EUROPEAN CAPTIVES

ANALYTICAL REVIEW OF SOLVENCY II REPORTS

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November 2021

SCOR
The Art & Science of Risk

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TABLE OF CONTENTS

I. INTRODUCTION: SCOPE AND PURPOSE OF THE STUDY

This study provides a quantitative overview of European captives owned by large industrial and commercial companies and serves as a benchmark and a reference for captives and (re)insurance professionals.

Through extensive research based on the registers of national regulators, SCOR has been able to identify over 300 licensed insurance or reinsurance companies acting as captives. Of these, 187 meet our selection criteria, i.e. they belong to an industrial or commercial company[1] that can be identified, they write P&C risk[2], and they release a "Solvency and Financial Condition Report" (SFCR) including the regulatory quantitative reports.

The study provides a statistical analysis of the sample on the following topics: captive and parent company domicile, breakdown of premium, assets and reserves by line of business or category, solvency ratios and capitalization. While we believe the sample is large enough to be representative of the European captives landscape, it is by no means exhaustive, and the numbers reported here may not be valid for the entire European captives market. The study also provides statistics at the industrial sector level.

Data presented hereafter is extracted from the collected SFCRs[3]. All amounts are "Solvency II" values.

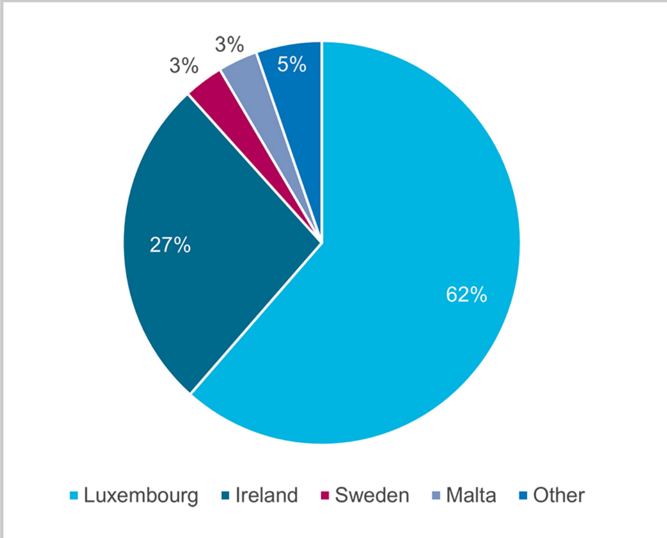
1. Captives of insurance groups have been excluded; captives of banking groups have been included when they manage only the bank's operational risk exposure
2. Life and Health business not considered, P&C premium not zero (run-off captives excluded), data as of 31/12/2018 or more recent
3 Data Source: Solvency II Wire Data, http://solvencyiiwiredata.com

II. STATISTICAL OVERVIEW OF EUROPEAN CAPTIVES

A. GEOGRAPHICAL OVERVIEW

Most of the European captives remain based in Luxembourg and Ireland

Eighty-eight percent of the captives in our sample are domiciled in Luxembourg or Ireland. These two domiciles account for 84% of reported gross written premium and 83% of reported assets. The sample considers some captives based in Sweden and Malta. Other domiciles include Norway, the Netherlands, Germany and Gibraltar.



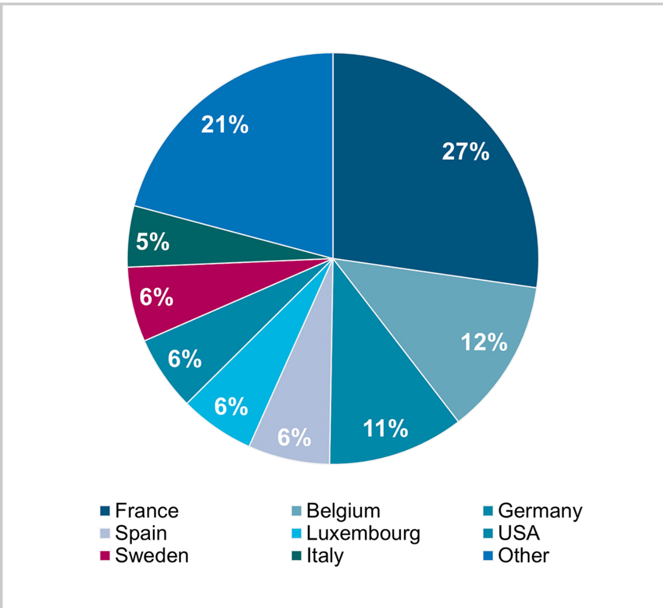
Captives per domicile

These captives mostly belong to groups based in France, Belgium or Germany

The headquarters of the captive owners are mostly based in western European countries, primarily France, Belgium and Germany.

Some statistical behaviors:

- Captives based in Sweden mostly belong to Swedish groups (83%);
- US-based groups mostly locate their European captives in Ireland (91%);
- Groups based in Belgium (100%), Spain (83%) and France (80%) mostly base their captives in Luxembourg.



Parent company Headquarters

B. PREMIUM

Captives from the sample write over EUR 4.4 billion P&C premium

The total premium[4] of this sample is close to EUR 4,400 million, including EUR 2,100 million in Luxembourg and EUR 1,600 million in Ireland.

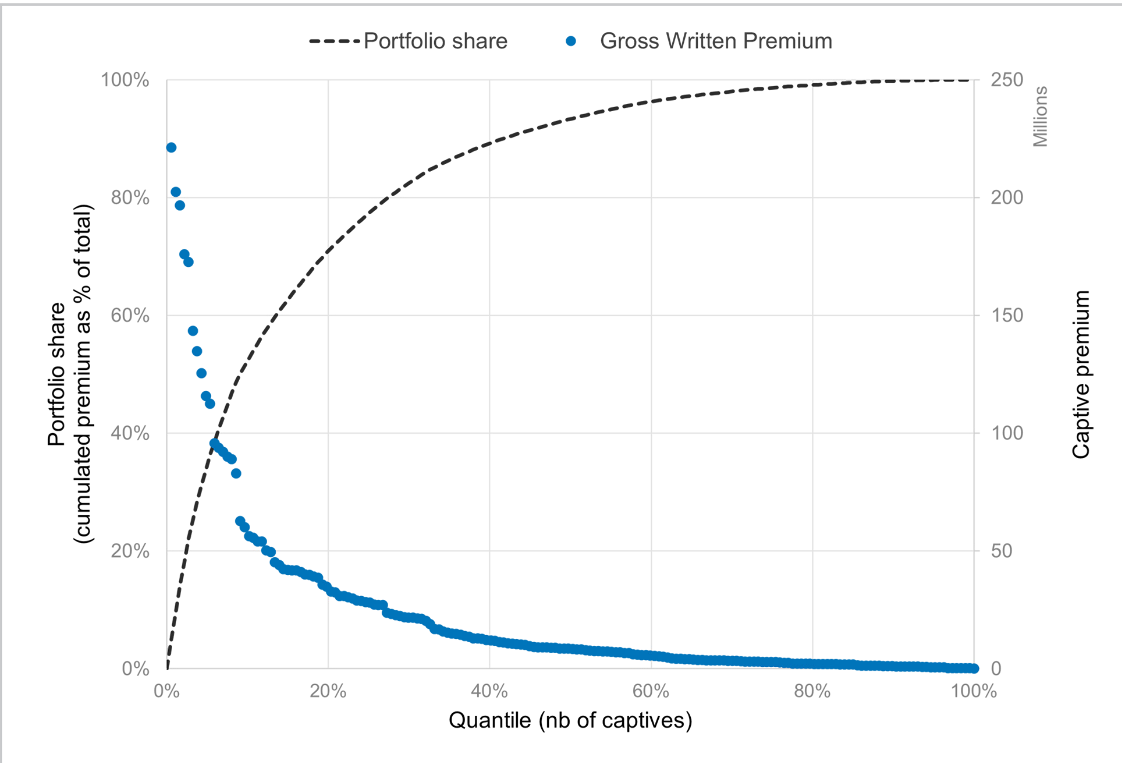
Overall GWP of the sample grew by 3.2% between 2018 and 2019, and by 4.8% between 2019 and 2020[5].

The top 10% of the captives account for half of the sample premium

While the average premium per captive is EUR 23 million, our sample is rather heterogeneous. The largest captives exceed EUR 200 million, while the smallest ones write less than EUR 0.1 million.

- The top 1% of the captives account for 10% of the sample premium, which is as much as the bottom 58%.
- 10% of the captives account for half the total premium over the sample.
- Half of the captives report less than EUR 10 million GWP.

Number of captives (quantile)	Share (cumulated premium as percentage of total premium in the sample)	Captive size at quantile
1%	10%	EUR 202 M
3%	25%	EUR 173 M
9%	50%	EUR 83 M
23%	75%	EUR 30 M
41%	90%	EUR 11 M
55%	95%	EUR 7 M
78%	99%	EUR 2 M

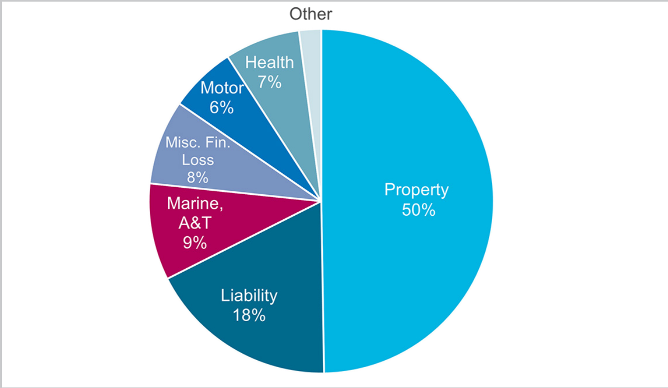


Portfolio concentration overview

4. Total “Non-Life” gross written premium, QRT S.05.01.02, C0200, R0110 + R0120 + R0130, latest reported year
5. Premium growth between N and N+1 measured for captives reporting data both in N and N+1

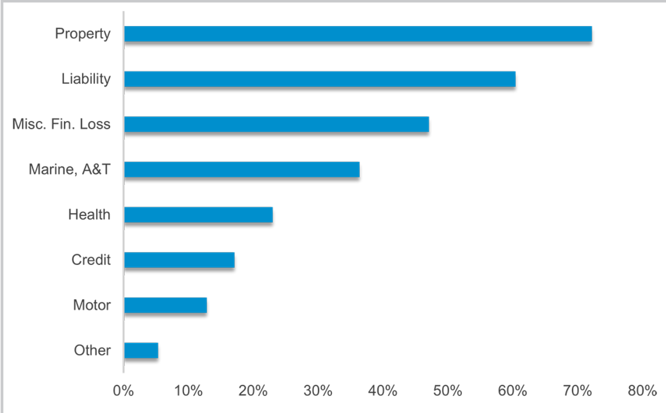
Most of the business written by captives is Property

Captives report on their premium according to the lines of business defined by the Solvency II framework, which can be grouped as: Property & Fire, Liability[6], Marine / Aviation / Transport, Miscellaneous financial loss, Motor, Health. Other include Credit & Surety, Legal Expenses and Assistance.



GW Premium per LoB

Property business is the most frequent, with 72% of the captives writing some. Liability business is the second most frequent line, written by 60% of the captives. Motor is the least common line of business, written by only 13%.



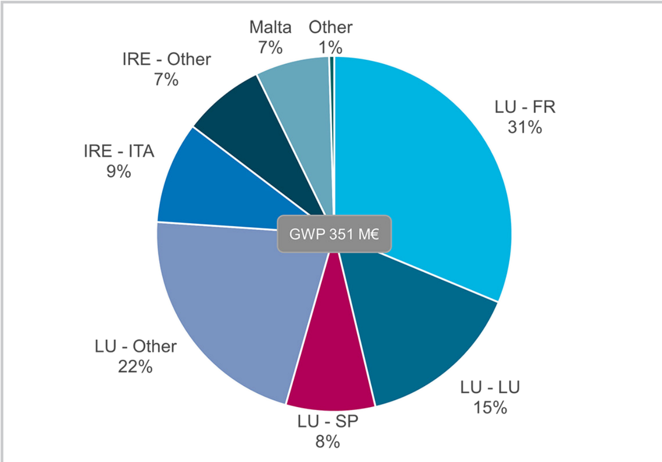
Occurence rate of the LoB

A regional driver for Miscellaneous financial loss business?

Miscellaneous financial loss (MFL) is defined as "any other risk of Non-Life insurance not covered by the [other regulatory] lines of business". 47% of the captives within the sample report some business under this line, which overall accounts for just 8% of their total gross written premium.

Some statistics:

- 59% of captives domiciled in Luxembourg report MFL premium, where it accounts for 13% of total written business
- 28% of captives domiciled in Ireland report MFL premium, where it accounts for 4% of total written business
- 82% of the groups based in Luxembourg report such premium, with MFL representing 19% of their gross written business
- 57% of the groups headquartered in France report such premium, as 11% of their total business
- 30% of the groups based in Germany write MFL business, for 5% of their total GWP.



Origin of the premium per captive domicile country and group headquarter country

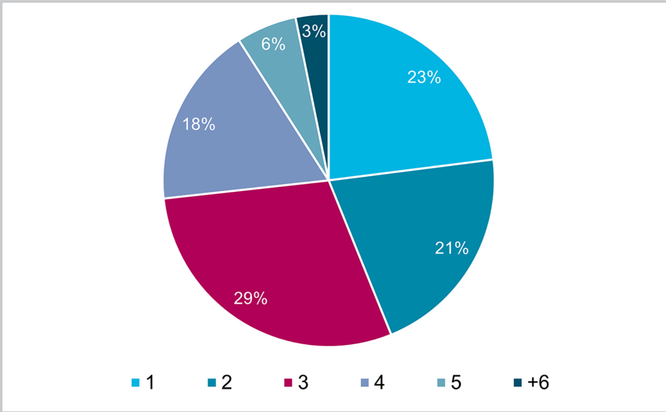
Misc. Fin. Loss premium per domicile-group HQ

This EUR 351 million premium business is mostly written by captives based in Luxembourg, especially those belonging to French groups:

6. The "NP-assumed casualty" line of business is included here in the Liability group.

Most captives manage two or three different lines of business

Most of the captives manage two or three lines. 3% of them are active in over six lines.



Number of LoB per captive

Focus: monoliners are numerous yet rather limited in size

Twenty-three percent of the captives write only one line of business. These monoliners are mostly dedicated to writing MFL business (9%) or Property (7%). There are also specialists in Liability (4%), Marine (2%) and Credit (1%).

Their average size is EUR 6 million in gross written premium, the largest being EUR 39 million, and their cumulated share is 6% of the overall sample premium.

Statistical facts:

- On the MFL portfolio, 24% of the business is written by monoliners
- On Property, Credit and Marine portfolios, less than 5% of the business is written by monoliners

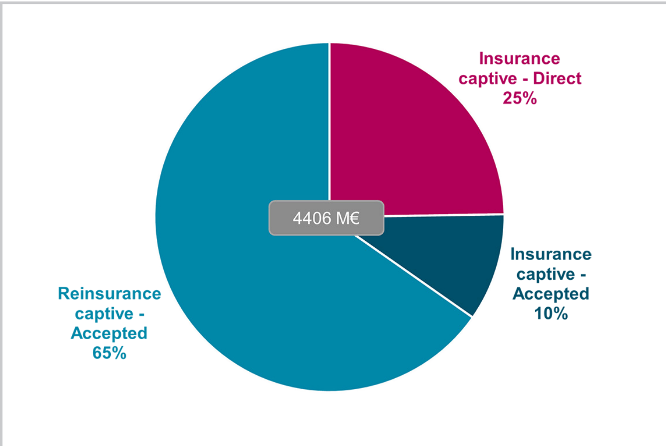
Seventy-five percent of the business written by captives is fronted

Gross written premium can be further differentiated between the premium written directly and premium assumed via reinsurance.

Twenty-two percent of the captives in the sample write direct business. This requires the captive (insurance captive) to be granted a license by their national authorities for each of the lines of business in which they operate.

When they have a license to operate in one class, insurance captives can provide reinsurance services and take on any business from other insurance companies, provided their articles of incorporation permit it. Fifty-four percent of the insurance captives in the sample do this.

