Eidgenössische Finanzmarktaufsicht FINMA
Autorité fédérale de surveillance des marchés financiers FINMA
Autorità federale di vigilanza sui mercati finanziari FINMA
Swiss Financial Market Supervisory Authority FINMA

SST 2022 Survey

FINMA Report on the Swiss Insurance Market

23. September 2022

Laupenstrasse 27, 3003 Bern, Tel. +41 (0)31 327 91 00, Fax +41 (0)31 327 91 01, www.finma.ch

finma

Contents

1 Introduction

This report provides an overview of the 2022 SST results and is based on data collected from 129 insurers (14 life insurers, 52 general insurers, 18 health insurers, 22 reinsurers and 23 reinsurance captives). It does not include insurance groups.

The survey was carried out at peer-group level according to sector: life, general insurance, health, reinsurance and reinsurance captives. The survey shows breakdowns of various key indicators such as total assets or liabilities, or target capital.

Unless otherwise stated, the scenario analysis only considers data of those companies where the specific scenario has an impact on the RBC. This avoids distortion due to companies for which a given scenario has no relevance. Note that when less than five companies are concerned only the mean value is displayed.

Quality and completeness checks were carried out for each key indicator, resolving most of the errors and obvious deficiencies. The Fundamental Data Sheets (FDS) completed by companies are the data source for this survey. The FDS contains detailed quantitative information such as the decomposition of risk-bearing capital and target capital. All supervised insurers are requested to submit it to FINMA, regardless of whether they use a standard model or an internal model.

2 Solvency overview

This report is divided into five sections according to sector: life, general insurance, health, reinsurance and reinsurance captive. Table 1 shows the breakdown of the 129 insurers into sector and category.[1] All supervised insurers are assigned to categories 2 to 5; categories 1 and 6 are not relevant for insurers.

	Category 2	Category 3	Category 4	Category 5	Total
Life	2	10	2	0	14
General insurance	2	9	20	21	52
Health	0	8	8	2	18
Reinsurance	1	9	10	2	22
Re Captive	0	0	7	16	23
Total	5	36	47	41	129

Table 1: Breakdown of all insurers subject to SST reporting requirements according to sector and supervisory category.

[1] finma.ch>Supervision>Insurers>Categorization

The figures presented below show the aggregated SST results of all the participants, after a formal review by FINMA (SST 2022 in Table 2, SST 2021 in Table 3).

	RBC	TC	MVM	SST ratio
Life	81,667	39,397	8,407	236%
General insurance	86,833	42,230	10,302	239%
Health	25,622	8,296	2,401	393%
Reinsurance	58,421	33,324	8,428	200%
Re Captive	3,585	1,520	70	242%
Total	256,130	124,768	29,610	238%

Table 2: Risk-bearing capital (RBC, in CHF million), target capital (TC, in CHF million), market value margin (MVM, in CHF million) and SST ratios as of 1 January 2022, broken down by sector.

	RBC	TC	MVM	SST ratio
Life	76,621	41,382	8,551	207%
General insurance	82,287	43,009	10,550	221%
Health	24,591	8,974	2,437	339%
Reinsurance	53,811	33,030	8,551	185%
Re Captive	3,333	1,268	42	269%
Total	240,643	127,663	30,130	216%

Table 3: Risk-bearing capital (RBC, in CHF million), target capital (TC, in CHF million), market value margin (MVM, in CHF million) and SST ratios as of 1 January 2021, broken down by sector.

3 Model overview

Of the 129 companies included in this report, 17 use an internal model for at least one module (excluding NatCat). The other 112 companies are users of the standard models. From these companies 17 use an additional internal model to determine their NatCat risks (cf. Table 4).

	2017	2018	2019	2020	2021	2022
IM	61	29	19	20	19	17
SM	86	116	120	117	114	112
... thereof with IM for NatCat	1	13	12	16	16	17

Table 4: Total number of (partial) internal models (IM), standard models (SM) and standard models with an internal model component to capture NatCat risks exclusively over the past years and by legal entity.

Accordingly, the remaining (partial) internal models are predominantly needed for the calculation of the insurance risk. Frequently, when the standard model ”out of the box” is not adequate to capture the company specific risk situation, a so-called company specific adjustment can be applied. In 2022 this was the case for 16 companies for their market risk, 3 for their credit risk module; and in 16 cases for the insurance risk module (cf. Table 5).

	Aggregation and MVM	Market risk	Credit risk	Insurance risk without NatCat risk
IM	8	6	5	13
SM	121	123	124	116
... thereof SM-ca	0	16	3	16

Table 5: Split by module. Total number of partial internal models (IM), standard models (SM) and SM with company-specific adjustments (SM-ca) in 2022.

With the introduction of the new model approval process in 2016, all companies still in need of a (partial) internal model had to resubmit their model application, starting with the so-called proof of need. In the meantime, almost all internal models have gone through this process including a summary review. Summary reviews are now only performed on model changes.

	2017	2018	2019	2020	2021
Proof of need	43	9	3	3	2
Summary review	53	63	56	39	21
... thereof SM-cA	6	28	20	12	6
... thereof IM	47	35	36	27	15
Material review	0	7	8	4	6

Table 6: Total number of submitted proofs of need, model applications followed by a summary review (split into company specific adjustments to the standard model (SM-cA) and (partial) internal models (IM) and material reviews over the past years all by legal entity and module.[2]

[2]Note that starting with the SST Survey 2022, the date of FINMA's decision is used to define the year of a review instead of the date of its submission.

4 Goals of the analyses

The analyses presented in this section give a deeper insight into:

- investment structure;
- liability structure;
- best estimate of liabilities and target capital in relation to the total assets;
- split of target capital into its components, e.g. market, credit and insurance risk;
- split of market risk (including participation risk) into interest rate risk, equity risk, etc.;
- split of interest rate risk into different currencies;
- scenarios and their impact on risk-bearing capital; indication of whether the SST capital requirements after scenario impacts are still met.

Two types of graph are shown:

- waterfall diagrams;
- box plots providing information on data dispersion.

To avoid conclusions that can be drawn about an insurers individual risk profile, the data are pooled by insurance sector. The graphs illustrate a breakdown of the indicators into their components.

Assets

The total assets in the market-consistent balance sheet are shown as the sum of the different asset types (e.g. bonds, real estate, shares, etc.).

Liabilities

The total liabilities in the market-consistent balance sheet are split according to liability type.

Best estimate of liabilities and target capital in relation to the balance sheet total

The market value of assets (MV(A)) is decomposed into:

- best estimate of liabilities (BEL);
- market value margin (MVM);
- one-year capital requirement (SCR), which is computed as the difference between the target capital (TC) and the market value margin. The TC, SCR and MVM are linked through

$$\text{TC} = \text{SCR} + \text{MVM} \tag{1}$$

- excess capital (EC), which is defined as the difference between the risk-bearing capital (RBC) and the target capital (TC), which gives

$$\text{RBC} = \text{TC} + \text{EC} \tag{2}$$

- supplementary capital (SC);
- deductions (D).

More precisely:

$$\text{MV(A)} = \text{BEL} + \text{MVM} + \text{SCR} + \text{EC} - \text{SC} + \text{D}.$$

To show this, note that the core capital (CC) and the risk-bearing capital (RBC) are related through

$$\text{RBC} = \text{CC} + \text{SC}. \tag{3}$$

CC can now be expressed as:

$$\text{CC} = \text{MV(A)} - \text{BEL} - \text{D},$$

from which the following relation is derived by means of (3):

$$\text{MV(A)} = \text{BEL} + \text{RBC} - \text{SC} + \text{D}.$$

By means of (1) and (2) we conclude that

$$\begin{aligned}\text{MV(A)} &= \text{BEL} + \text{EC} + \text{TC} - \text{SC} + \text{D} \\ &= \text{BEL} + \text{MVM} + \text{SCR} + \text{EC} - \text{SC} + \text{D}.\end{aligned}$$

Target capital decomposition

Target capital is the sum of the one-year capital requirement (SCR) and the market value margin (MVM). In turn, the SCR key components are market risk, credit risk, insurance risk and effect of the scenarios and diversification.

Market risk analysis

Market risk plays an important role in an economic, risk-based solvency regime. A number of risk factors, such as interest rates, credit spreads, exchange rates, real estate, to name but a few, contribute to market risk. Waterfall and box plot diagrams are used to present the most important market risk factors.

Interest rate risk analysis

Insurers with assets and liabilities denominated in different currencies are exposed to currency risk and generally also to interest rate risk. In such cases, the total interest rate risk comprises the interest rate risk of each currency. We have shown the decomposition of the total interest rate risk into four currencies CHF, EUR, USD and GBP, including the effect of diversification.

Scenarios

For each scenario, we compute and show the impact ratio, which is defined as below:

$$\text{Impact ratio} = \frac{\text{RBC} - \text{MVM} + c}{\text{RBC} - \text{MVM}}.$$

Typically, a scenario impact c with a negative value represents a loss. To concentrate only on relevant scenarios, scenarios with no impact (i.e. $c = 0$) are ignored.

This loss is understood as the maximum loss an insurer can endure and still remain solvent. It is quantified by *excess capital* (EC), i.e. $c = -\text{EC}$. To obtain the corresponding impact ratio, we use relation (2), i.e. $\text{RBC} = \text{TC} + \text{EC}$,:

$$\text{Impact ratio} = \frac{\text{RBC} - \text{MVM} - \text{EC}}{\text{RBC} - \text{MVM}} = \frac{\text{TC} - \text{MVM}}{\text{RBC} - \text{MVM}}.$$

5 Life

The overall SST ratio calculated over all life insurers increased by 29 percentage points from 207% in 2021 to 236% in 2022. The risk bearing capital increased by 6.6% to CHF 81,667 million, while target capital went down by 4.8% to CHF 39,397 million. The comparison is based on aggregate numbers obtained by summing over all life insurers (14 in total).

With regard to the individual analysis, in order to avoid that companies with larger volume dominate the results, an average over the percentages for each company is shown.

Life	FDS component	
Bonds	Government bonds	49.9%
	Corporate bonds	47%
	Investment funds: bonds	3.1%
Real estate	Real estate	64.5%
	Mortgages	28.3%
	Investment funds: real estate	7.2%

Table 7: Breakdown of *Investments* categories *Bonds* and *Real estate* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

Life	FDS component	
Loss reserves	Best estimate of insurance liabilities (life): gross	99.9%
	Best estimate of insurance liabilities (non-life): gross	0%
	Best estimate of insurance liabilities (health): gross	0%
	Active reinsurance (indirect business)	0.1%
Other liabilities	Deposit liabilities from ceded reinsurance	7.5%
	Liabilities from derivative financial instruments	3.2%
	Non-technical provisions	0.8%
	Liabilities from insurance business	25.1%
	Other liabilities	24.3%
	Reserves for surplus funds	5.9%
	Subordinated liabilities	26.7%
	Interest-bearing liabilities	6.4%

Table 8: Breakdown of *Liabilities* categories *Loss reserves* and *Other liabilities* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

5.1 Comments on results

The asset portfolios of life insurers are dominated by bond investments (42%) followed by investment in real estate (20%) and unit-linked life insurance (16%), as illustrated in Figure 1 ”Assets”. A further breakdown of the investment categories bonds and real estate is shown in Table 7.

As shown in Figure 3 ”Liabilities”, the liabilities of life insurers are dominated by individual life liabilities (42%) followed by group life liabilities (29%) and unit-linked liabilities (19%). In Table 8, a breakdown of loss reserves and other liabilities into their components is shown.

In Figure 7 ”Target capital decomposition” it is shown that the one-year capital and market value margin correspond to 82% and 18% of the target capital, respectively. The one-year capital is driven (before diversification) by the market risk (59%) followed by the insurance risk (22%) and credit risk (20%).

The main drivers of the market risk (before diversification) are the interest rate risk (45%) and spread risk (42%). As shown in Figure 11, interest rate risk is dominated by the CHF interest rate risk (114% before diversification).

5.2 Assets

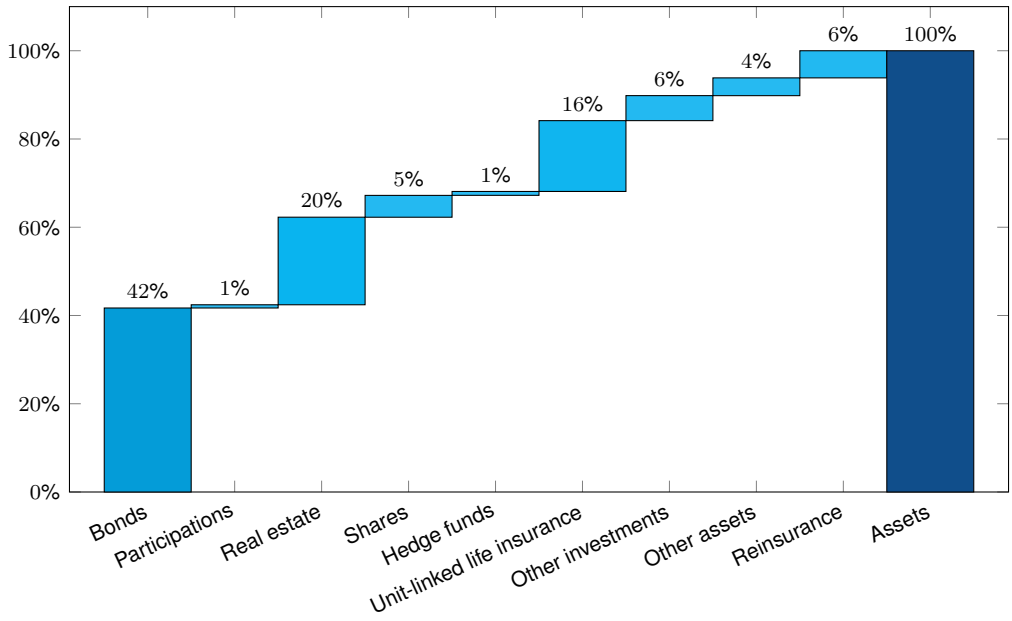

Figure 1: Life (mean values by sector)

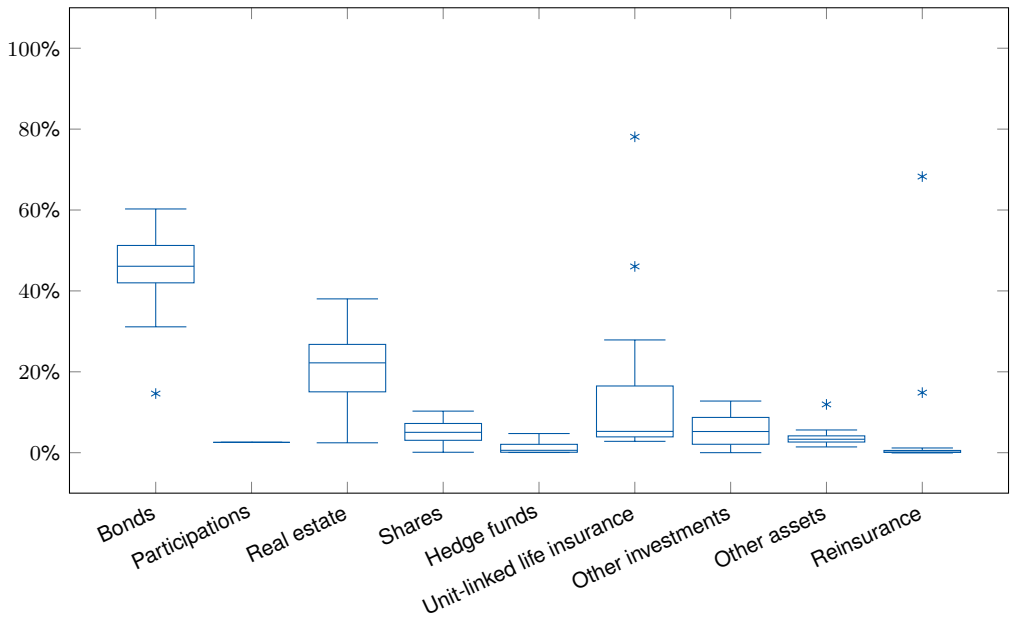

Figure 2: Life (distribution as box-plot)

5.3 Liabilities

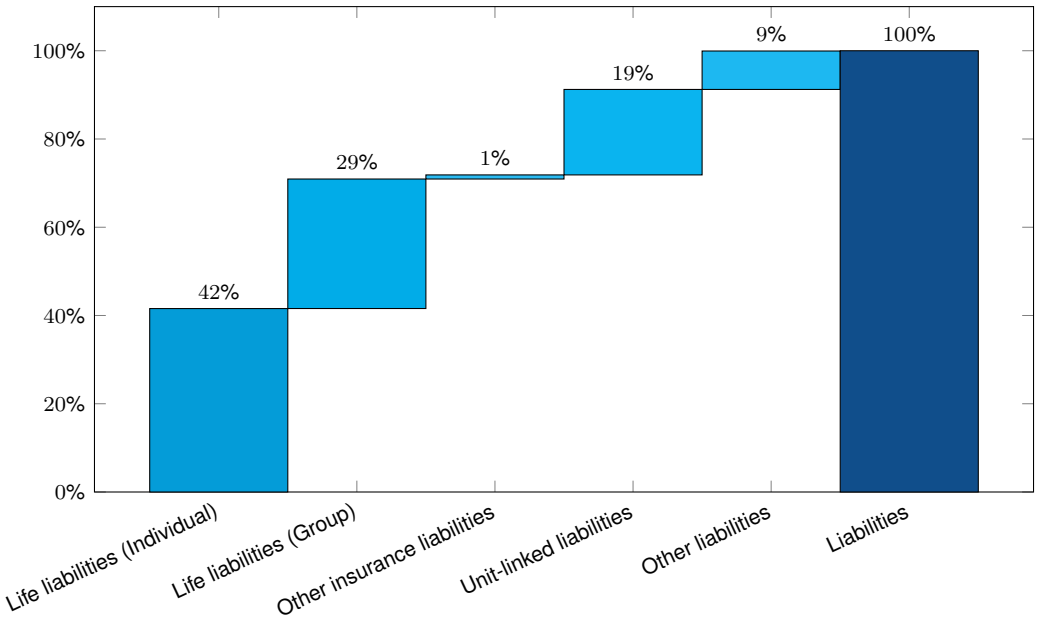

Figure 3: Life (mean values by sector)

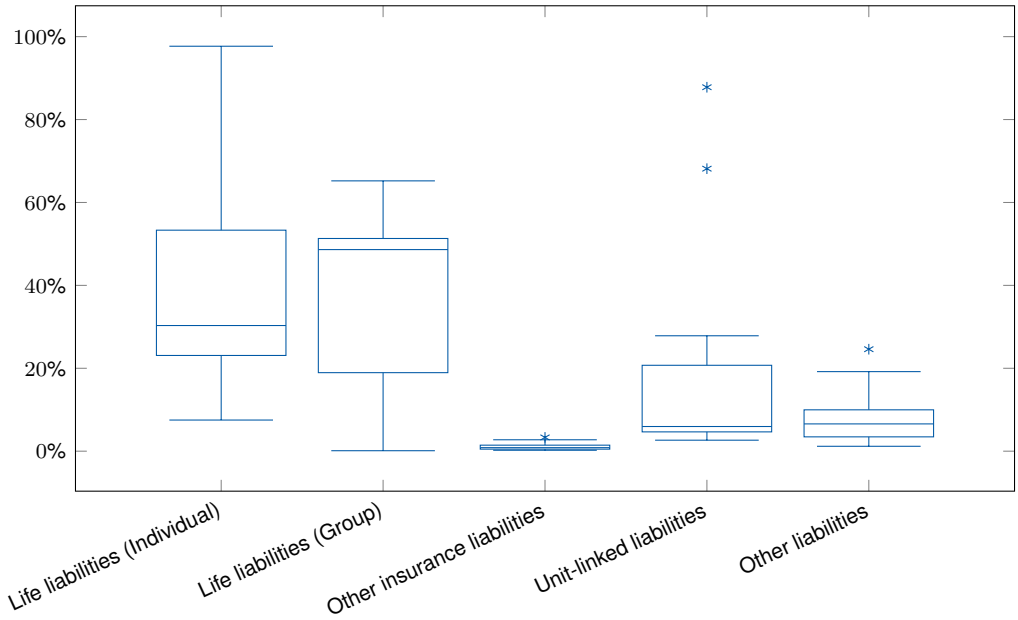

Figure 4: Life (distribution as box-plot)

5.4 Best estimate of liability and target capital in relation to the balance sheet total

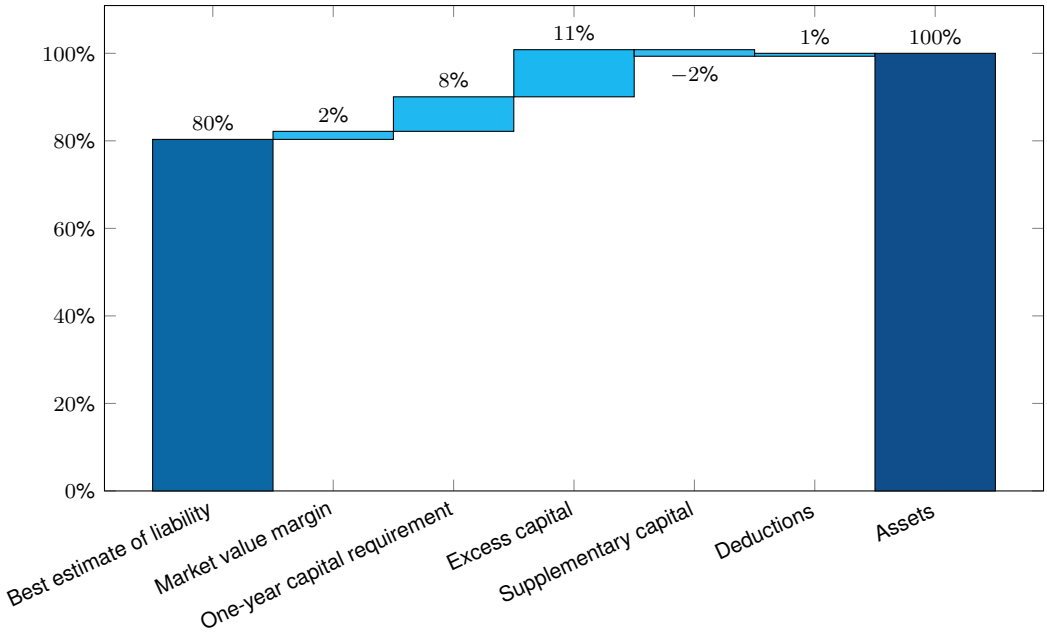

Figure 5: Life (mean values by sector)

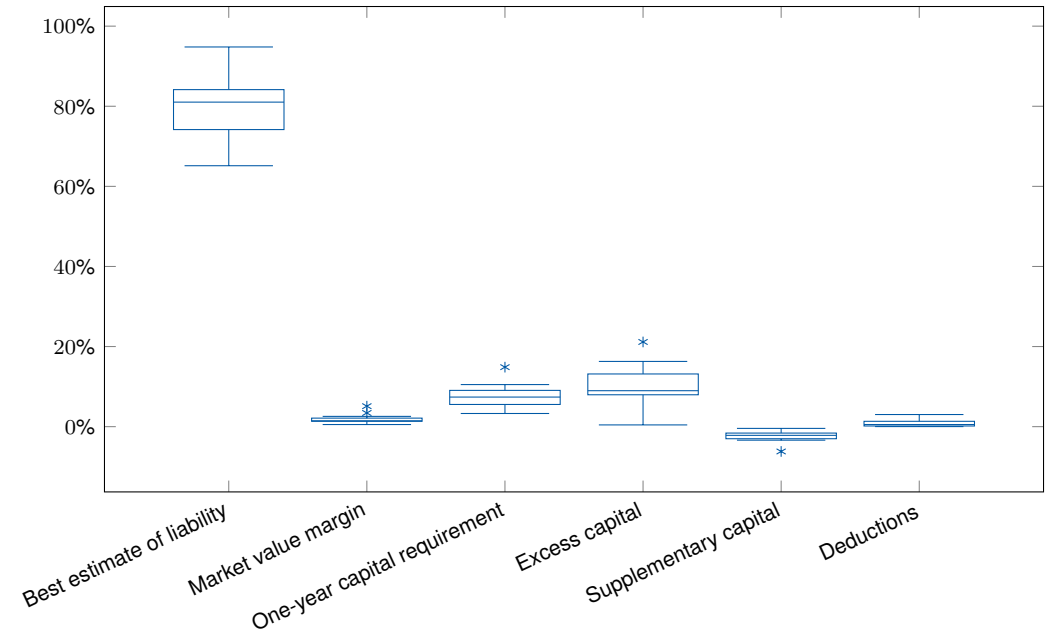

Figure 6: Life (distribution as box-plot)

