

# CROATIA

## Key characteristics of the insurance market



<b>1</b>	<b>Introduction.....</b>	<b>2</b>
1.1	General.....	2
1.2	Balance sheet.....	2
1.3	Solvency II ratios.....	4
<b>2</b>	<b>Investments, deposits, cash and cash equivalents.....</b>	<b>5</b>
2.1	Scope .....	5
2.2	Asset exposure .....	6
2.3	Equity exposure.....	8
<b>3</b>	<b>Index-linked and unit-linked investments.....</b>	<b>11</b>
3.1	Scope .....	11
3.2	Asset exposure .....	11
3.3	Equity exposure.....	12
<b>4</b>	<b>Insurance products .....</b>	<b>14</b>
4.1	Overview .....	14
4.2	Life insurance products .....	15
4.3	Non-life insurance products .....	15
4.4	Average duration .....	17
<b>5</b>	<b>Accounting &amp; Tax framework .....</b>	<b>18</b>
5.1	Accounting framework .....	18
5.2	Tax framework .....	18
<b>6</b>	<b>Historical data.....</b>	<b>19</b>
6.1	Index-linked and unit-linked investments in comparison to total assets .....	19
6.2	Solvency II – excluding index-linked and unit-linked investments .....	20
6.3	Solvency I – excluding index-linked and unit-linked assets .....	21
6.4	European Central Bank – including index-linked and unit-linked assets .....	22
6.5	Trends in Equity Investments .....	25

# 1 Introduction

## 1.1 General

At the end of 2017 (2017 Q4), 20 insurance companies<sup>1</sup> in Croatia submitted their Solvency II related reporting package to the Croatian National Supervisory Authority (NSA). These companies accounted for 0,048% of Total assets of insurance undertakings operating within the European Union (EU).

Table 1 depicts the number of Solvency II reporting submissions in Croatia by insurance activities and the importance of the country within the EU, based on Total assets.

**Table 1 - Insurance reporting submissions**

Insurance reporting submissions	#
Life undertakings	4
Non-Life undertakings	7
Reinsurance undertakings	0
Composite undertakings	9
<b>Total</b>	<b>20</b>
<b>Total assets HR / Total assets EU %</b>	<b>0,048%</b>
<b>Ranking HR based on Total assets EU</b>	<b>22</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

## 1.2 Balance sheet

At the end of 2017 (2017 Q4), Croatia was the number 22 country in the EU insurance market in terms of assets held with an amount of 5 409 million EUR reported under Solvency II rules.

With regards to the Assets held for index-linked and unit-linked contracts, Croatia ranked number 26 in terms of absolute amount with 232 million EUR invested in this category. However, with 4,3% of Total assets of this category, Croatia was significantly below the EU average, i.e. 24,3% in terms of Total assets.

In terms of technical provisions, 42,1% of the total balance sheet relates to the life business (i.e. non index-linked and unit-linked business), while 16,3% represented non-life obligations.

**Table 2 - Solvency II balance sheet (S.02.01) and EU comparison (solo)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
Investments, deposits, cash and cash equivalents	4 875	21	90,1%	67,8%	67,3%	22,6%	90,1%	17,2%
Assets held for index-linked and unit-linked contracts	232	26	4,3%	24,2%	24,3%	2,5%	59,3%	16,2%
Other assets	302	25	5,6%	8,1%	8,4%	2,1%	19,5%	4,9%
<b>Total assets</b>	<b>5 409</b>	<b>22</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>
Technical provisions - life	2 279	19	42,1%	46,3%	32,2%	3,0%	64,2%	17,9%
Technical provisions - non-life	883	22	16,3%	6,6%	12,9%	2,4%	38,5%	9,1%
Technical provisions - index-linked and unit-linked	231	26	4,3%	25,1%	23,4%	2,4%	58,4%	16,0%
Other liabilities	428	23	7,9%	8,9%	9,0%	4,0%	21,3%	3,9%
<b>Total liabilities</b>	<b>3 821</b>	<b>22</b>	<b>70,6%</b>	<b>86,9%</b>	<b>77,6%</b>	<b>49,1%</b>	<b>92,7%</b>	<b>11,1%</b>
Excess of assets over liabilities	1 587	21	29,4%	13,1%	22,4%	7,3%	50,9%	11,1%
<b>Total liabilities + Excess of assets over liabilities</b>	<b>5 409</b>	<b>22</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

<sup>1</sup> In the report, the term 'insurance companies' indicates both direct insurance and reinsurance companies. The insurance market covered in this factsheet therefore refers to insurers and reinsurers.



The balance sheet item Investments, deposits, cash and cash equivalents will be further detailed in section 2, while section 3 will focus on Assets held for index-linked and unit-linked contracts.

### 1.3 Solvency II ratios

At the end of 2017 (2017 Q4), the Croatian insurance market as a whole had available own funds that were more than double the Solvency Capital Requirement (SCR) levels required by the European Solvency II Directive. The reported SCR ratio amounted to 240% with long-term guarantee (LTG) and transitional measures and is approximately at the same level as that of the EU, which amounted to 237% at year-end 2017. Out of the 28 EU Member States, Croatia is ranked at the 10<sup>th</sup> position in terms of the reported SCR ratios.

**Table 3 - Solvency II own funds and SCR (S.23.01) and EU comparison (solo)**

in Mio EUR	HR		EU				
	Amount	Rank	%	Avg	Min	Max	StD
Total available own funds to meet the SCR	1 562	21	-	-	-	-	-
SCR	651	22	-	-	-	-	-
<b>Surplus available own funds</b>	<b>911</b>	<b>21</b>	-	-	-	-	-
<b>Ratio of Eligible own funds to SCR</b>	<b>240%</b>	<b>10</b>	<b>237%</b>	<b>225%</b>	<b>135%</b>	<b>361%</b>	<b>52%</b>
Ratio of Eligible own funds to SCR (10th percentile)	146%	8	136%	138%	110%	193%	19%
Ratio of Eligible own funds to SCR (25th percentile)	161%	14	162%	164%	128%	214%	24%
Ratio of Eligible own funds to SCR (50th percentile)	240%	6	215%	208%	144%	300%	37%
Ratio of Eligible own funds to SCR (75th percentile)	331%	5	306%	280%	164%	445%	59%
Ratio of Eligible own funds to SCR (90th percentile)	397%	13	457%	396%	173%	643%	99%
<b>Ratio of Eligible own funds to MCR</b>	<b>669%</b>	<b>10</b>	<b>640%</b>	<b>613%</b>	<b>282%</b>	<b>933%</b>	<b>170%</b>