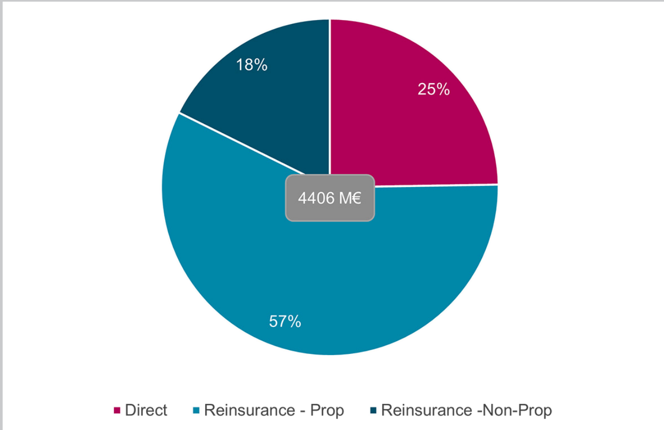
Seventy-eight percent of the captives in the sample write only accepted business. To do so, they need only one general “reinsurance” license.



Gross Written Premium

There is no regulatory restriction as to the classes in which a captive can provide reinsurance services. However, they need to have a partnership with a licensed insurance company (the “fronter”), from which they accept the business.

With regard to volumes, premium is mostly accepted through proportional reinsurance (e.g. quota share). Non-proportional reinsurance contracts (e.g. excess of loss) make up for 18% of the total.



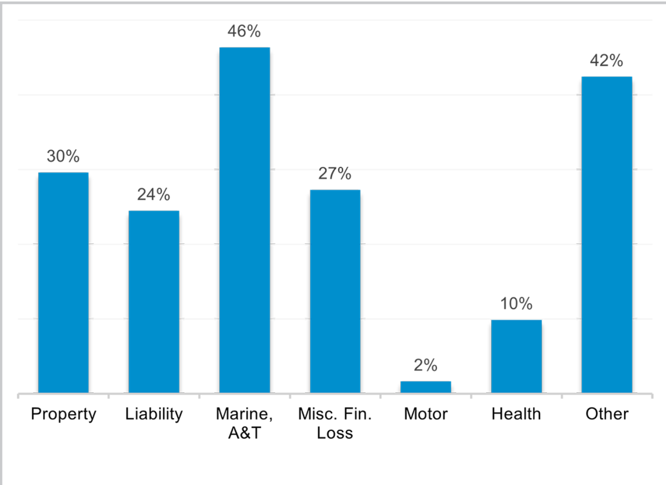
Gross Written Premium

Captives retrocede 26% of their premium

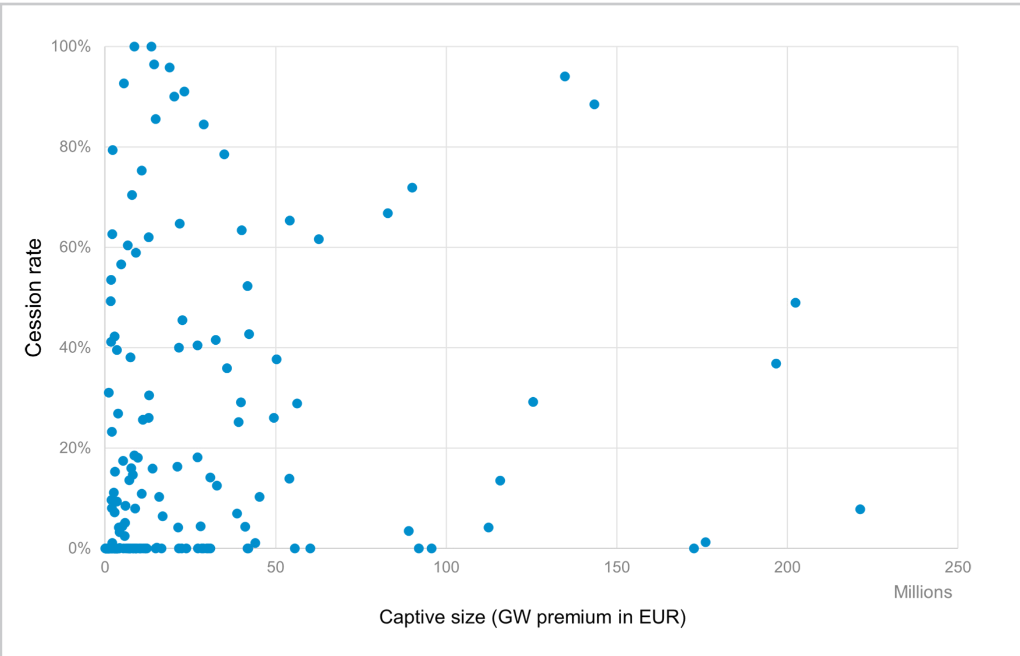
Twenty-six percent of the premium written by the captives is retroceded. On the sample, this amounts to EUR 1,200 million.

Once again, there is no single rule, some captives retain all of their risk (62% of the captives retrocede 10% or less of their GWP), some retrocede most of it (6% of the captives retrocede more than 80% of their GWP). Those numbers don't vary significantly with the size of captive, as illustrated below.

The cession rate is different for the different lines of business. Motor premium is almost fully retained, whereas half of Marine premium is ceded or retroceded.



Cession rate



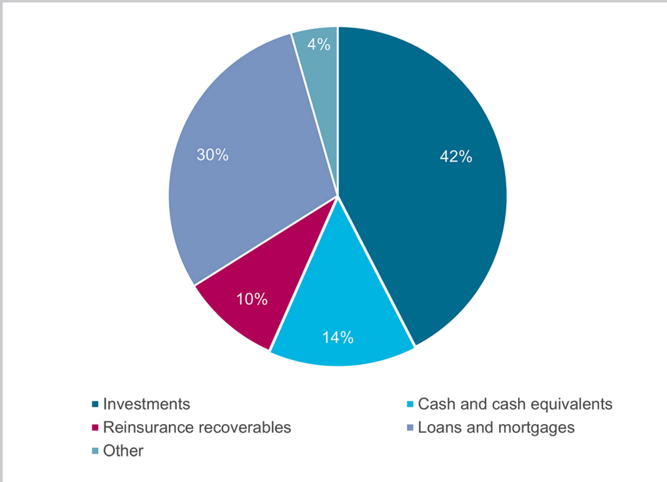
(Lack of) correlation between size and cession

C. ASSETS

Captives account for over EUR 23 billion

The total assets[7] held by captives within our sample amount to EUR 23,000 million. The average balance sheet size is EUR 123 million. Again, this is very heterogeneous, with certain captives exceeding EUR 1,300 million and others standing at less than EUR 5 million.

The overall assets are made up of the following balance sheet items.



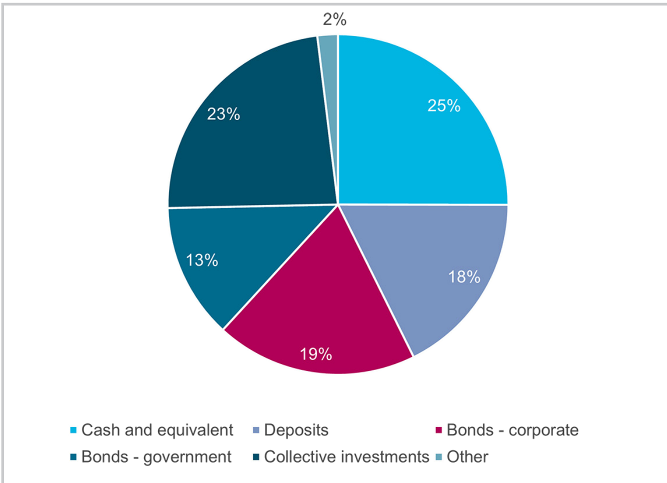
Assets

Almost all captives (96%) report some cash or cash equivalents assets. Most captives (69%) also report some financial investments. Together, these two accounting items represent just over half of the total assets on the balance sheet.

One third only of the captives (34%) hold reinsurance recoverables. Other assets are made of deposits to cedants, insurance and reinsurance and other receivables.

Mostly low-volatility investments

Investments are made up of corporate and sovereign bonds, collective investment undertakings, deposits and cash. There are hardly any investments in real estate, equities, participations, collateralized securities or derivatives.



Financial Assets

Loans are material

The second largest item on the asset side of the balance sheet is loans and mortgages (29% of the sample amount, reported by 56% of the captives in the sample). There is limited information available here: “loans on policies” is 0%, “loans and mortgages to individuals” is 2% and the remaining 27% are reported as “other”.

This category is expected to include loans to related companies.

7. Total size of the Solvency II balance sheet, QRT S.02.01.02, C0010, R0500, latest reporting year

D. TECHNICAL PROVISIONS

Captives hold EUR 7,100 million of P&C reserves

Technical provisions[8] amount to EUR 8,200 million on the sample. On average this is EUR 44 million per captive, ranging from – EUR 59 million to + EUR 680 million (gross of reinsurance).

Under Solvency II rules, technical provisions are split between Life and Non-life, then further split between Health and Other.

No captive in the sample reports any technical provision related to unit-linked liabilities. Overall, technical provisions related to Life guarantees are below 10% of the total.

"P&C" technical provisions account for 87% of the total PT of our sample.

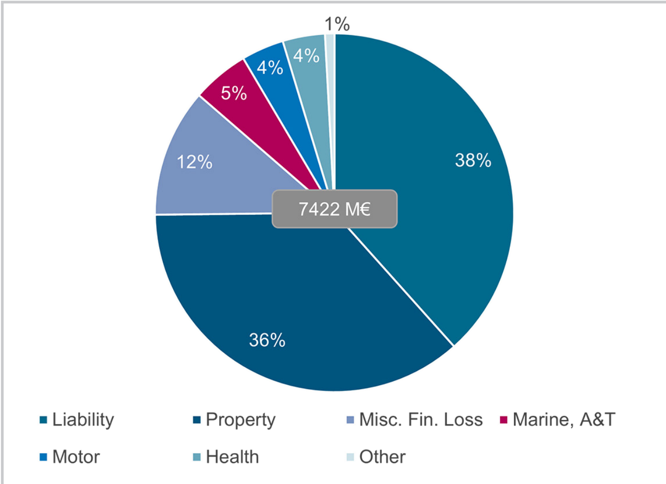
	Non-Life technical provisions		Life technical provisions		
	Health NSLT	Other	Health SLT	Other	UL
Occurrence	23%	100%	3%	6%	0%
Share	3%	87%	0%	9%	0%

Long-tail liability business makes up the majority of the reserves

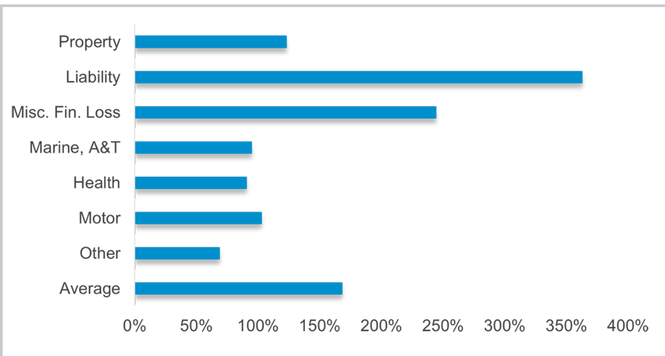
Long-tail liability business generates the largest share of the provisions. This is due to the delay between the occurrence of a risk and its full settlement. The second largest share is generated by Property business, which is a much shorter tail line.

The "technical provisions over premium" ratio tells you how many years there are between the inception of the policy and the average settlement of the claims (3.6 years for Liability, 1.2 years for Property).

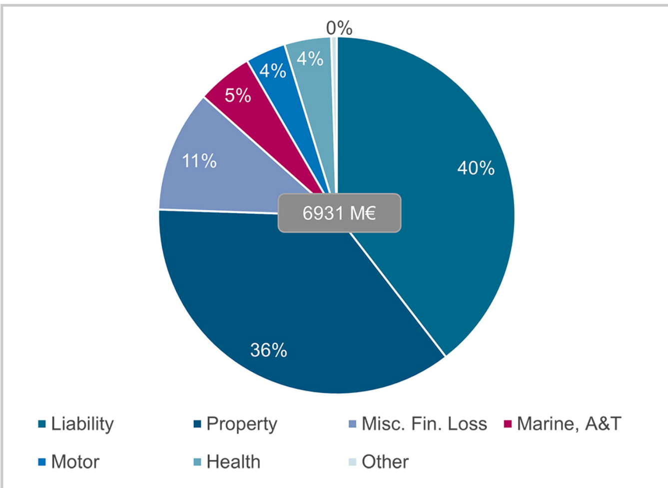
Outstanding claims are the main component of the technical provisions (93%), with a few exceptions in lines of business where recoveries are significant. The "Best estimate of claims" consists of discounted values, taking into account reported claims and incurred but not yet reported claims.



Gross Technical Provisions (Non-life)



Technical provisions over premium ratio



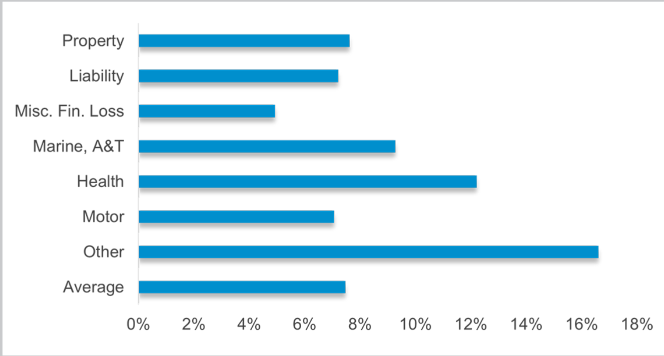
Best Estimate of Claims

8. QRT S.02.01.02, C0010, R0520, R0560, R0610 and R0690, latest reporting year

Benchmark of premium reserves and risk margin

In the Solvency II balance sheet, Technical Provisions (TP) also include a best estimate amount for premiums (liability value of unpaid premium within the contract boundaries) and a risk margin (cost of the capital required to bear the risk).

The Best Estimate of Premium (BEP) amounts to -EUR 63 million in the sample. This is less than 1% of the total technical provisions. This amount can also be seen as just 1% of the total written premium. The share of the BEP is significant in some cases (39% of total Credit & Surety TP, 31% of total Motor other damage TP) - usually due to multiyear policies with a large share of unearned premium. It appears negative on many lines of business, meaning that the future premium is expected to generate a profit for the company that is immediately recognized in the Solvency II own funds (96% of the assistance gross written premium is a profit, so is 37% of the premium in the non-prop casualty line and 30% of the credit premium).



Risk Margin over BE claims ratio

The risk margin usually depends on the volatility of the line of business and the length of the risk.

E. OTHER LIABILITIES

Financial liabilities are not material

On the liabilities side of the balance sheet, own funds (excess of assets over liabilities, see §F) and technical provisions (see §D) are the main components, making up respectively for 53% and 35% of the total.

81% of the captives also report some deferred tax liabilities, amounting to 8% of the balance sheet size. Payables account for less than 3%. Financial debts are not material. Subordinated liabilities may be improperly reported, and the analysis of own funds shows that they are not material either.

F. CAPITAL

Captives hold capital of over EUR 12 billion

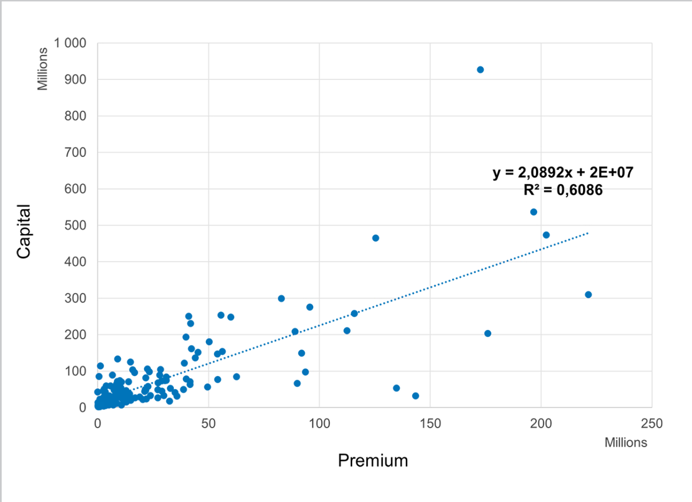
On the sample, total available Own Funds (OF, which is the net value of the captives on the economic balance sheet) amount to EUR 12,300 million, i.e. EUR 66 million per captive on average.

Own funds range from EUR 2 million for the smallest captives up to EUR 930 million for the largest.

Capital is about twice the premium plus EUR 20 million

Statistical analysis of the sample provides the following correlation between capital and premium.