5.5 Target capital decomposition

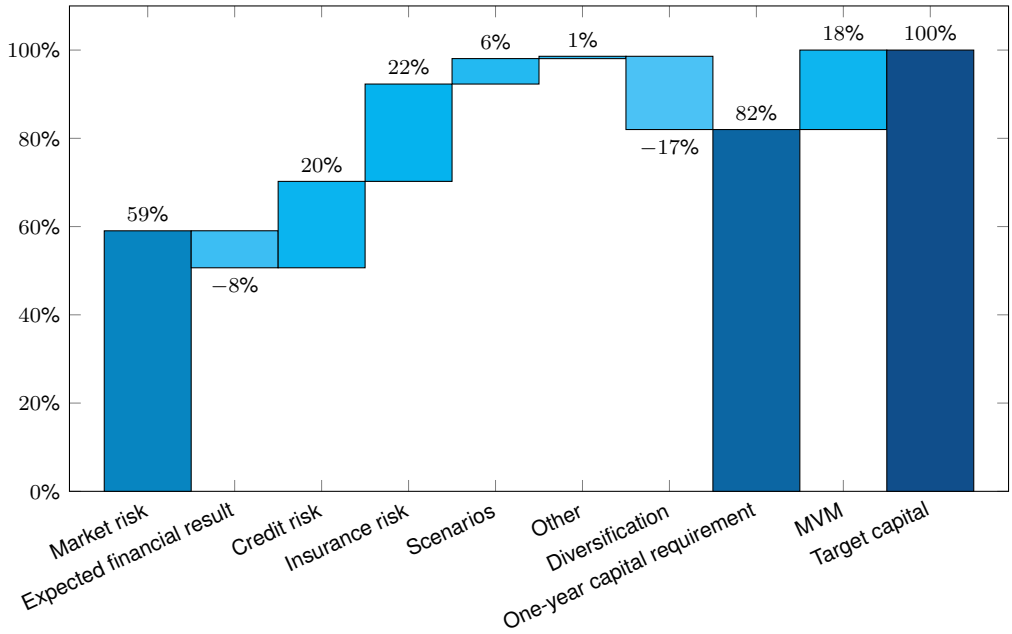

Figure 7: Life (mean values by sector)

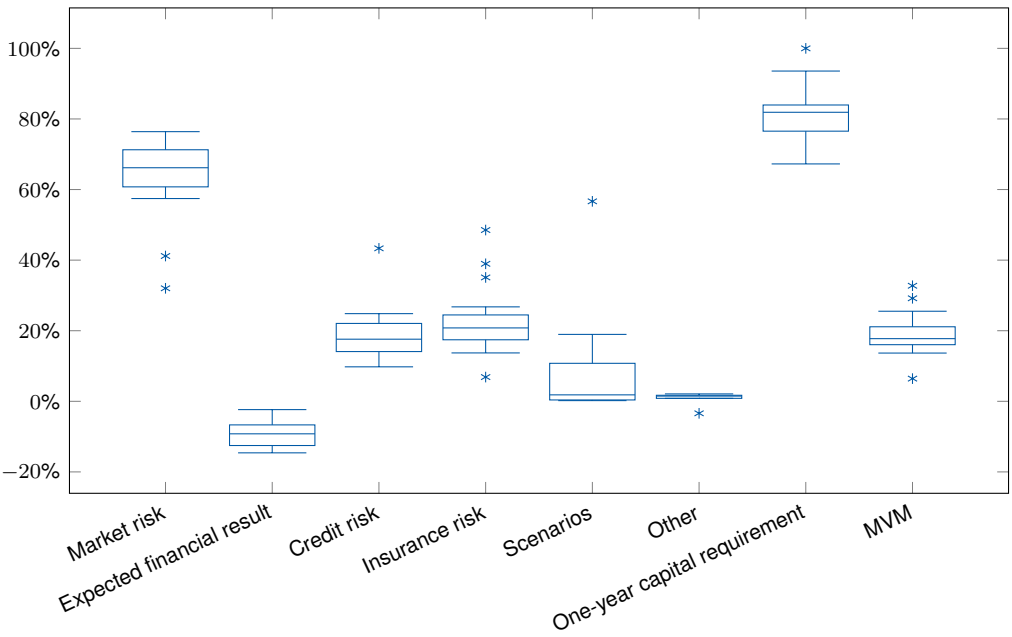

Figure 8: Life (distribution as box-plot)

5.6 Market risk analysis

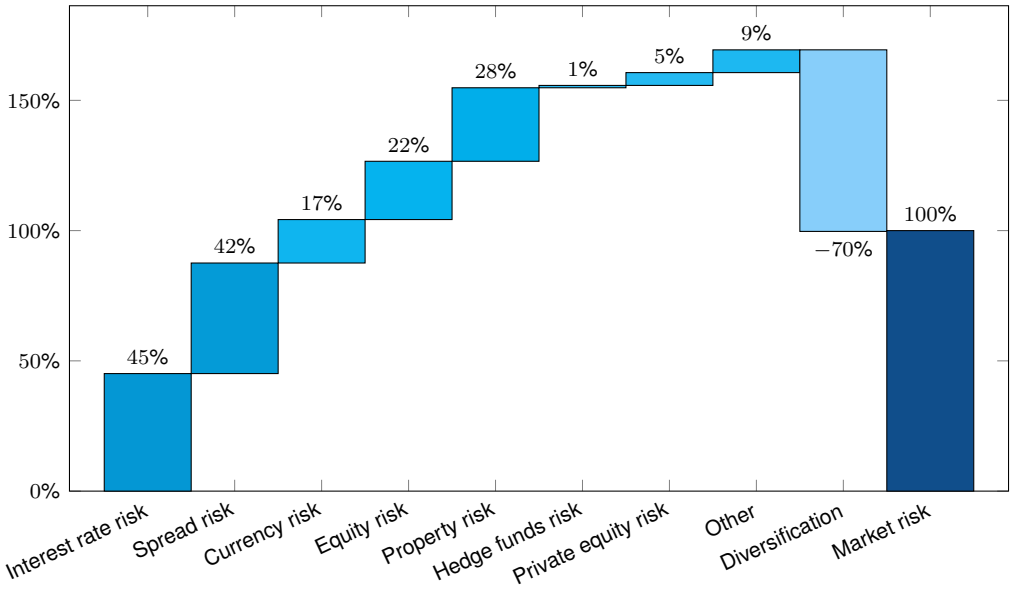

Figure 9: Life (mean values by sector)

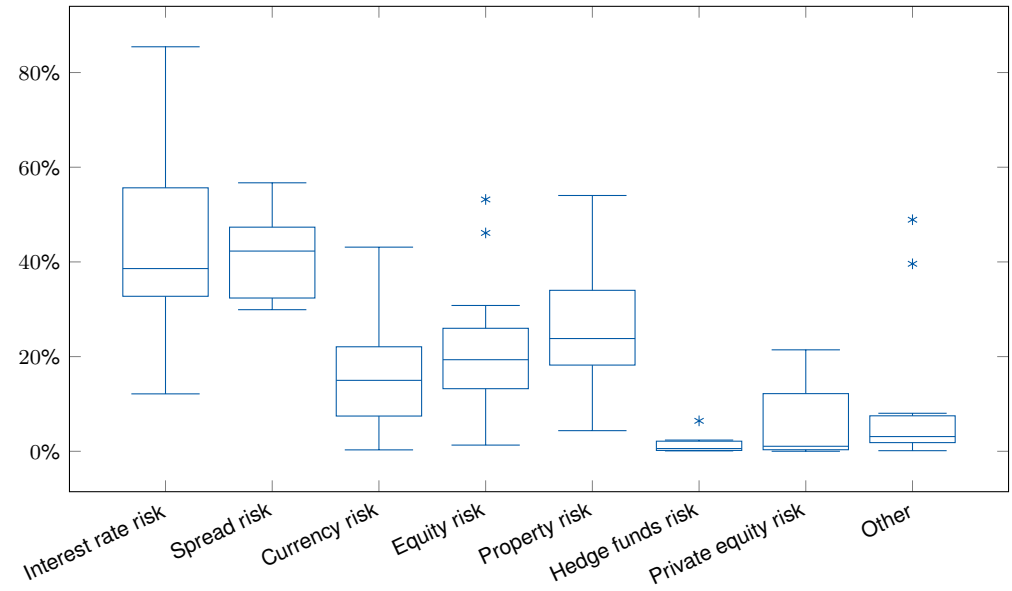

Figure 10: Life (distribution as box-plot)

5.7 Interest rate analysis

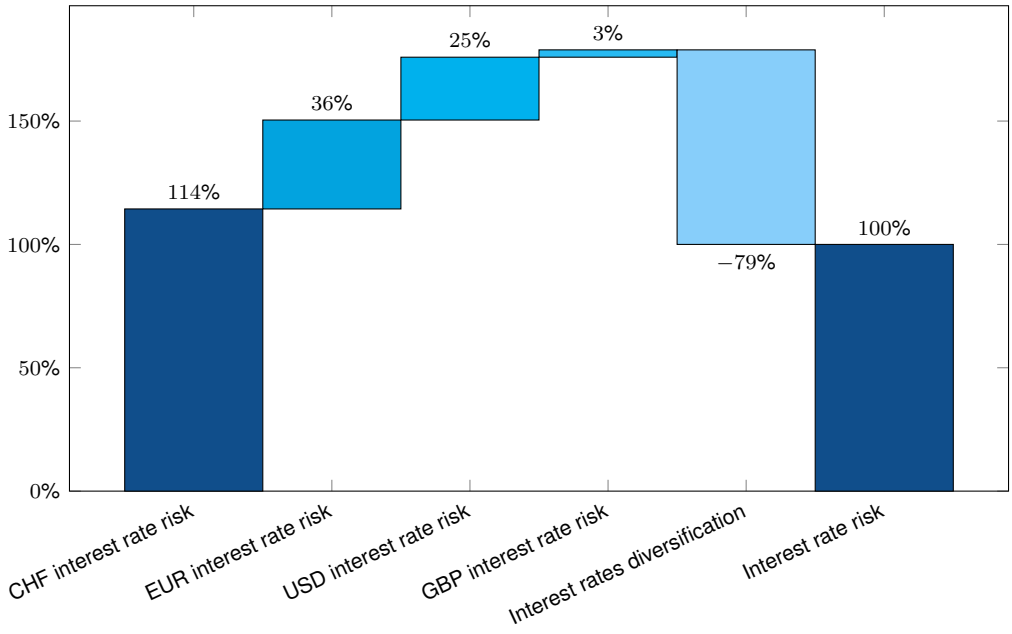

Figure 11: Life (mean values by sector)

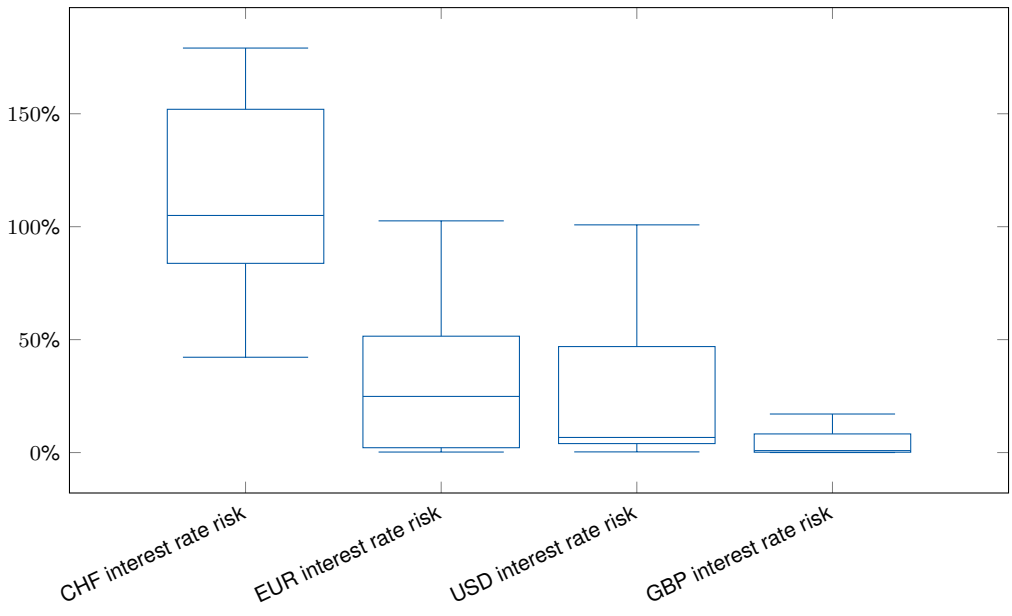

Figure 12: Life (distribution as box-plot)

5.8 Impact ratios for market and credit risk scenarios

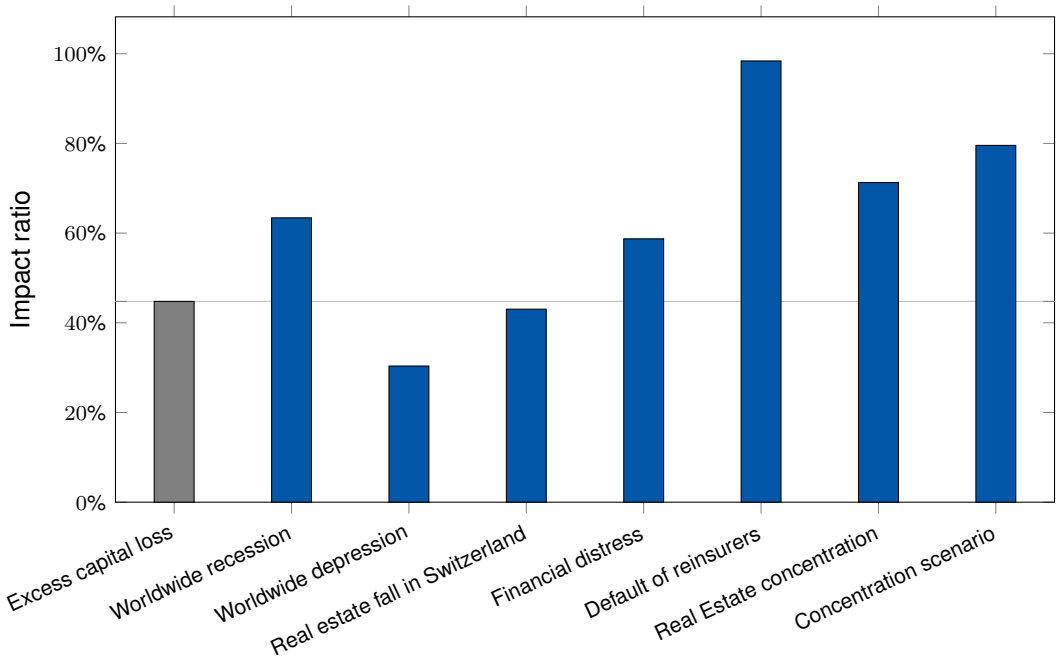

Figure 13: Life (mean values by sector)

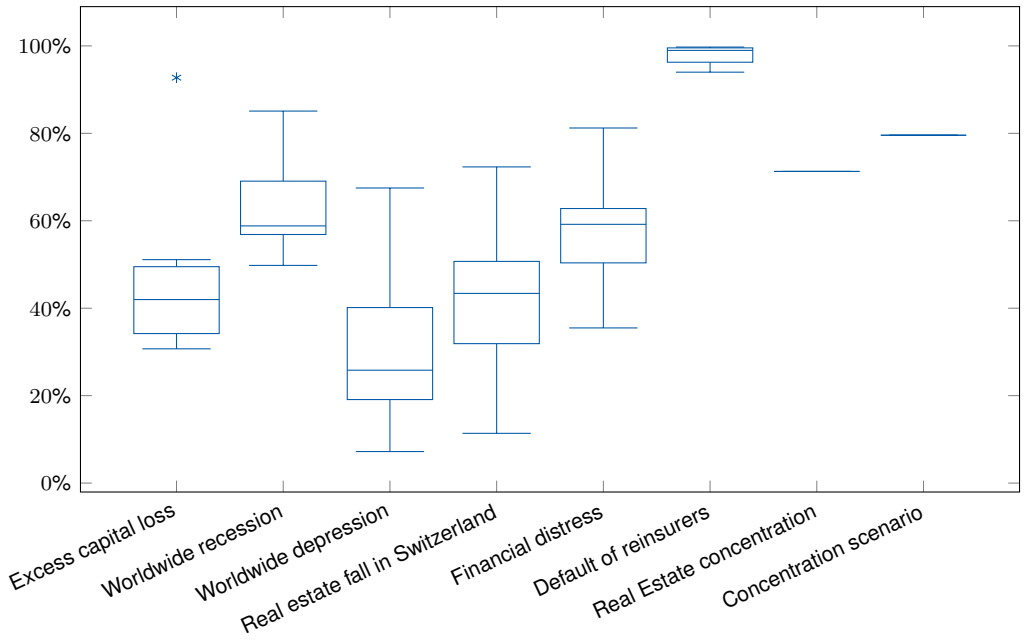

Figure 14: Life (distribution as box-plot)

5.9 Impact ratios for insurance risk and global scenarios

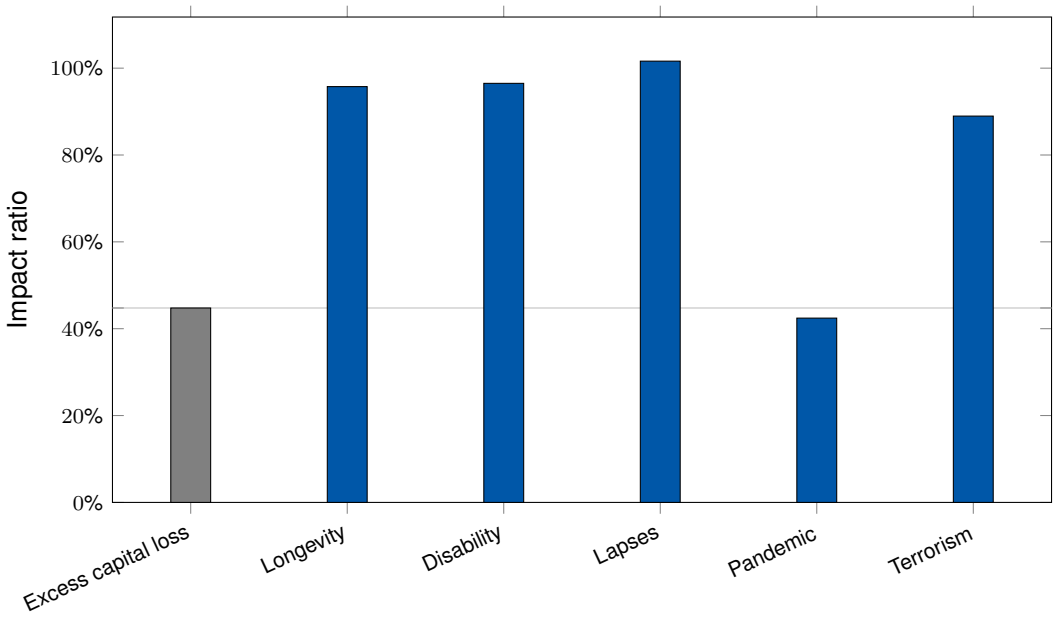

Figure 15: Life (mean values by sector)

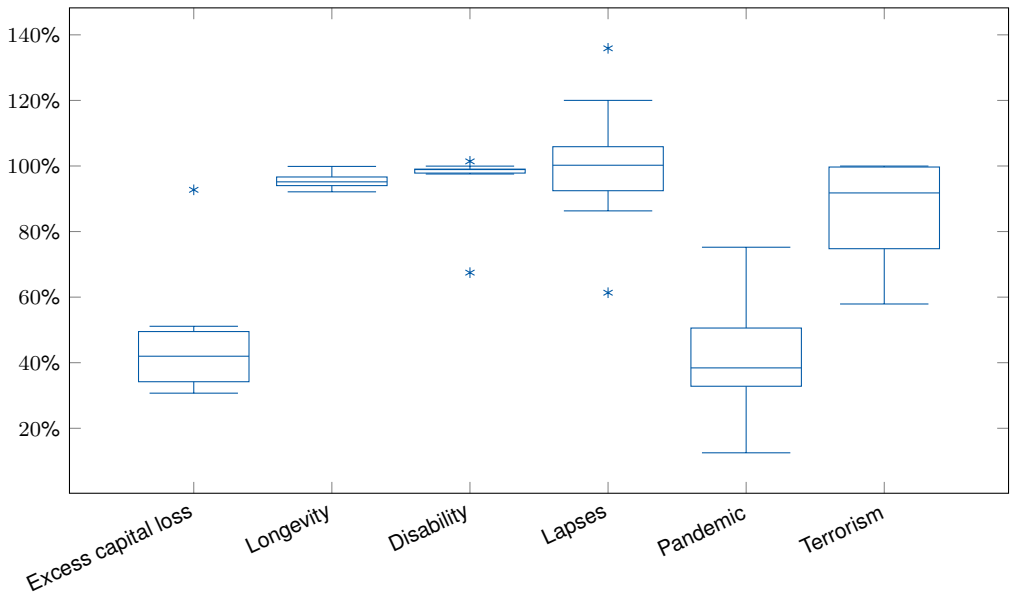

Figure 16: Life (distribution as box-plot)

6 General insurance

The overall SST ratio calculated over all general insurers increased by 18 percentage points from 221% in 2021 to 239% in 2022. The risk bearing capital increased by 5.5% to CHF 86,833 million, while target capital went down by 1.8% to CHF 42,230 million. The comparison is based on aggregate numbers obtained by summing over all general insurers (52 in total).

With regard to the individual analysis, in order to avoid that companies with larger volume dominate the results, an average over the percentages for each company is shown.

General insurance	FDS component	
Bonds	Government bonds	18.5%
	Corporate bonds	51.5%
	Investment funds: bonds	30%
Real estate	Real estate	41.7%
	Mortgages	10.5%
	Investment funds: real estate	47.8%

Table 9: Breakdown of *Investments* categories *Bonds* and *Real estate* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

General insurance	FDS component	
Loss reserves	Best estimate of insurance liabilities (life): gross	2.7%
	Best estimate of insurance liabilities (non-life): gross	85.3%
	Best estimate of insurance liabilities (health): gross	0.6%
	Active reinsurance (indirect business)	11.3%
Other liabilities	Deposit liabilities from ceded reinsurance	1.1%
	Liabilities from derivative financial instruments	0.2%
	Non-technical provisions	8.8%
	Liabilities from insurance business	36.2%
	Other liabilities	42.9%
	Reserves for surplus funds	1.3%
	Subordinated liabilities	3.6%
	Interest-bearing liabilities	5.9%

Table 10: Breakdown of *Liabilities* categories *Loss reserves* and *Other liabilities* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

6.1 Comments on results

The asset portfolios of general insurers are mainly concentrated in bond investments (35%) followed by other assets (27%), as illustrated in Figure 17 ”Assets”. A further breakdown of the investment categories bonds and real estate is shown in Table 9.

As shown in Figure 19 ”Liabilities”, the liabilities of general insurers are dominated by the loss reserves (58%) followed by the other liabilities (26%). In Table 10, a breakdown of loss reserves and other liabilities into their components is shown.

In Figure 23 ”Target capital decomposition” it is shown that the one-year capital and the market value margin correspond to 89% and 11% of the target capital, respectively. The one-year capital is driven (before diversification) by the insurance risk (53%) followed by the market risk (50%).

The main drivers of the non-life insurance risk (before diversification) are the reserve risk (58%) and the normal claims (41%). The main drivers of market risk (before diversification) are the equity risk (41%) and interest rate risk (33%). As shown in Figure 27 the interest rate risk is dominated by the CHF interest rate risk (70% before diversification).

