% |
| Bulgaria | 9.5% | 9.3% | 0.0% | 0.0% | 52.9% | 54.1% | 0.4% | 0.4% | 62.8% | 63.8% |
| Croatia | 4.4% | 3.7% | 0.0% | 0.0% | 29.2% | 35.4% | 4.4% | 4.8% | 37.9% | 43.9% |
| Cyprus | 6.4% | 8.2% | 7.4% | 4.6% | 42.0% | 44.5% | 12.5% | 13.3% | 68.2% | 70.6% |
| Czech Republic | 4.0% | 9.6% | 0.4% | 0.4% | 92.2% | 88.6% | 0.8% | 0.8% | 97.4% | 99.3% |
| Denmark | 4.7% | 4.5% | 0.7% | 0.3% | 26.8% | 23.9% | 3.4% | 2.3% | 35.6% | 31.1% |
| Estonia | 14.6% | 17.0% | 0.0% | 0.0% | 81.5% | 78.7% | 3.7% | 1.5% | 99.8% | 97.2% |
| Finland | 9.0% | 8.5% | 1.0% | 1.0% | 29.1% | 28.8% | 0.0% | 0.0% | 39.1% | 38.3% |
| France | 0.8% | 0.8% | 0.3% | 0.3% | 18.0% | 18.0% | 2.8% | 2.9% | 21.9% | 21.9% |
| Germany | 3.2% | 3.1% | 2.6% | 2.4% | 14.6% | 15.0% | 4.3% | 4.4% | 24.7% | 24.9% |
| Greece | 11.1% | 11.1% | 8.6% | 0.1% | 37.0% | 41.4% | 0.9% | 1.5% | 57.6% | 54.1% |
| Hungary | 4.9% | 6.2% | 3.6% | 0.8% | 76.8% | 86.2% | 0.1% | 0.9% | 85.3% | 94.1% |
| Iceland | 6.3% | 4.8% | 0.0% | 0.0% | 11.4% | 8.6% | 0.0% | 0.0% | 17.7% | 13.4% |
| Ireland | 3.8% | 5.2% | 1.8% | 1.7% | 53.8% | 56.0% | 34.0% | 32.9% | 93.4% | 95.8% |
| Italy | 4.3% | 6.0% | 3.0% | 3.2% | 23.9% | 23.3% | 1.8% | 1.6% | 33.0% | 34.1% |
| Latvia | 26.9% | 30.6% | 0.0% | 0.0% | 36.1% | 27.1% | 20.5% | 19.6% | 83.4% | 77.3% |
| Liechtenstein | 1.1% | 5.6% | 4.6% | 5.6% | 53.9% | 41.2% | 28.1% | 32.2% | 87.7% | 84.5% |
| Lithuania | 36.8% | 40.3% | 0.0% | 0.0% | 60.6% | 33.8% | 3.1% | 2.6% | 100.5% | 76.8% |
| Luxembourg | 0.7% | 0.5% | 0.0% | 0.0% | 77.2% | 67.5% | 21.6% | 15.5% | 99.5% | 83.6% |
| Malta | 7.3% | 10.0% | 1.2% | 1.5% | 36.3% | 33.6% | 18.2% | 16.8% | 63.1% | 61.8% |
| Netherlands | 3.6% | 4.2% | 0.9% | 0.8% | 10.1% | 10.1% | 1.6% | 1.6% | 16.2% | 16.7% |
| Norway | 19.4% | 19.2% | 0.5% | 0.4% | 8.3% | 6.9% | 0.0% | 0.0% | 28.1% | 26.6% |
| Poland | 4.2% | 3.6% | 0.7% | 0.8% | 45.6% | 59.5% | 3.3% | 1.1% | 53.8% | 65.0% |
| Portugal | 13.5% | 21.3% | 10.0% | 9.9% | 35.1% | 28.9% | 0.7% | 0.6% | 59.2% | 60.7% |
| Romania | 4.8% | 5.0% | 2.6% | 2.6% | 67.8% | 68.5% | 0.0% | 0.0% | 75.2% | 76.1% |
| Slovakia | 10.2% | 9.9% | 0.9% | 0.9% | 80.2% | 79.9% | 1.6% | 1.7% | 92.8% | 92.4% |
| Slovenia | 3.2% | 4.0% | 0.0% | 0.0% | 8.5% | 8.3% | 0.0% | 0.0% | 11.7% | 12.3% |
| Spain | 4.2% | 4.2% | 3.4% | 3.1% | 21.7% | 21.9% | 2.7% | 2.8% | 32.0% | 31.9% |
| Sweden | 7.7% | 7.9% | 3.2% | 2.9% | 30.2% | 30.5% | 10.8% | 10.6% | 51.8% | 51.9% |
| United Kingdom | 4.2% | 3.0% | 2.1% | 1.9% | 29.9% | 29.5% | 7.3% | 7.9% | 43.6% | 42.3% |
| **EU: Euro Area** | **3.3%** | **3.5%** | **1.8%** | **1.7%** | **22.4%** | **22.5%** | **4.7%** | **4.7%** | **32.2%** | **32.4%** |
| **EU: Non Euro Area** | **4.6%** | **3.7%** | **2.0%** | **1.7%** | **32.7%** | **32.5%** | **6.7%** | **7.0%** | **45.9%** | **45.0%** |
| **EU** | **3.6%** | **3.5%** | **1.8%** | **1.7%** | **25.1%** | **25.5%** | **5.3%** | **5.4%** | **35.8%** | **36.1%** |
| **EU/EEA** | **3.9%** | **3.8%** | **1.8%** | **1.7%** | **24.9%** | **25.2%** | **5.3%** | **5.4%** | **35.9%** | **36.1%** |