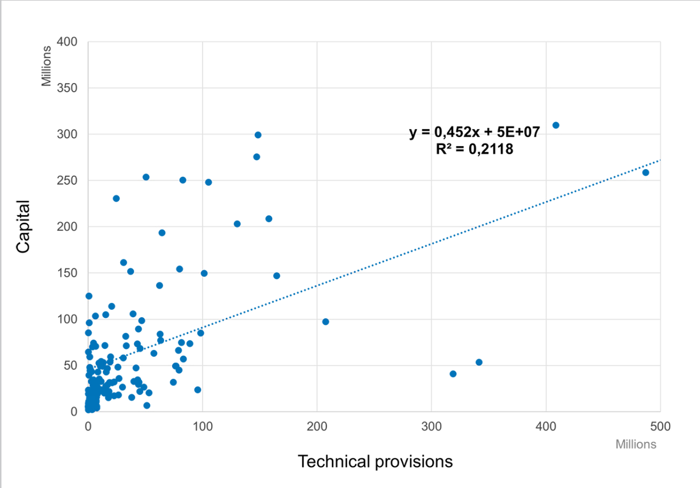
Statistical significance is not very high, and available capital also depends on the risk written, the diversification between risks, the growth perspectives, the risk appetite of the captive, etc.



Capital / Premium ratio

Capital is about half the technical provisions plus EUR 50 million

Statistical significance is low.



(Capital amounts above EUR 400 million and TP amounts above EUR 500 million are not displayed)

Capital / Reserves ratio

Ninety-nine percent of available capital is eligible to meet the regulatory requirements

11% of the captives subtract some "non-eligible" items from their "available" capital. The non-eligible amount is, on a (conditional) average, less than EUR 6 million.

On the sample, total eligible own funds (EOF, which is the capital amount eligible to meet the capital requirements) amount to EUR 12,155 million, i.e. EUR 65 million per captive on average.

Captives use hardly any Tier 2 or Tier 3 own funds items

As per the regulatory classification, Eligible Own Funds (EOF) include:

- 99% of "Tier 1 non-restricted" amounts (shares and accumulated profit);
- No captive reports any "Tier 1 restricted" amounts (subordinated debt issued before Solvency II went live in 2016);
- 1% of "Tier 2" amounts;
- 0.2% of "Tier 3" amounts.

Five percent of the captives report some "Tier 2" amounts. This most often includes subordinated loans but can also include some ancillary own funds such as a letter of credit. Amounts range from EUR 3 million to EUR 50 million (conditional average of EUR 15 million).

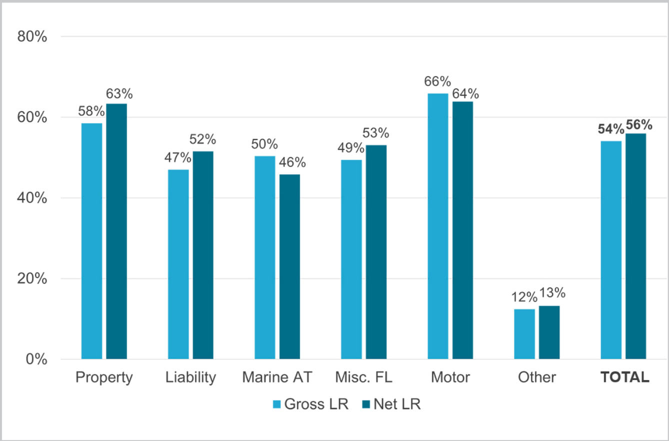
Nine percent of the captives report some "Tier 3" own funds, which are made up of the net Deferred Tax Assets (DTA) on their balance sheet. Tier 3 is on (conditional) average EUR 2 million. It is further noted that 2% of the captives choose not to include their net DTA in their EOF.

Tier 3 own funds never reach the eligibility cap of 15%, but 3% of the captives reach the eligibility constraint for non-Tier 1 items.

G. LOSS RATIOS

Available data allows us to calculate a "loss ratio" as the incurred losses (discounted values, net of salvage and subrogation) divided by the earned premium, gross and net of reinsurance, for the latest reported year only.

Distribution of loss ratio is highly volatile, with one in five captives reporting a total loss ratio of zero or below, and one in five reporting a total loss ratio of more than 100%. For 1% of them, loss ratio exceeds 500%.



Loss ratio per Line of Business (LoB)

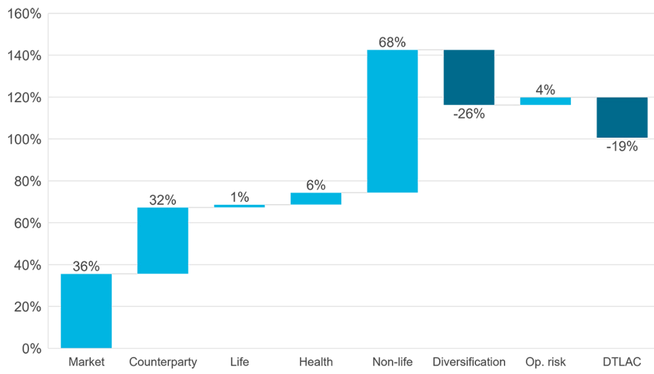
H. SOLVENCY

Non-Life underwriting risk makes up 68% of the capital requirement

Non-Life underwriting risk is the main risk for the captives. It encompasses premium risk (if the premiums charged are not sufficient to face future claims, due to adverse frequency or severity), reserve risk (if the booked reserves are not sufficient to face the settlement of past claims, due to adverse deviation) and CAT risk (exposure to the most severe natural or man-made catastrophes), as well as the diversification between those risks. Non-Life underwriting risk is measured on net premium and reserves amounts and net exposures, and thus can be reduced by reinsurance.

Most captives in the sample (93%) report a capital requirement for market risk. As a general rule, market risk is driven by the more volatile investments (equities), a mismatch between assets and liabilities, or a concentration on a single counterparty.

Counterparty risk is assessed by 99% of the captives. This reflects the default risk of a counterparty (bond issuer, creditor, account keeper and reinsurer), based on their credit rating. The level of counterparty risk appears to be much higher than is seen with commercial (re)insurance companies. This might be a consequence of intra-group loans and cash pooling schemes.



Contribution of the main risks to the total SCR
op. risk = operational risk ; DTLAC = loss absorbing capacity of deferred tax

Solvency Capital Requirement

Diversification between the five main risks is recognized for an average of 26%. The more balanced the risk profile, the higher the diversification benefit.

Operational risk is usually not material.

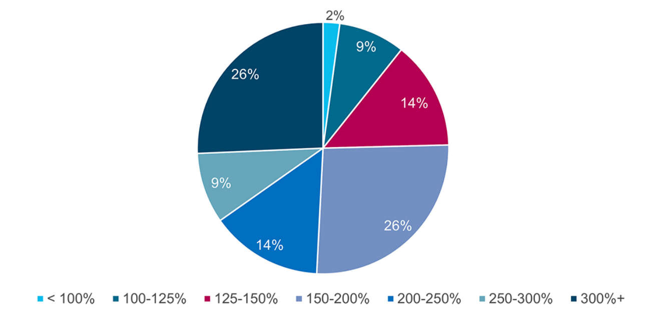
Seventy-one percent of the captives take into account the Loss-Absorbing Capacity of Deferred Tax (LAC DT), when they can demonstrate that a large loss scenario would give raise to a tax credit or offset an existing tax liability.

Forty-three percent of the captives are capitalized at more than double the regulatory requirement

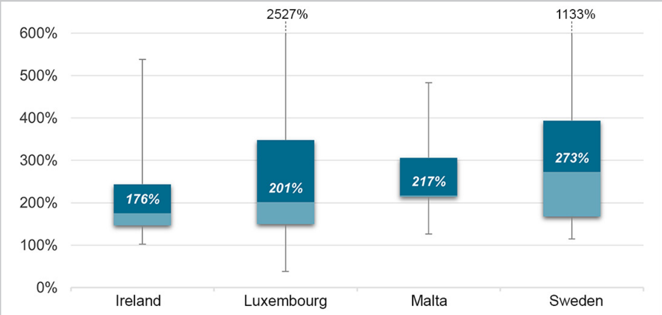
The solvency ratio is calculated as the eligible own funds amount divided by the solvency capital requirement[9]. The captives in the sample have a strong average solvency ratio of 277%. The median ratio is around 175%.

Two percent of the captives report a solvency ratio below the regulatory minimum of 100%, whereas 17% of them have a solvency ratio above 400%, and up to 2,500%.

The solvency distribution in each domicile is illustrated below, per quartile.



Solvency Capital Requirement



Solvency per country

9. The minimum capital requirement MCR position has not been studied here.

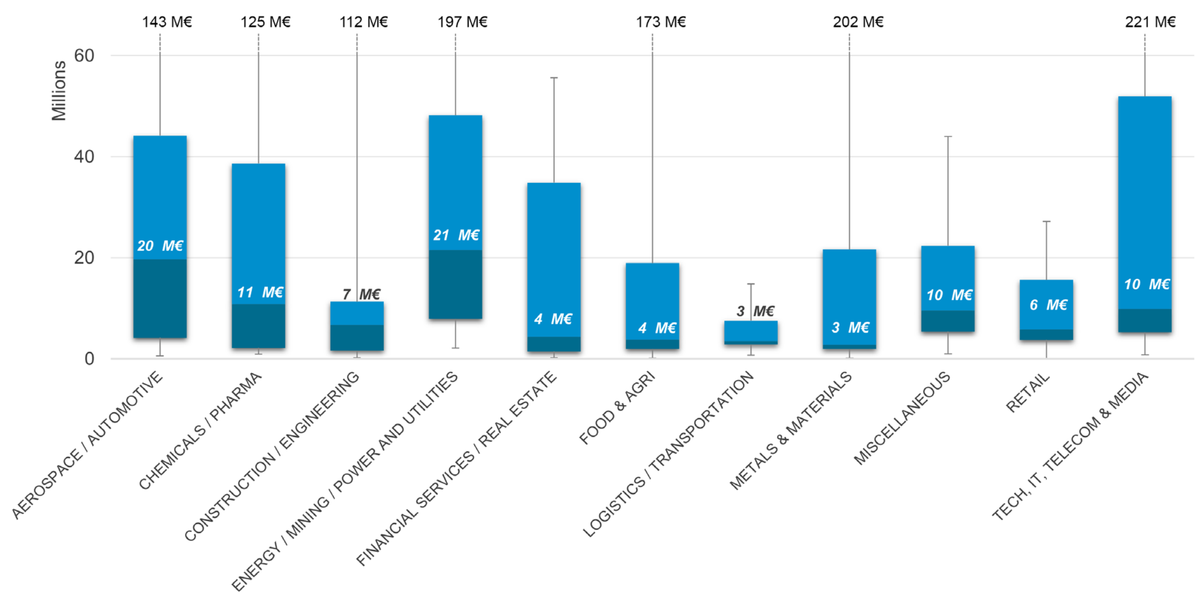
III. FOCUS ON INDUSTRIAL SECTORS

To provide some benchmarks by peer groups, the 187 captives in the study have been further categorized by industrial sector.

The 11 considered sectors each contain between 10 and 30 captives.

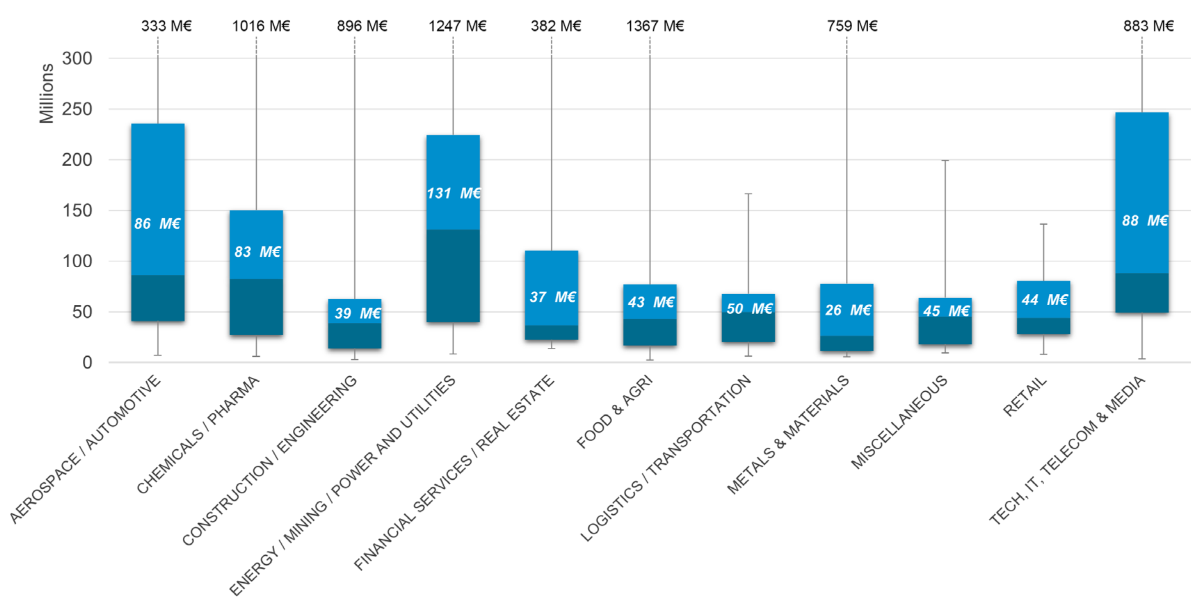
A. OVERVIEW

This first chart shows the average gross written premium for each industrial sector, as well as the distribution per quartile.

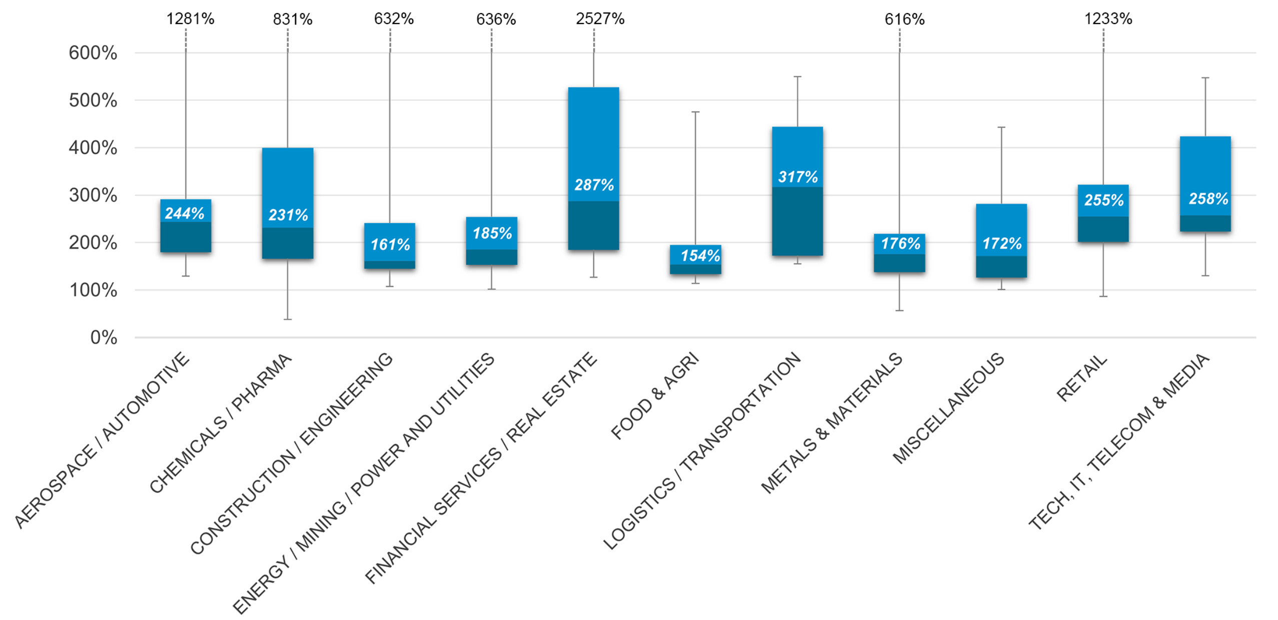


Read: for the captives of groups in the field of Aerospace and Automobile, the median annual premium is EUR 20 million. The smallest captive writes EUR 0.5 million, the smallest 25% of the captives write between EUR 0.5 million and EUR 4.1 million. The higher 25% write between EUR 44 million and EUR 143 million, which is the premium written by the largest captive.