6.2 Assets

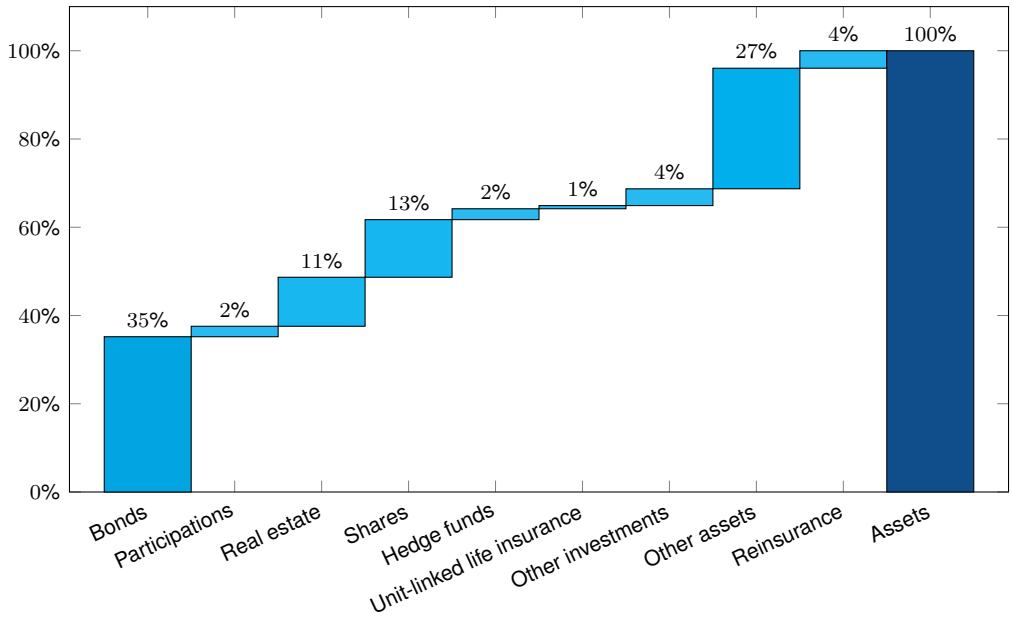

Figure 17: General insurance (mean values by sector)

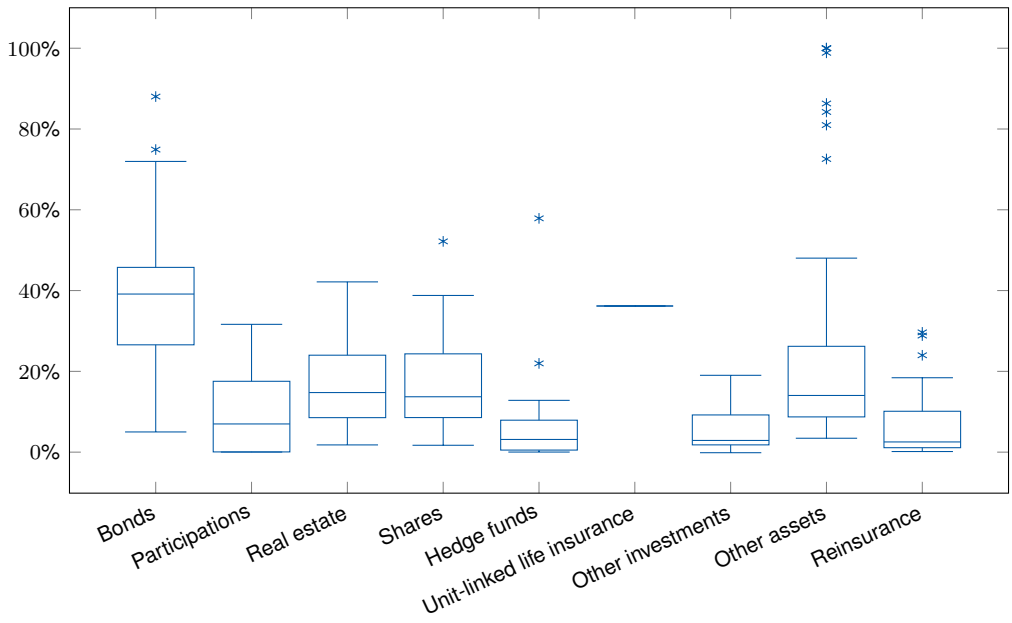

Figure 18: General insurance (distribution as box-plot)

6.3 Liabilities

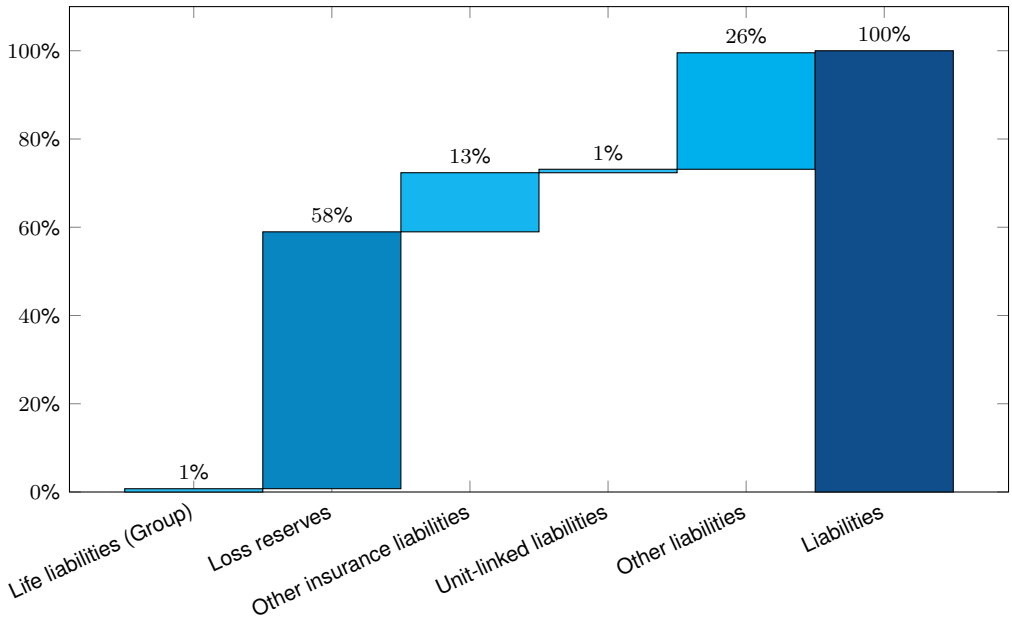

Figure 19: General insurance (mean values by sector)

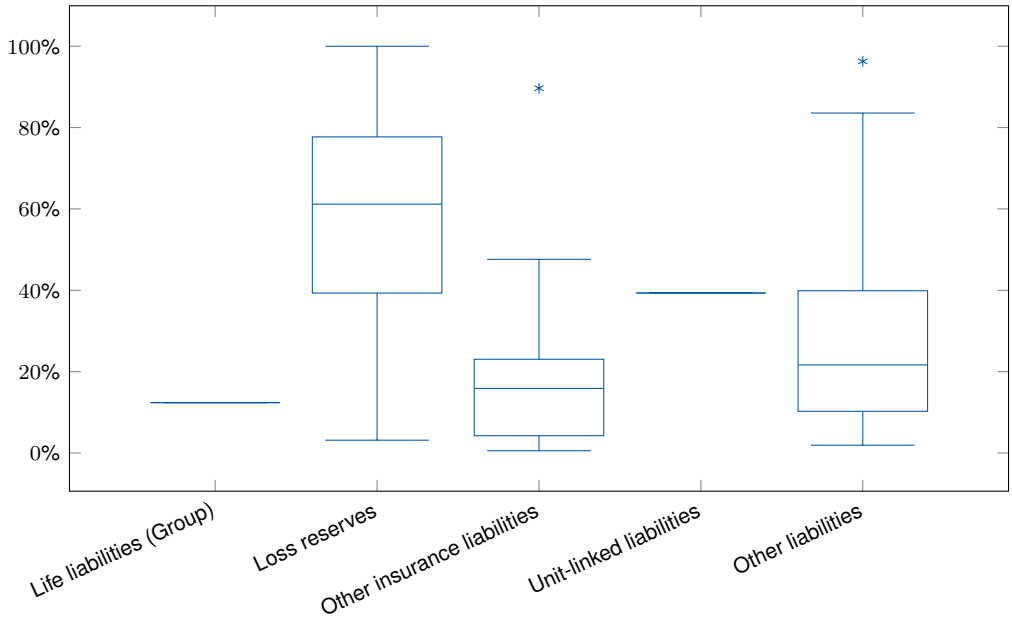

Figure 20: General insurance (distribution as box-plot)

6.4 Best estimate of liability and target capital in relation to the balance sheet total

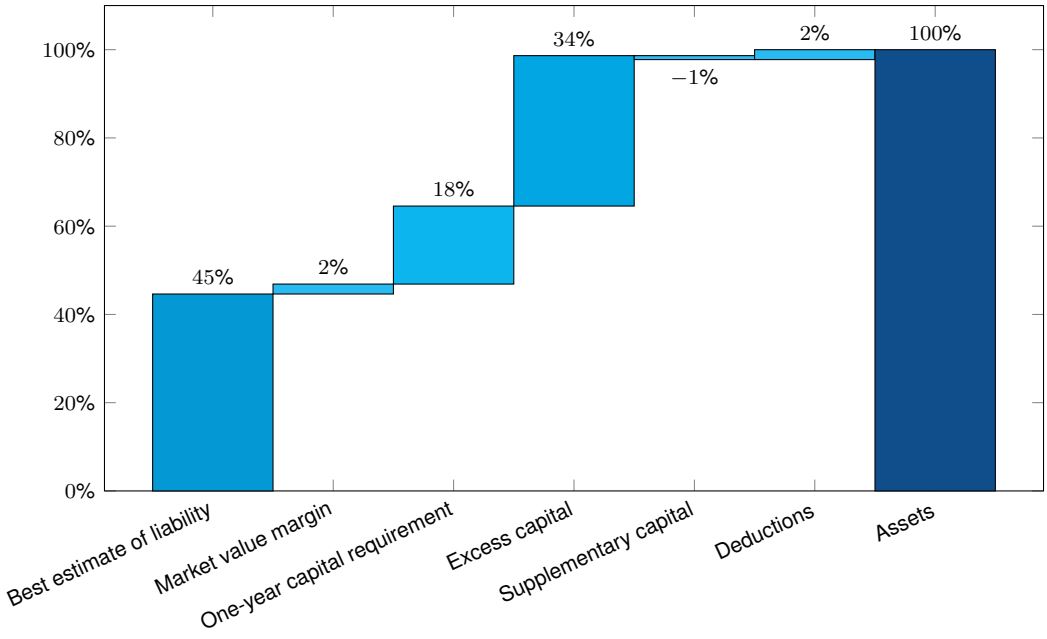

Figure 21: General insurance (mean values by sector)

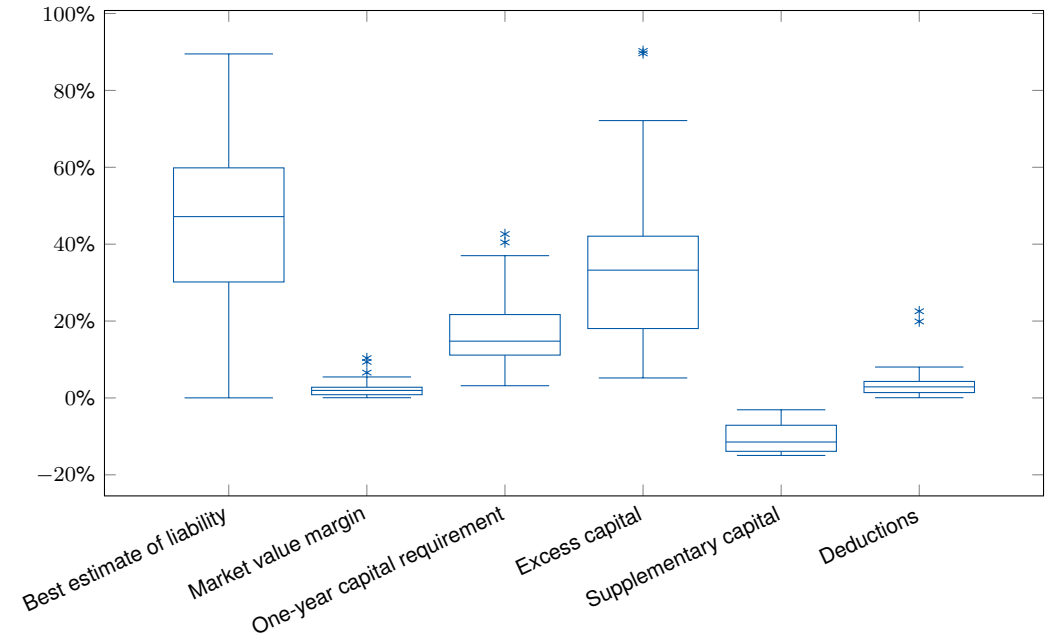

Figure 22: General insurance (distribution as box-plot)

6.5 Target capital decomposition

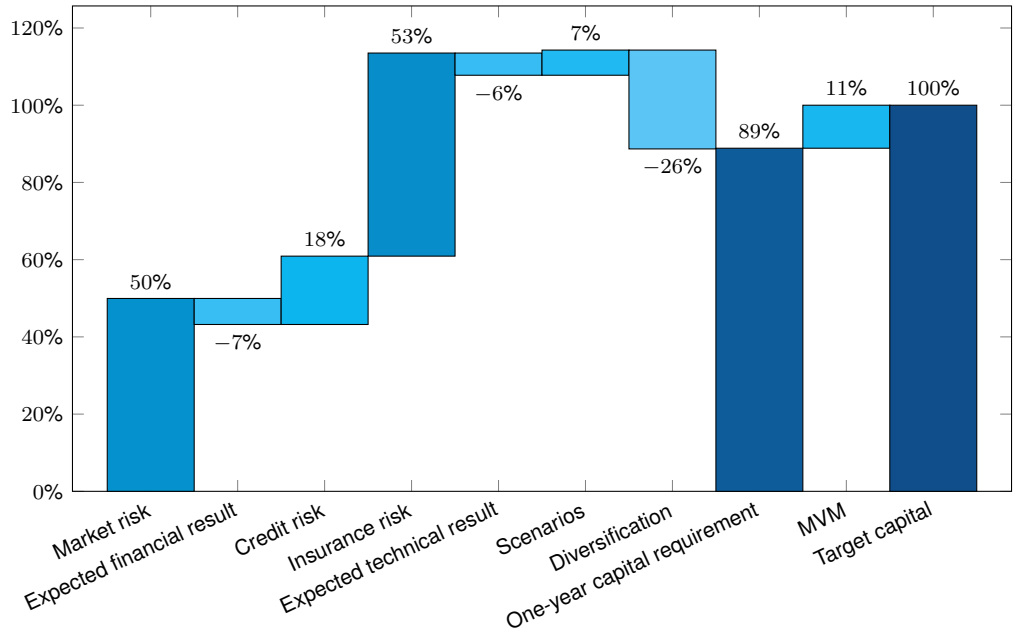

Figure 23: General insurance (mean values by sector)

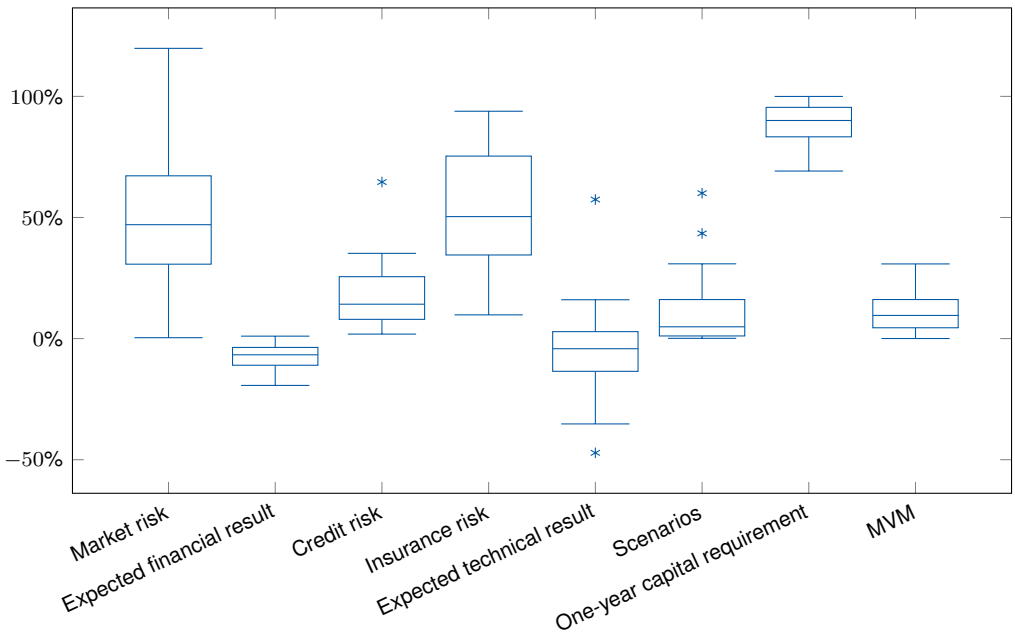

Figure 24: General insurance (distribution as box-plot)

6.6 Market risk analysis

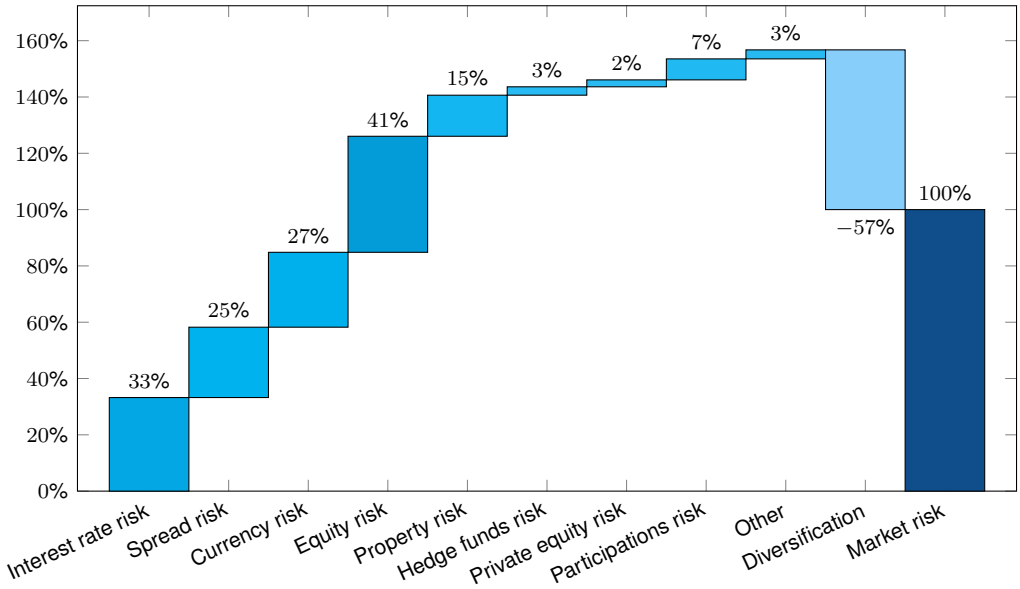

Figure 25: General insurance (mean values by sector)

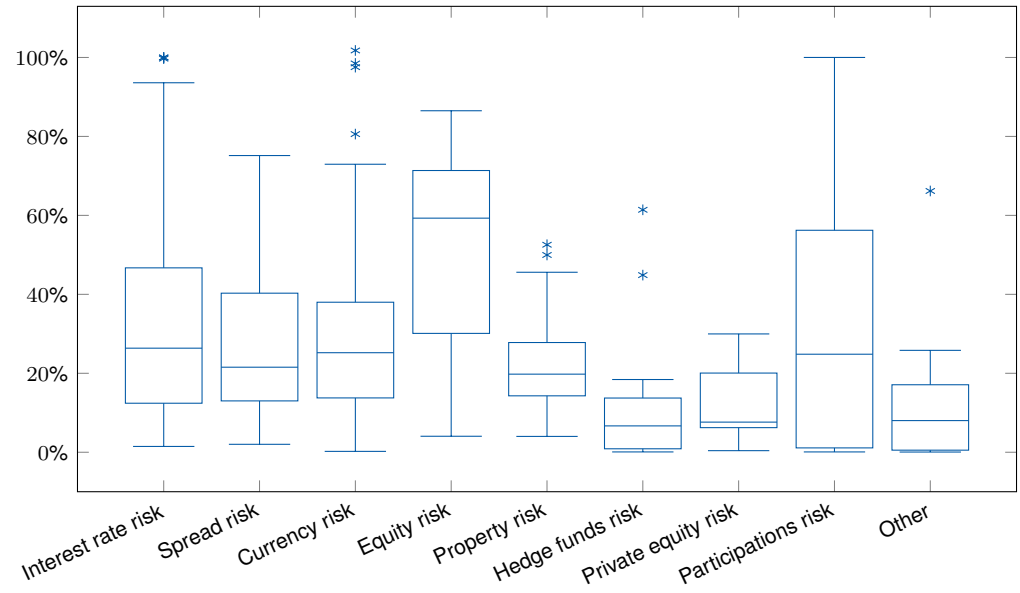

Figure 26: General insurance (distribution as box-plot)

6.7 Interest rate analysis

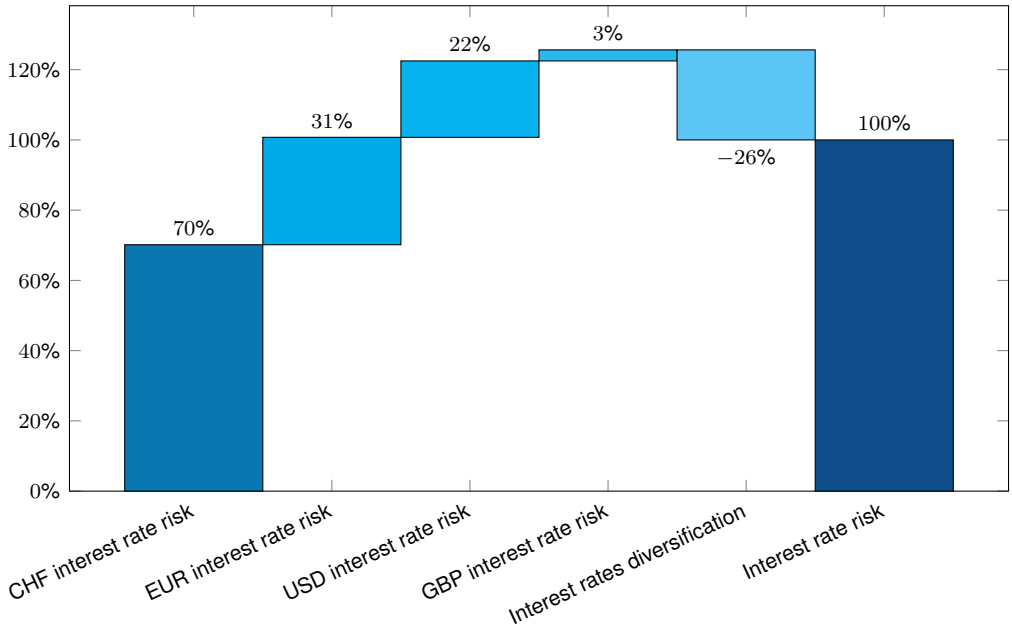

Figure 27: General insurance (mean values by sector)

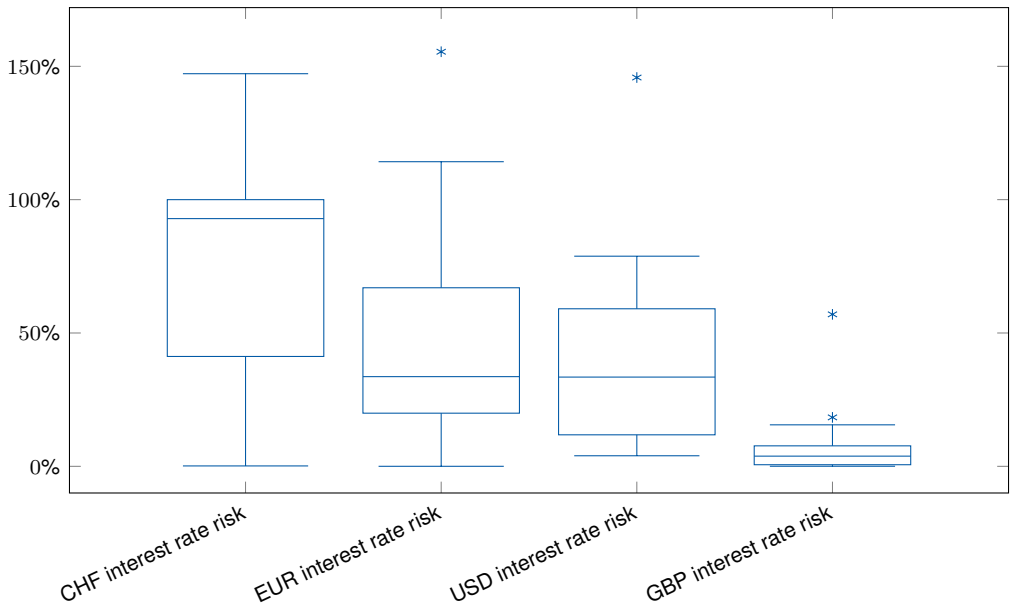

Figure 28: General insurance (distribution as box-plot)