Source: EIOPA statistics and Deloitte-CEPS analysis

EIOPA's report on long-term guarantees measures and measures on equity risk published on 18 December 2018 mentions the average impact of the use of LTG and transitional measures. At year-end 2017, no results were shown for Croatia since the undertakings do not apply any of the measures.<sup>2</sup>

<sup>2</sup> [https://eiopa.europa.eu/Publications/Reports/2018-12-18%20\\_LTG%20AnnualReport2018.pdf](https://eiopa.europa.eu/Publications/Reports/2018-12-18%20_LTG%20AnnualReport2018.pdf)

## 2 Investments, deposits, cash and cash equivalents

### 2.1 Scope

The asset allocation of Croatian insurance undertakings is mainly analysed through the reported Solvency II Exposure List (S.06.02). The classification of the Solvency II Balance Sheet (S.02.01) follows the legal nature of the assets in terms of classification that can differ from the exposures reporting.

Based upon the comparative view below, we note that amounts reported in the Solvency II Exposure List (S.06.02) and Solvency II Balance Sheet (S.02.01) do not differ<sup>3</sup>.

**Table 4 - Solvency II balance sheet (S.02.01) and Solvency II exposure list (S.06.02) comparison**

in number	Exposure list HR		Solvency II balance sheet HR		Difference
	#	%	#	%	#
Life undertakings	4	20,0%	4	20,0%	0
Non-Life undertakings	7	35,0%	7	35,0%	0
Reinsurance undertakings	0	0,0%	0	0,0%	0
Undertakings pursuing both life and non-life insurance activity	9	45,0%	9	45,0%	0
<b>Total</b>	<b>20</b>	<b>100,0%</b>	<b>20</b>	<b>100,0%</b>	<b>0</b>

in Mio EUR	Exposure list HR		Solvency II balance sheet HR		Difference
	Amount	%	Amount	%	%
Holdings in related undertakings, incl. participations and equities	351	7,2%	351	7,2%	0,0%
Holdings in related undertakings, including participations	n/a	n/a	139	2,9%	n/a
Equities	n/a	n/a	212	4,4%	n/a
Equities - listed	n/a	n/a	126	2,6%	n/a
Equities - unlisted	n/a	n/a	86	1,8%	n/a
Collective Investments Undertakings	325	6,7%	325	6,7%	0,0%
Bonds	3 053	62,6%	3 053	62,6%	0,0%
Loans and mortgages	332	6,8%	332	6,8%	0,0%
Property	566	11,6%	566	11,6%	0,0%
Deposits	200	4,1%	200	4,1%	0,0%
Cash and cash equivalents	46	0,9%	46	0,9%	0,0%
Other investments	1	0,0%	1	0,0%	0,0%
<b>Total</b>	<b>4 875</b>	<b>100,0%</b>	<b>4 875</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

#### 2.1.1 Listed and unlisted equity

The distinction between listed and unlisted equity is made based upon the reported Solvency II Balance Sheet (S.02.01). Table 5 compares the listed and unlisted equity, whereby Holdings in related undertakings (including participations) are excluded.

**Table 5 - Listed and unlisted equity exposure based upon Solvency II balance sheet (S.02.01)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
Equities - listed	126	17	59,5%	83,7%	75,0%	12,8%	99,6%	21,1%
Equities - unlisted	86	12	40,5%	16,3%	25,0%	0,4%	87,0%	21,1%
<b>Total equities</b>	<b>212</b>	<b>16</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

Based upon the quarterly reporting as of Q4 2017, Croatian insurers invested 59,5% of their directly-held equity positions in listed equity in comparison to an average of 75,0% in the EU. With an amount of 126 million EUR, Croatia ranked number 17 in the EU.

<sup>3</sup> Some companies reporting under Solvency II are exempted from reporting the Solvency II Exposure List. The decision to exempt certain companies from particular reporting obligations lies with individual National Competent Authorities.

With an invested amount of 86 million EUR, unlisted equity constituted a significant portion of the equity investment category of the directly-held equity investments, i.e. 40,5%. This placed Croatia as the number 12 in the EU.

## 2.2 Asset exposure

From an asset exposure perspective, the insurance market in Croatia mainly invested in Government bonds and Corporate bonds (in total 60,7% of Total Investments, deposits, cash and cash equivalents), Property (11,6%), and Equity (7,2%).

Within the bond categories, the insurance market was almost solely exposed to government securities (60,7%), compared to corporate debt (1,8%), categories for which Croatia ranked number 19 and 26 in the EU, respectively. Comparing the different assets classes, we note that the government bonds asset class shows the highest standard deviation of 18,9%.

The category of Collective Investment Undertakings was the fourth most important for the Croatian insurance market in terms of asset exposures. Within this category, the industry was mainly exposed to Debt funds and Money Market funds for which Croatia ranked respectively number 22 and number 16 in the EU.

Equity was the third category to which the Croatian insurers had the most exposure. Equity of real estate related corporation constitutes a negligible share within the 7,2% of the total equity exposure.