GW Premium per sector

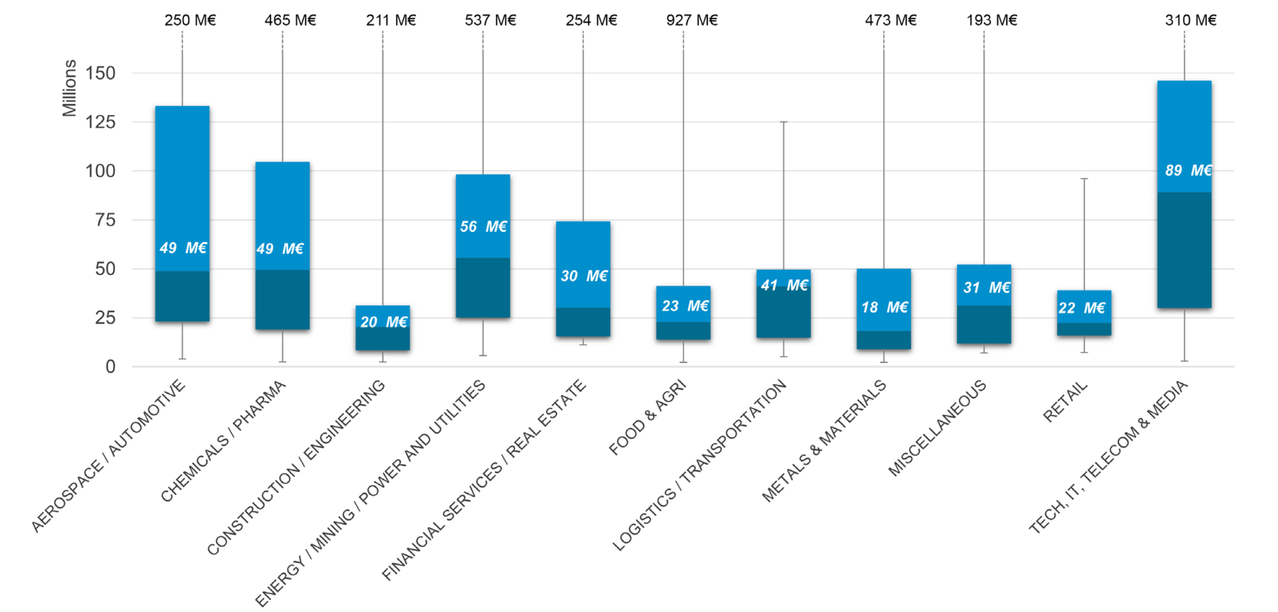


Assets per sector



Read: for the captives of groups in the field of Aerospace and Automobile, the median solvency position is 244%. In the sample, the lowest quartile has a solvency ratio between 129% and 180%. The second quartile has their solvency between 180% and the median value of 244%. The third quartile has a solvency position between 244% and 292%. The fourth quartile has a solvency ratio between 292% and 1281%.

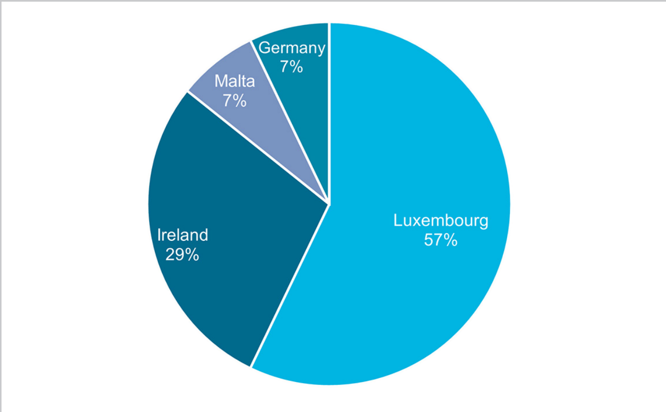
Solvency per sector



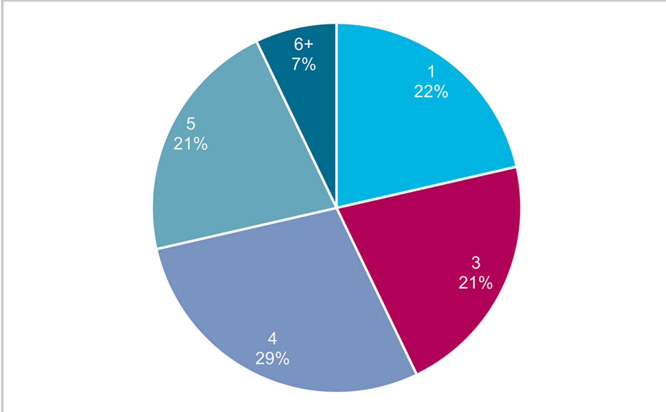
Capital per sector

B. SECTORAL FOCUS

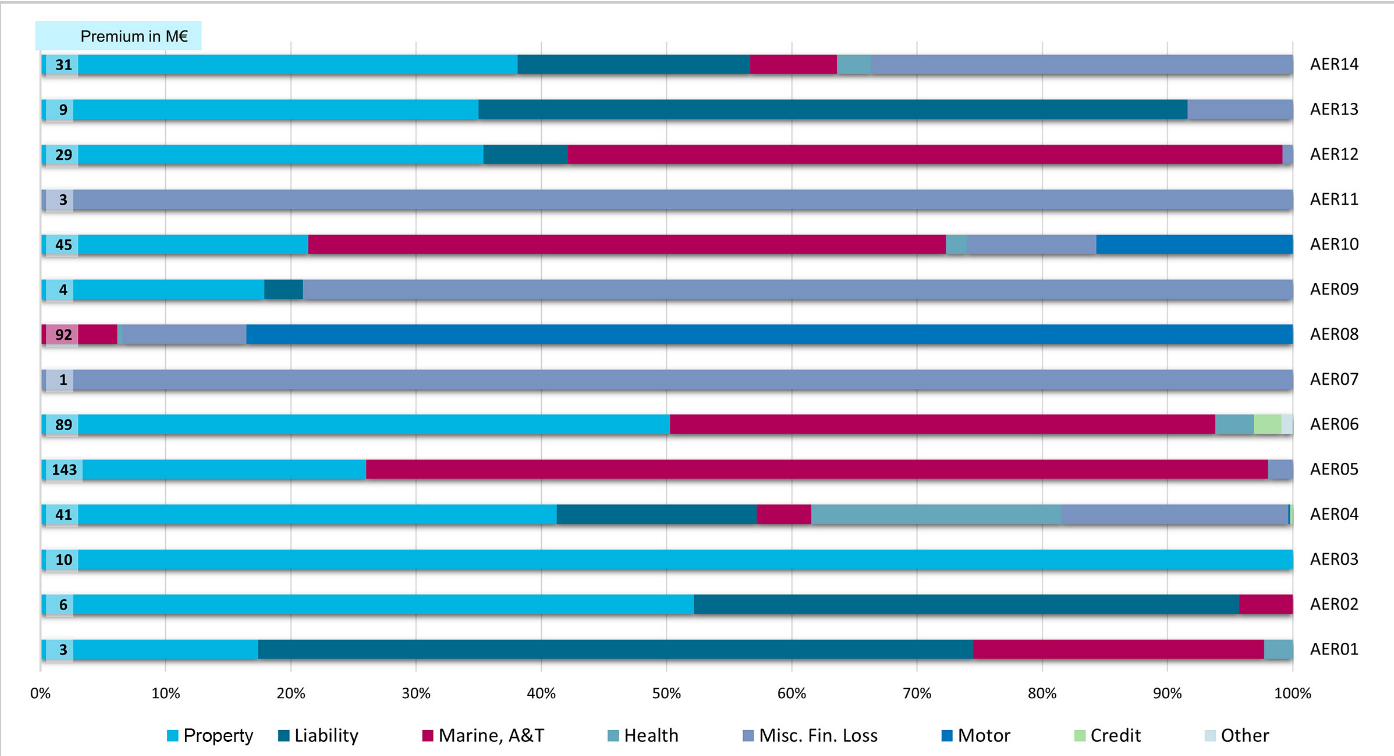
1. AEROSPACE / AUTOMOTIVE SECTOR (14 CAPTIVES)



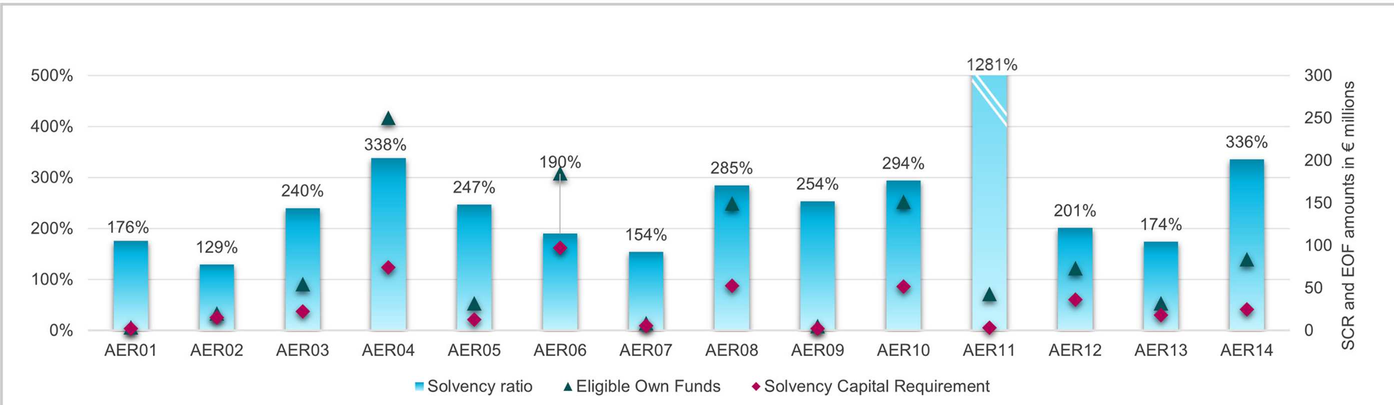
Domicile of the captive



Number of LOB

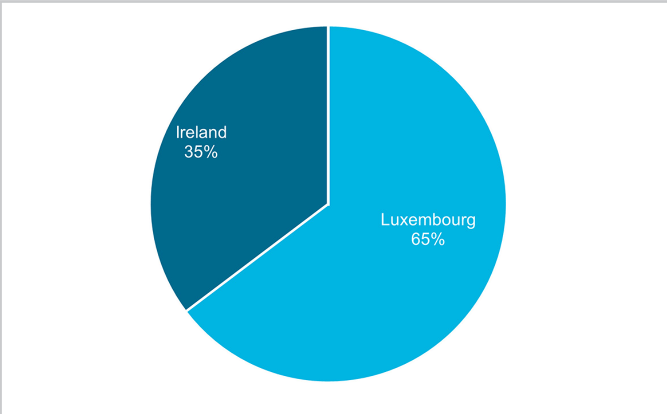


Composition of the GW Premium



Solvency

2. CHEMICALS / PHARMA SECTOR (17 CAPTIVES)



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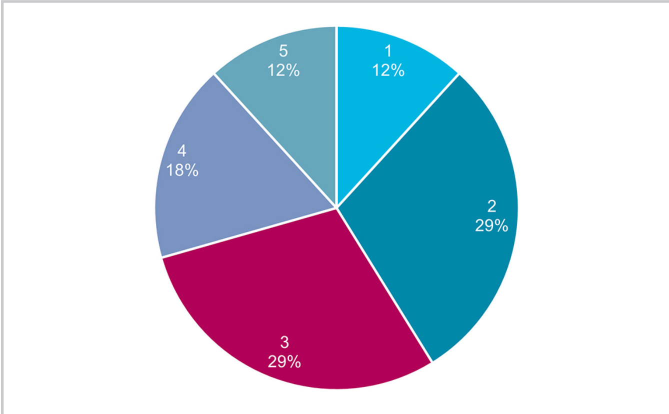

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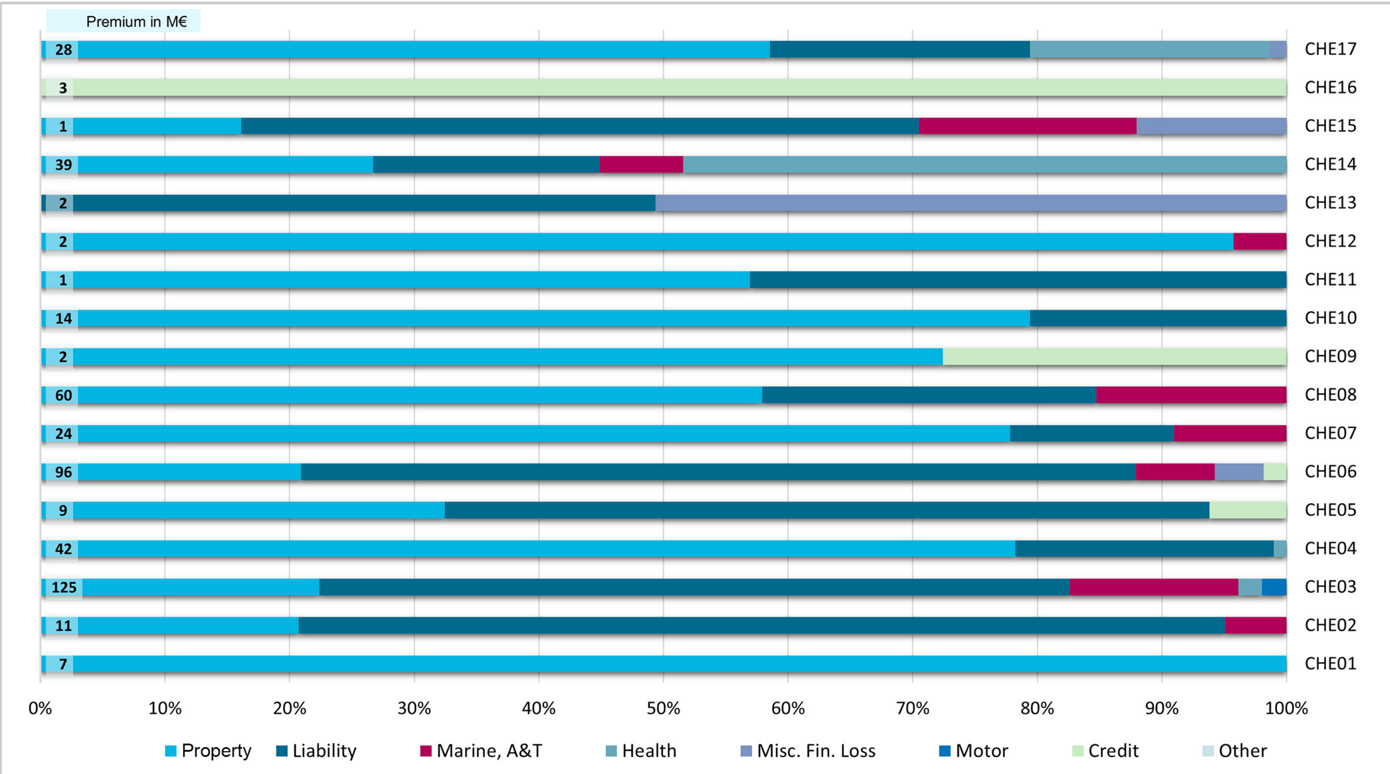