6.8 General insurance risk analysis

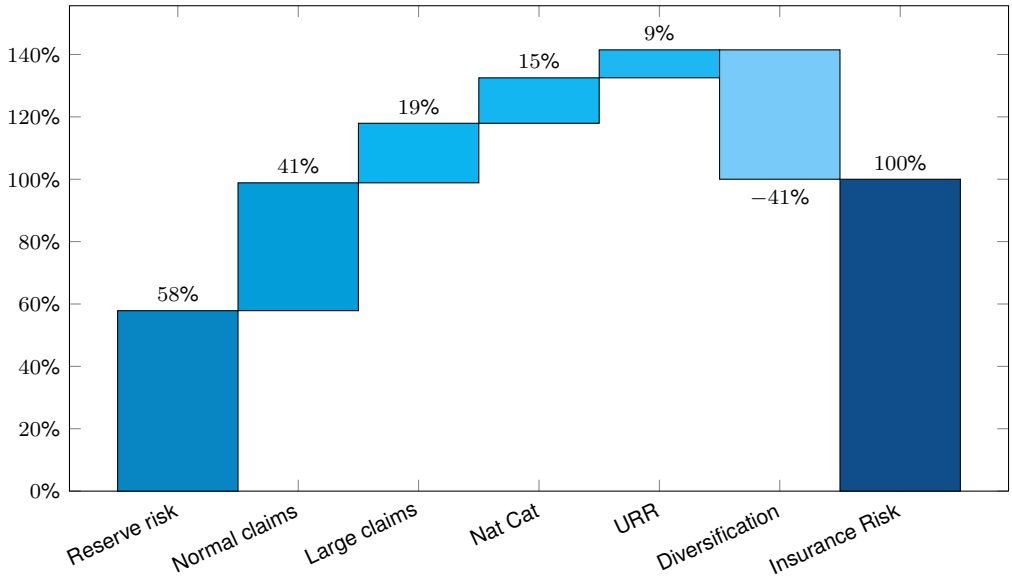

Figure 29: General insurance (mean values by sector)

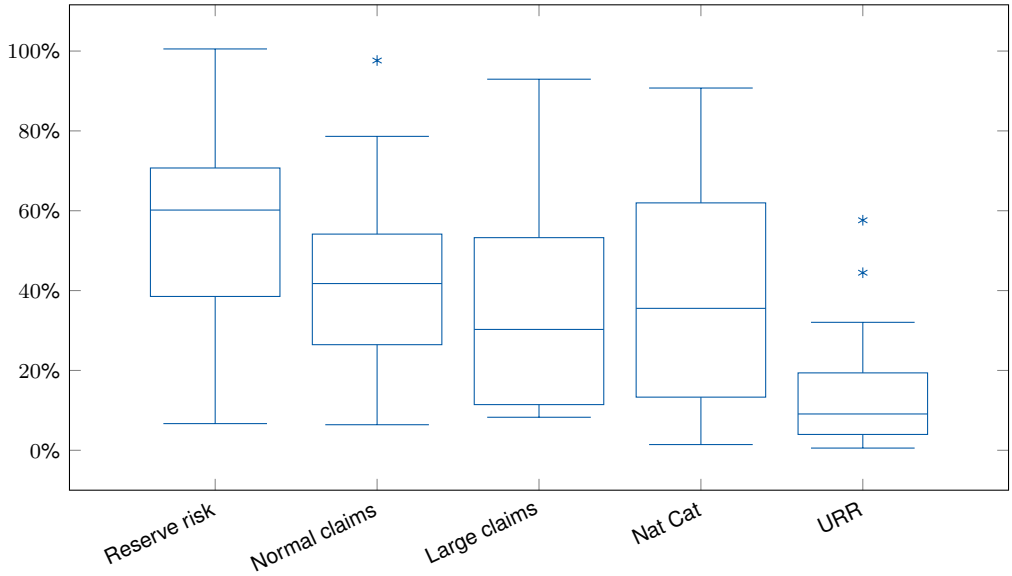

Figure 30: General insurance (distribution as box-plot)

6.9 Impact ratios for market and credit risk scenarios

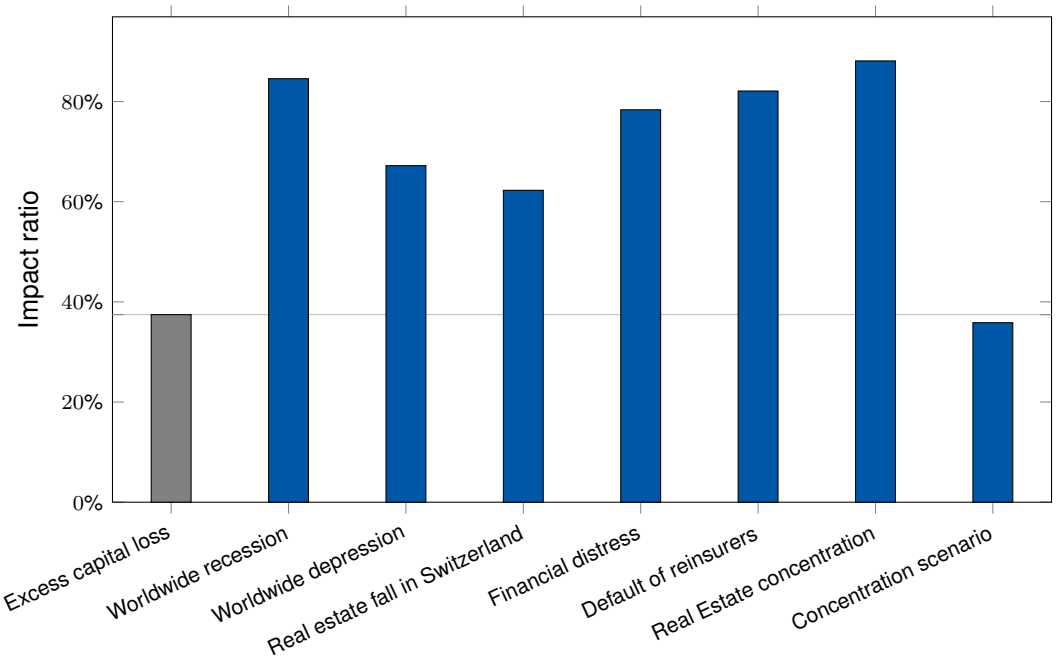

Figure 31: General insurance (mean values by sector)

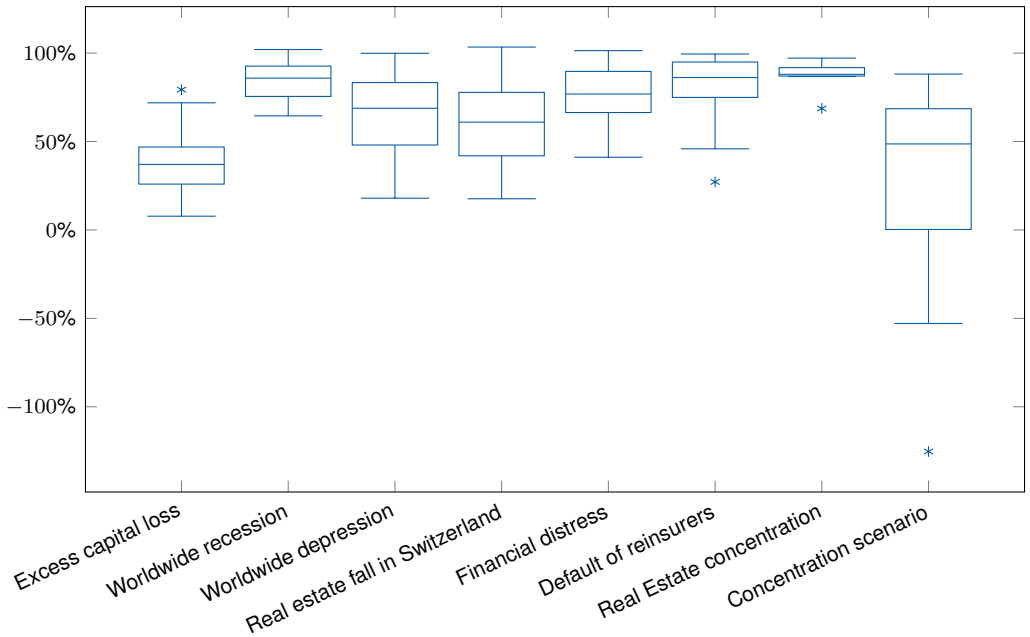

Figure 32: General insurance (distribution as box-plot)

6.10 Impact ratios for insurance risk and global scenarios

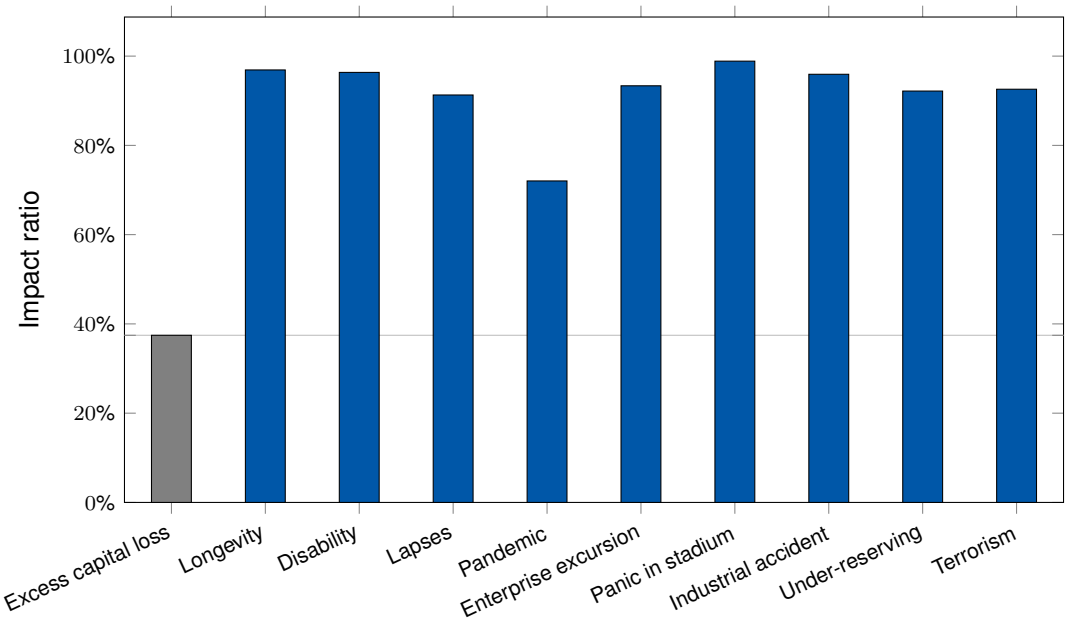

Figure 33: General insurance (mean values by sector)

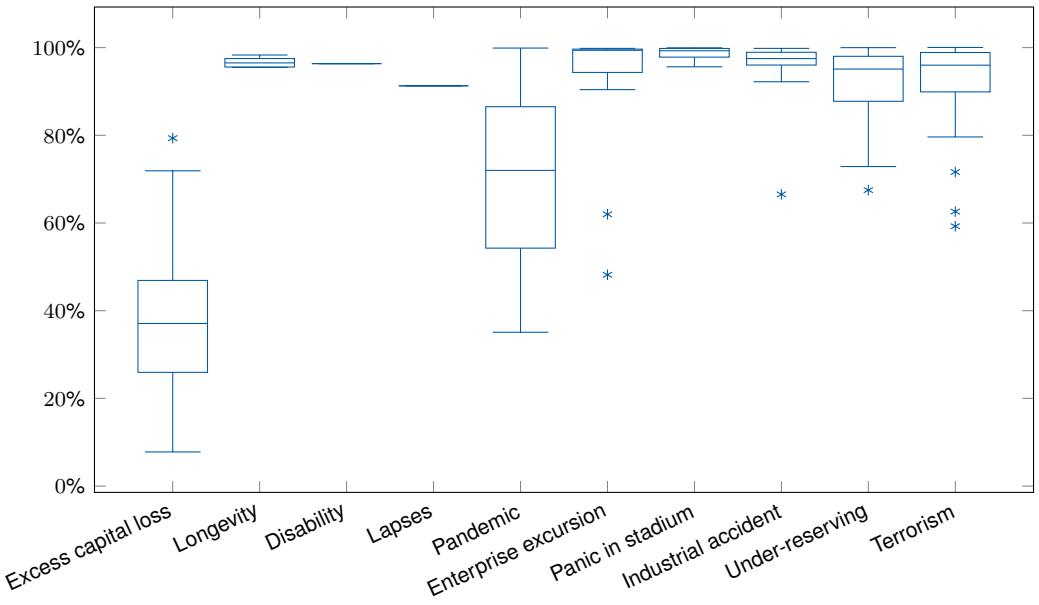

Figure 34: General insurance (distribution as box-plot)

7 Health

The overall SST ratio calculated over all health insurers increased by 54 percentage points from 339% in 2021 to 393% in 2022. The risk bearing capital increased by 4.2% to CHF 25,622 million, while target capital went down by 7.6% to CHF 8,296 million. The comparison is based on aggregate numbers obtained by summing over all health insurers (18 in total).

With regard to the individual analysis, in order to avoid that companies with larger volume dominate the results, an average over the percentages for each company is shown.

Health	FDS component	
Bonds	Government bonds	17.5%
	Corporate bonds	57.5%
	Investment funds: bonds	24.9%
Real estate	Real estate	45.2%
	Mortgages	0.3%
	Investment funds: real estate	54.5%

Table 11: Breakdown of *Investments* categories *Bonds* and *Real estate* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

Health	FDS component	
Loss reserves	Best estimate of insurance liabilities (life): gross	0%
	Best estimate of insurance liabilities (non-life): gross	23.8%
	Best estimate of insurance liabilities (health): gross	75.9%
	Active reinsurance (indirect business)	0.3%
Other liabilities	Deposit liabilities from ceded reinsurance	0%
	Liabilities from derivative financial instruments	7%
	Non-technical provisions	8%
	Liabilities from insurance business	54.4%
	Other liabilities	25.2%
	Reserves for surplus funds	0%
	Subordinated liabilities	2.4%
	Interest-bearing liabilities	3%

Table 12: Breakdown of *Liabilities* categories *Loss reserves* and *Other liabilities* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

7.1 Comments on results

The asset portfolios of health insurers are mainly concentrated in bond investments (48%) followed by share investments (20%), as illustrated in Figure 35 ”Assets”. A further breakdown of the investment categories bonds and real estate is shown in Table 11.

As shown in Figure 37 ”Liabilities”, the liabilities of health insurers are dominated by the loss reserves (106%) followed by the other liabilities (87%) and the long-term liabilities (-106%)[3]. In Table 12, a breakdown of other liabilities and loss reserves into their components is shown.[4]

In Figure 41 ”Target capital decomposition” it is shown that the one-year capital and market value margin correspond to 73% and 27% of the target capital, respectively. The one-year capital is driven (before diversification) by the insurance risk (61%) followed by the market risk (33%).

The main drivers of the market risk (before diversification) are the equity risk (58%) followed by the interest rate risk (52%). As shown in Figure 45, interest rate risk is dominated by the CHF interest rate risk (89% before diversification).

[3] Negative long-term liabilities correspond to the partial recognition of an embedded value of the underlying business.
[4] Note, that for this table only non-negative best estimates (actual liabilities) are taken into account.

7.2 Assets

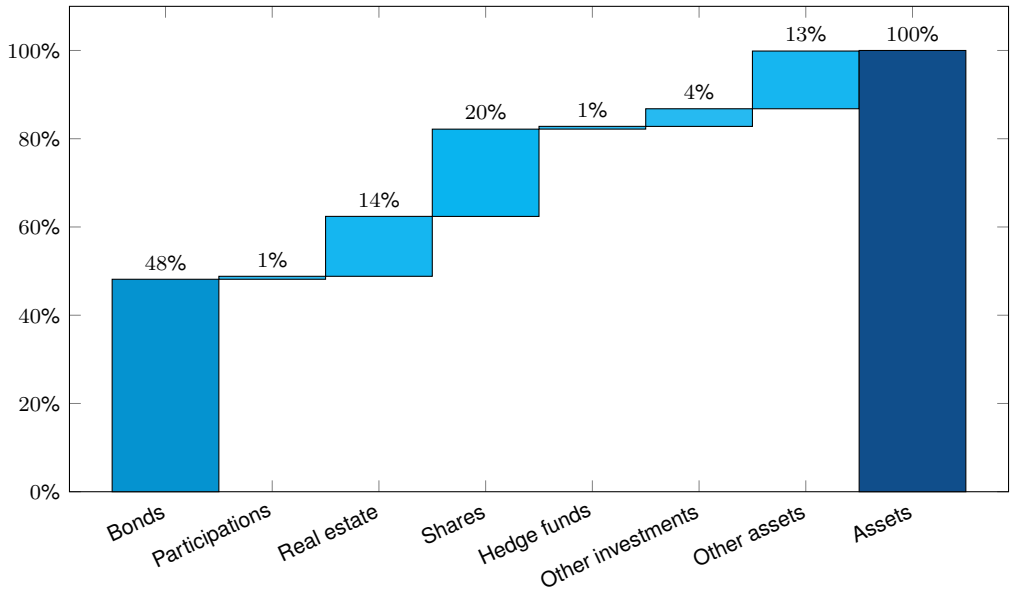

Figure 35: Health (mean values by sector)

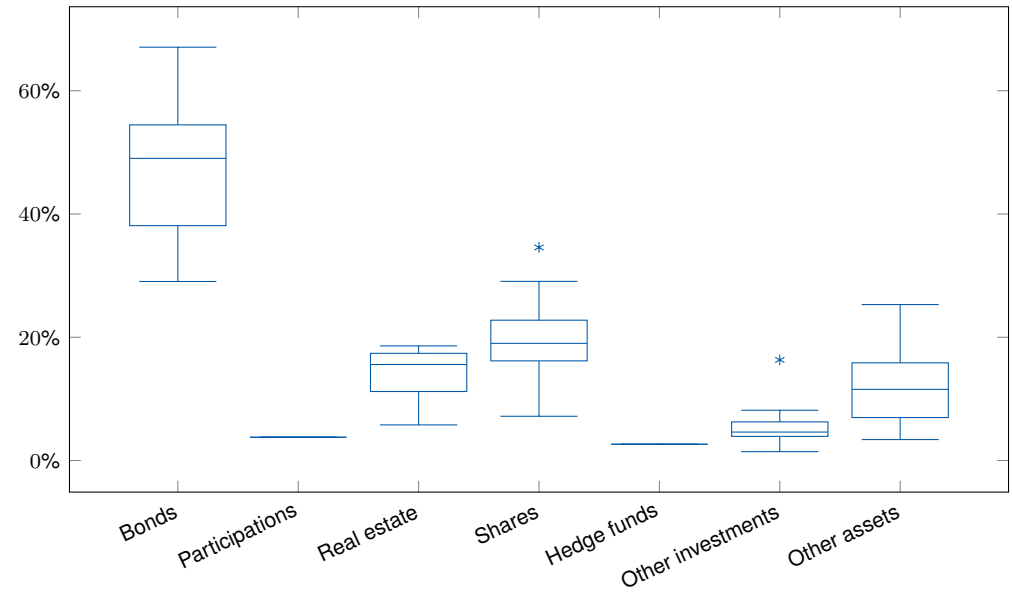

Figure 36: Health (distribution as box-plot)

7.3 Liabilities

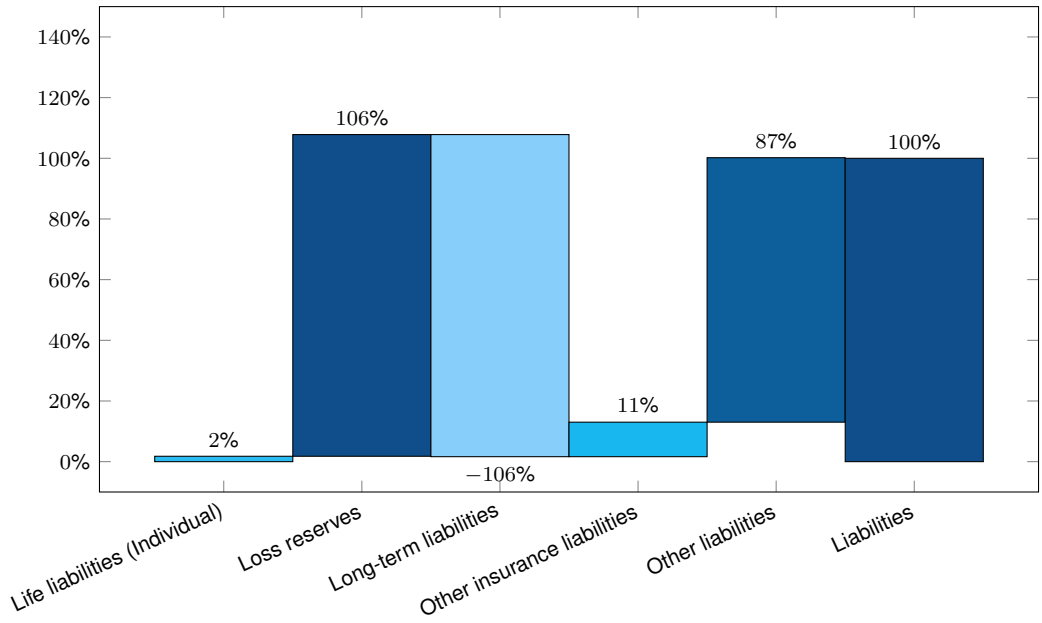

Figure 37: Health (mean values by sector)

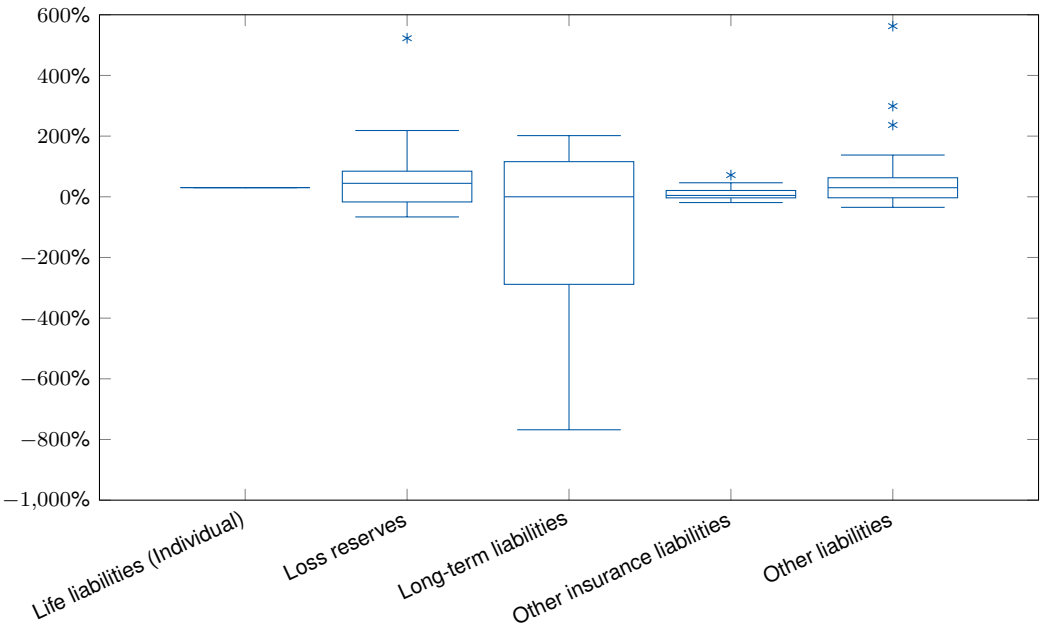

Figure 38: Health (distribution as box-plot)

7.4 Best estimate of liability and target capital in relation to the balance sheet total

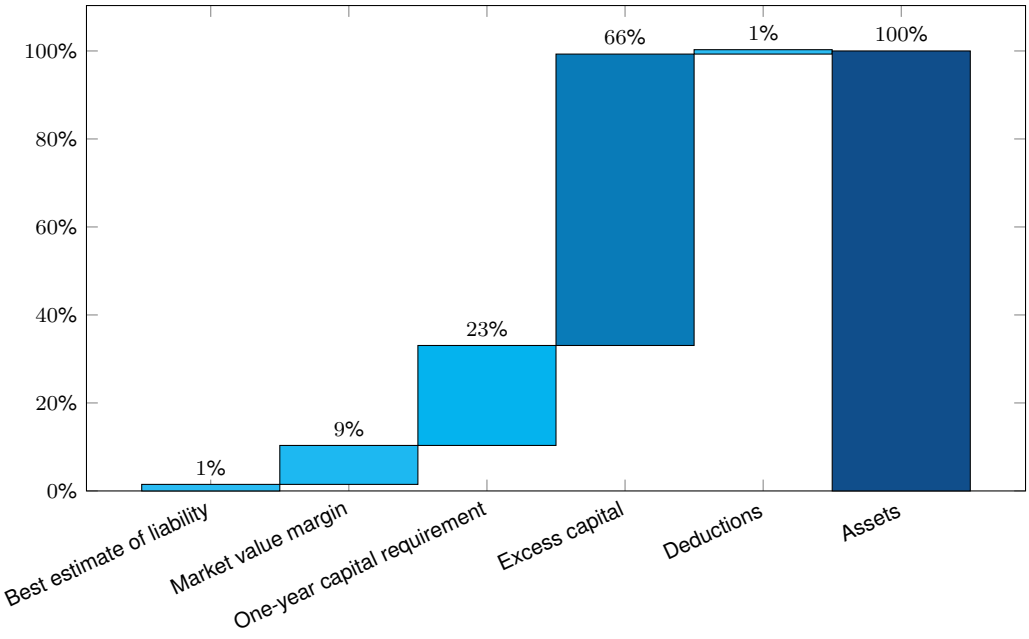

Figure 39: Health (mean values by sector)