**Table 6 - Asset exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Equity</b>	<b>351</b>	<b>21</b>	<b>7,2%</b>	<b>12,0%</b>	<b>9,5%</b>	<b>1,1%</b>	<b>28,1%</b>	<b>6,5%</b>
Common equity	276	20	5,7%	10,4%	7,8%	1,0%	22,5%	6,0%
Equity of real estate related corporation	2	24	0,0%	1,0%	1,1%	0,0%	4,0%	1,2%
Other equity	73	15	1,5%	0,6%	0,6%	0,0%	2,0%	0,7%
<b>Collective Investment Undertakings</b>	<b>325</b>	<b>22</b>	<b>6,7%</b>	<b>19,2%</b>	<b>12,8%</b>	<b>1,5%</b>	<b>41,6%</b>	<b>9,3%</b>
Equity funds	42	24	0,9%	3,2%	2,7%	0,4%	10,9%	2,4%
Private equity funds	4	17	0,1%	0,5%	0,5%	0,0%	6,9%	1,3%
Debt funds	142	22	2,9%	7,8%	5,6%	0,8%	18,0%	4,9%
Money market funds	93	16	1,9%	2,3%	1,1%	0,0%	6,3%	1,6%
Asset allocation funds	43	19	0,9%	1,1%	0,8%	0,0%	3,9%	1,0%
Real estate funds	0	-	0,0%	1,6%	0,8%	0,0%	3,3%	0,9%
Alternative funds	1	22	0,0%	0,4%	0,3%	0,0%	3,1%	0,6%
Infrastructure funds	0	-	0,0%	0,2%	0,1%	0,0%	0,9%	0,2%
Other	1	25	0,0%	2,0%	0,9%	0,0%	7,2%	1,7%
<b>Government bonds</b>	<b>2 960</b>	<b>19</b>	<b>60,7%</b>	<b>28,7%</b>	<b>39,7%</b>	<b>10,0%</b>	<b>77,0%</b>	<b>18,9%</b>
<b>Corporate bonds</b>	<b>88</b>	<b>26</b>	<b>1,8%</b>	<b>26,9%</b>	<b>21,6%</b>	<b>1,8%</b>	<b>47,3%</b>	<b>11,2%</b>
<b>Structured notes</b>	<b>5</b>	<b>23</b>	<b>0,1%</b>	<b>1,3%</b>	<b>0,5%</b>	<b>0,0%</b>	<b>2,5%</b>	<b>0,6%</b>
<b>Collateralised securities</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>0,6%</b>	<b>0,6%</b>	<b>0,0%</b>	<b>9,3%</b>	<b>1,8%</b>
<b>Mortgages and loans</b>	<b>332</b>	<b>16</b>	<b>6,8%</b>	<b>4,8%</b>	<b>3,8%</b>	<b>0,3%</b>	<b>26,3%</b>	<b>5,2%</b>
<b>Property</b>	<b>566</b>	<b>15</b>	<b>11,6%</b>	<b>2,0%</b>	<b>3,5%</b>	<b>0,8%</b>	<b>11,6%</b>	<b>2,6%</b>
<b>Deposits</b>	<b>200</b>	<b>19</b>	<b>4,1%</b>	<b>2,8%</b>	<b>3,6%</b>	<b>0,2%</b>	<b>16,6%</b>	<b>3,6%</b>
<b>Cash and cash equivalents</b>	<b>46</b>	<b>28</b>	<b>0,9%</b>	<b>1,4%</b>	<b>4,3%</b>	<b>0,5%</b>	<b>16,6%</b>	<b>3,5%</b>
<b>Other investments</b>	<b>1</b>	<b>14</b>	<b>0,0%</b>	<b>0,1%</b>	<b>0,1%</b>	<b>0,0%</b>	<b>0,9%</b>	<b>0,3%</b>
<b>Not reported</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,3%</b>	<b>0,1%</b>
<b>Total Investments, deposits, cash and cash equivalents</b>	<b>4 875</b>	<b>21</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

## 2.2.1 Asset exposures between Life, Non-Life and Composite insurance undertakings, and reinsurers

Table 7, based upon the Asset Exposure reporting (S.06.02) of Q4 2017, gives further insight into the investment behaviour of Life, Non-Life and Composite insurance companies, and reinsurers in Croatia.

**Table 7 - Asset exposures based upon Solvency II exposure list (S.06.02) for Life, Non-Life and Composite insurance undertakings, and reinsurers**

in %	HR			EU		
	Life	Non-life	Composite and reinsurance	Life	Non-life	Composite and reinsurance
<b>Equity</b>	<b>0,0%</b>	<b>16,9%</b>	<b>5,8%</b>	<b>6,6%</b>	<b>18,3%</b>	<b>16,5%</b>
Common equity	0,0%	15,0%	4,2%	5,0%	16,2%	14,9%
Equity of real estate related corporation	0,0%	0,0%	0,1%	1,0%	0,8%	1,2%
Other equity	0,0%	1,9%	1,5%	0,6%	1,3%	0,4%
<b>Collective Investment Undertakings</b>	<b>1,2%</b>	<b>3,5%</b>	<b>7,4%</b>	<b>22,4%</b>	<b>22,3%</b>	<b>13,8%</b>
Equity funds	0,1%	0,3%	1,0%	3,7%	2,9%	2,7%
Private equity funds	0,0%	0,0%	0,1%	0,5%	0,5%	0,5%
Debt funds	0,0%	0,4%	3,5%	9,7%	9,7%	4,7%
Money market funds	0,9%	2,8%	1,8%	2,8%	1,4%	2,0%
Asset allocation funds	0,1%	0,0%	1,1%	1,3%	1,2%	0,9%
Real estate funds	0,0%	0,0%	0,0%	1,6%	1,8%	1,4%
Alternative funds	0,0%	0,0%	0,0%	0,3%	0,3%	0,5%
Infrastructure funds	0,0%	0,0%	0,0%	0,2%	0,2%	0,3%
Other	0,0%	0,0%	0,0%	2,3%	4,3%	0,8%
<b>Government bonds</b>	<b>88,0%</b>	<b>12,8%</b>	<b>68,2%</b>	<b>28,1%</b>	<b>19,1%</b>	<b>33,4%</b>
<b>Corporate bonds</b>	<b>0,0%</b>	<b>2,2%</b>	<b>1,8%</b>	<b>29,2%</b>	<b>29,3%</b>	<b>22,9%</b>
<b>Structured notes</b>	<b>0,1%</b>	<b>0,0%</b>	<b>0,1%</b>	<b>1,4%</b>	<b>0,6%</b>	<b>1,5%</b>
<b>Collateralised securities</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,8%</b>	<b>0,6%</b>	<b>0,5%</b>
<b>Mortgages and loans</b>	<b>0,0%</b>	<b>24,4%</b>	<b>4,0%</b>	<b>7,4%</b>	<b>3,2%</b>	<b>2,3%</b>
<b>Property</b>	<b>1,0%</b>	<b>36,7%</b>	<b>7,6%</b>	<b>2,0%</b>	<b>2,5%</b>	<b>1,7%</b>
<b>Deposits</b>	<b>7,9%</b>	<b>2,7%</b>	<b>4,2%</b>	<b>0,8%</b>	<b>1,6%</b>	<b>5,8%</b>
<b>Cash and cash equivalents</b>	<b>1,8%</b>	<b>0,9%</b>	<b>0,9%</b>	<b>1,0%</b>	<b>2,5%</b>	<b>1,4%</b>
<b>Other investments</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,2%</b>	<b>0,0%</b>	<b>0,1%</b>
<b>Not reported</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>	<b>0,0%</b>
<b>Total Investments, deposits, cash and cash equivalents</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

At EU level Non-Life insurers invested a significantly higher portion of their Investments in Equity (18,3% equity investments) in comparison to pure Life insurers (6,6% equity investments). In Croatia this difference was even more pronounced, and we note that Life insurers do not invest into this category and Non-Life insurers invested in excess of two times more of their assets into this category than their composite counterparts.