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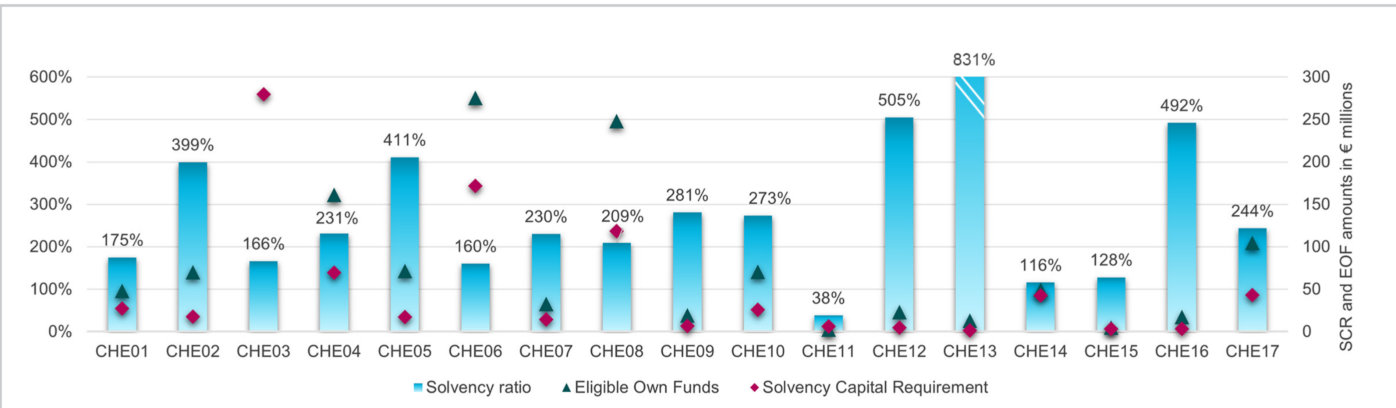
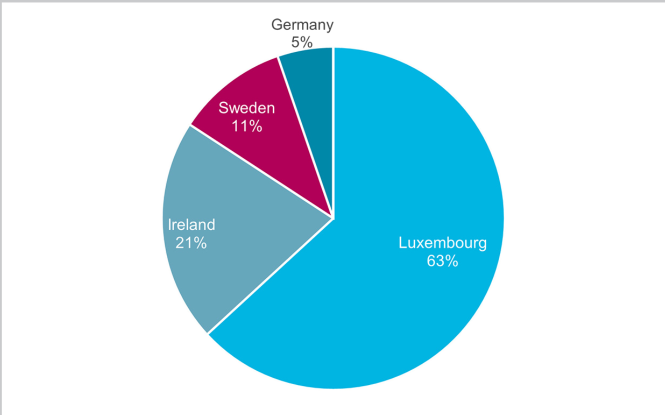


Solvency

3. CONSTRUCTION / ENGINEERING SECTOR (19 CAPTIVES)



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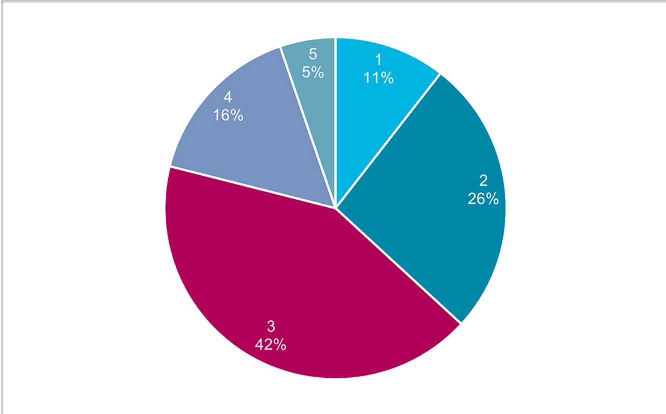

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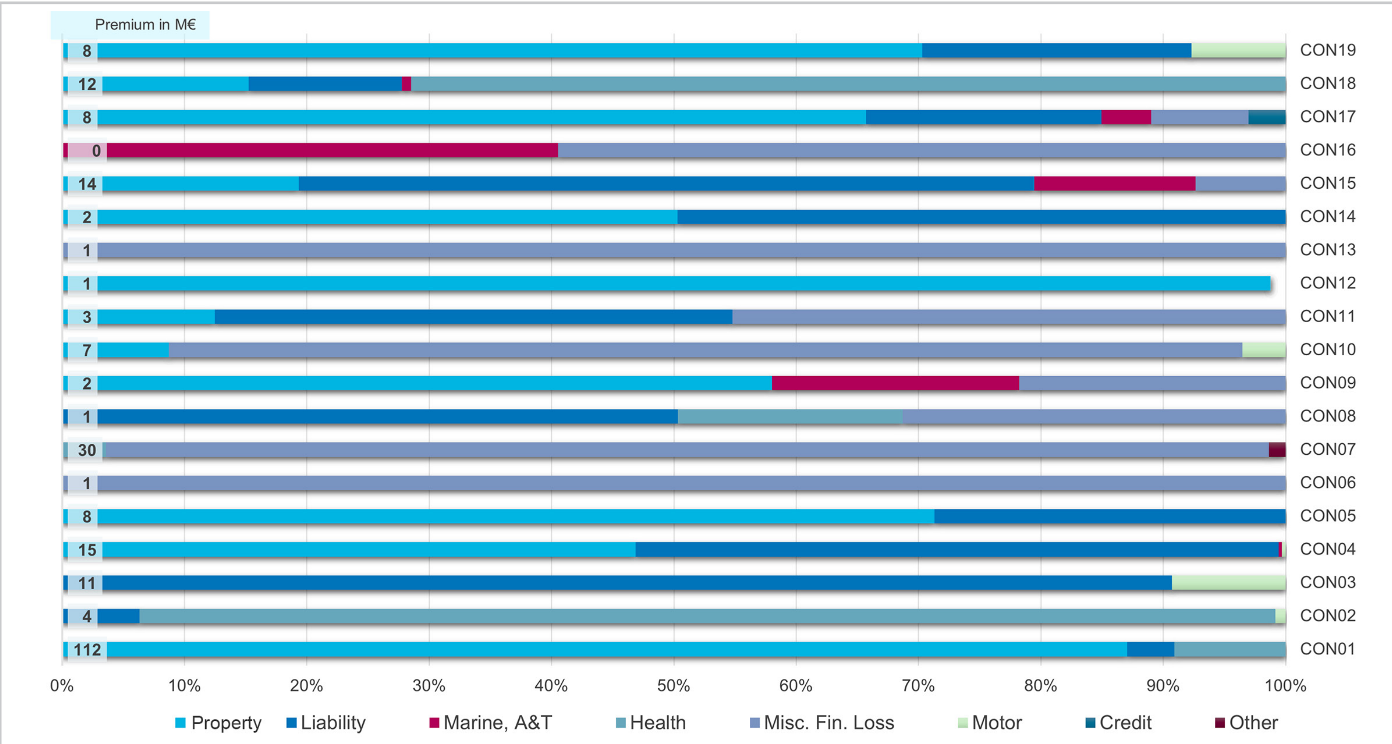
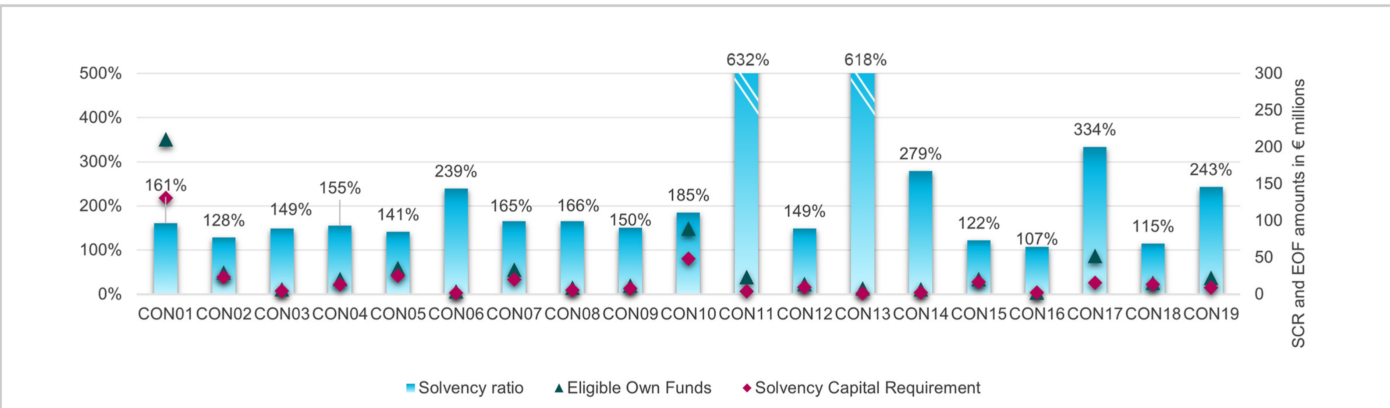
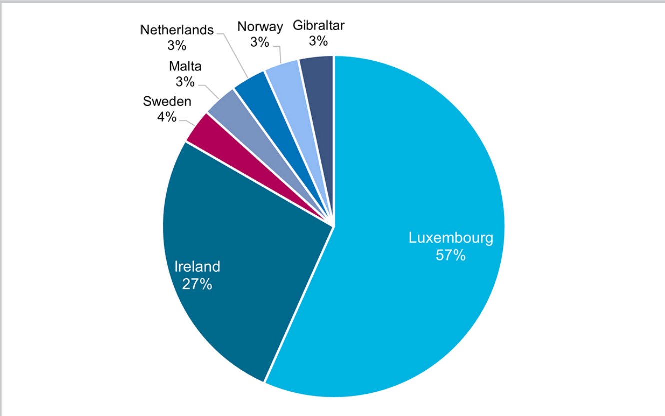


Composition of the GW Premium



Solvency

4. ENERGY / MINING / POWER AND UTILITIES SECTOR (30 CAPTIVES)



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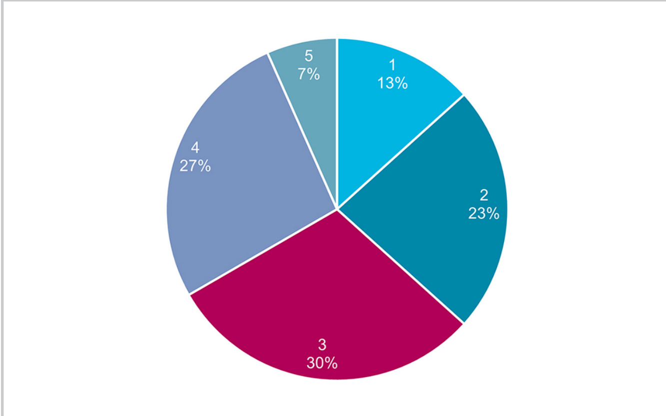

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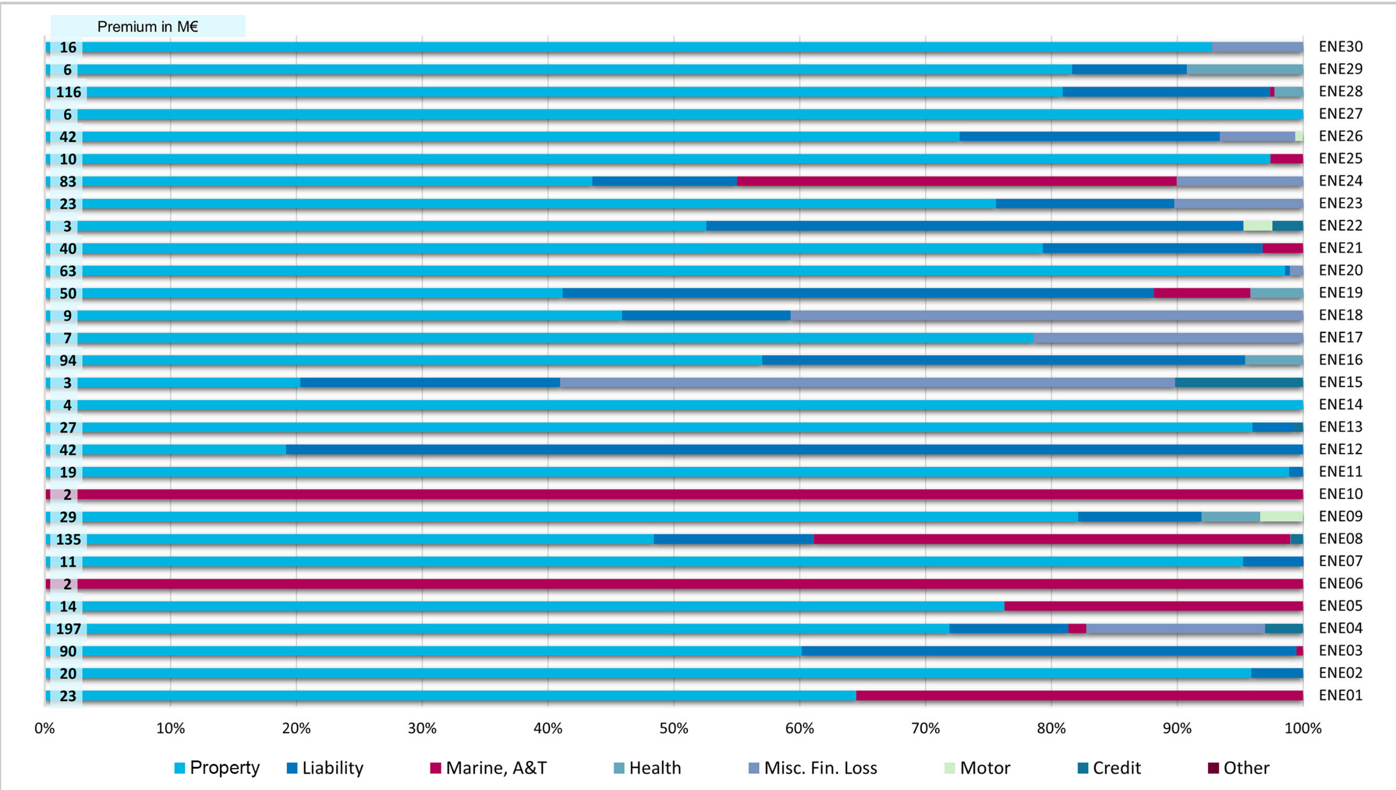
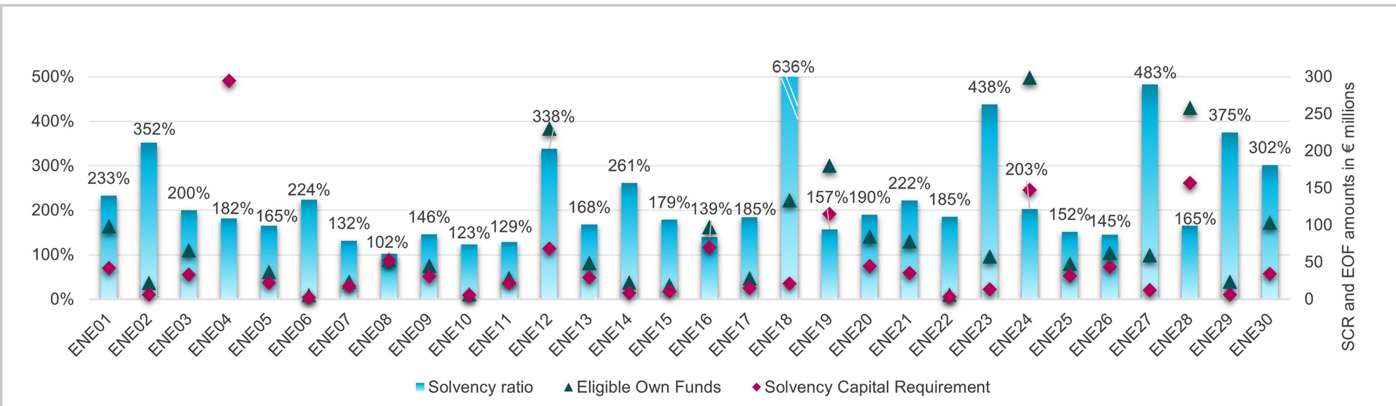
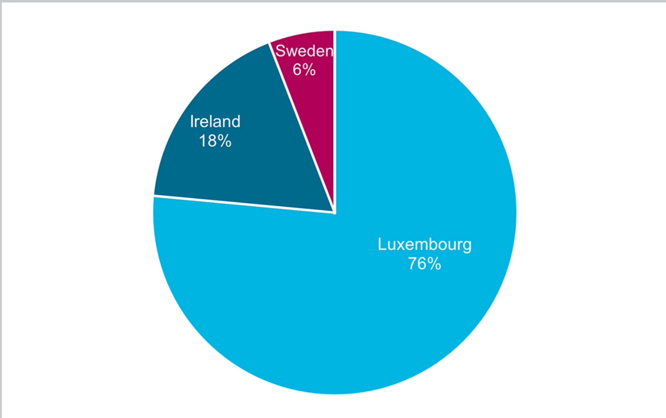


Composition of the GW Premium



Solvency

5. FINANCIAL SERVICES / REAL ESTATE SECTOR (17 CAPTIVES)



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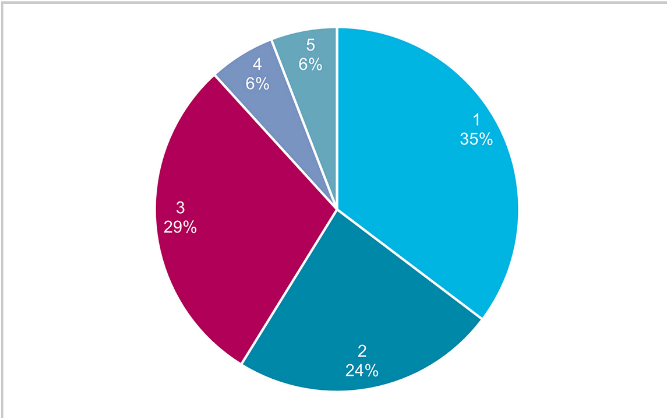