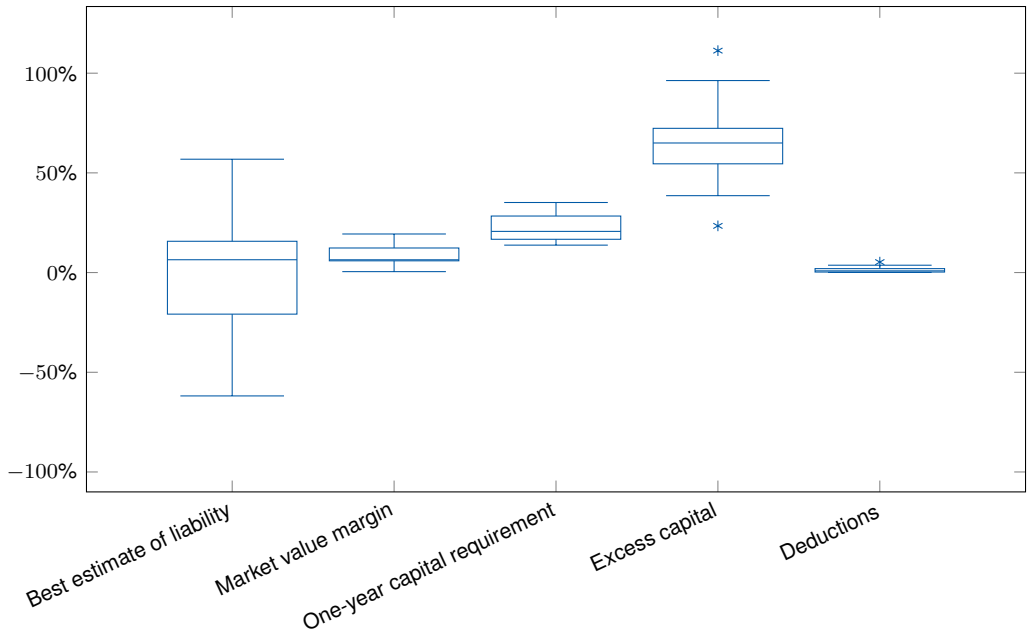

Figure 40: Health (distribution as box-plot)

7.5 Target capital decomposition

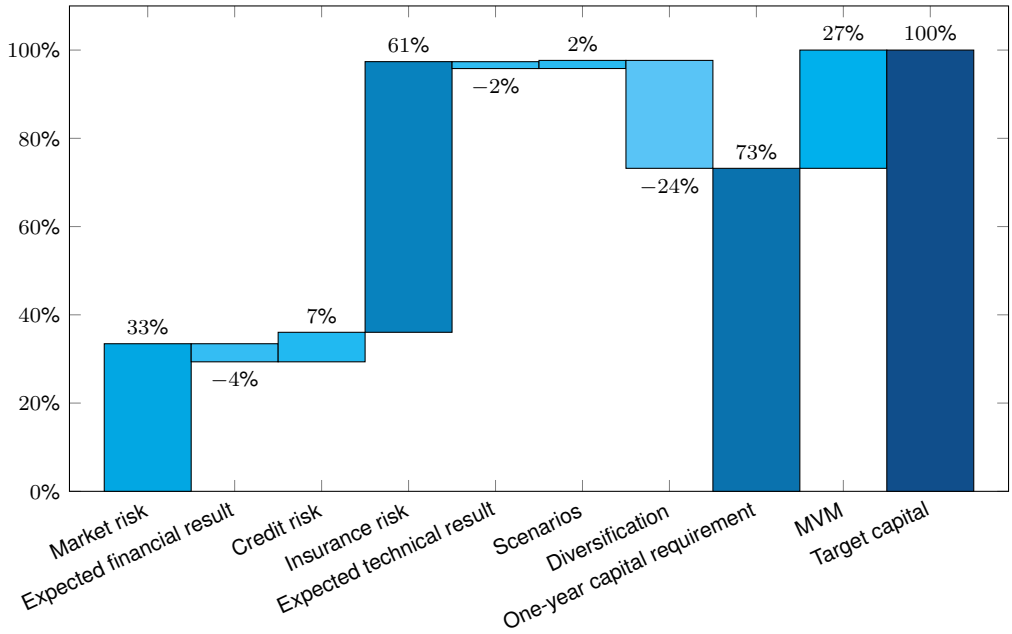

Figure 41: Health (mean values by sector)

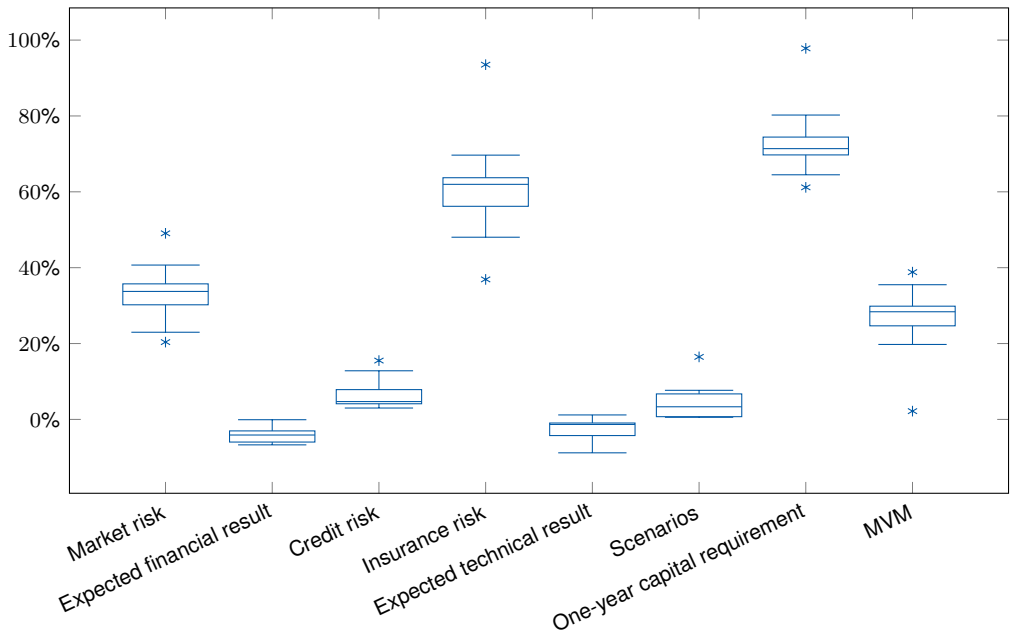

Figure 42: Health (distribution as box-plot)

7.6 Market risk analysis

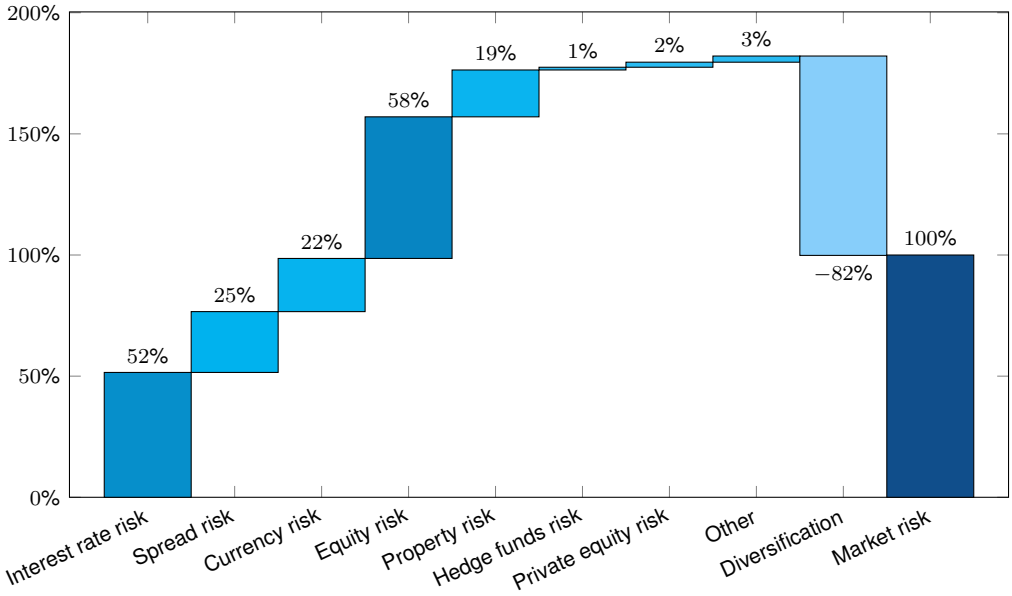

Figure 43: Health (mean values by sector)

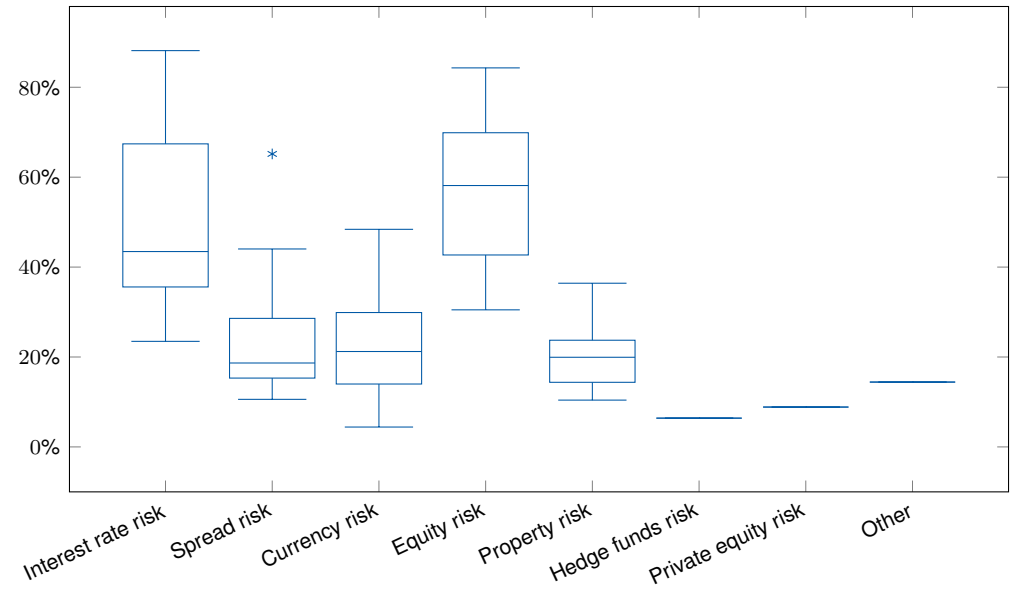

Figure 44: Health (distribution as box-plot)

7.7 Interest rate analysis

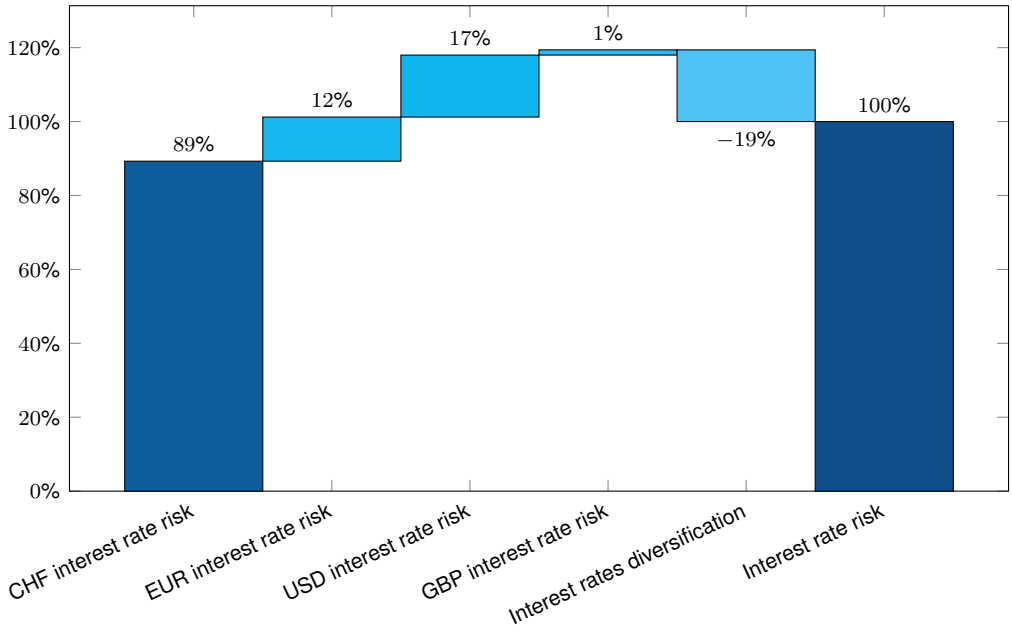

Figure 45: Health (mean values by sector)

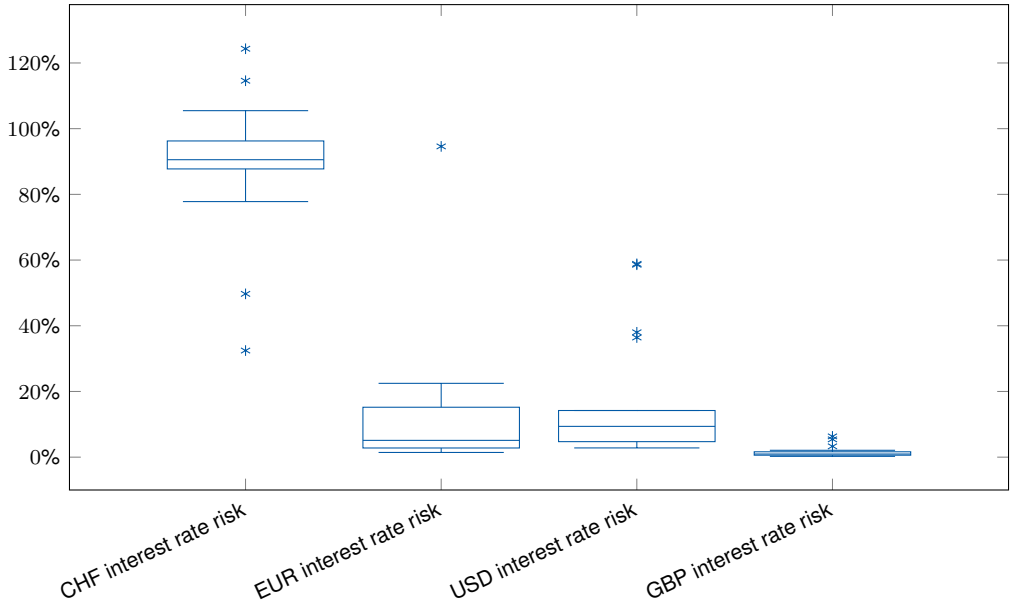

Figure 46: Health (distribution as box-plot)

7.8 Impact ratios for market and credit risk scenarios

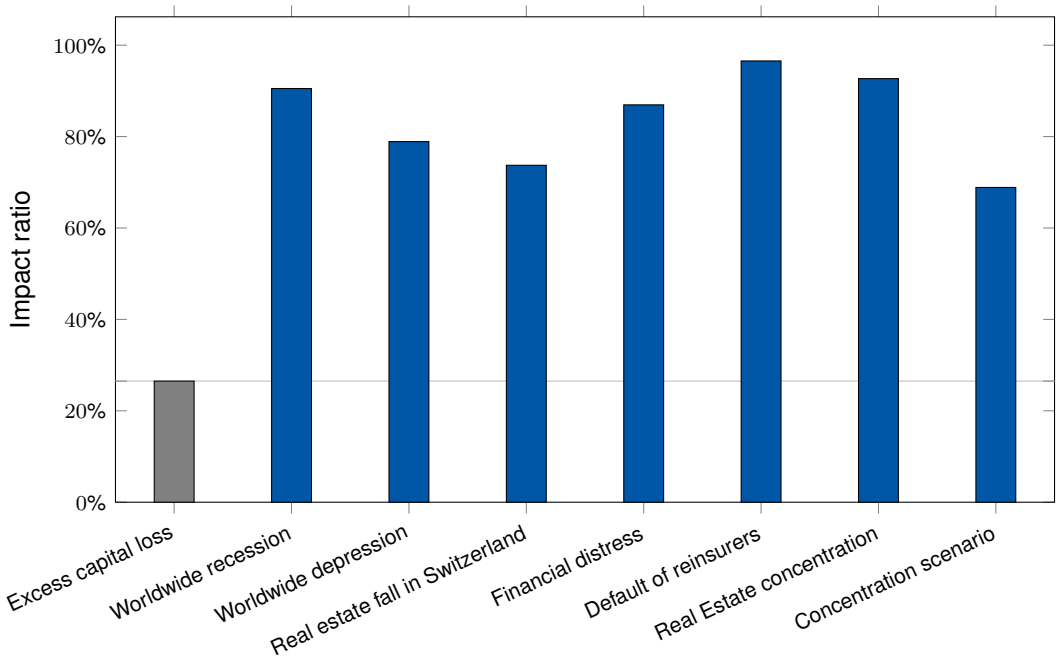

Figure 47: Health (mean values by sector)

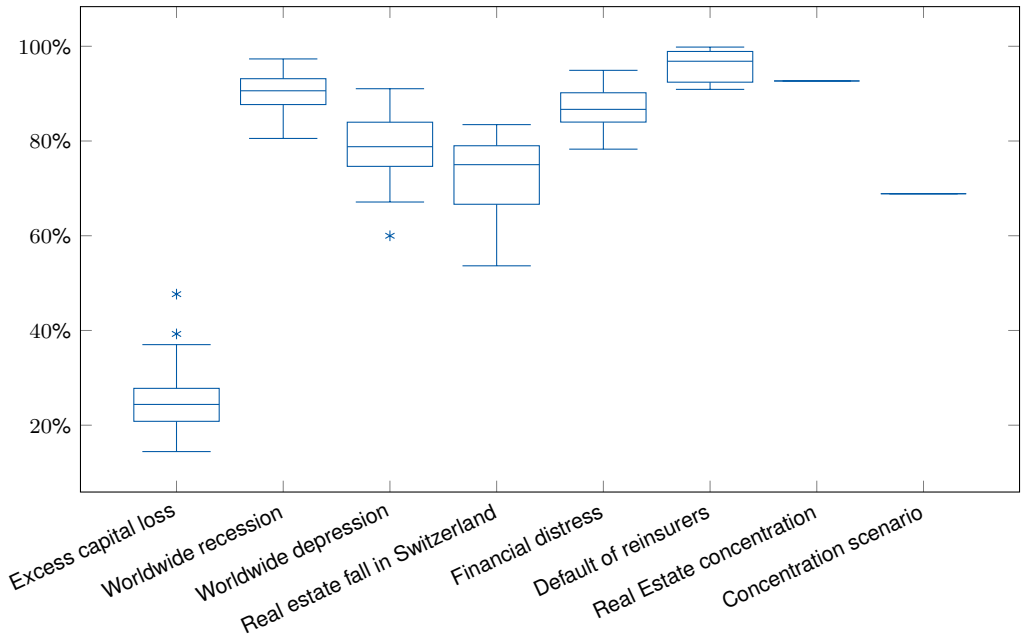

Figure 48: Health (distribution as box-plot)

7.9 Impact ratios for insurance risk and global scenarios

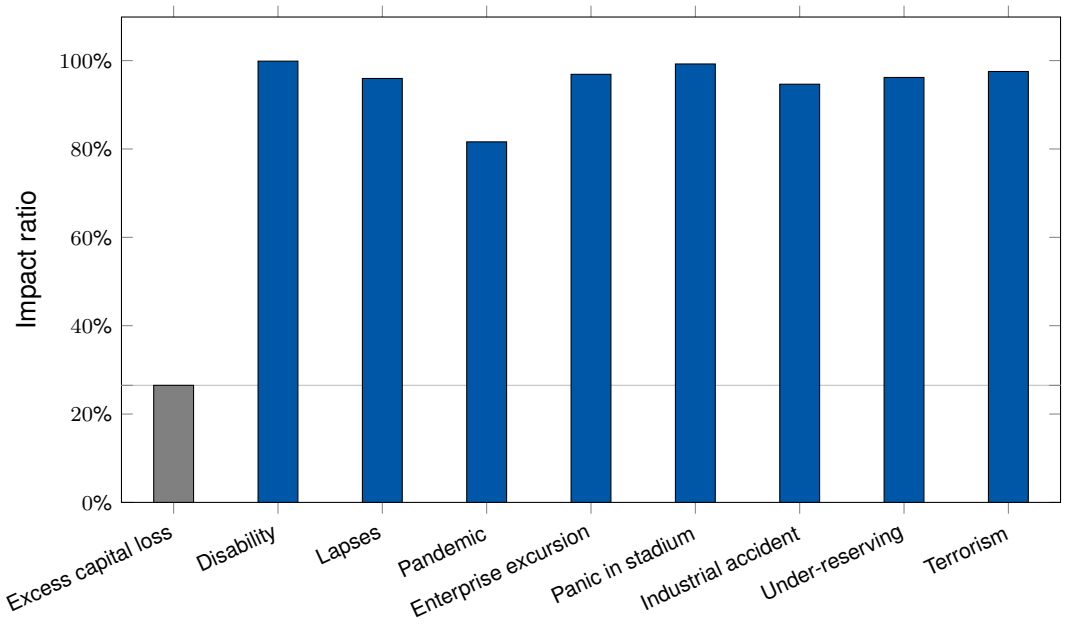

Figure 49: Health (mean values by sector)

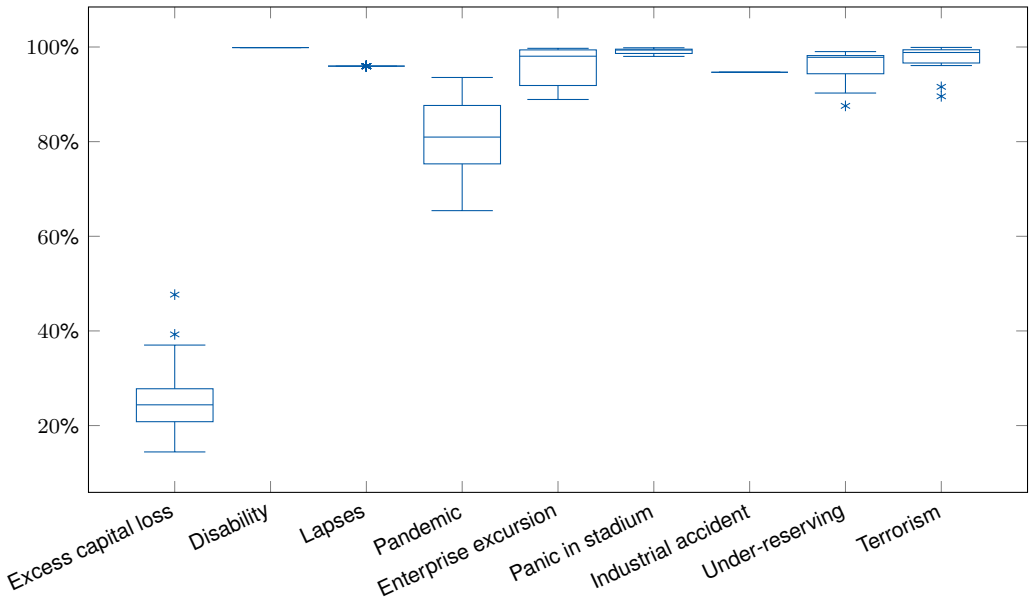

Figure 50: Health (distribution as box-plot)

8 Reinsurance

The overall SST ratio calculated over all reinsurers increased by 15 percentage points from 185% in 2021 to 200% in 2022. The risk bearing capital increased by 8.6% to CHF 58,421 million, while target capital went up by 0.9% to CHF 33,324 million. The comparison is based on aggregate numbers obtained by summing over all reinsurers (22 in total).

With regard to the individual analysis, in order to avoid that companies with larger volume dominate the results, an average over the percentages for each company is shown. As of SST 2018, a standard model for reinsurers (StandRe) has been made available for the calculation of insurance risk (excluding life and natural catastrophes).

Reinsurance	FDS component	
Bonds	Government bonds	26%
	Corporate bonds	46.2%
	Investment funds: bonds	27.8%
Real estate	Real estate	10.9%
	Mortgages	9.1%
	Investment funds: real estate	80%

Table 13: Breakdown of *Investments* categories *Bonds* and *Real estate* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

Reinsurance	FDS component	
Loss reserves	Best estimate of insurance liabilities (life): gross	3.9%
	Best estimate of insurance liabilities (non-life): gross	0.7%
	Best estimate of insurance liabilities (health): gross	0%
	Active reinsurance (indirect business)	95.5%
Other liabilities	Deposit liabilities from ceded reinsurance	4.9%
	Liabilities from derivative financial instruments	2.8%
	Non-technical provisions	3.3%
	Liabilities from insurance business	60.6%
	Other liabilities	21.7%
	Reserves for surplus funds	0%
	Subordinated liabilities	6.4%
	Interest-bearing liabilities	0.4%

Table 14: Breakdown of *Liabilities* categories *Loss reserves* and *Other liabilities* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

8.1 Comments on results

The asset portfolios of reinsurers are mainly concentrated in bond investments (34%) followed by other assets (33%), as illustrated in Figure 51 ”Assets”. A further breakdown of the investment categories bonds and real estate is shown in Table 13.