On the other hand, at EU level, pure Life insurers and also Composite insurers allocated a larger share of their investments to government bonds as compared to Non-Life insurers. However, another observation was the contrast in behaviour between Croatian life insurers and their counterpart at EU level with regard to the corporate bonds: Croatian Life insurers do not invest in this category, in sharp contrast to the EU level which amounted to 29,2%.

## 2.3 Equity exposure

Based upon the information included in the Solvency II Exposure List (S.06.02) and Balance Sheet (S.02.01), equity exposures can be calculated and presented in different ways:

- Equity exposure as the sum of Equity (Common equity, Equity of real estate related corporation and Other equity), Equity and Private equity funds, and Equity risk included in structured notes;
- Equity of real estate related corporation could be seen as a property exposure. Therefore equity exposures are presented including and excluding Equity of real estate related corporation;
- The equity amounts of the Solvency II Exposure List does not provide further details as to whether the equity exposures relate to listed or unlisted equity positions. In addition, the Solvency II Exposure List does not mention whether the equity relates to Holdings in related undertakings, including participations;
- Therefore the listed and unlisted share amounts reported in the Solvency II Balance Sheet are considered and integrated as an equity exposure indicator. A rescaling is performed in case a difference is noted between the two Solvency II information sets (Exposure List versus Balance Sheet). The adjusted equity exposure stemming from this analysis excludes the Equity exposure coming from Holdings in related undertakings, including participations. These holdings can potentially be important within insurance groups.

**Table 8 - Equity exposure based upon Solvency II balance sheet (S.02.01) and Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Equity</b>	<b>351</b>	<b>21</b>	<b>7,2%</b>	<b>12,0%</b>	<b>9,5%</b>	<b>1,1%</b>	<b>28,1%</b>	<b>6,5%</b>
Common equity	276	20	5,7%	10,4%	7,8%	1,0%	22,5%	6,0%
Equity of real estate related corporation	2	24	0,0%	1,0%	1,1%	0,0%	4,0%	1,2%
Other equity	73	15	1,5%	0,6%	0,6%	0,0%	2,0%	0,7%
<b>Collective Investment Undertakings - Equity funds</b>	<b>45</b>	<b>22</b>	<b>0,9%</b>	<b>3,8%</b>	<b>3,2%</b>	<b>0,4%</b>	<b>14,7%</b>	<b>3,5%</b>
Equity funds	42	24	0,9%	3,2%	2,7%	0,4%	10,9%	2,4%
Private equity funds	4	17	0,1%	0,5%	0,5%	0,0%	6,9%	1,3%
<b>Structured notes - Equity risk</b>	<b>5</b>	<b>13</b>	<b>0,1%</b>	<b>0,2%</b>	<b>0,1%</b>	<b>0,0%</b>	<b>0,6%</b>	<b>0,1%</b>
<b>Total Equity exposure</b>	<b>402</b>	<b>21</b>	<b>8,2%</b>	<b>16,0%</b>	<b>12,7%</b>	<b>2,5%</b>	<b>37,4%</b>	<b>8,4%</b>
<b>Equity without Equity of real estate related corporation</b>	<b>349</b>	<b>20</b>	<b>7,2%</b>	<b>11,0%</b>	<b>8,4%</b>	<b>1,1%</b>	<b>24,1%</b>	<b>6,1%</b>
<b>Equity exposure without Equity of real estate related corporation</b>	<b>400</b>	<b>21</b>	<b>8,2%</b>	<b>15,0%</b>	<b>11,7%</b>	<b>2,4%</b>	<b>33,3%</b>	<b>7,9%</b>
<b>Equities market value balance sheet (rescaled to CIC scope)</b>	<b>212</b>	<b>16</b>	<b>4,4%</b>	<b>3,6%</b>	<b>3,2%</b>	<b>0,1%</b>	<b>20,6%</b>	<b>4,0%</b>
Equities - listed (rescaled to CIC scope)	126	17	2,6%	3,0%	2,6%	0,0%	15,4%	3,2%
Equities - unlisted (rescaled to CIC scope)	86	12	1,8%	0,6%	0,6%	0,0%	5,2%	1,0%
<b>Equity exposure based upon (Un)Listed equities (rescaled)</b>	<b>263</b>	<b>20</b>	<b>5,4%</b>	<b>7,6%</b>	<b>6,5%</b>	<b>1,2%</b>	<b>29,8%</b>	<b>6,7%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

The observed standard deviations at EU level are relatively high given the asset allocation in percentage between the different asset classes at EU level.

In Croatia, equity exposures coming from Collective Investment Undertakings amount to 0,9% and are lower than the listed and unlisted equity exposures which in total amount to 4,4%. Hereby the listed and unlisted equities in Croatia are very similar to the asset allocation at EU level.



### 2.3.1 Direct and indirect equity exposure

**Table 9 - Direct and indirect equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Direct equity</b>	<b>351</b>	<b>21</b>	<b>87,4%</b>	<b>75,2%</b>	<b>73,4%</b>	<b>39,2%</b>	<b>94,5%</b>	<b>15,9%</b>
Common equity	276	20	68,5%	64,8%	59,4%	28,6%	93,3%	19,0%
Equity of real estate related corporation	2	24	0,6%	6,4%	8,4%	0,0%	39,1%	9,6%
Other equity	73	15	18,3%	3,9%	5,7%	0,0%	35,3%	8,8%
<b>Indirect equity</b>	<b>51</b>	<b>24</b>	<b>12,6%</b>	<b>24,8%</b>	<b>26,6%</b>	<b>5,5%</b>	<b>60,8%</b>	<b>15,9%</b>
Collective Investment Undertakings - Equity funds	45	24	11,3%	23,6%	25,9%	4,6%	60,6%	15,7%
Equity funds	42	24	10,4%	20,2%	22,8%	4,6%	52,9%	13,4%
Private equity funds	4	17	1,0%	3,3%	3,1%	0,0%	28,4%	5,7%
Structured notes - Equity risk	5	13	1,3%	1,3%	0,7%	0,0%	4,0%	1,0%
<b>Total Equity exposure</b>	<b>402</b>	<b>21</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

In 2017 Q4, the insurance market in Croatia was invested over four times more in Direct equity (87,4% of Total equity) than in Indirect equity (12,6% of Total equity).