*Note:* Absolute figures from Table 9 are used to arrive at a percentage split. The last columns add up columns for respective year.
S*ource:* Helsinki List, OECD Insurance Statistics.

**Figure 12 – Internationalisation of banks versus insurers (2012)**




*Note:* This figure is a graphical representation of Tables 10 and A11 from the Appendix.
*Source:* Helsinki List, OECD Insurance Statistics, Authors calculations

**Table 11 – Freedom of provision of services**

| | **2011** | **2012** |
|---|---|---|
| Total International activity under FPS | 38,208 | 43,128 |
| Total GWP Europe (including FPS) | 1,193,418 | 1,233,607 |
| **FPS as % of Total GWP** | **3.1%** | **3.5%** |

*Note:* The amount of GWP through Freedom of Provision of Services (FPS) is estimated from EIOPA Statistical Annex and added to own calculations. Next, the amount of FPS is divided by this total amount. Figures in € million.
*Source:* EIOPA Statistical Annex, Helsinki List, OECD Insurance Statistics, Authors calculations.

**Table 12 – Top 25 insurers in Europe**

| 2000 | | | | | 2007 | | | | | 2012 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Insurance groups** | **GWP in € mn** | **H** | **R** | **W** | **Insurance groups** | **GWP in € mn** | **H** | **R** | **W** | **Insurance groups** | **GWP in € mn** | **H** | **R** | **W** |
| AXA | 61,578 | 26% | 41% | 34% | AXA | 86,116 | 23% | 46% | 31% | AXA | 84,592 | 23% | 50% | 27% |
| Allianz | 57,885 | 33% | 47% | 20% | Generali | 66,218 | 36% | 60% | 4% | Allianz | 72,086 | 25% | 44% | 31% |
| Aviva | 44,455 | 47% | 31% | 22% | Allianz | 65,788 | 21% | 48% | 31% | Generali | 69,613 | 29% | 65% | 6% |
| Generali | 44,415 | 34% | 60% | 7% | Aviva | 52,951 | 43% | 44% | 17% | Zurich Financial Services | 39,601 | 11% | 40% | 49% |
| ING | 29,221 | 29% | 21% | 51% | ING Group | 46,818 | 14% | 8% | 78% | Prudential | 36,812 | 23% | 0% | 77% |
| Zurich Financial Services | 26,176 | 13% | 46% | 42% | Zurich Financial Services | 32,237 | 12% | 59% | 29% | Lloyds | 31,385 | 82% | 5% | 13% |
| Skandia | 23,347 | 27% | 33% | 41% | CNP | 31,504 | 86% | 10% | 4% | Aviva | 27,993 | 50% | 34% | 16% |
| HBOS | 22,404 | 90% | 5% | 5% | Prudential | 31,368 | 54% | 0% | 46% | Talanx | 26,659 | 35% | 32% | 33% |