As shown in Figure 53 ”Liabilities”, the liabilities of reinsurers are dominated by the loss reserves (77%) and the other liabilities (21%). In Table 14, a breakdown of loss reserves and other liabilities into their components is shown.

In Figure 57 ”Target capital decomposition” it is shown that the one-year capital and market value margin correspond to 83% and 17% of the target capital, respectively. The one-year capital is driven (before diversification) by insurance risk (74%) followed by the market risk (31%).

The main drivers of the market risk (before diversification) are the spread risk (59%) followed by the currency risk (42%) and the interest rate risk (39%). As shown in Figure 61, interest rate risk is dominated (before diversification) by the USD interest rate risk (55%) followed by EUR interest rate risk (52%).

8.2 Assets

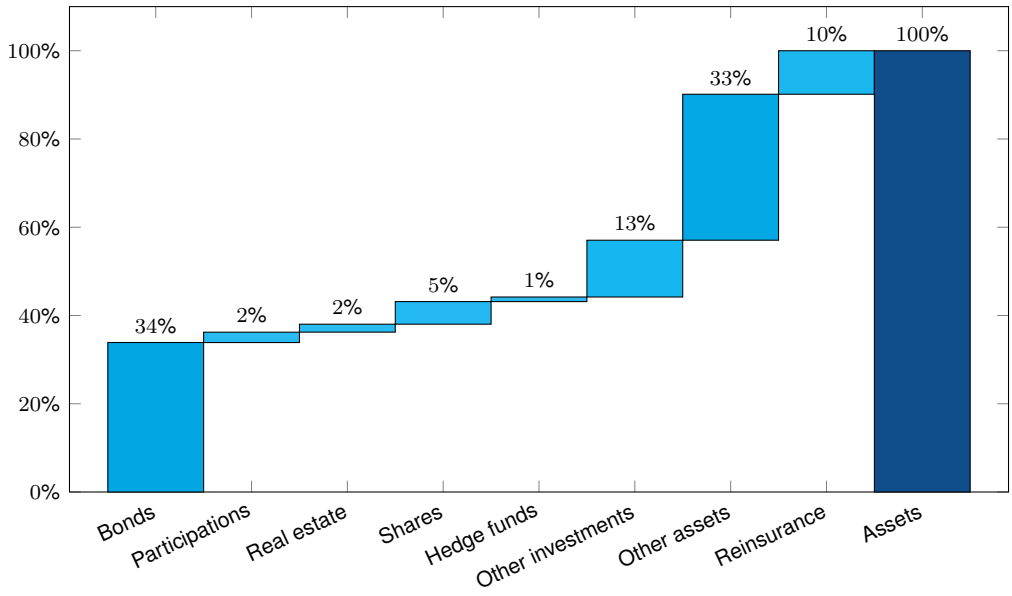

Figure 51: Reinsurance (mean values by sector)

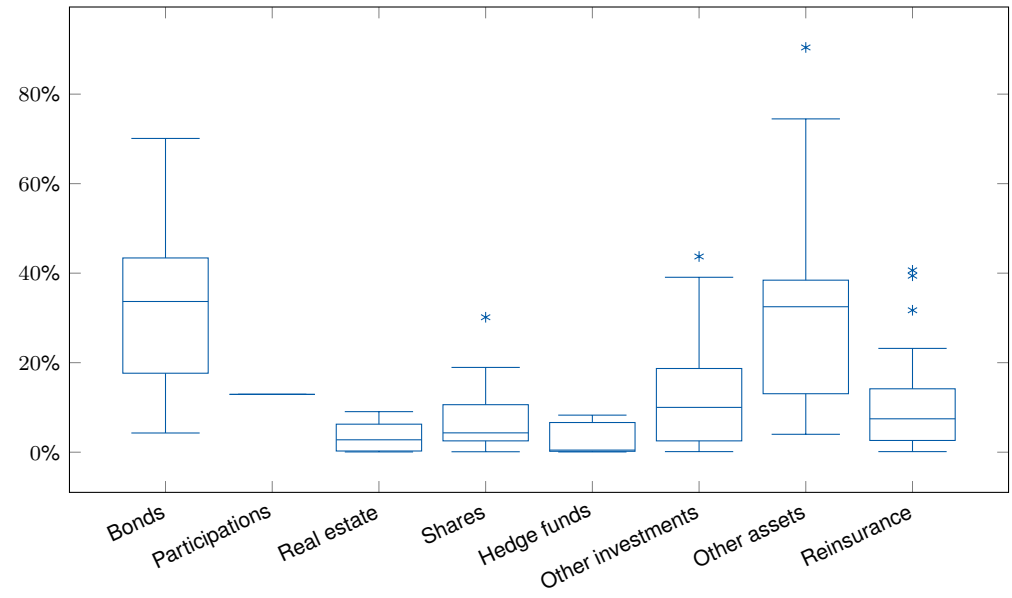

Figure 52: Reinsurance (distribution as box-plot)

8.3 Liabilities

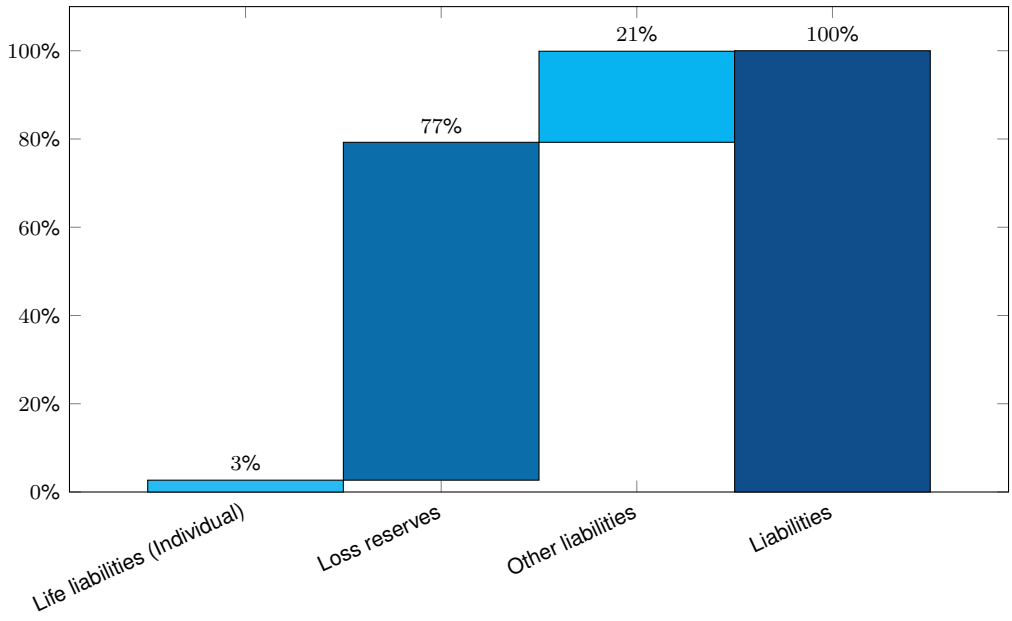

Figure 53: Reinsurance (mean values by sector)

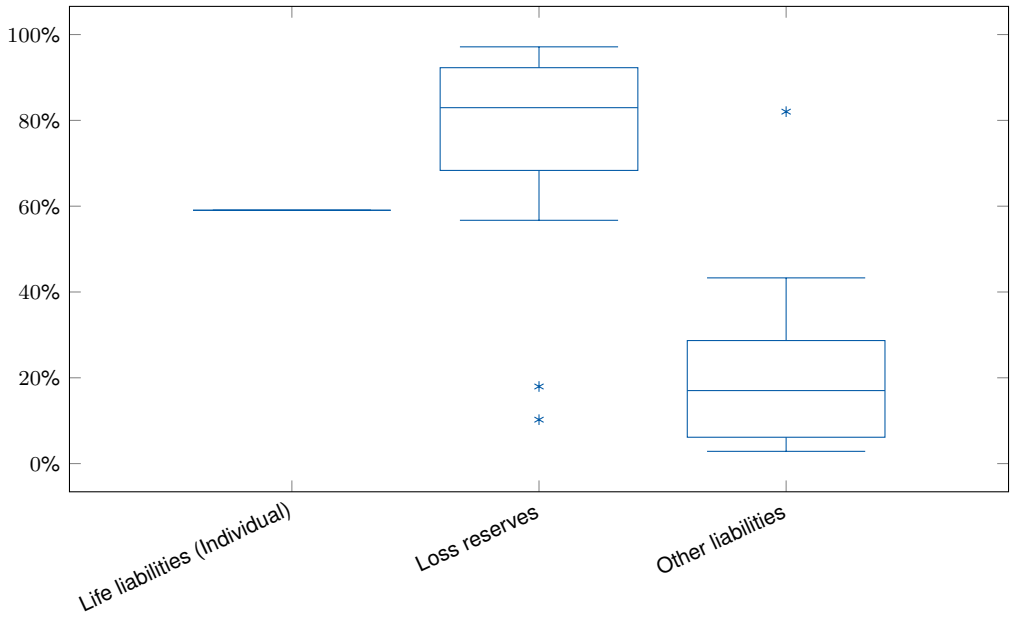

Figure 54: Reinsurance (distribution as box-plot)

8.4 Best estimate of liability and target capital in relation to the balance sheet total

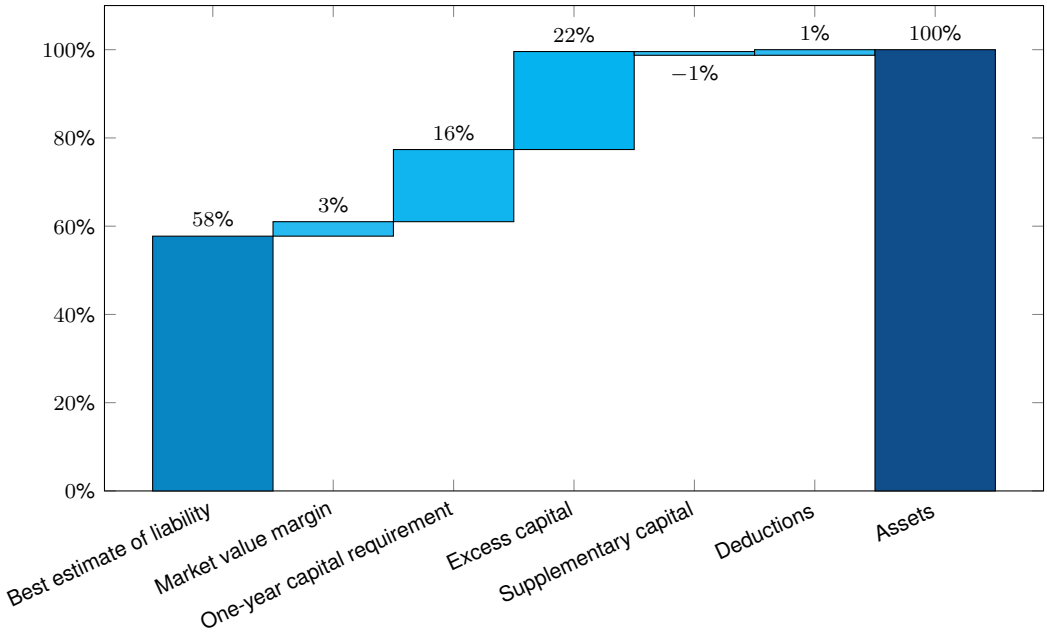

Figure 55: Reinsurance (mean values by sector)

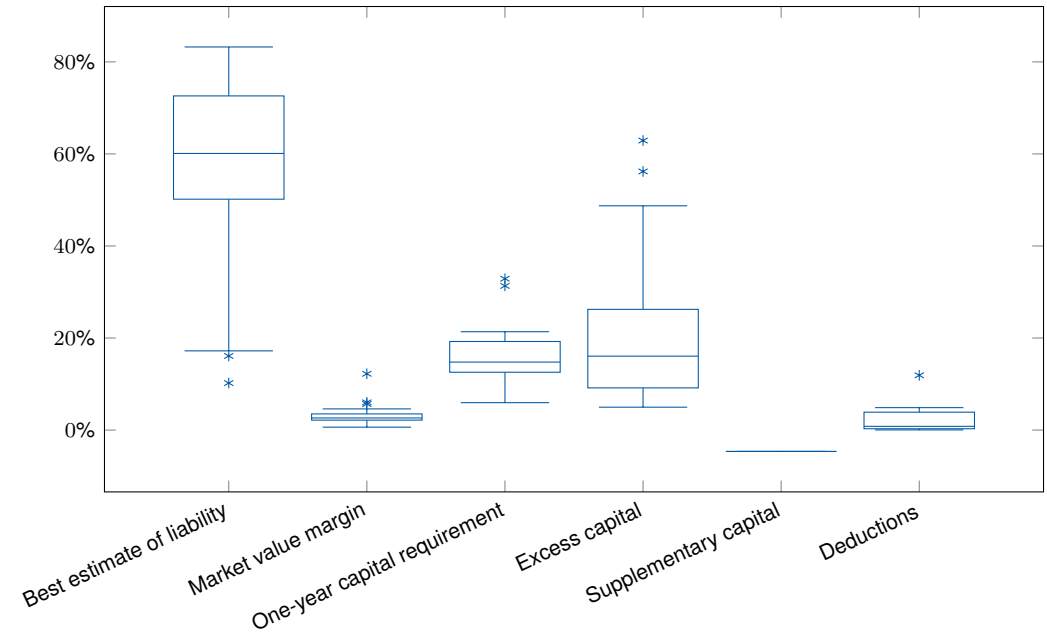

Figure 56: Reinsurance (distribution as box-plot)

8.5 Target capital decomposition

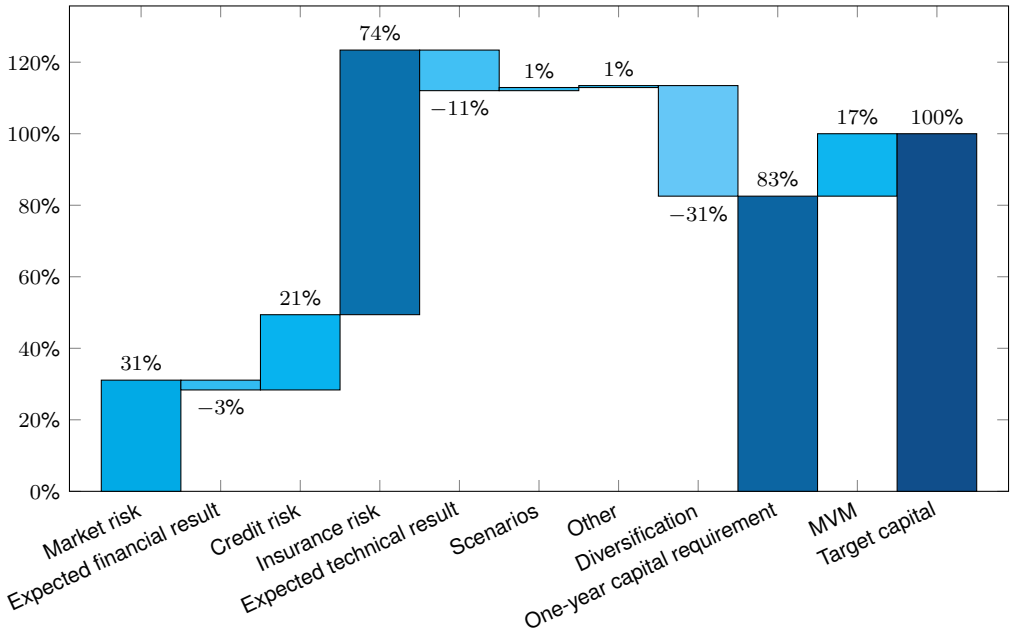

Figure 57: Reinsurance (mean values by sector)

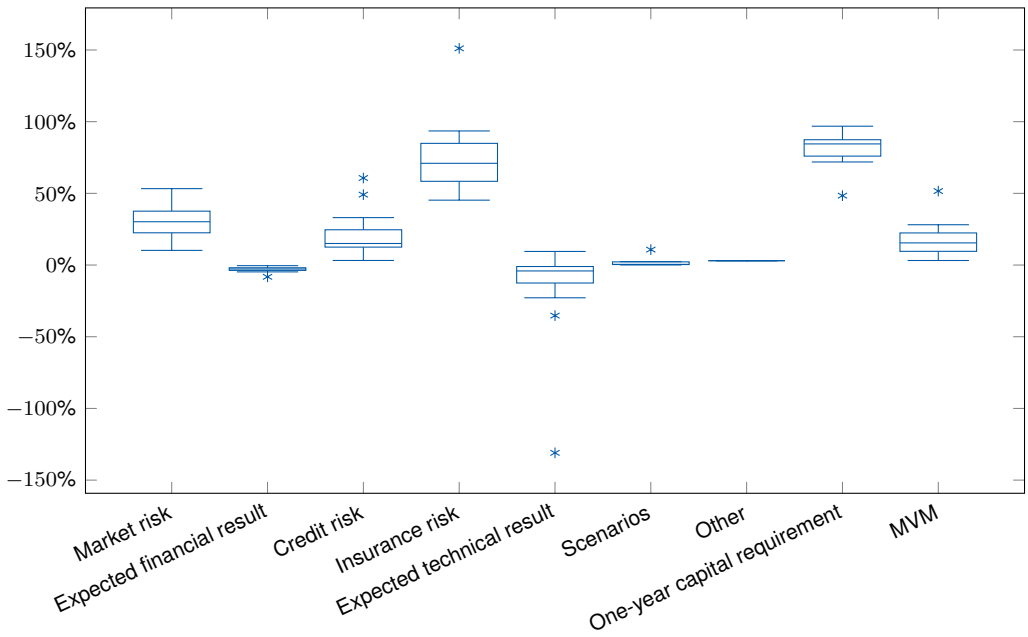

Figure 58: Reinsurance (distribution as box-plot)

8.6 Market risk analysis

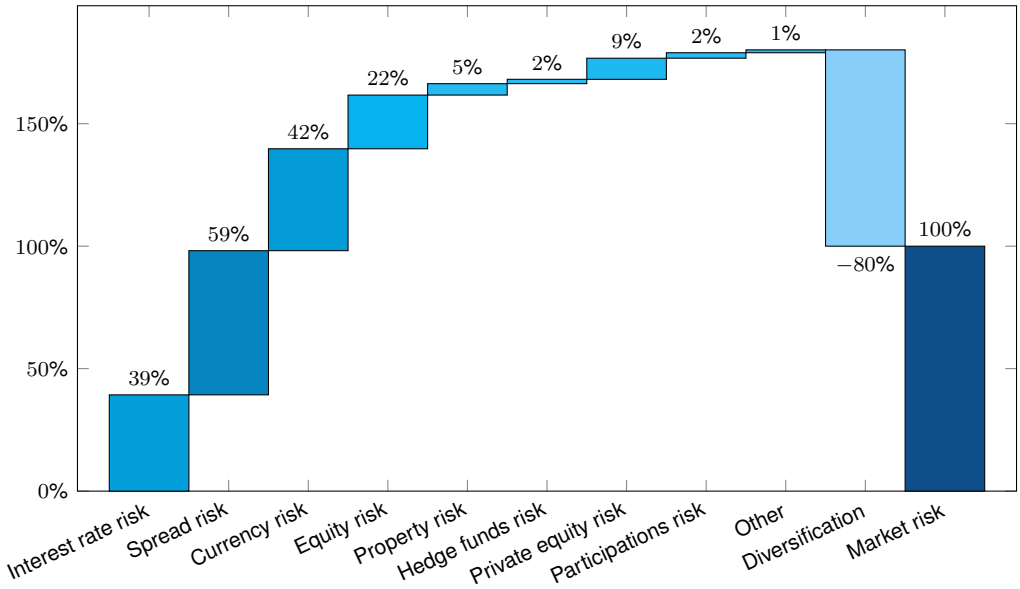

Figure 59: Reinsurance (mean values by sector)

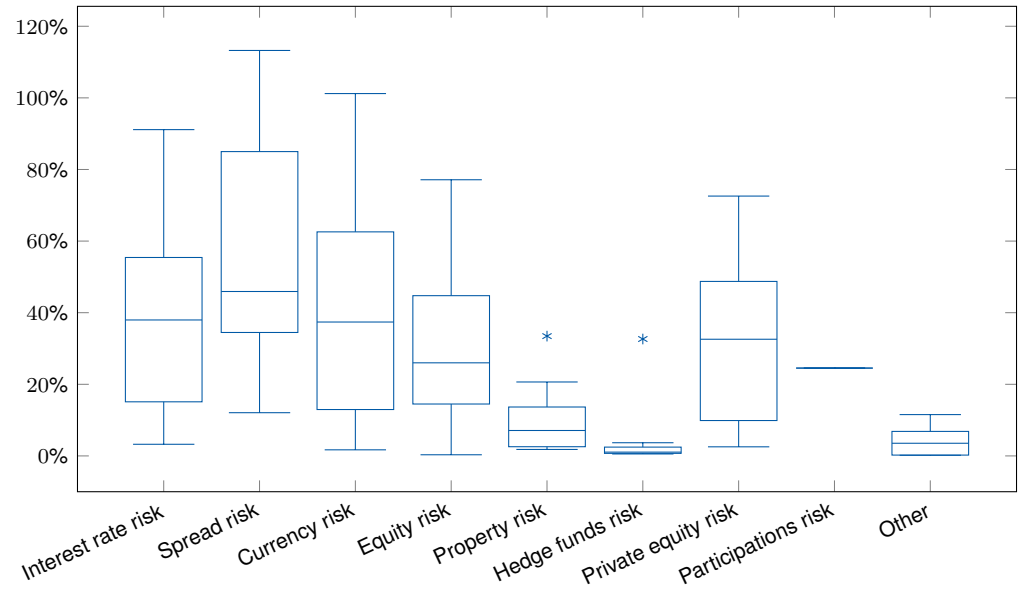

Figure 60: Reinsurance (distribution as box-plot)

8.7 Interest rate analysis

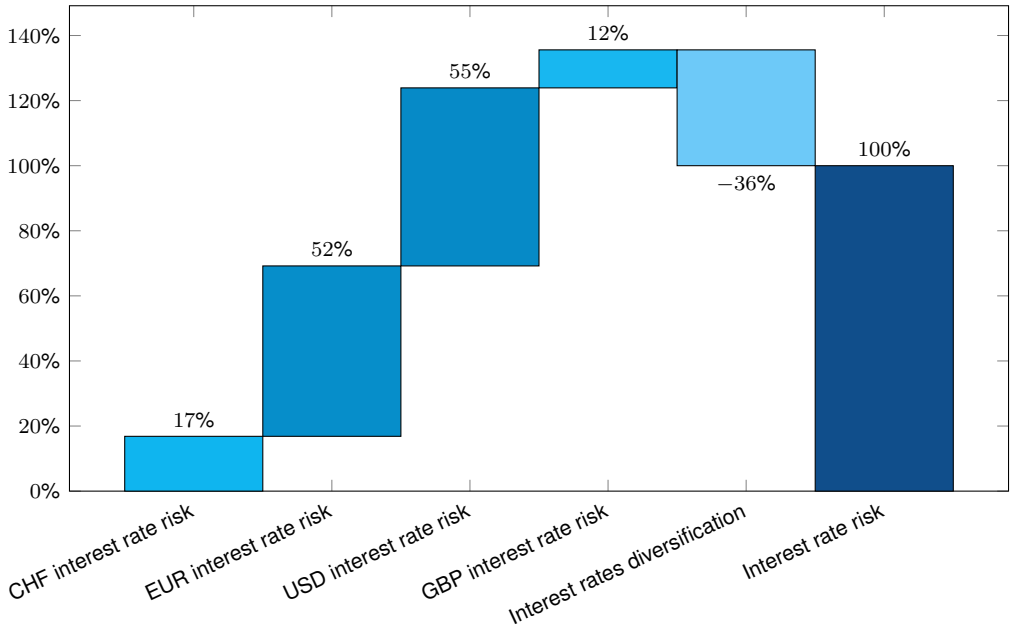

Figure 61: Reinsurance (mean values by sector)