In terms of direct equity exposure, Croatia ranked number 20 and number 24 in the EU, with regards respectively to the exposure amount to Common equity and Equity of real estate related corporation.

Within the Indirect equity category, Equity funds constituted the bulk of investments with 10,4% of Total equity, significantly more than the amount invested in Private equity funds.

### 2.3.2 Equity by location

**Table 10 - Equity exposure by location based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			
	EU home	EU other	outside EU (1)	Total
<b>Equity</b>	<b>246</b>	<b>43</b>	<b>62</b>	<b>351</b>
Common equity	182	41	52	276
Equity of real estate related corporation	0	2	0	2
Other	63	0	10	73
<b>Collective Investment Undertakings - Equity funds</b>	<b>13</b>	<b>33</b>	<b>0</b>	<b>45</b>
Equity funds	9	33	0	42
Private equity funds	4	0	0	4
<b>Structured notes - Equity risk</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>
<b>Total Equity exposure</b>	<b>258</b>	<b>81</b>	<b>62</b>	<b>402</b>

in %	HR			
	EU home	EU other	outside EU (1)	Total
<b>Equity</b>	<b>69,9%</b>	<b>12,3%</b>	<b>17,7%</b>	<b>100,0%</b>
Common equity	66,2%	14,9%	18,9%	100,0%
Equity of real estate related corporation	1,7%	98,3%	0,0%	100,0%
Other	85,9%	0,0%	14,1%	100,0%
<b>Collective Investment Undertakings - Equity funds</b>	<b>27,9%</b>	<b>71,9%</b>	<b>0,2%</b>	<b>100,0%</b>
Equity funds	21,2%	78,5%	0,3%	100,0%
Private equity funds	100,0%	0,0%	0,0%	100,0%
<b>Structured notes - Equity risk</b>	<b>0,0%</b>	<b>100,0%</b>	<b>0,0%</b>	<b>100,0%</b>
<b>Total Equity exposure</b>	<b>64,2%</b>	<b>20,2%</b>	<b>15,5%</b>	<b>100,0%</b>

(1) The following countries are included in the class 'outside EU': IS, LI, NO, AU, CA, JP, US, CH and countries grouped under the caption 'Rest of World'. In addition some investments are not assigned to an individual country and are also included in this class.

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

Based upon the Q4 2017 reporting with regards to the location of equity investments, insurers established in Croatia favoured domestic investments, dedicating to these 69,9% of their direct equity investments, and 27,9% of their indirect investments.

Table 10 also showed that besides the home market, Croatian insurers invested significantly less in equity of other EU Member States than that of non-EU Member States. The Rest of World and unassigned, Slovenia and Czech Republic were the preferred destinations.

**Table 11 - Direct equity exposure by location based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR	
	Amount	%
<b>Home country</b>	<b>246</b>	<b>69,9%</b>
HR	246	69,9%
<b>Top 5 countries (outside home country)</b>	<b>105</b>	<b>30%</b>
Rest of World and unassigned	62	17,7%
SI	41	11,7%
CZ	2	0,6%
AU	0	0,0%
-	-	-
<b>Home + Top 5 countries (outside home country)</b>	<b>351</b>	<b>99,9%</b>
<b>Total Direct equity exposure (with real estate corporation)</b>	<b>351</b>	<b>100,0%</b>

in Mio EUR	HR	
	Amount	%
<b>Home country</b>	<b>245</b>	<b>70,4%</b>
HR	245	70,4%
<b>Top 5 countries (outside home country)</b>	<b>103</b>	<b>29,6%</b>
Rest of World and unassigned	62	17,9%
SI	41	11,8%
AU	0	0,0%
-	-	-
-	-	-
<b>Home + Top 5 countries (outside home country)</b>	<b>348</b>	<b>100,0%</b>
<b>Total Direct equity exposure (without real estate corporation)</b>	<b>349</b>	<b>100,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

## 3 Index-linked and unit-linked investments

### 3.1 Scope

Based upon the comparative view below, we note no difference with respect to the Assets held for index-linked and unit-linked contracts reported in the Solvency II Exposure List (S.06.02) and Solvency II Balance Sheet (S.02.01).

**Table 12 - Solvency II balance sheet (S.02.01) and Solvency II exposure list (S.06.02) comparison**

in number	Exposure list HR		Solvency II balance sheet HR		Difference
	#	%	#	%	#
Life undertakings	4	20,0%	4	20,0%	0
Non-Life undertakings	7	35,0%	7	35,0%	0
Reinsurance undertakings	0	0,0%	0	0,0%	0
Undertakings pursuing both life and non-life insurance activity	9	45,0%	9	45,0%	0
<b>Total</b>	<b>20</b>	<b>100,0%</b>	<b>20</b>	<b>100,0%</b>	<b>0</b>

in Mio EUR	Exposure list HR		Solvency II balance sheet HR		Difference
	Amount	%	Amount	%	%
Assets held for index-linked and unit-linked contracts	232	100,0%	232	100,0%	0,0%

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

### 3.2 Asset exposure

Table 13 depicts a more detailed view of the Assets held for index-linked and unit-linked contracts, based upon the Solvency II exposure list (S.06.02).