| Aegon | 20,771 | 16% | 27% | 56% | Lloyds | 27,963 | 87% | 4% | 9% | CNP | 26,439 | 81% | 8% | 11% |
| Prudential | 20,101 | 53% | 1% | 45% | AEGON | 26,900 | 16% | 35% | 49% | Credit Agricole | 22,563 | 66% | 30% | 4% |
| Fortis | 19,427 | 34% | 30% | 35% | Credit Agricole | 20,667 | 71% | 19% | 10% | MAPFRE | 21,579 | 37% | 7% | 56% |
| Swiss Life | 19,318 | 52% | 49% | 0% | Talanx | 19,130 | 46% | 30% | 24% | Achmea | 20,455 | 94% | 6% | 0% |
| CNP | 17,518 | 99% | 1% | 0% | Ergo | 16,401 | 78% | 12% | 10% | ING Group | 20,277 | 36% | 23% | 41% |
| Royal & Sun Alliance | 16,751 | 46% | 21% | 34% | BNP Paribas | 14,914 | 47% | 31% | 22% | BNP Paribas | 19,813 | 32% | 45% | 23% |
| Talanx | 13,666 | 31% | 28% | 41% | Achmea | 14,853 | 88% | 12% | 0% | AEGON | 19,526 | 19% | 35% | 46% |
| Ergo | 13,342 | 87% | 13% | 0% | Swiss Life | 12,820 | 40% | 56% | 4% | ERGO | 17,091 | 77% | 18% | 5% |
| Groupama | 11,268 | 87% | 12% | 1% | MAPFRE | 12,311 | 67% | 5% | 28% | ACE | 16,355 | 18% | 0% | 82% |
| Credit Agricole* | 10,519 | 90% | 5% | 5% | Covéa | 12,089 | 100% | 0% | 0% | Covéa | 14,676 | 89% | 10% | 1% |
| BNP Paribas | 9,369 | 58% | 23% | 20% | ACE | 12,051 | 23% | 0% | 77% | Groupama | 14,197 | 80% | 20% | 0% |
| Fondiaria- SAI | 8,572 | 100% | 0% | 0% | Groupama | 11,781 | 77% | 20% | 3% | Swiss Life | 14,118 | 49% | 47% | 4% |
| LloydsTSB | 7,491 | 90% | 5% | 5% | RBS Group | 11,321 | 91% | 9% | 0% | UnipolGruppoFinanziaro | 11,925 | 100% | 0% | 0% |
| Eureko | 6,717 | 63% | 37% | 0% | Royal & Sun Alliance | 11,270 | 46% | 31% | 23% | Royal & Sun Alliance | 11,566 | 36% | 30% | 34% |
| Legal & General | 5,763 | 91% | 5% | 5% | Old Mutual | 9,510 | 2% | 2% | 96% | Ageas | 9,947 | 64% | 33% | 3% |
| Unipol | 3,236 | 95% | 3% | 3% | Fortis | 9,227 | 85% | 8% | 7% | Vienna Insurance Group | 9,686 | 43% | 57% | 0% |
| RBS Group | 1,654 | 86% | 4% | 11% | Legal & General | 8,189 | 92% | 3% | 5% | SCOR | 9,514 | 22% | 20% | 58% |
| **Weighted Average** | **-** | **46%** | **30%** | **24%** | **Weighted Average** | **-** | **43%** | **31%** | **26%** | **Weighted Average** | **-** | **42%** | **32%** | **26%** |

*Note:* This table shows the largest 25 insurance groups from the years 2000, 2007 and 2012 and their revenue segmentation. In the last row the weighted average values are shown.
*Source:* Authors calculations.