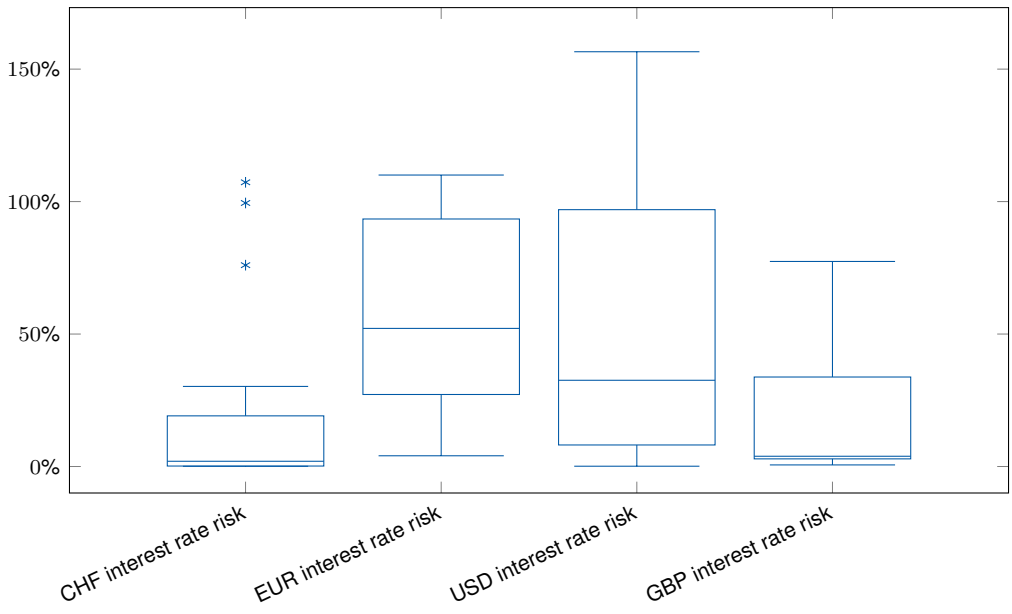

Figure 62: Reinsurance (distribution as box-plot)

8.8 Impact ratios for market and credit risk scenarios

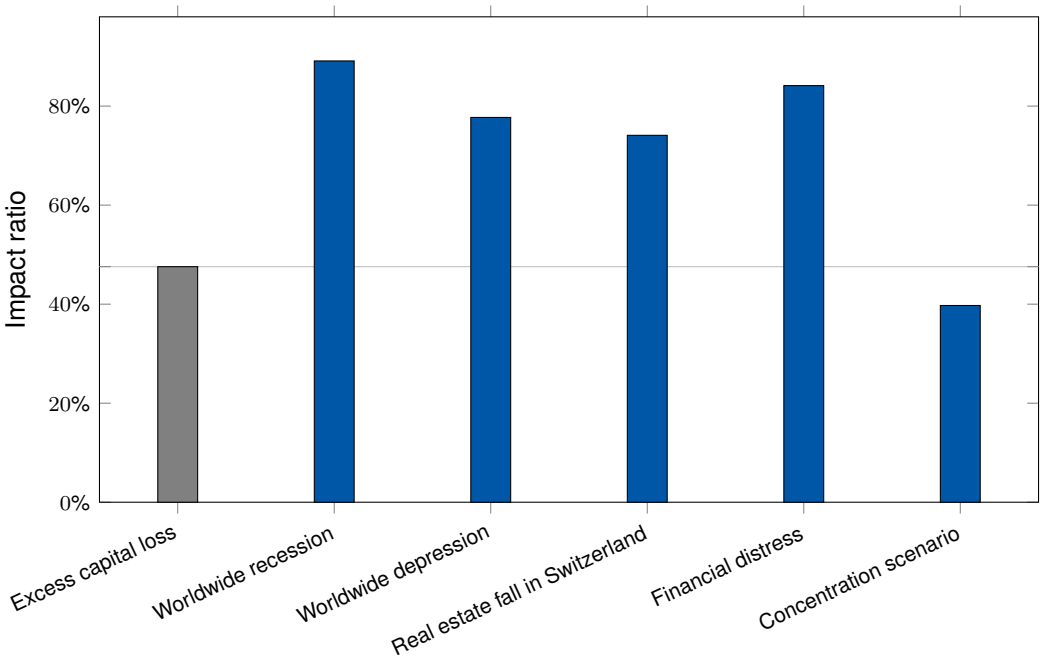

Figure 63: Reinsurance (mean values by sector)

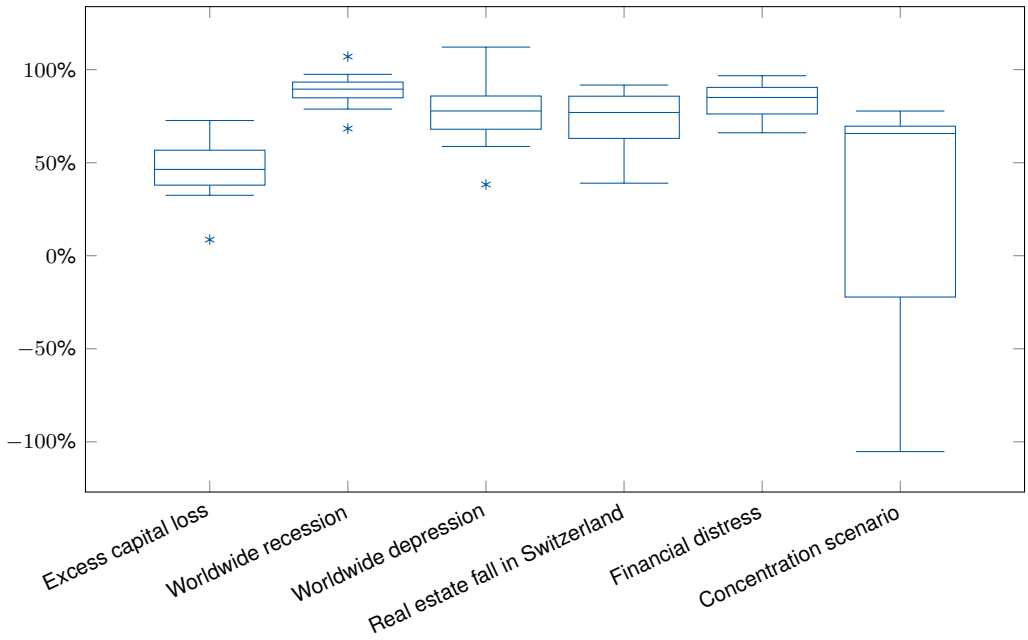

Figure 64: Reinsurance (distribution as box-plot)

8.9 Impact ratios for insurance risk and global scenarios

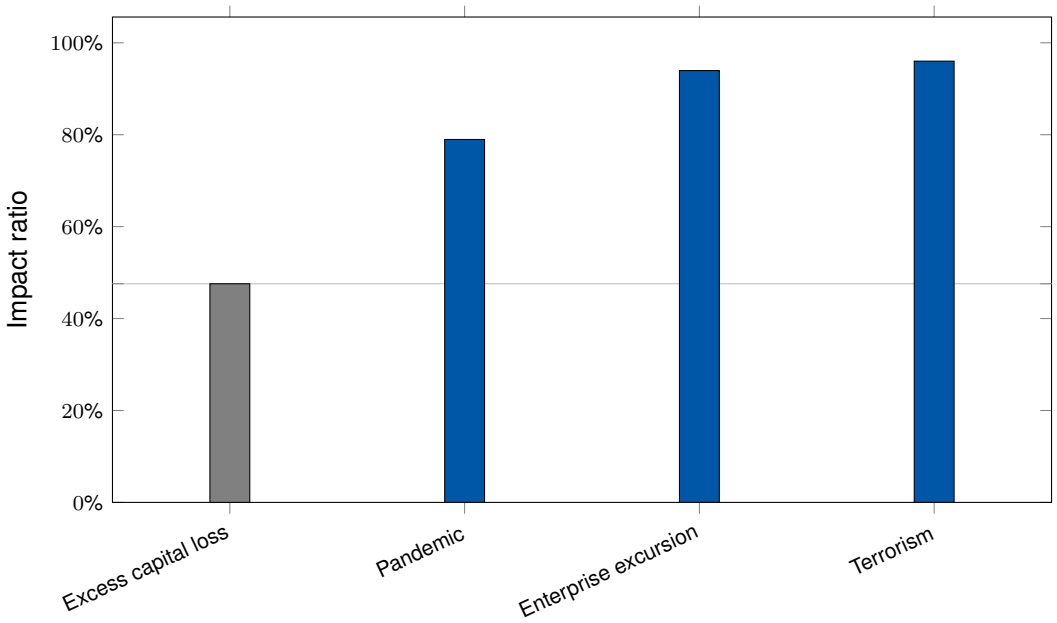

Figure 65: Reinsurance (mean values by sector)

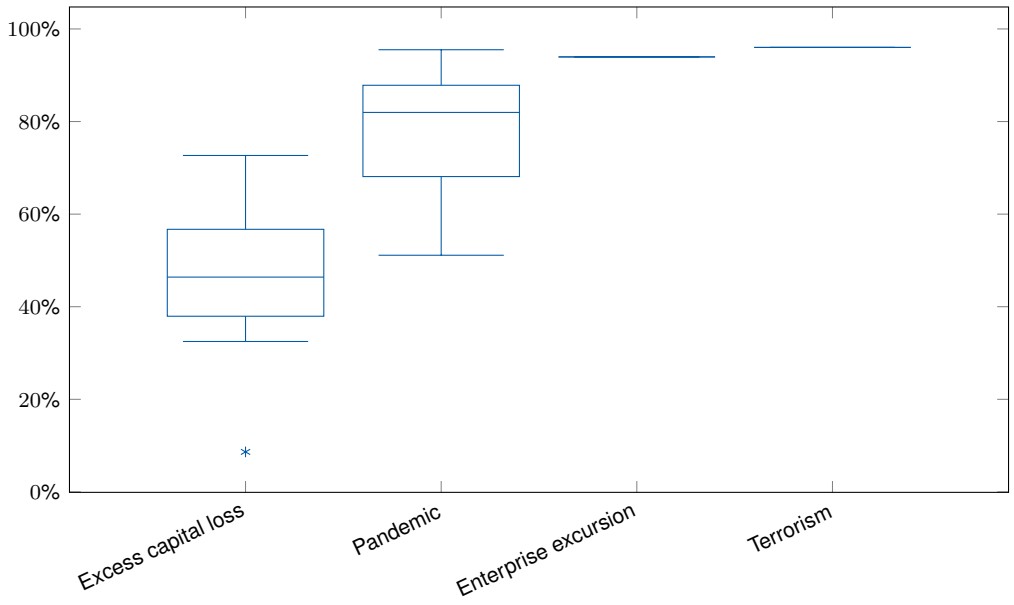

Figure 66: Reinsurance (distribution as box-plot)

9 Re Captive

The overall SST ratio calculated over all reinsurance captives decreased by 27 percentage points from 269% in 2021 to 242% in 2022. The risk bearing capital increased by 7.6% to CHF 3,585 million, while target capital went up by 19.9% to CHF 1,520 million. The increase in target capital is to a considerable extent due to the introduction of an improved SST standard model for insurance risks of captives. The comparison is based on aggregate numbers obtained by summing over all reinsurance captives (23 in total).

With regard to the individual analysis, in order to avoid that companies with larger volume dominate the results, an average over the percentages for each company is shown.

Re Captive	FDS component	
Bonds	Government bonds	37%
	Corporate bonds	43%
	Investment funds: bonds	20%

Table 15: Breakdown of *Investments* category *Bonds* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

Re Captive	FDS component	
Loss reserves	Best estimate of insurance liabilities (life): gross	0%
	Best estimate of insurance liabilities (non-life): gross	0%
	Best estimate of insurance liabilities (health): gross	0%
	Active reinsurance (indirect business)	100%
Other liabilities	Deposit liabilities from ceded reinsurance	0%
	Liabilities from derivative financial instruments	0%
	Non-technical provisions	1.5%
	Liabilities from insurance business	23.2%
	Other liabilities	71.5%
	Reserves for surplus funds	0%
	Subordinated liabilities	3.7%
	Interest-bearing liabilities	0%

Table 16: Breakdown of *Liabilities* categories *Loss reserves* and *Other liabilities* as reported in the Fundamental Data Sheets (FDS) as of 1 January 2022.

9.1 Comments on results

The asset portfolios of reinsurance captives are mainly concentrated in other assets (59%) followed by other investments (26%) and bond investments (7%), as illustrated in Figure 67

”Assets”. A further breakdown of the investment category bonds is shown in Table 15.

As shown in Figure 69 ”Liabilities”, the liabilities of reinsurance captives are dominated by the loss reserves (85%) and the other liabilities (15%). In Table 16, a breakdown of loss reserves and other liabilities into their components is shown.

In Figure 73 ”Target capital decomposition” it is shown that the one-year capital and the market value margin correspond to 96% and 4% of the target capital, respectively. The one-year capital is driven (before diversification) by the insurance risk (82%) followed by the credit risk (27%). The main drivers of market risk (before diversification) are the interest rate risk (59%) and the currency risk (38%). As shown in Figure 77 the interest rate risk is dominated by the EUR interest rate risk (57% before diversification).

9.2 Assets

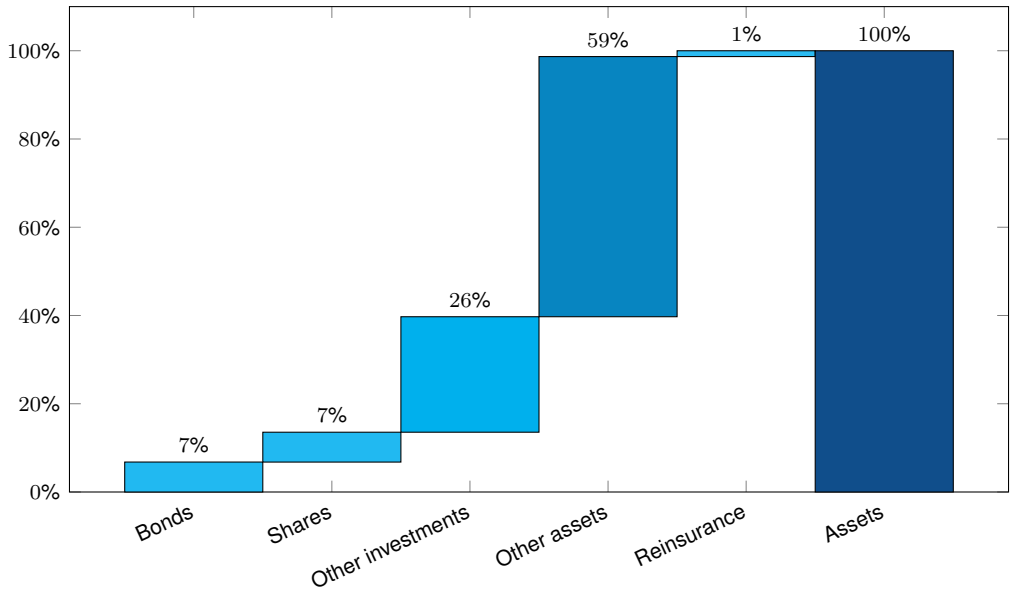

Figure 67: Re Captive (mean values by sector)

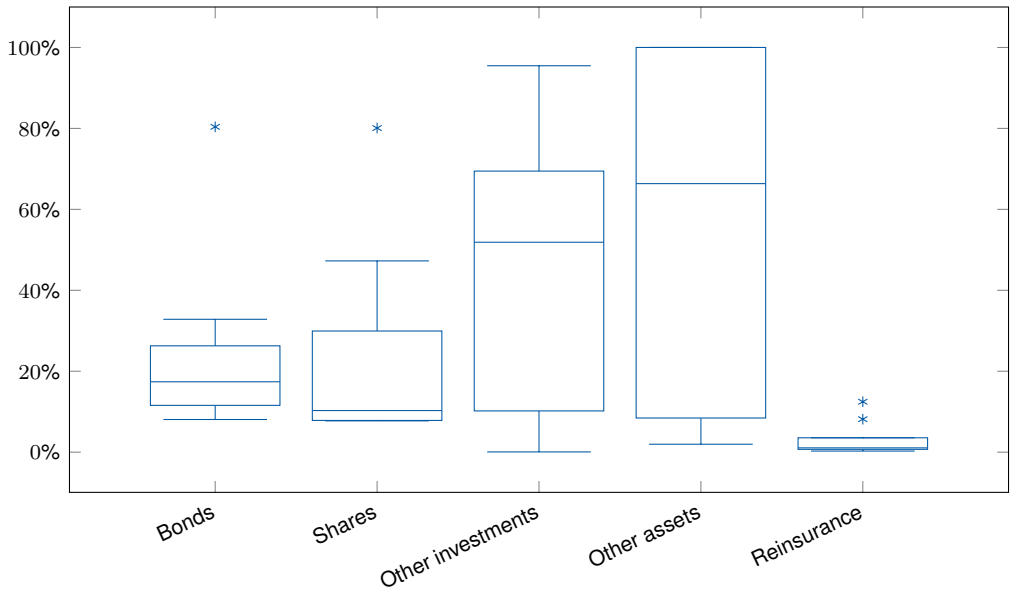

Figure 68: Re Captive (distribution as box-plot)

9.3 Liabilities

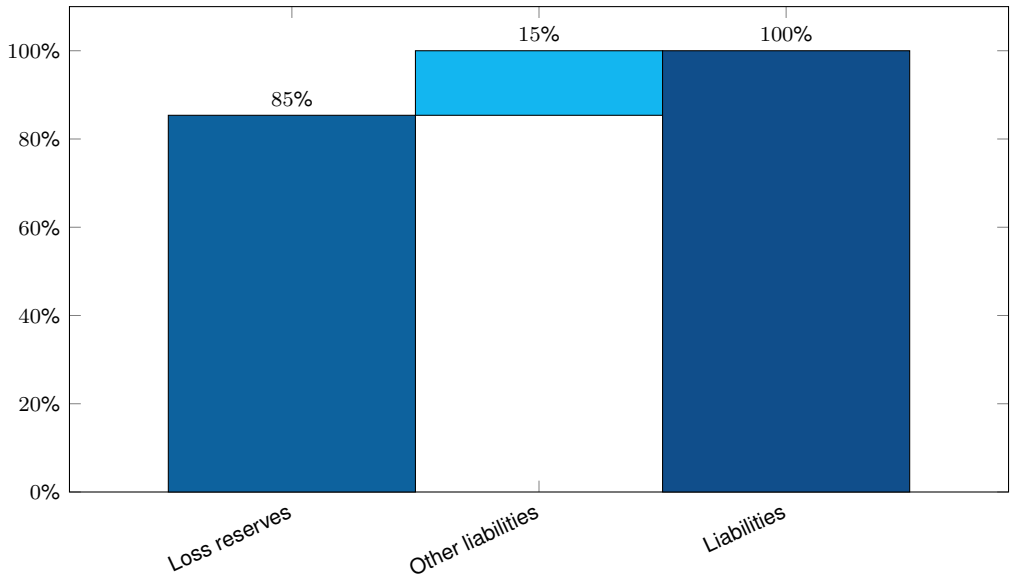

Figure 69: Re Captive (mean values by sector)

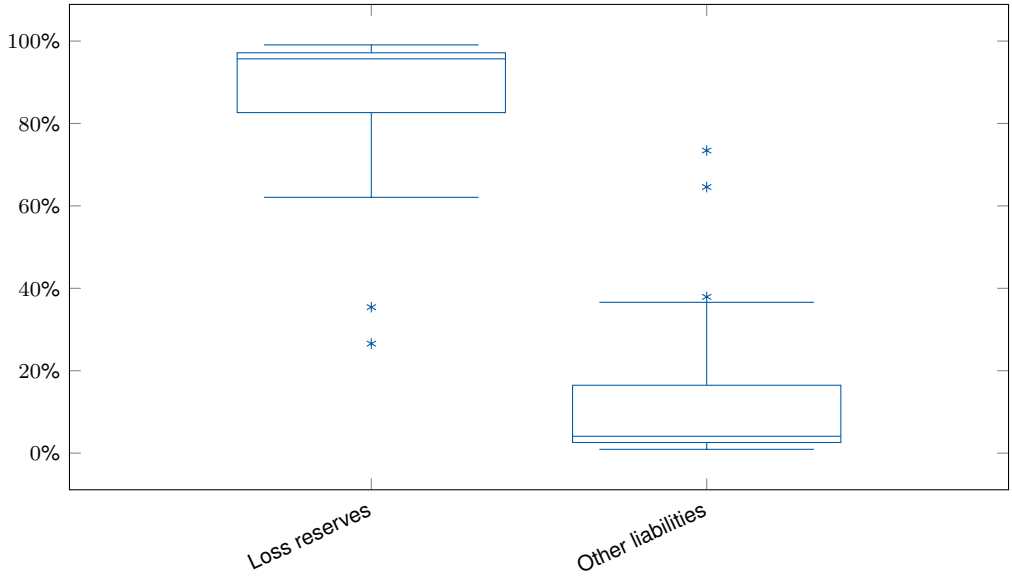

Figure 70: Re Captive (distribution as box-plot)

9.4 Best estimate of liability and target capital in relation to the balance sheet total

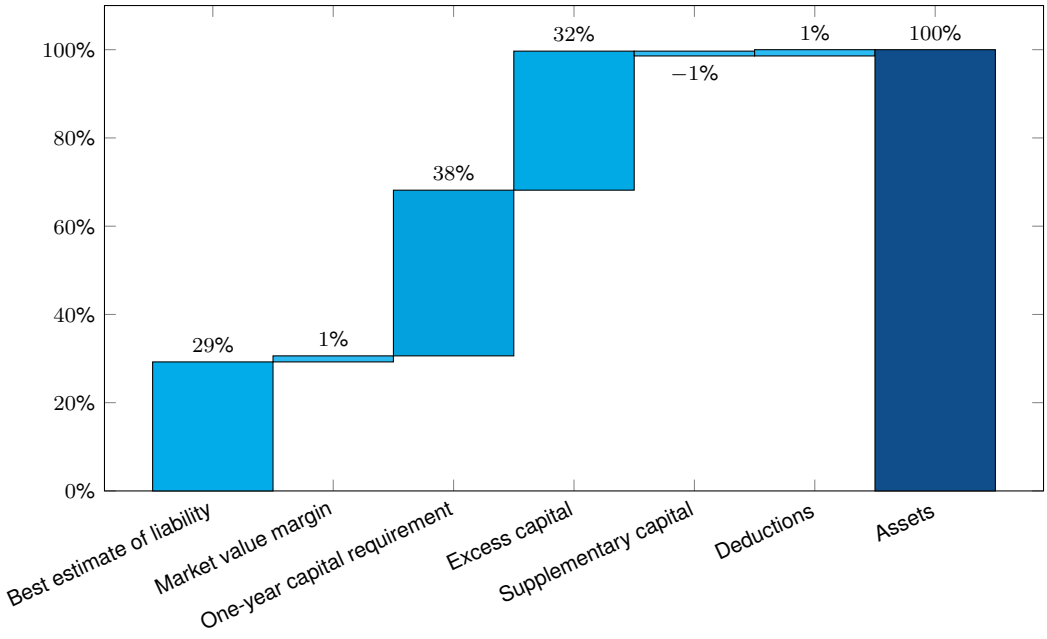

Figure 71: Re Captive (mean values by sector)

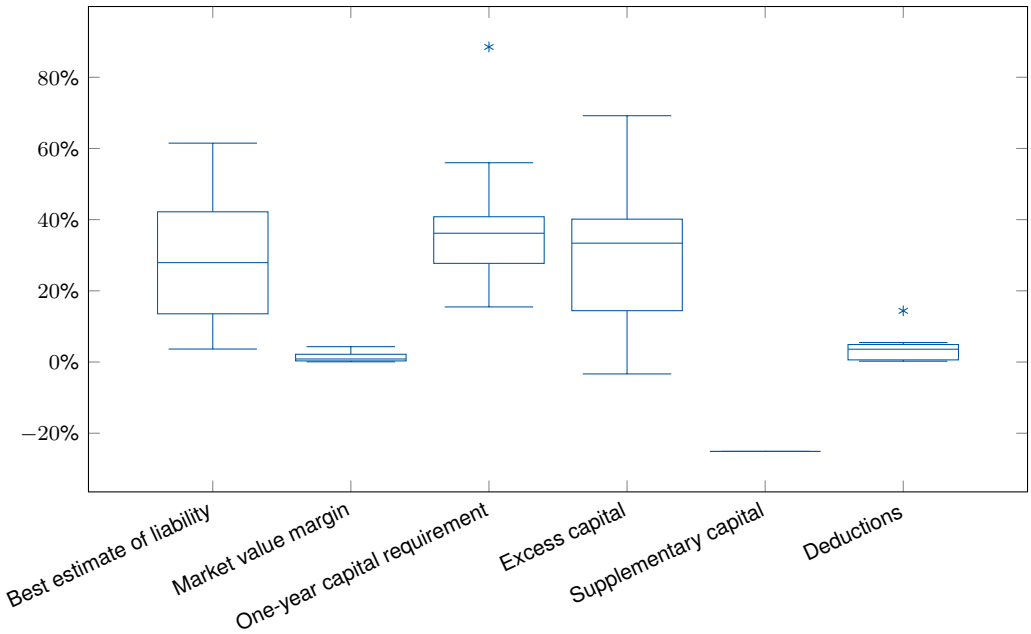

Figure 72: Re Captive (distribution as box-plot)