**Table 13 - Asset exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Ran k	%	%	Avg	Min	Max	StD
<b>Equity</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>19,3%</b>	<b>4,5%</b>	<b>0,0%</b>	<b>30,1%</b>	<b>7,1%</b>
Common equity	0	-	0,0%	18,0%	3,9%	0,0%	28,8%	6,3%
Equity of real estate related corporation	0	-	0,0%	0,8%	0,3%	0,0%	1,5%	0,5%
Other equity	0	-	0,0%	0,4%	0,3%	0,0%	4,1%	0,9%
<b>Collective Investment Undertakings</b>	<b>143</b>	<b>26</b>	<b>61,6%</b>	<b>63,2%</b>	<b>73,1%</b>	<b>30,1%</b>	<b>97,5%</b>	<b>16,3%</b>
Equity funds	35	26	15,3%	26,5%	29,2%	11,2%	57,5%	10,5%
Private equity funds	0	-	0,0%	0,1%	0,2%	0,0%	2,9%	0,6%
Debt funds	79	25	34,0%	12,1%	19,0%	4,8%	47,5%	11,4%
Money market funds	1	24	0,4%	2,2%	1,7%	0,0%	7,5%	1,8%
Asset allocation funds	22	25	9,6%	14,8%	13,1%	0,4%	30,5%	7,7%
Real estate funds	0	-	0,0%	1,4%	0,6%	0,0%	6,2%	1,2%
Alternative funds	0	-	0,1%	1,6%	2,4%	0,0%	16,3%	3,8%
Infrastructure funds	0	-	0,0%	0,0%	0,1%	0,0%	2,4%	0,5%
Other	5	23	2,2%	4,6%	6,9%	0,0%	44,3%	10,0%
<b>Government bonds</b>	<b>69</b>	<b>19</b>	<b>29,7%</b>	<b>6,4%</b>	<b>6,9%</b>	<b>0,0%</b>	<b>31,4%</b>	<b>8,4%</b>
<b>Corporate bonds</b>	<b>6</b>	<b>23</b>	<b>2,7%</b>	<b>3,9%</b>	<b>6,0%</b>	<b>0,0%</b>	<b>22,7%</b>	<b>6,9%</b>
<b>Structured notes</b>	<b>13</b>	<b>22</b>	<b>5,8%</b>	<b>1,6%</b>	<b>4,1%</b>	<b>0,0%</b>	<b>18,9%</b>	<b>4,9%</b>
<b>Collateralised securities</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>0,1%</b>	<b>0,1%</b>	<b>0,0%</b>	<b>0,9%</b>	<b>0,2%</b>
<b>Mortgages and loans</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>0,2%</b>	<b>0,2%</b>	<b>-3,7%</b>	<b>2,5%</b>	<b>1,0%</b>
<b>Property</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>1,3%</b>	<b>0,6%</b>	<b>0,0%</b>	<b>7,6%</b>	<b>1,5%</b>
<b>Deposits</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>1,2%</b>	<b>2,0%</b>	<b>-0,3%</b>	<b>14,5%</b>	<b>3,3%</b>
<b>Cash and cash equivalents</b>	<b>0</b>	<b>-</b>	<b>0,2%</b>	<b>1,2%</b>	<b>2,2%</b>	<b>0,0%</b>	<b>8,5%</b>	<b>2,5%</b>
<b>Other investments</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>0,4%</b>	<b>0,3%</b>	<b>0,0%</b>	<b>8,1%</b>	<b>1,5%</b>
<b>Not reported</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>1,2%</b>	<b>0,1%</b>	<b>0,0%</b>	<b>2,3%</b>	<b>0,4%</b>
<b>Total Investments, deposits, cash and cash equivalents</b>	<b>232</b>	<b>26</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

The Collective Investment Undertakings (61,6%) and the Government bonds (29,7%) represent the most important asset classes of the index-linked and unit-linked investments. Overall, we note a significantly different asset exposure allocation in comparison to the

asset exposure for non index-linked and unit-linked investments. Hereby we refer to section 2 for further details.

Relative to the EU average, we observe a significant difference between the portion of index-linked and unit-linked related assets that were invested in Government bonds, 29,7% in Croatia compared to 6,9% in the EU.

### 3.3 Equity exposure

The Solvency II balance sheet (S.02.01) does not include a further split in different asset classes for the Assets held for index-linked and unit-linked contracts. Hence the rescaling exercise as presented in section 2 cannot be performed here.

**Table 14 - Equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Equity</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>17,9%</b>	<b>4,5%</b>	<b>0,0%</b>	<b>30,1%</b>	<b>7,1%</b>
Common equity	0	-	0,0%	16,5%	3,9%	0,0%	28,8%	6,3%
Equity of real estate related corporation	0	-	0,0%	0,8%	0,3%	0,0%	1,5%	0,5%
Other equity	0	-	0,0%	0,6%	0,3%	0,0%	4,1%	0,9%
<b>Collective Investment Undertakings - Equity funds</b>	<b>35</b>	<b>26</b>	<b>15,3%</b>	<b>27,6%</b>	<b>29,3%</b>	<b>11,2%</b>	<b>57,5%</b>	<b>10,4%</b>
Equity funds	35	26	15,3%	27,3%	29,2%	11,2%	57,5%	10,5%
Private equity funds	0	-	0,0%	0,2%	0,2%	0,0%	2,9%	0,6%
<b>Structured notes - Equity risk</b>	<b>13</b>	<b>19</b>	<b>5,8%</b>	<b>1,2%</b>	<b>2,7%</b>	<b>0,0%</b>	<b>15,0%</b>	<b>3,5%</b>
<b>Total Equity exposure</b>	<b>49</b>	<b>26</b>	<b>21,1%</b>	<b>46,7%</b>	<b>36,5%</b>	<b>11,7%</b>	<b>58,6%</b>	<b>10,9%</b>
<b>Equity without Equity of real estate related corporation</b>	<b>0</b>	<b>20</b>	<b>0,0%</b>	<b>17,1%</b>	<b>4,2%</b>	<b>0,0%</b>	<b>29,2%</b>	<b>6,8%</b>
<b>Equity exposure without Equity of real estate related corporation</b>	<b>49</b>	<b>26</b>	<b>21,1%</b>	<b>45,9%</b>	<b>36,2%</b>	<b>11,7%</b>	<b>58,6%</b>	<b>10,8%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

In Croatia, we note that total equity exposures related to index-linked and unit-linked contracts (21,1%) are significantly higher in comparison to non index-linked and unit-linked contracts (8,2%). Equity funds are the main contributors to the total equity exposures.