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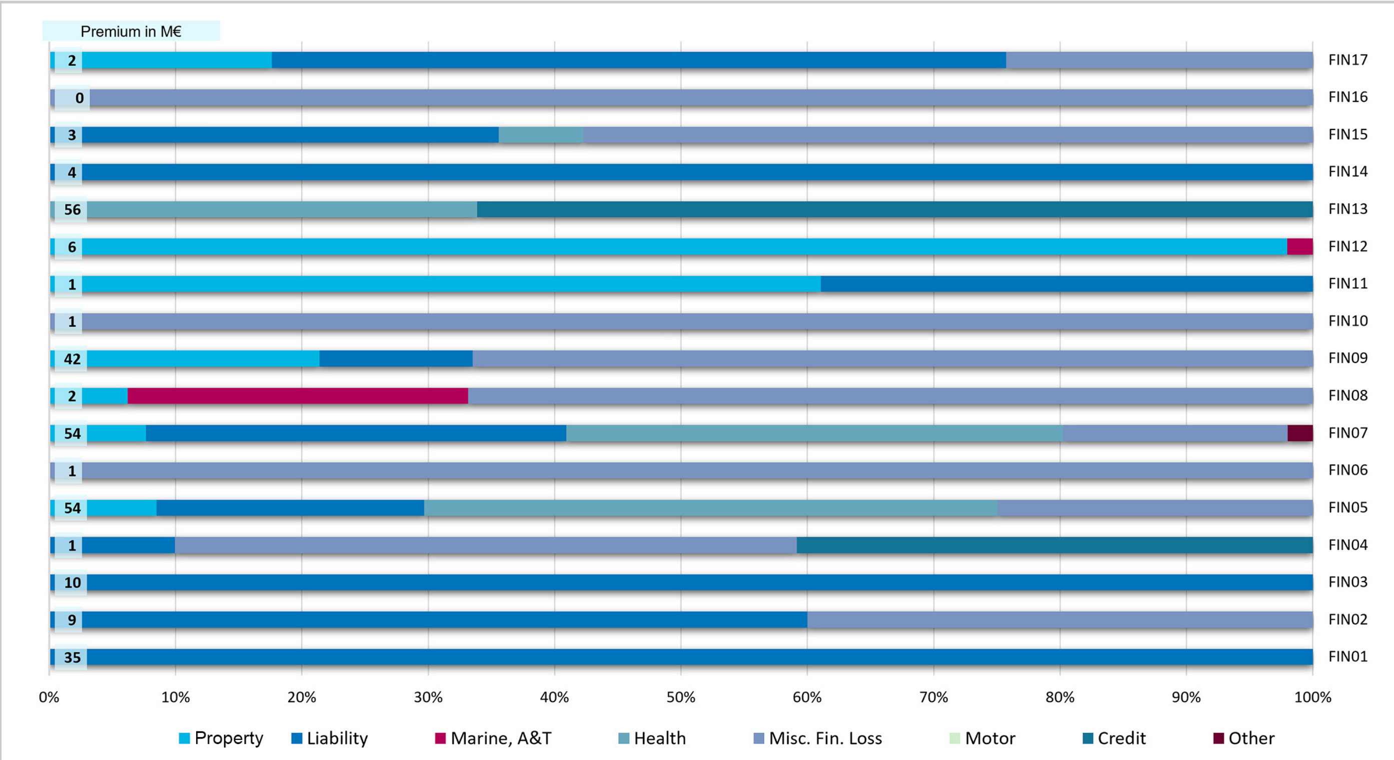
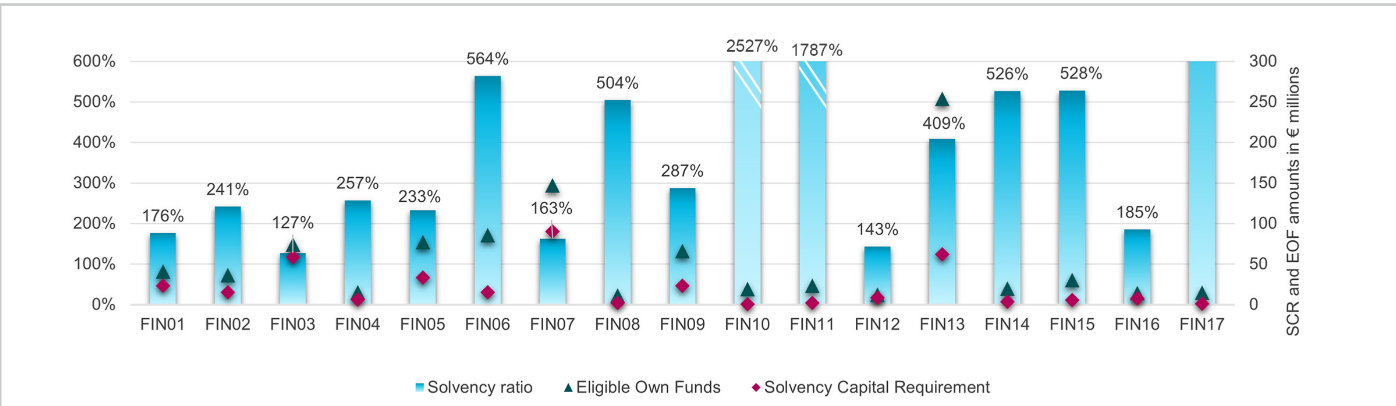
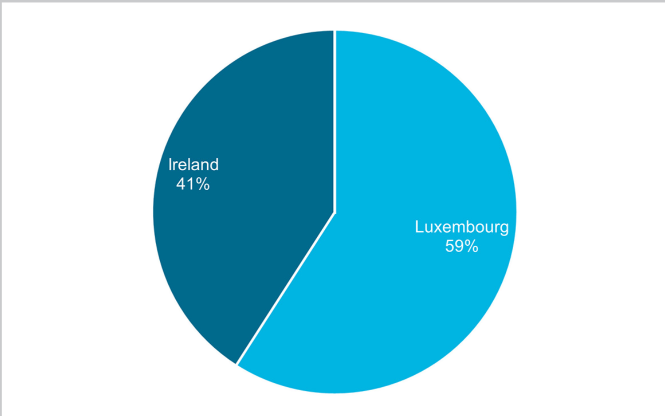


Composition of the GW Premium



Solvency

6. FOOD & AGRI SECTOR (22 CAPTIVES)



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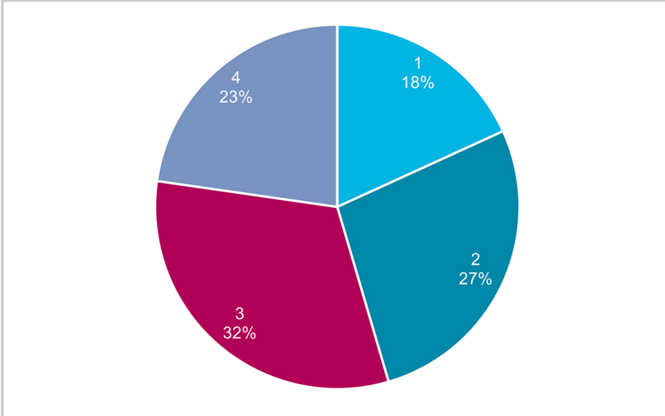

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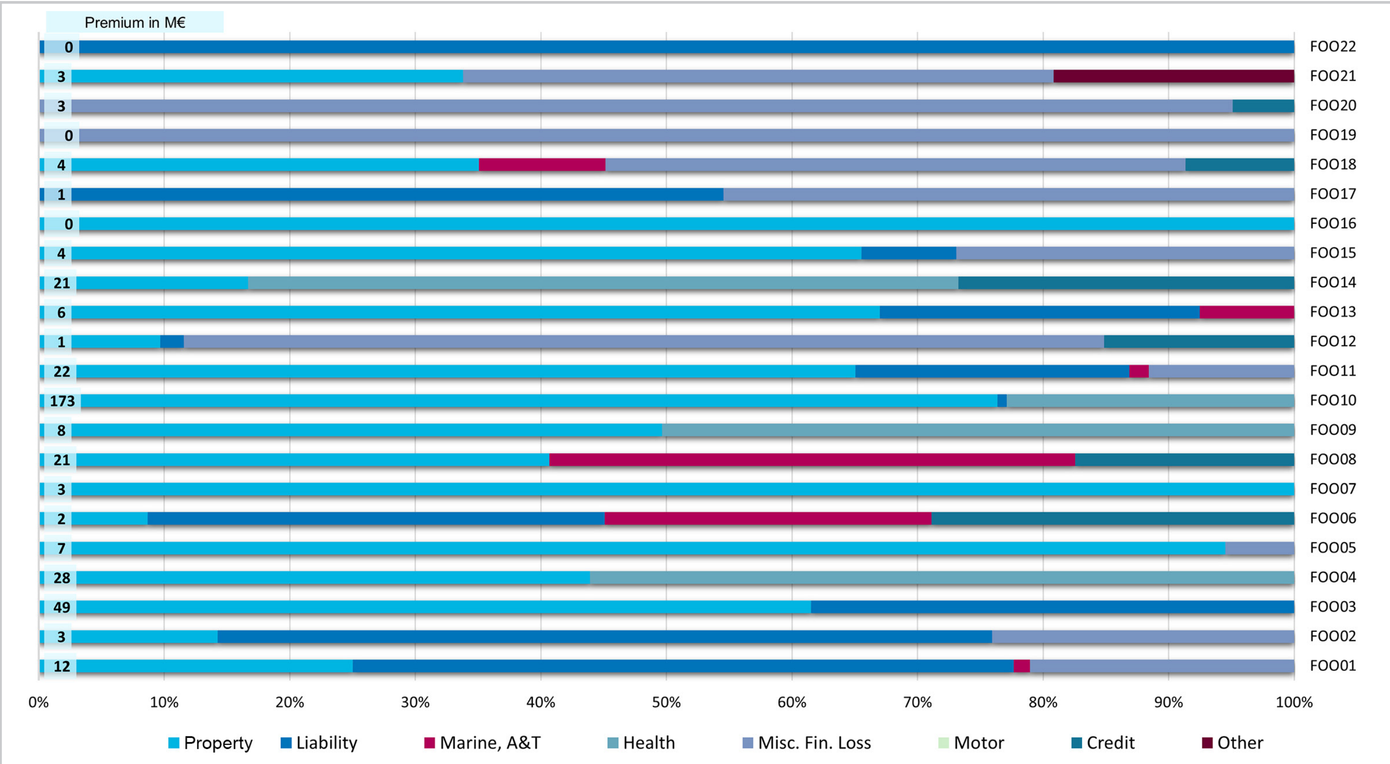

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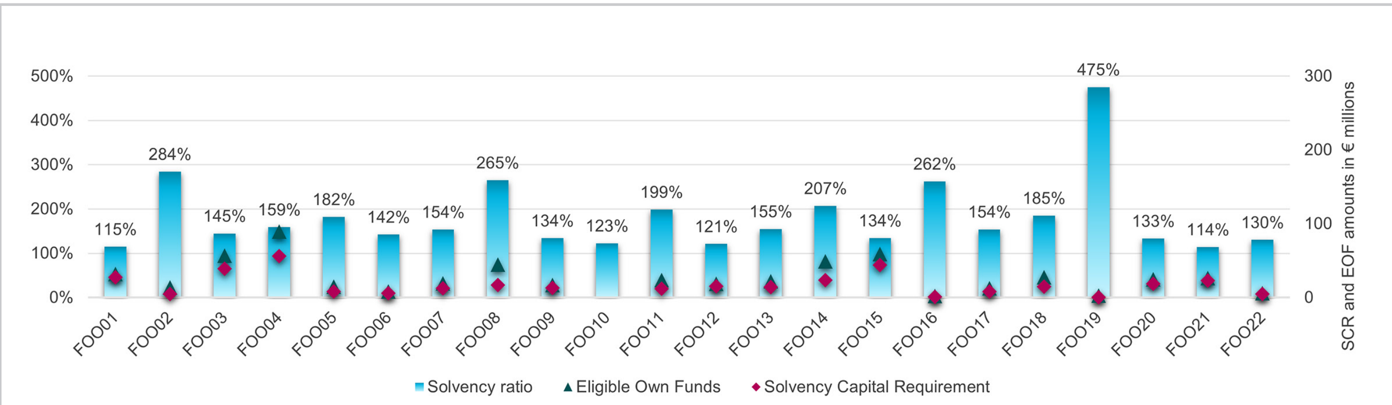
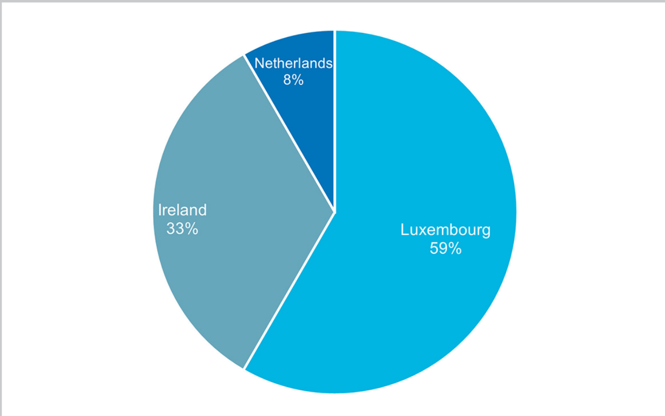


Solvency

7. LOGISTICS / TRANSPORTATION SECTOR (12 CAPTIVES)



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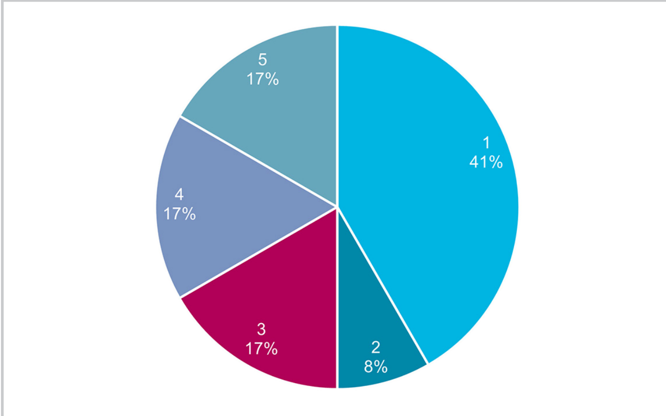