**Table 13 – Top 20 insurers Asia**

| 2003 | | | | 2007 | | | | 2012 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Insurance groups** | **H** | **R** | **W** | **Insurance groups** | **H** | **R** | **W** | **Insurance groups** | **H** | **R** | **W** |
| Nippon Life Insurance | 98% | 1% | 1% | Zenkyoren (JA-Kyosairen) | 100% | 0% | 0% | Japan Post Insurance | 100% | 0% | 0% |
| Meji Yasuda Life | 98% | 1% | 1% | Nippon Life Insurance | 98% | 1% | 1% | Zenkyoren (JA-Kyosairen) | 100% | 0% | 0% |
| Sumitomo Life Insurance | 99% | 1% | 0% | Japan Post Insurance | 100% | 0% | 0% | Nippon Life Insurance | 98% | 1% | 1% |
| MS&AD Insurance | 93% | 0% | 7% | Dai-Ichi Life Insurance | 95% | 5% | 0% | China Life Insurance | 99% | 1% | 0% |
| T & D Holdings | 95% | 5% | 0% | Meji Yasuda Life | 98% | 1% | 1% | Dai-Ichi Life Insurance | 95% | 5% | 0% |
| Tokio Marine Holdings | 95% | 4% | 1% | Sumitomo Life Insurance | 99% | 1% | 0% | MS&AD Insurance | 93% | 0% | 7% |
| Samsung Life Insurance | 99% | 0% | 1% | MS&AD Insurance | 91% | 3% | 6% | Meji Yasuda Life | 98% | 1% | 1% |
| China Life insurance | 99% | 1% | 0% | NKSJ Holdings | 99% | 1% | 0% | Ping An Insurance | 99% | 1% | 0% |
| Cathay Financial | 95% | 5% | 0% | Life Insurance Corporation of India | 100% | 0% | 0% | NKSJ Holdings | 95% | 5% | 0% |
| QBE Insurance Group | 30% | 9% | 61% | Tokio Marine Holdings | 95% | 0% | 5% | Sumitomo Life Insurance | 99% | 1% | 1% |
| Ping An Insurance | 99% | 1% | 0% | Samsung Life Insurance | 99% | 0% | 1% | Life Insurance Corporation of India | 100% | 0% | 0% |
| Fukoku Mutual Life Insurance Group | 100% | 0% | 0% | T & D Holdings | 95% | 5% | 0% | China Pacific Insurance | 100% | 0% | 0% |
| Insurance Australia Group | 88% | 9% | 3% | China Life Insurance | 99% | 1% | 0% | PICC Property & Casualty | 100% | 0% | 0% |
| Samsung Fire & Marine | 98% | 1% | 1% | QBE Insurance Group | 22% | 5% | 73% | Tokio Marine Holdings | 77% | 19% | 4% |
| PICC Property & Casualty | 100% | 0% | 0% | Ping An Insurance | 99% | 1% | 0% | T & D Holdings | 95% | 5% | 0% |
| Shin Kong Financial | 95% | 5% | 0% | Samsung Fire & Marine | 98% | 1% | 1% | Samsung Life Insurance | 99% | 0% | 1% |
| Fubon Financial | - | - | - | PICC Property & Casualty | 100% | 0% | 0% | QBE Insurance Group | 27% | 3% | 70% |
| Suncorp-Metway | 100% | 0% | 0% | China Pacific Insurance | 100% | 0% | 0% | New China Life Insurance | 99% | 1% | 0% |
| Dongbu Insurance | 100% | 0% | 0% | Insurance Australia Group | 77% | 17% | 6% | Sony Financial | 100% | 0% | 0% |
| China Taiping Insurance | 11% | 83% | 6% | Sony Financial | 100% | 0% | 0% | Samsung Fire & Marine | 98% | 1% | 1% |
| **Weighted Average** | **95%** | **2%** | **3%** | **Weighted Average** | **95%** | **2%** | **3%** | **Weighted Average** | **96%** | **2%** | **2%** |

*Note:* This table shows the biggest 20 insurance groups from the years 2000, 2007 and 2012 and their revenue segmentation. In the last row the weighted average values are shown.
*Source*: Authors calculations.