#### 3.3.1 Direct and indirect equity exposure

**Table 15 - Direct and indirect equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	HR			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Direct equity</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>38,3%</b>	<b>11,1%</b>	<b>0,0%</b>	<b>54,2%</b>	<b>15,2%</b>
Common equity	0	-	0,0%	35,4%	9,6%	0,0%	51,8%	13,2%
Equity of real estate related corporation	0	-	0,0%	1,7%	0,7%	0,0%	4,0%	1,1%
Other equity	0	-	0,0%	1,3%	0,8%	0,0%	9,7%	2,2%
<b>Indirect equity</b>	<b>49</b>	<b>26</b>	<b>100,0%</b>	<b>61,7%</b>	<b>88,9%</b>	<b>45,8%</b>	<b>100,0%</b>	<b>15,2%</b>
Collective Investment Undertakings - Equity funds	35	26	72,4%	59,1%	81,5%	45,7%	100,0%	15,5%
Equity funds	35	26	72,4%	58,6%	81,0%	44,9%	100,0%	16,0%
Private equity funds	0	-	0,0%	0,5%	0,5%	0,0%	6,9%	1,4%
Structured notes - Equity risk	13	19	27,6%	2,6%	7,4%	0,0%	35,8%	9,6%
<b>Total Equity exposure</b>	<b>49</b>	<b>26</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>100,0%</b>	<b>0,0%</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

In 2017 Q4, Croatian insurers invested all of their Assets held for index-linked and unit-linked contracts in Indirect equity.



In terms of direct equity exposure, Croatia does not have a ranking for Common equity or Equity of real estate related corporation since no investments are made in this class.

Within the Indirect equity category, Equity funds constituted the bulk of investments, amounting to 95,9% of Total equity whereas allocation to Private equity funds were inexistent.

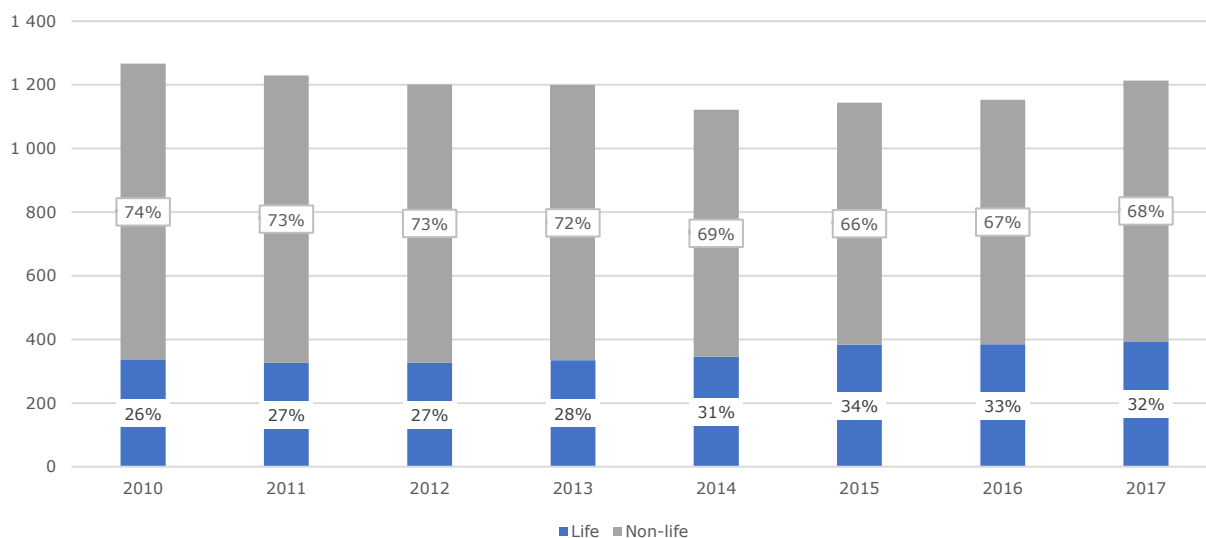
## 4 Insurance products

### 4.1 Overview

This section covers the most important insurance products offered in Croatia and the volume of the market. Data reported in this section is obtained from the Croatian Financial Services Supervisory Agency (HANFA).<sup>4</sup>

From 2011 to 2014, gross written premiums of insurance companies in the Republic of Croatia declined by 8,8% to 1 121 million EUR. Since then the market gradually recovered and reached 1 213 million EUR at the end of 2017, up by 5,3% to 2016. This increase was due to positive developments in both non-life insurance market (+6,7%) and life insurance market (+2,4%). In particular, non-life insurance premiums accounted for 819 million EUR or 67,5%, while life insurance premium was 394 million EUR or 32,5%.

**Graph 1 - Gross written premiums (in Mio EUR)**



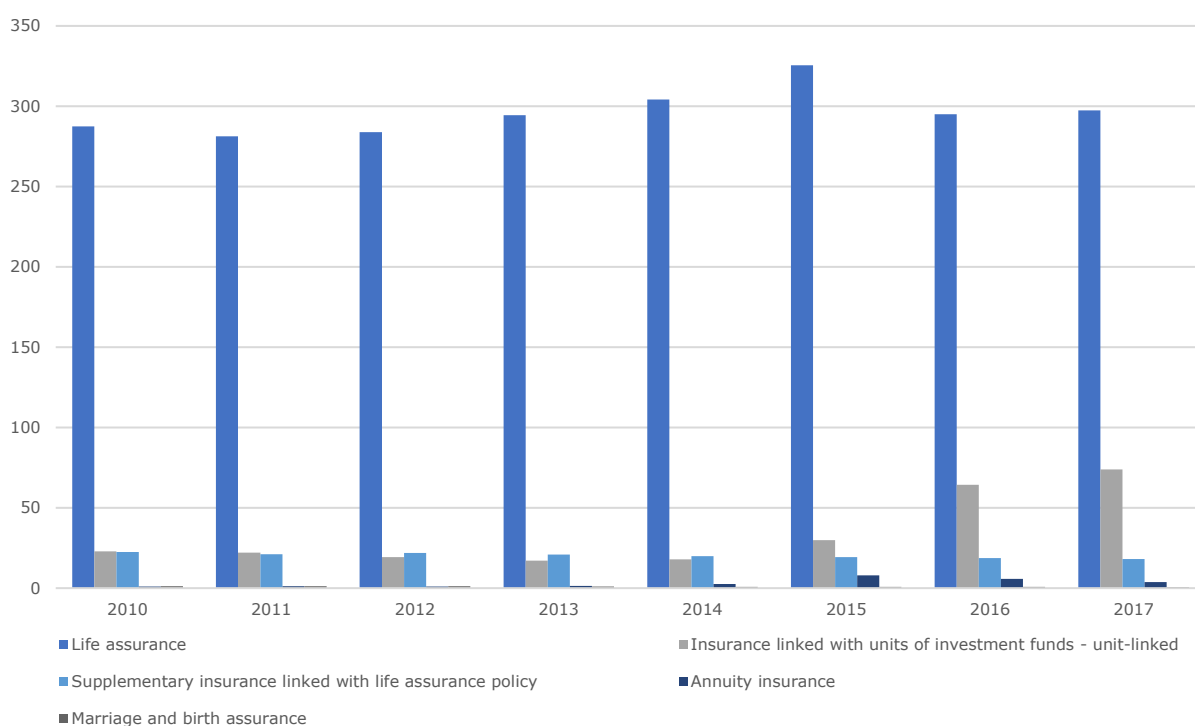
Source: HANFA

<sup>4</sup> Available at <https://www.hanfa.hr/publications/statistics/>.