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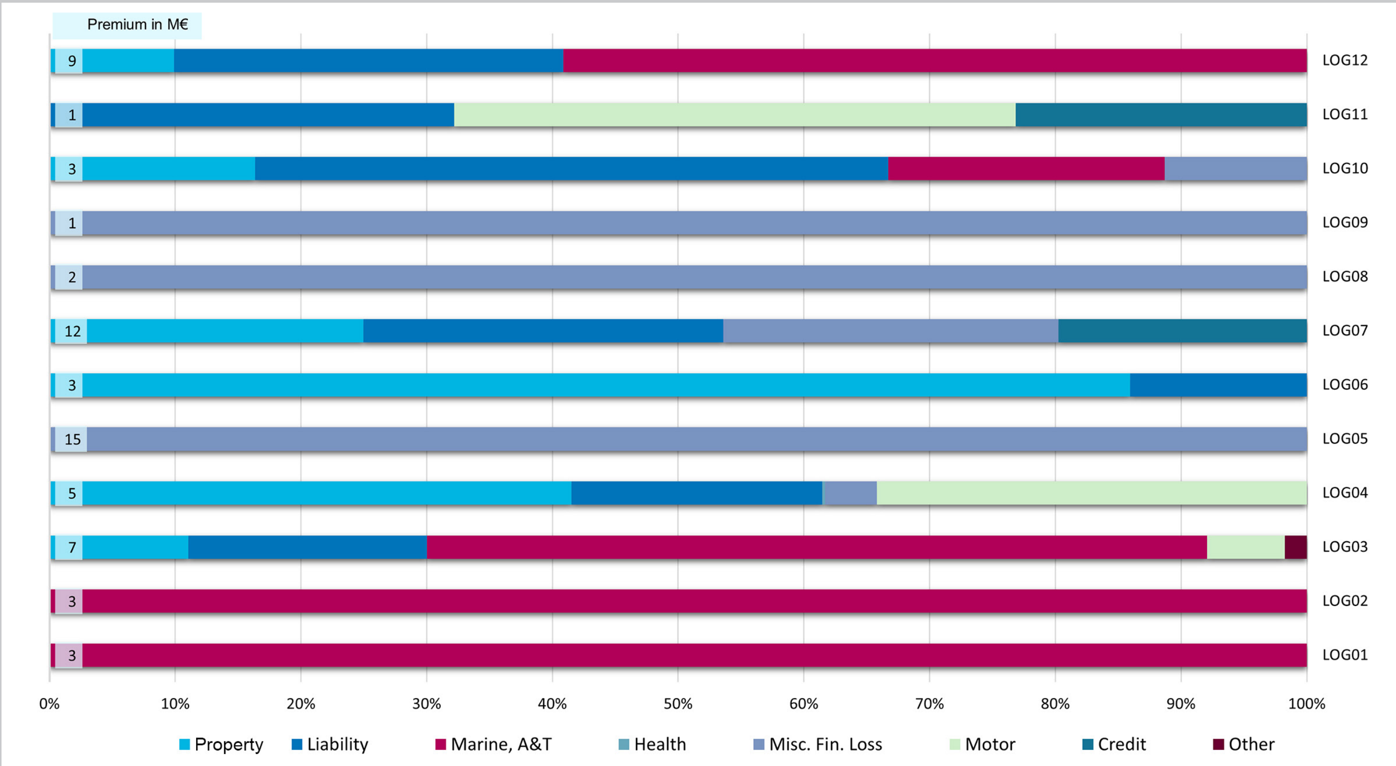

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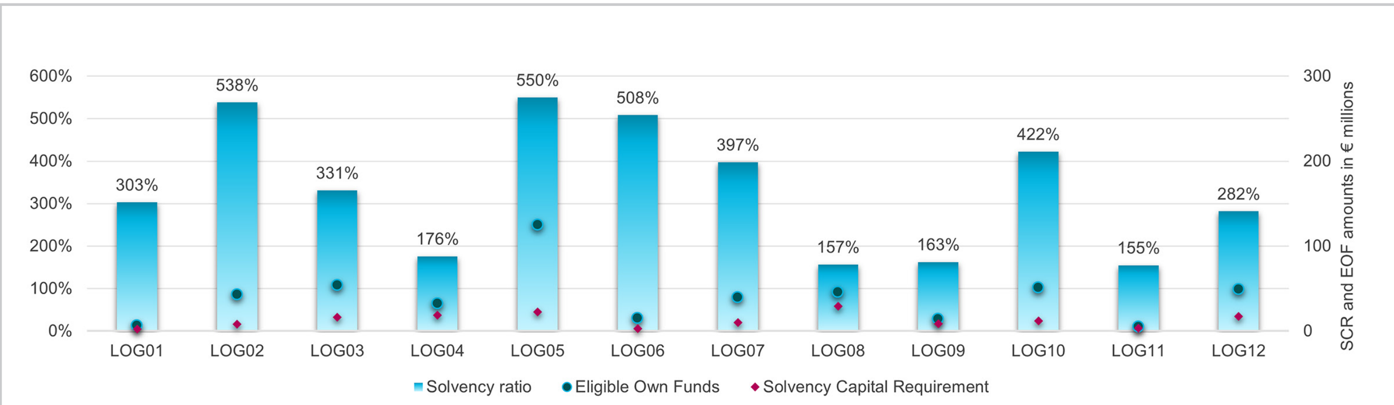

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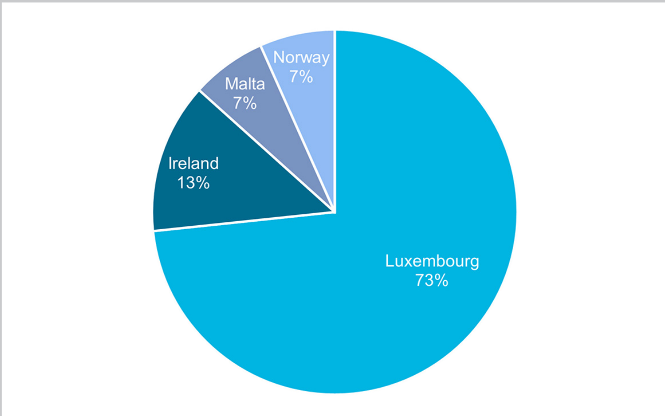
8. METALS & MATERIALS SECTOR (15 CAPTIVES)



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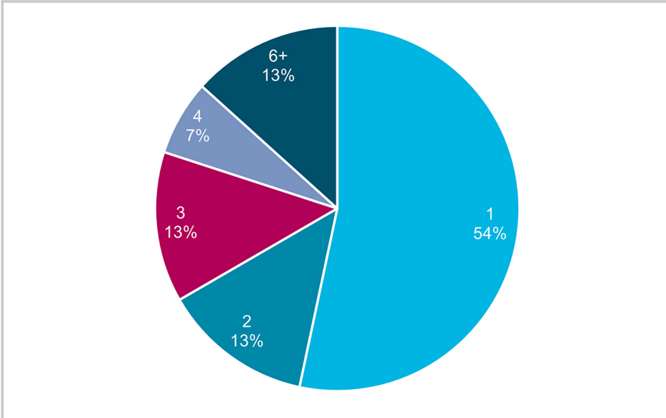

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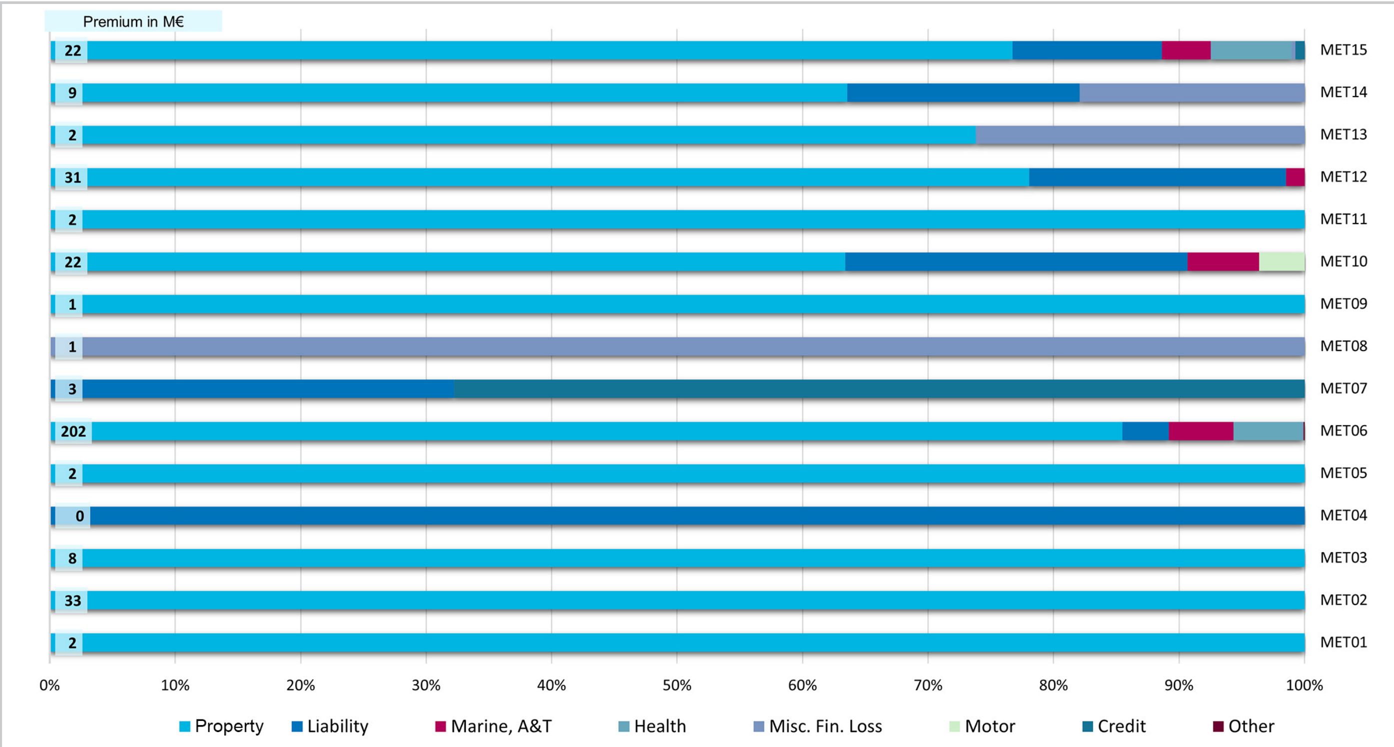

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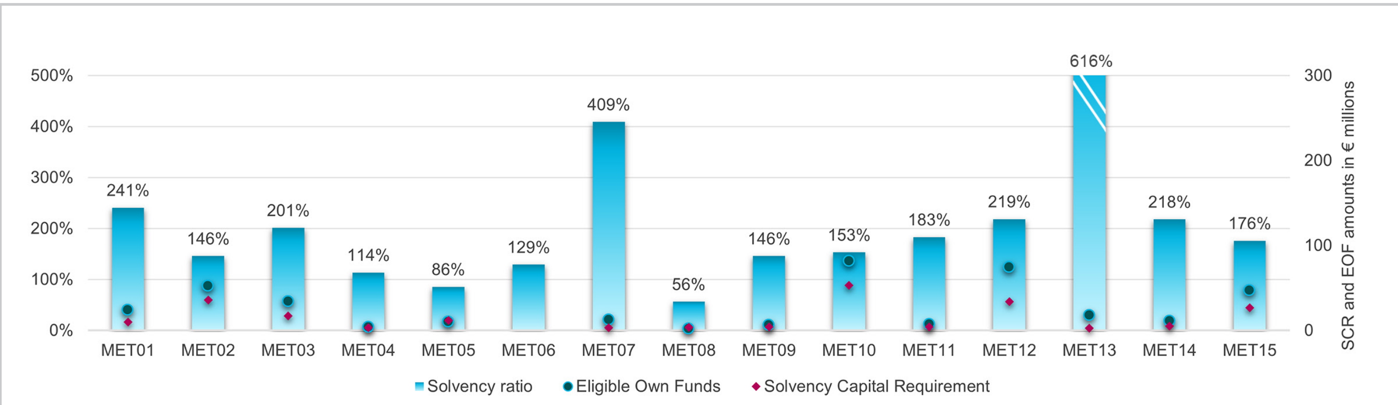

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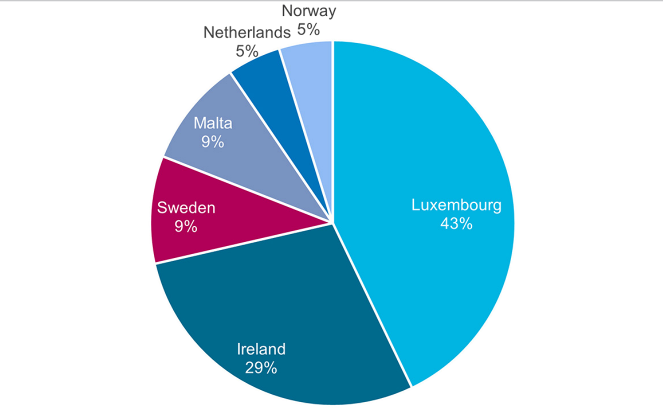
9. MISCELLANEOUS SECTOR (21 CAPTIVES)



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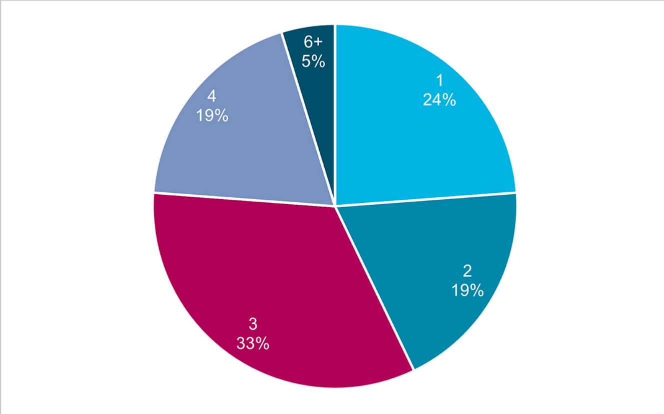

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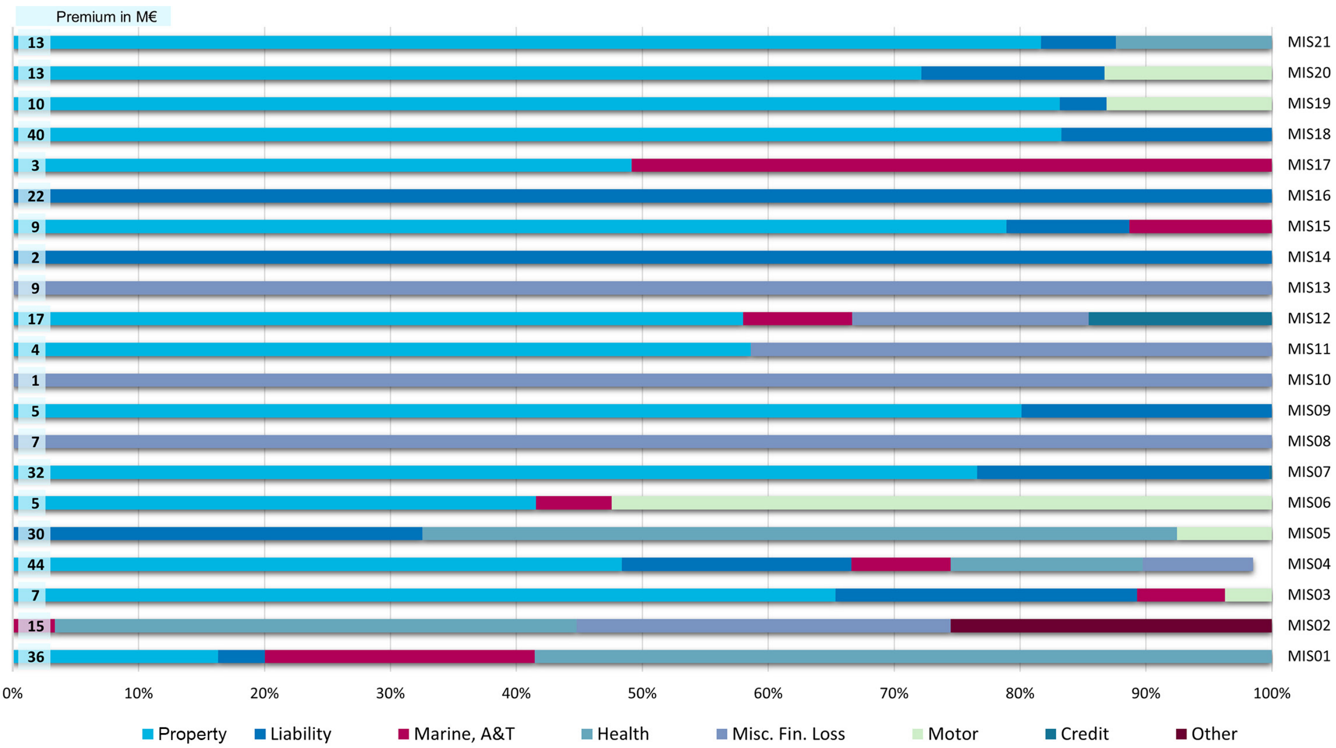
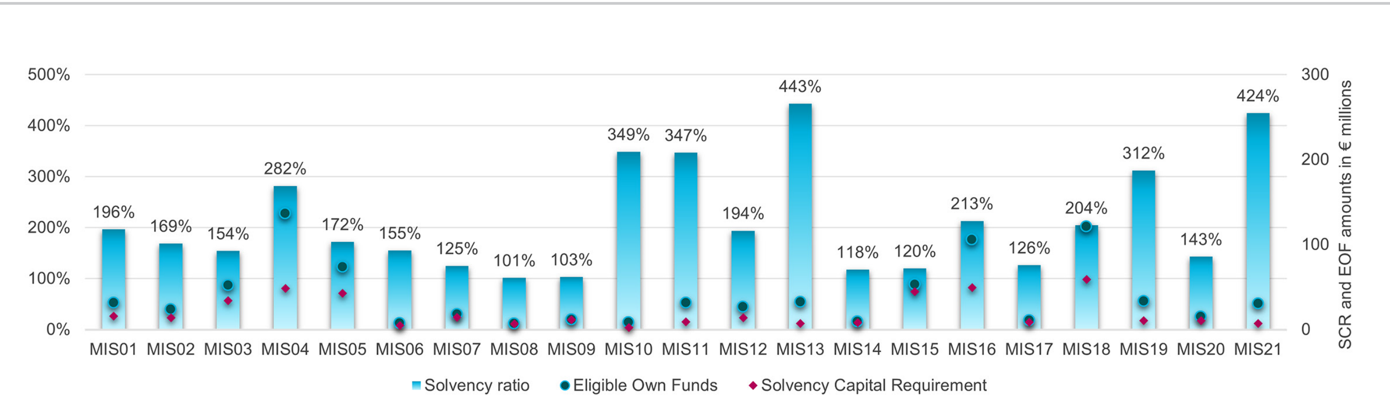