**Table 14 – Top 20 insurers North America**

| 2000 | | | | 2007 | | | | 2012 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Insurance groups** | **H** | **R** | **W** | **Insurance groups** | **H** | **R** | **W** | **Insurance groups** | **H** | **R** | **W** |
| American International Group | 64% | 0% | 37% | American International Group | 42% | 46% | 12% | United Health Group Inc | 99% | 1% | 0% |
| Allstate Corp | 100% | 0% | 0% | United Health Group | 99% | 1% | 0% | Prudential of America | 23% | 0% | 77% |
| Aetna Inc | 88% | 0% | 12% | WellpointInc | 100% | 0% | 0% | WellpointInc | 100% | 0% | 0% |
| Berkshire Hathaway | 77% | 6% | 17% | Berkshire Hathaway | 63% | 9% | 28% | American International Group | 70% | 21% | 9% |
| MetLife | 96% | 0% | 4% | Allstate Corp | 98% | 2% | 0% | Metlife | 65% | 3% | 32% |
| Cigna Corp | 88% | 0% | 12% | MetLife | 87% | 1% | 12% | Humana Inc | 95% | 2% | 3% |
| Hartford Insurance Group | 96% | 0% | 4% | Humana Inc | 95% | 0% | 5% | Berkshire Hathaway | 75% | 6% | 19% |
| Prudential of America | 89% | 0% | 11% | Travelers Companies Inc | 94% | 1% | 5% | State Farm Mutual Automobile Insurance | 97% | 3% | 0% |
| Humana Inc | 95% | 2% | 3% | Hartford Insurance Group | 96% | 0% | 4% | Aetna Inc | 98% | 1% | 1% |
| Manulife Financial | 31% | 45% | 24% | Liberty Mutual | 33% | 52% | 15% | Liberty Mutual | 81% | 0% | 19% |
| Travelers Companies Inc | 100% | 0% | 0% | Aetna Inc | 75% | 0% | 25% | Allstate Corp | 97% | 3% | 0% |
| AflcaInc | 18% | 0% | 82% | Manulife Financial | 100% | 0% | 0% | Cigna Corp | 86% | 0% | 14% |
| WellpointInc | 100% | 0% | 0% | Sun Life Financial | 31% | 54% | 15% | Travelers Companies Inc | 96% | 0% | 4% |
| Unum Group | 99% | 0% | 1% | Prudential of America | 51% | 36% | 13% | Aflac Inc | 23% | 0% | 77% |
| Sun Life financial | 29% | 53% | 18% | Cigna Corp | 67% | 0% | 33% | Massachusetts Mutual Life Insurance Co | 81% | 0% | 19% |
| Progressive Corp | 99% | 0% | 1% | Progressive Corp | 90% | 0% | 10% | Hartford Insurance Group | 83% | 0% | 17% |
| Genworth Financial | 90% | 6% | 4% | Aflac Inc | 99% | 0% | 1% | Great West Lifeco | 61% | 2% | 37% |
| Fairfax Financial | 20% | 80% | 1% | Canada Life Assurance | 30% | 0% | 70% | Nationwide Mutual Group | 100% | 0% | 0% |
| Principal Financal Group | 100% | 0% | 0% | USAS Insurance Group | 55% | 12% | 33% | Manulife Financial | 20% | 37% | 42% |
| Lincoln | 100% | 0% | 0% | Unum Group | 100% | 0% | 0% | Northwestern Mutual | 100% | 0% | 0% |
| **Weighted Average** | **80%** | **5%** | **15%** | **Weighted Average** | **76%** | **13%** | **11%** | **Weighted Average** | **78%** | **3%** | **19%** |

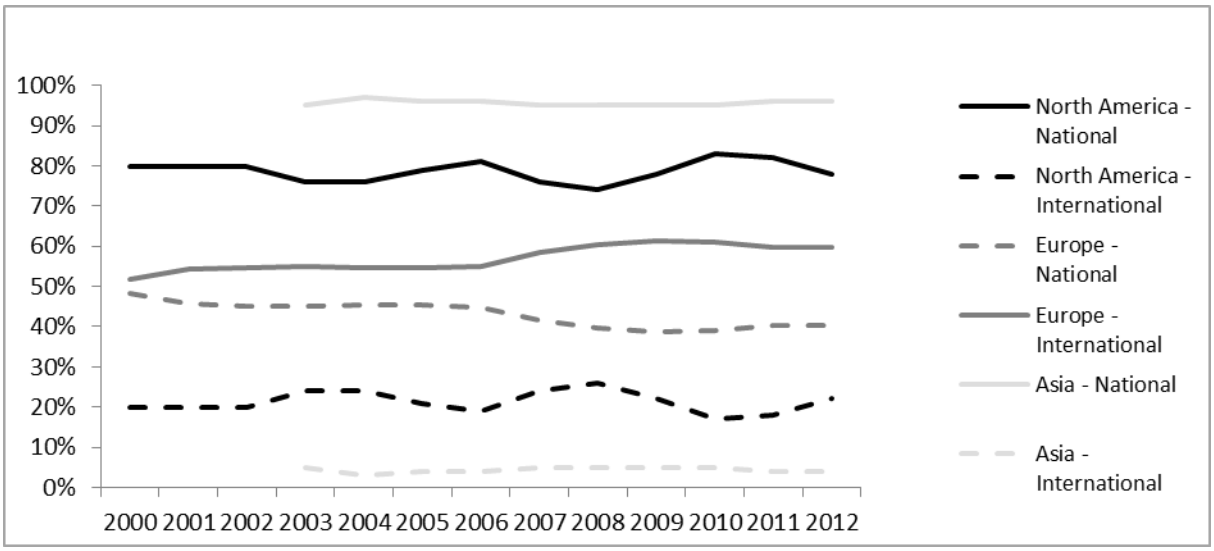
Note: This table shows the biggest 20 insurance groups from the years 2000, 2007 and 2012 and their revenue segmentation. In the last row the weighted average values are shown.
*Source*: Authors calculations.