9.5 Target capital decomposition

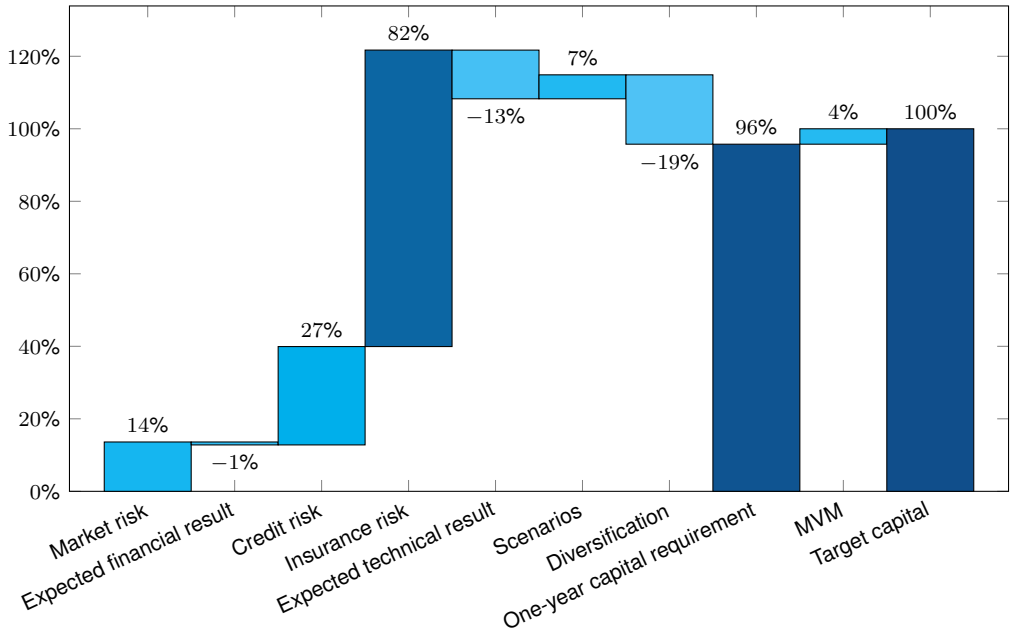

Figure 73: Re Captive (mean values by sector)

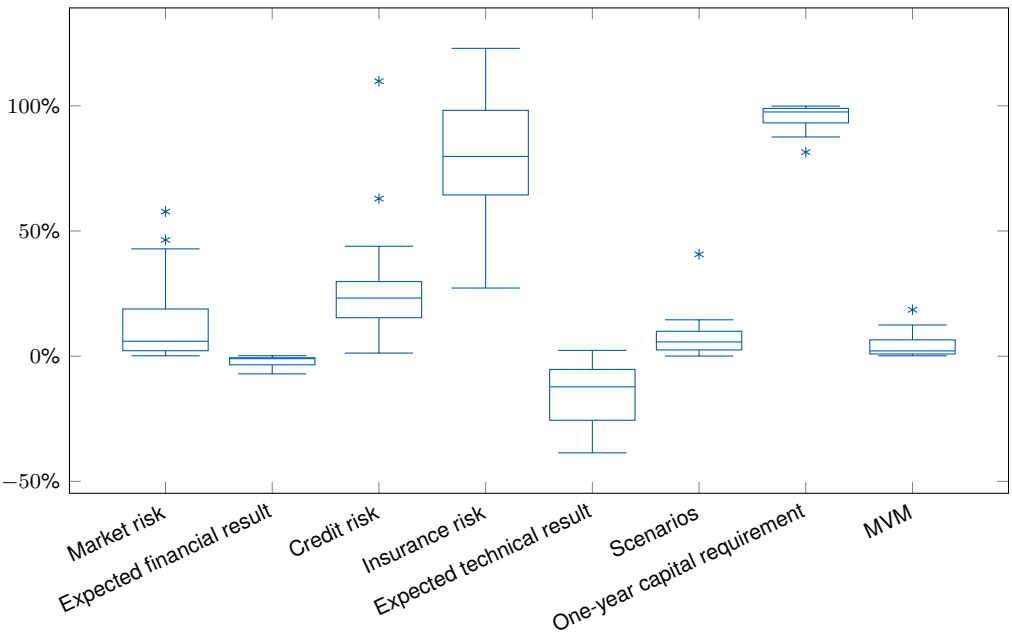

Figure 74: Re Captive (distribution as box-plot)

9.6 Market risk analysis

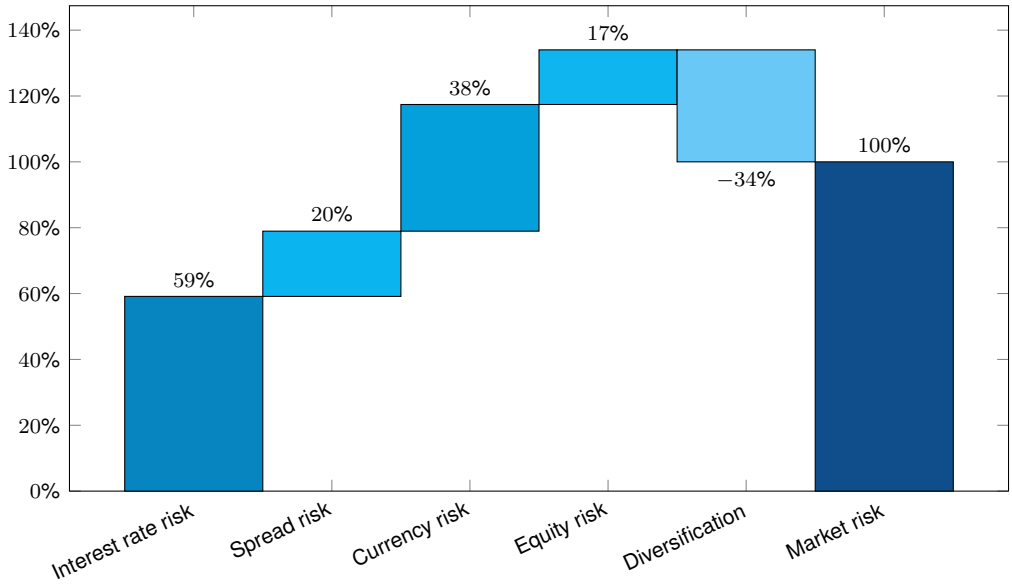

Figure 75: Re Captive (mean values by sector)

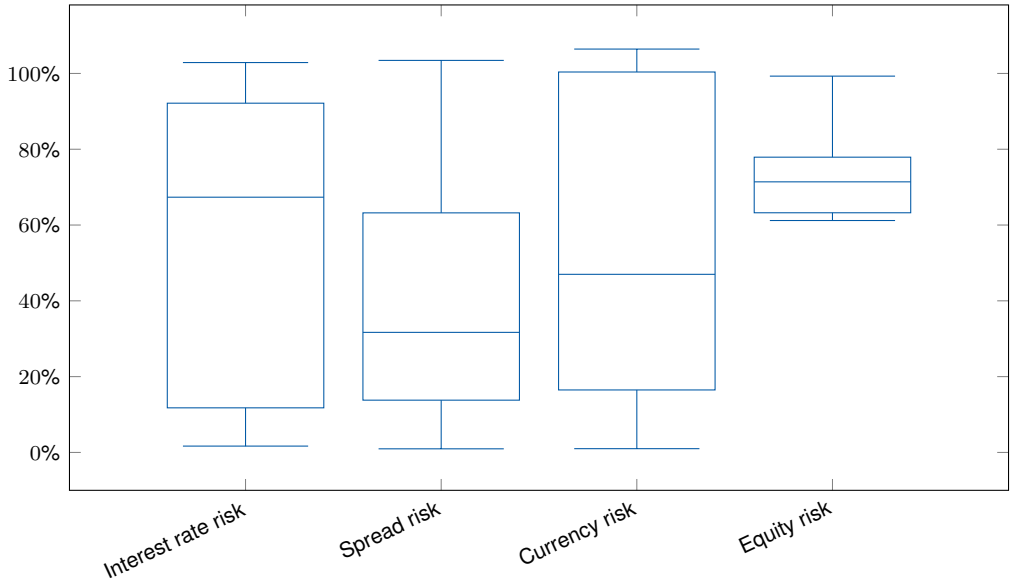

Figure 76: Re Captive (distribution as box-plot)

9.7 Interest rate analysis

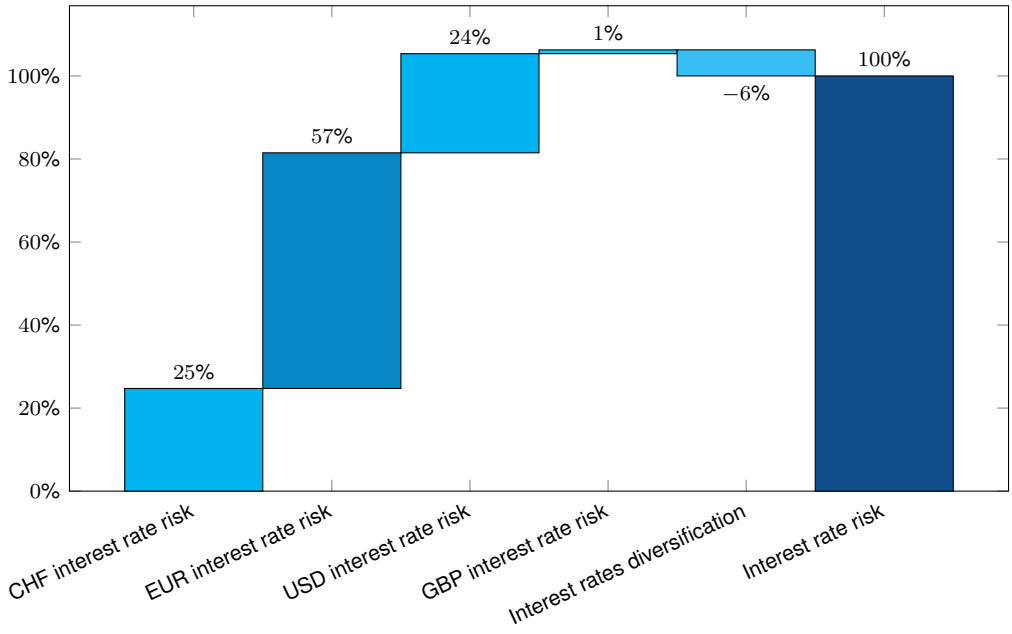

Figure 77: Re Captive (mean values by sector)

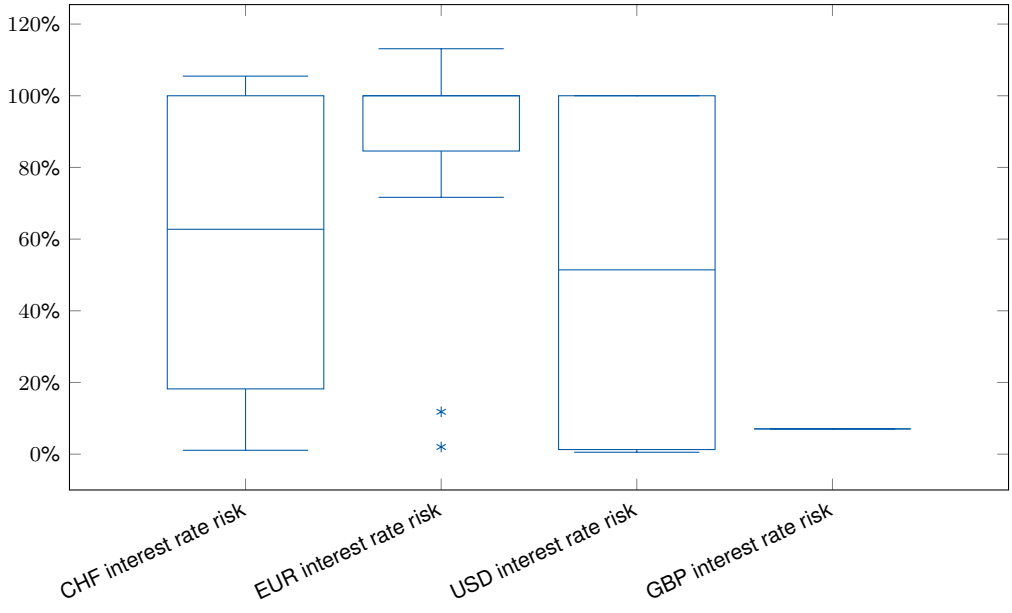

Figure 78: Re Captive (distribution as box-plot)

9.8 Impact ratios for insurance risk and global scenarios

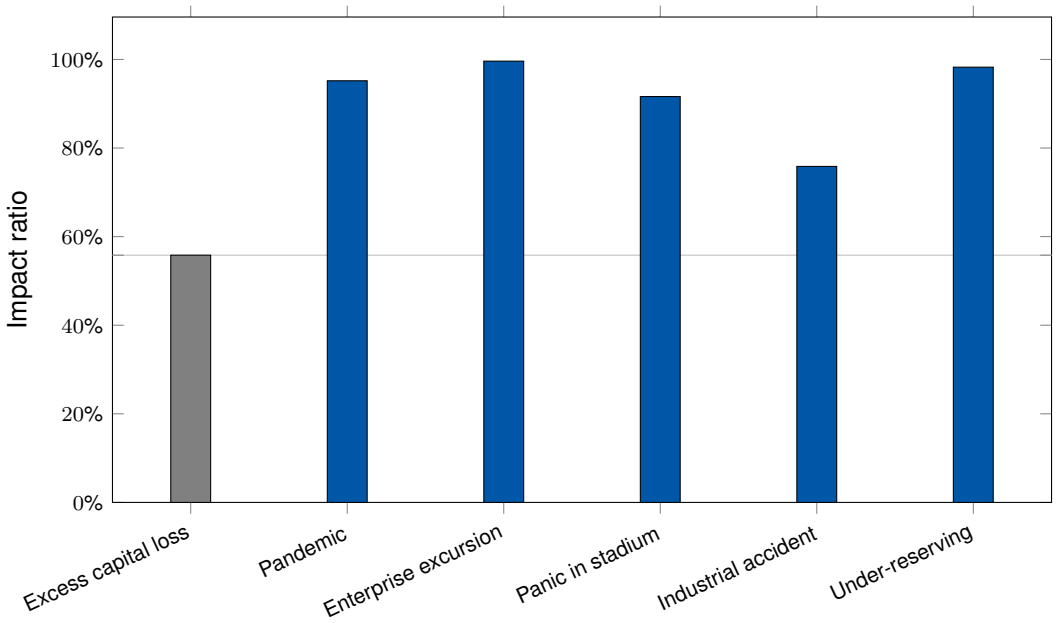

Figure 79: Re Captive (mean values by sector)

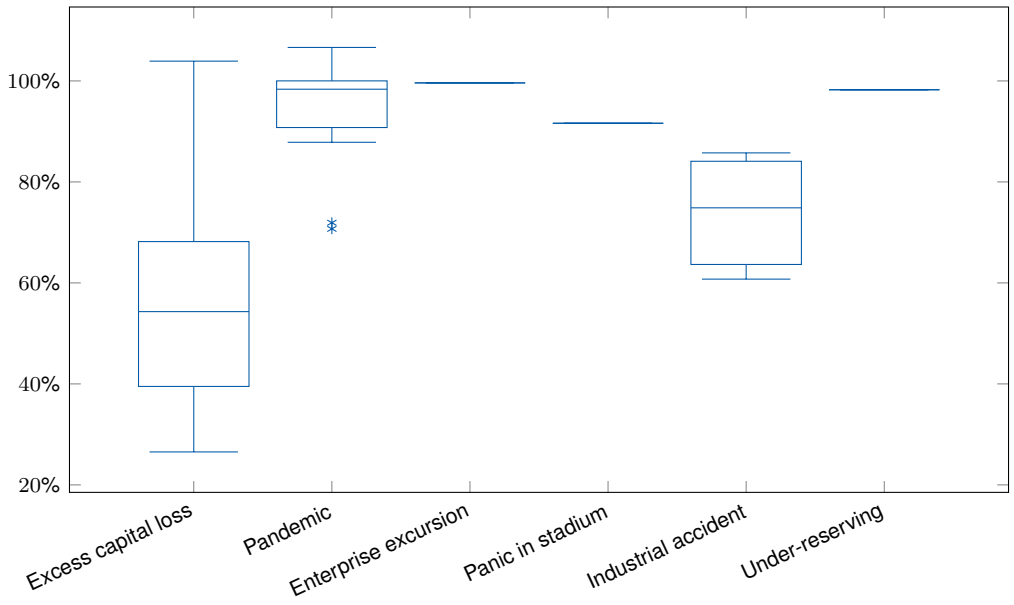

Figure 80: Re Captive (distribution as box-plot)

A Glossary for figures

In the following appendix, risk is measured by the 99% expected shortfall.

A.1 Waterfall chart

Waterfall charts explain the quantitative decomposition of an entity by revealing the cumulative positive and negative effects of its components in the form of bars. The waterfall charts in this report show unweighted mean values.

A.2 Box-plot

Each box-plot graphic consists of a box and two lines extending vertically from the box, called whiskers. The box is defined through the lower quartile, the 0.25-quantile of the input data, and the upper quartile, the 0.75-quartile of the input data. The horizontal line inside the box is the median, i.e. half of the points are less and half of the points are larger than the median.

The whiskers indicate variability outside the upper and lower quartiles within a defined ”interquantile range”. Any data outside of the whisker range is supposed to be an outlier and is denoted with a star (individual points).

The box plots in this report exclude all data points equal to zero. Moreover, if less than 5 companies submitted data, only the mean value is shown.

A.3 Liabilities

Loss reserves	Best estimate of liabilities, gross of reinsurance, for claims in general insurance or treatments in health insurance which happened prior to the reference date of the balance sheet.
Life liabilities (Individual)	Best estimate of liabilities, gross of reinsurance, for individual life insurance contracts, excluding unit-linked liabilities.
Life liabilities (Group)	Best estimate of liabilities, gross of reinsurance, for group life insurance contracts, excluding unit-linked liabilities.
Long-term liabilities	Best estimate of liabilities, gross of reinsurance, for health insurers owing to the fact that the insurer is obliged to renew the health insurance contract until the death of the insured.
Other insurance liabilities	Best estimate of other insurance liabilities, gross of reinsurance.
Unit-linked liabilities	Best estimate of liabilities, net of reinsurance, for unit-linked insurance contracts.
Other liabilities	Remaining liabilities, e.g. surplus funds, bonds/loans, various obligations, etc.

A.4 Best estimate of liabilities and target capital in relation to the balance sheet total

Best estimate of liabilities	Best estimate value of liabilities at the reference date of the SST.
Market value margin	Expected cost of the risk-bearing capital to be held for the settlement of the insurance liabilities over their lifetime.
One-year capital requirement	Risk arising from the one-year change in risk-bearing capital. The sum of the one-year capital requirement plus the market value margin equals the target capital.
Excess capital	Commonly used to refer to that part of the risk-bearing capital that is held by an insurer in excess of the target capital, i.e. risk-bearing capital minus target capital.
Supplementary capital	Additional capital eligible to cover an insurers target capital such as hybrid capital or subordinated debt.
Deductions	Regulatory adjustments for determining an insurers core capital. Deductions include, among others, own shares, goodwill and other intangibles, planned dividend payments or repayments of debt.

A.5 Target capital decomposition

Market risk	Standalone risk from financial market risk factors.
Expected financial result	Negative of the expected financial result on the assets in excess of the risk-free rate.
Credit risk	Standalone credit risk (default and migration).
Insurance risk	Standalone insurance risk.
Expected technical result	Negative of the expected result on the new insurance business, excluding the financial result.
Scenarios	Impact of the scenarios (prescribed and company-specific) on the target capital.
Other	Impact on the target capital of risks not included elsewhere (e.g. guarantee).
One-year capital requirement	Risk arising from the one-year change in risk-bearing capital. The sum of the one-year capital requirement and the discounted market value margin is equal to the target capital.

Market value margin	Expected cost of the risk-bearing capital to be held for the settlement of the insurance liabilities over their lifetime.

A.6 Market risk analysis

Spread risk	Risk arising from corporate and governmental spreads over the risk-free rate.
Currency risk	Risk arising from the foreign exchange market.
Equity risk	Risk arising from quoted shares and share funds.
Property risk	Risk arising from real estate investments and real estate funds.
Hedge funds risk	Risk arising from hedge funds.
Private equity risk	Risk arising from private equity investments.
Participations risk	Risk arising from participations in enterprises not recognised for official quotation that is not private equity.
Other	Risk arising from market risk but not covered by above categories.

A.7 Interest rates analysis

CHF interest rate risk	Risk arising from Swiss risk-free interest rates.
EUR interest rate risk	Risk arising from euro risk-free interest rates.
USD interest rate risk	Risk arising from US risk-free interest rates.
GBP interest rate risk	Risk arising from British risk-free interest rates.

A.8 General insurance risk analysis

Reserve risk	Risk that ultimate costs relating to incurred claims (existing claims) vary from those assumed when the liabilities were estimated. Reserve risk arises from claim sizes being greater than expected or differences in timing of claims payments from expected.

Normal claims	Risk from claims with loss amounts below a certain threshold value, typically characterized by high frequencies and low severities. Related terms: frequency claims, small claims, attritional claims
Large claims	Risk from claims with loss amounts above a certain threshold value, typically characterized by low frequencies and high severities.
Nat Cat	Risk from claims triggered by a single event, or a series of events (natural hazards such as earthquake, flood, hail, storm, etc.), of major magnitude, usually over a short period (often 72 hours) that lead to a significant deviation in actual claims from the total expected claims.

B Global glossary

Core capital	Core measure of an insurer's strength from a regulatory perspective. Core capital equals the market-consistent value of assets minus the market-consistent value of liabilities minus deductions plus the market value margin. Related terms: market-consistent valuation, market value margin, deductions
Cost of capital charge	Cost rate used to determine the costs expected for all future one-year capital requirements until run-off.
Economic balance sheet	Balance sheet statement based on market-consistent values for all assets and liabilities relating to in-force business, including off-balance sheet items. Related terms: market-consistent valuation, total balance sheet approach
Expected shortfall	A coherent risk measure. For a given confidence level of $1-\alpha$, it measures the average losses over the threshold defined (typically set as the value-at-risk for a percentile given), i.e. the conditional mean value, given that the loss exceeds the $1-\alpha$ percentile. Related term: value-at-risk
Fundamental data sheet	Form to report figures for the annual SST reporting process. It needs to be submitted to FINMA by all insurers, regardless of whether they use an internal model or the SST standard model.
Market-consistent valuation	The practice of valuing assets and liabilities on market values, where observable, with a given quality (mark-to-market); where not, on market-consistent valuation techniques (mark-to-model).

Premium risk	Risk that ultimate costs relating to *future* claims vary from those assumed when the obligations were estimated. Premium risk arises from claim sizes being greater than expected or differences in claims frequency from those expected. Premium risk is composed of frequency claims, large claims and catastrophe claims. Synonyms: current year risks, underwriting risks, pricing risk Related terms: reserve risk
Risk-bearing capital	Capital which may be taken into account when determining the insurers available capital for SST purposes. Risk-bearing capital is defined as the sum of the core capital with the supplementary capital. Related terms: core capital, supplementary capital
Risk-free interest rate	Risk-free interest rate is the theoretical rate of return of an investment with no credit risk. Related term: risk-free yield curve
Risk-free yield curve	Curve that shows the relation between the risk-free interest rate (or cost of borrowing) and the time to maturity (the term) of the debt for a given borrower in a given currency. The yield curves corresponding to the bonds issued by governments in their own currency are called the government bond yield curves and considered as risk-free in the context of the SST. Related terms: risk-free interest rate
Supervisory category	System of six risk categories to which each supervised institution is assigned. Categorisation is based on the risks posed to creditors, investors and policyholders, as well as to the entire system, and to Switzerland's reputation as a financial centre. Supervised institutions in category 1 are characterised by their size and global relevance, and the associated significant risks posed at various levels. In the other categories, the institutions' risk potential decreases incrementally to category 5, while those in category 6 are not subject to prudential supervision.

Supplementary capital	Additional capital eligible to cover an insurer's target capital. Supplementary capital is split between lower supplementary capital and upper supplementary capital, depending on how well the capital can absorb losses. Supplementary capital includes instruments with risk-absorbing properties such as hybrid capital or subordinated debt. For instance, perpetual subordinated loans qualify as upper supplementary capital, whereas subordinated bonds with a fixed maturity date qualify as lower supplementary capital. Related terms: risk-bearing capital, target capital
Target capital	The amount of capital to be held by an insurer to meet the quantitative requirements under the SST. The target capital equals the sum of the one-year capital requirement plus the market value margin. Related terms: one-year capital requirement, market value margin
Total balance sheet approach	Principle which states that the determination of the amount of capital an insurer has available and needs for solvency purposes should be based upon all assets and liabilities, as measured in the insurers regulatory balance sheet (e.g. market-consistently), and how they interact. Related terms: economic balance sheet, market-consistent valuation
Value-at-risk	Value-at-risk is a percentile of a distribution and is used as a (non-coherent) risk measure. Related term: expected shortfall