Composition of the GW Premium



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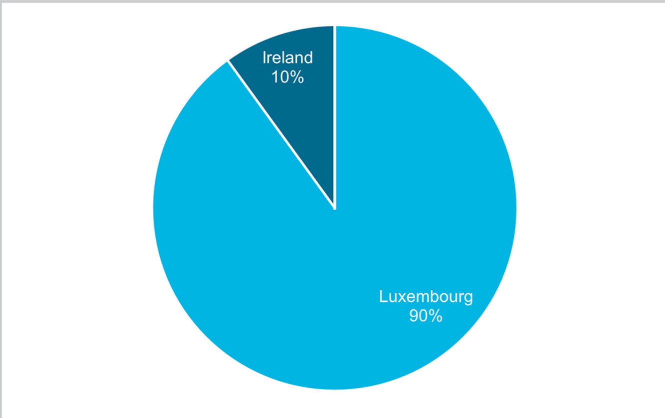
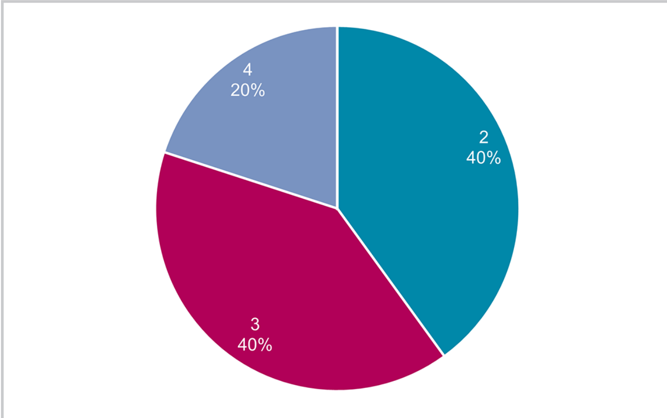
10. RETAIL SECTOR (10 CAPTIVES)



Domicile of the captive



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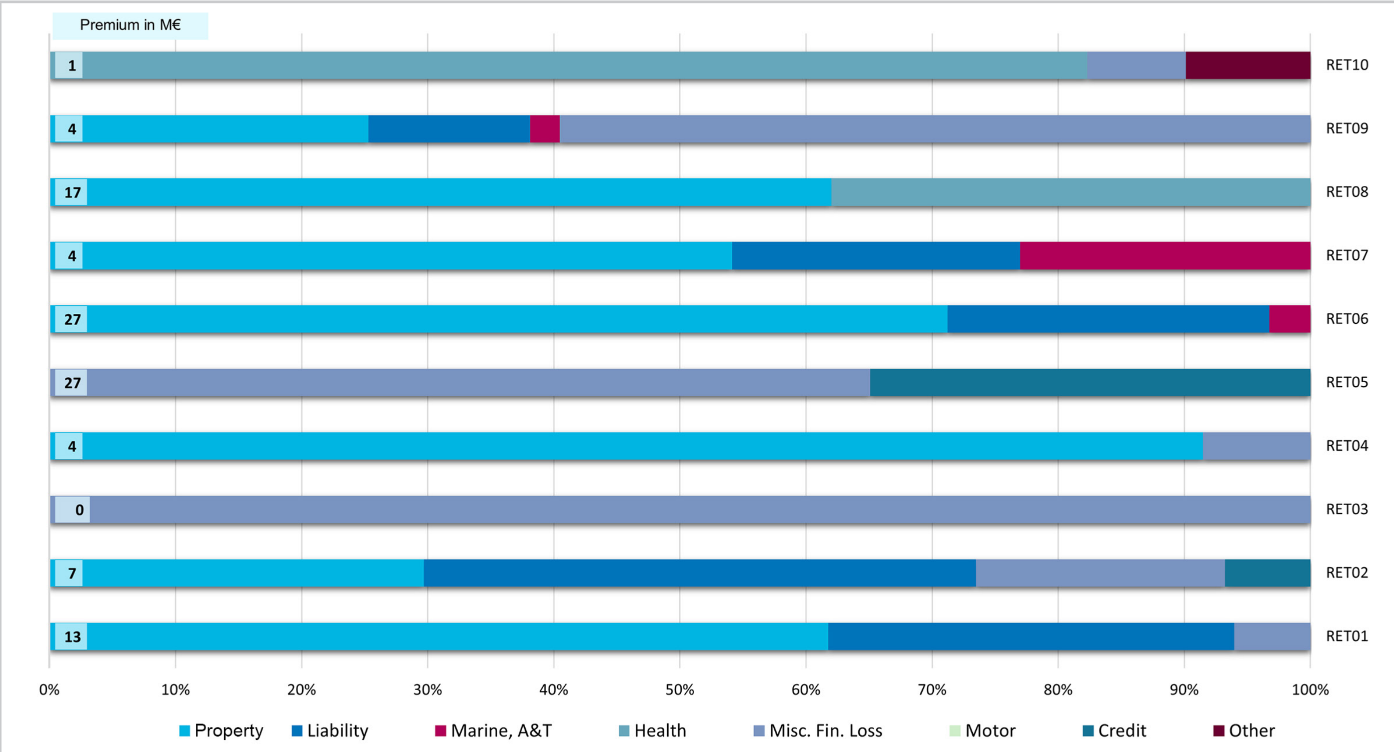
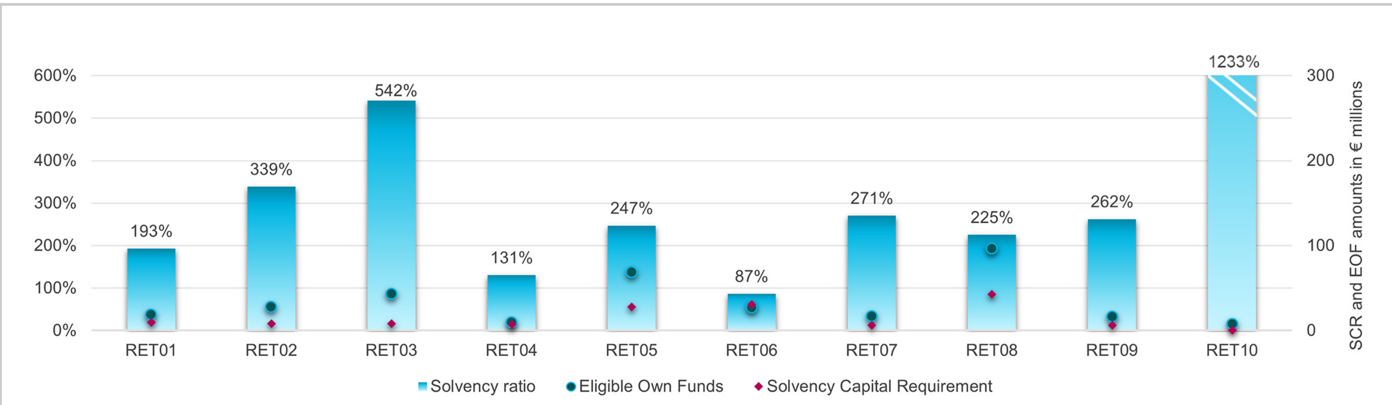


Composition of the GW Premium



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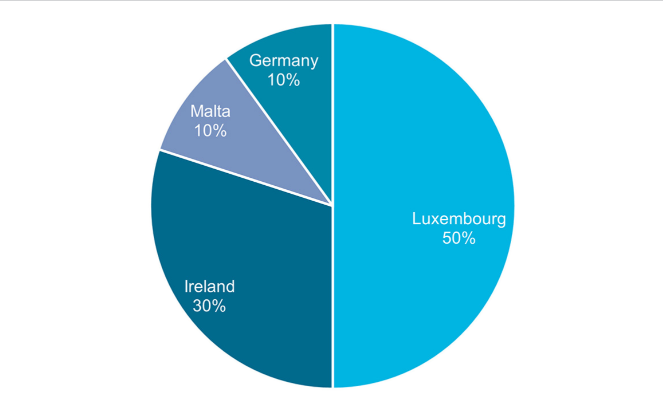
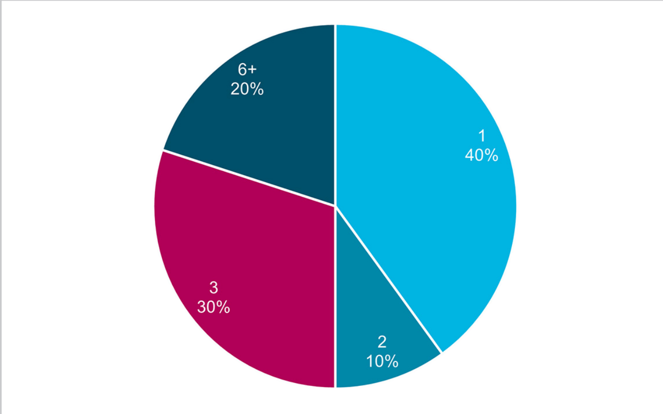
11. TECH, IT, TELECOM & MEDIA SECTOR (10 CAPTIVES)



Domicile of the captive



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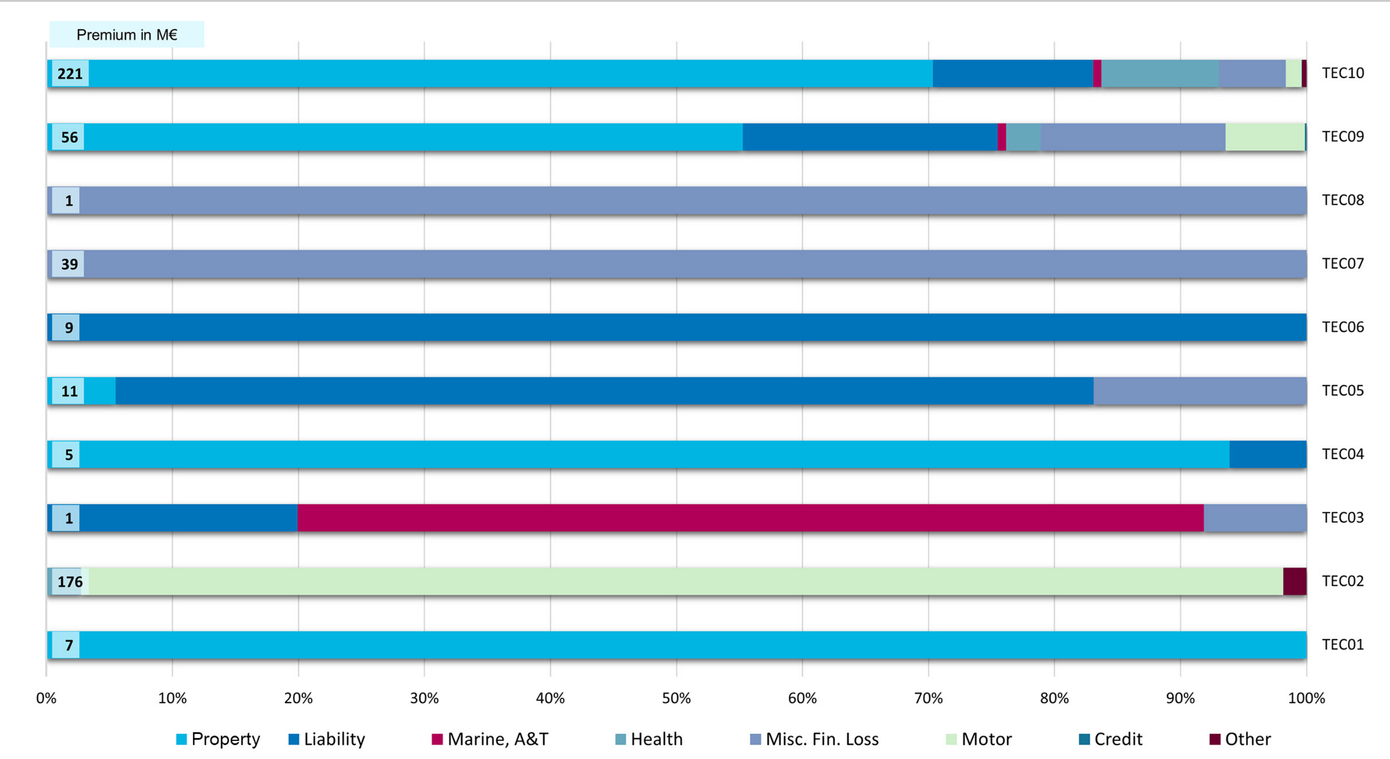
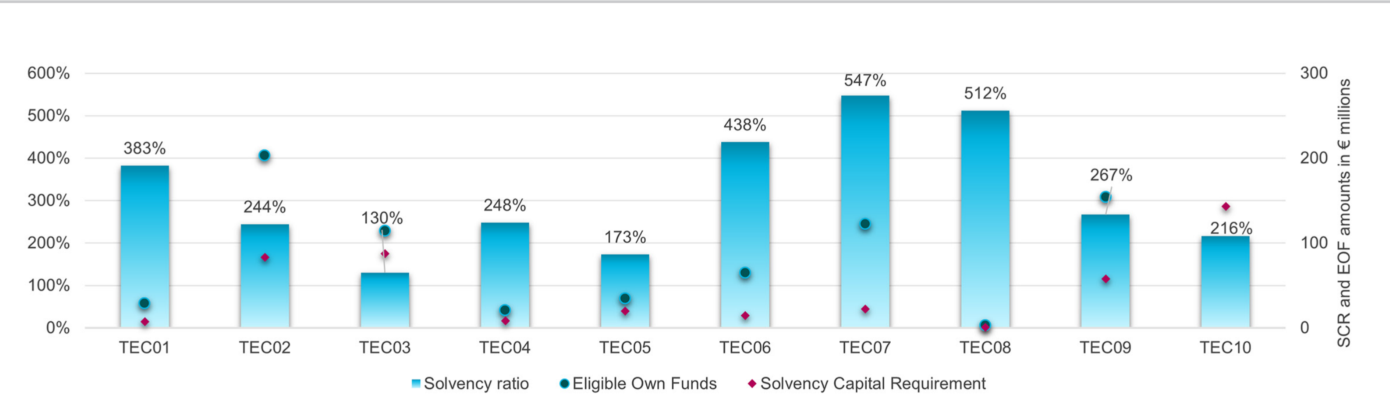


Composition of the GW Premium



Solvency

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Jacky Mochel graduated from Ecole Polytechnique (Paris) and French “Corps des Mines” program for the Ministry of Economy and Industry executives.
He began his career at the French Nuclear Safety Authority (ASN) in 2006, where he was responsible for the “nuclear operating rules” office, before being appointed Head of staff to the general director of ASN in 2008.
He joined the French Financial Supervision Authority (ACPR, attached to the French central Bank) in 2011, as deputy then head of a supervisory unit, where he was in charge of the regulatory supervision of a portfolio of ca 100 French insurance companies and worked as well on the national implementation and enforcement of the new Solvency II regulatory framework.
Jacky Mochel joined SCOR in 2018 as Chief Technical Officer for the “P&C - Alternative Solutions” unit. His duties include advisory on capital management and other regulatory or accounting issues, including IFRS 17.

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Mathieu joined SCOR in 2018, originally as a Senior Underwriter in the Alternative Solutions team, focusing on corporate clients and captives in the EMEA and APAC regions. Prior to joining SCOR, he worked for ten years at Swiss Re, where he held various roles in sales and structured solutions for corporate clients globally.
Mathieu holds a bachelor degree from ESCP Europe in Paris, and an MBA from Columbia Business School in New-York.

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