**Table 15 – Degree of internationalisation of largest insurers Europe, Asia and North America**

| Continent | Segment | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| North America | Home | 80% | 80% | 80% | 76% | 76% | 79% | 81% | 76% | 74% | 78% | 83% | 82% | 78% |
| | Region | 5% | 5% | 4% | 13% | 13% | 12% | 11% | 13% | 11% | 10% | 7% | 5% | 3% |
| | World | 15% | 15% | 16% | 11% | 11% | 9% | 8% | 11% | 15% | 12% | 10% | 13% | 19% |
| Asia | Home | - | - | - | 95% | 97% | 96% | 96% | 95% | 95% | 95% | 95% | 96% | 96% |
| | Region | - | - | - | 2% | 1% | 2% | 2% | 2% | 2% | 3% | 3% | 2% | 2% |
| | World | - | - | - | 3% | 2% | 2% | 2% | 3% | 3% | 2% | 2% | 2% | 2% |
| Europe | Home | 48% | 46% | 45% | 45% | 45% | 45% | 45% | 41% | 40% | 39% | 39% | 40% | 40% |
| | Region | 30% | 31% | 32% | 33% | 34% | 34% | 33% | 32% | 34% | 36% | 35% | 33% | 33% |
| | World | 22% | 24% | 23% | 22% | 21% | 21% | 22% | 26% | 27% | 25% | 26% | 27% | 27% |

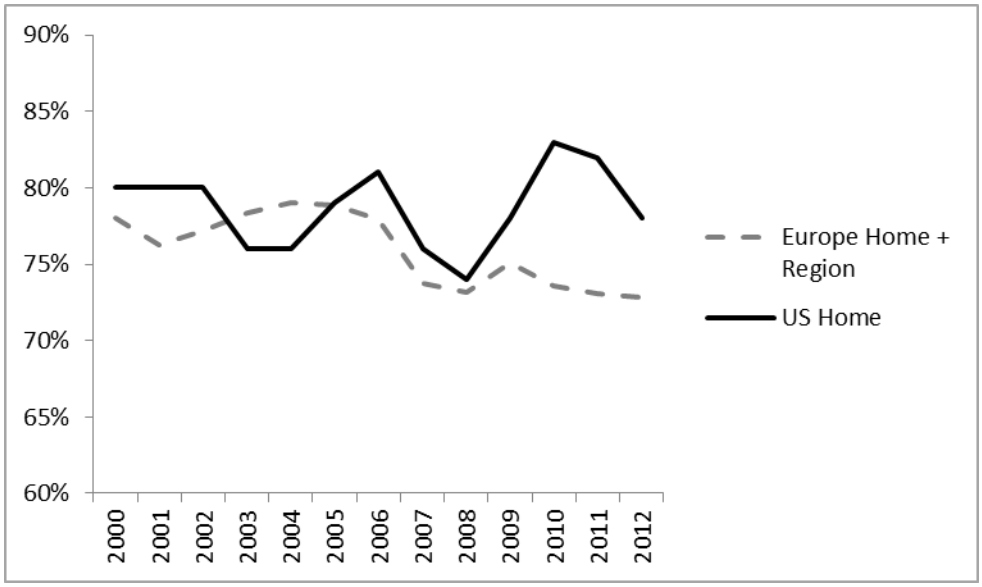
*Note:* In this table, the Degree of Internationalisation is stated per continent. It is calculated by weighting every top 20 insurance company's degree of internationalisation (Percentage of GWP from domestic, region or world) by its GWP. Values add up to 100%.
*Source*: Authors calculations.

**Figure 13 – Comparison between largest insurers Europe, North America and Asia (2)**




*Note:* This graph shows the difference in the Degree of Internationalisation between Europe, North America and Asia. The degree of Internationalisation is calculated by taking the values for the top 20 biggest insurers, measured by GWP and by weighting it with the amount of GWP. For Asia, data before 2002 are scarce and thus these years are not included.
*Source:* Authors calculations.

**Figure 14 – Comparison between Europe and North America**




*Note:* This graph shows a comparison between North America and Europe. For Europe, it shows the percentage of GWP that is written in the Home country and in the Region (rest of Europe), while for North America only the Home percentage of GWP is shown. Calculations are based on the 20 biggest insurers from that specific continent and are performed by weighting the Degree of Internationalisation with GWP.
*Source:* Authors calculations.