## 4.2 Life insurance products

Life insurance is a specific insurance product that incorporates insurance and a savings and investment component. Since 2011 gross written premiums have increased by 20,5% and stood at 394 million EUR at the end of 2017. Looking at the structure of life premium, the most common is the traditional life assurance with a share of 75,5% (297 million EUR) at the end of 2017. Investment life insurance has gained in importance over the last two years and made up 18,8% (73 million EUR) of life insurance premiums. Additional insurance linked to life assurance accounted for 4,6%, while other life insurance products, such as annuity (1%) and marriage and birth assurance (1%), represented just a small fraction of the market.

**Graph 2 - Gross written premiums for life insurance products (in Mio EUR)**



Source: HANFA

## 4.3 Non-life insurance products

After five years (2010-2015) in which non-life insurance business lost 18% of its income (from 931 million EUR in 2010 to 760 million EUR in 2015), market has slightly recovered and grew by 7,7% to 819 million EUR at end-2017. Three segments of the market generate 83% of the total income.

### 4.3.1 Motor

In 2017 motor related premiums increased by 5,5% to 393 million EUR and represented 48% of the total non-life income. The majority of that income (70%) was due to motor vehicle liability, with the remaining 30% arising from land motor vehicle insurance products.

#### 4.3.2 Fire, natural disasters and other damage to property

Fire, natural disasters and other damage to property insurance premiums, which represented 19,7% of the market in 2017, grew by 5,7% to 162 million EUR.

#### 4.3.3 Health insurance

Health insurance, which also includes personal accident, accounted for 15,4% of premiums and was up 8,1% (126 million EUR) to 2016.

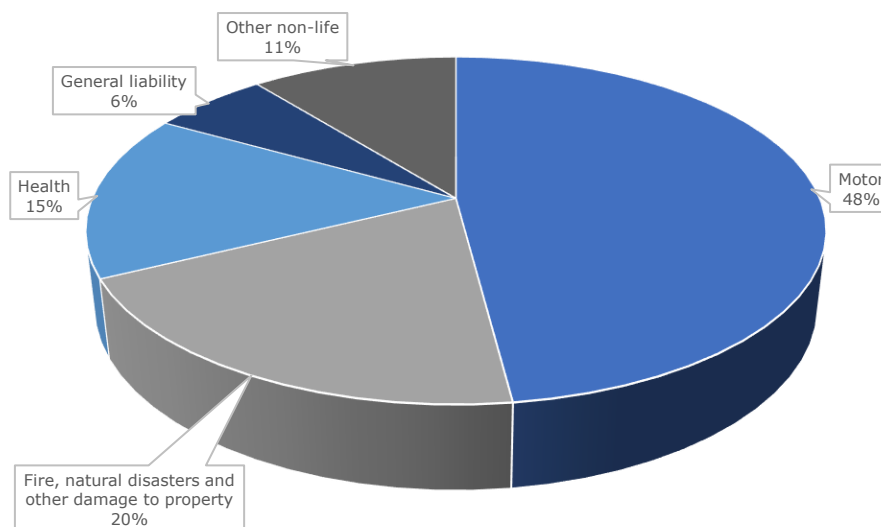
#### 4.3.4 General liability

In 2017 general liability represented 6,1% of the non-life market, with gross written premiums at 50 million EUR.

#### 4.3.5 Other non-life

Other non-life insurance, such as credit and suretyship, legal protection, financial loss, assistance, as well as marine, aviation and transport, represented 10,7% of the non-life premiums, after increasing by 10,6% to 88 million EUR.

**Graph 3 - Allocation of gross written premiums for non-life insurance products (in %)**



*Note: Motor includes motor vehicle liability and land motor vehicles insurance. Health includes health insurance and personal accident. Other non-life insurance includes credit and suretyship, legal protection, financial loss, assistance, as well as marine, aviation and transport.*

Source: HANFA



#### **4.4 Average duration**

In 2016, EIOPA published their Insurance Stress Test Report<sup>5</sup>, which resulted in the following conclusions for Croatia:

- The approximate effective duration for the TP life for all lines of business reported by the EIOPA 2016 stress test participants is 7,36;
- The Macaulay duration for the TP life for all lines of business reported by the EIOPA 2016 stress test participants is 9,31.

In comparison, the approximate effective duration and Macaulay duration for the TP life for all lines of business for the EU/EEA are 8,23 and 13,97, respectively.

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<sup>5</sup> EIOPA, 2016, 2016 EIOPA Insurance Stress Test Report. <https://eiopa.europa.eu/publications/surveys/eiopa-bos-16-302%20insurance%20stress%20test%202016%20report.pdf>

## 5 Accounting & Tax framework

### 5.1 Accounting framework

The EU has introduced rules, as laid down in Directive 2013/34/EU, to promote the convergence of accounting standards at global level and to ensure consistent and comparable financial reporting across the EU. Regulation 1606/2002/EC requires all listed companies to prepare their consolidated financial statements in accordance with a single set of international standards, the so-called IFRS.<sup>6</sup>

1. Applicable GAAP at consolidated level: IFRS required for all listed companies and non-listed companies that are large entrepreneurs, Croatian Financial Reporting Standards for non-listed companies that are medium and small entrepreneurs<sup>7</sup>;
2. Applicable GAAP at statutory level: IFRS required for all listed companies and non-listed companies that are large entrepreneurs, Croatian Financial Reporting Standards for non-listed companies that are medium and small entrepreneurs<sup>7</sup>;
3. Prudential regulatory framework: Solvency II for the calculation of the Solvency Capital Requirement.

### 5.2 Tax framework

#### 5.2.1 Capital gains on shares

Capital gains derived by resident companies from the sale of shares in resident and non-resident companies are included in the ordinary income and are subject to tax at the general rate of 18%.

#### 5.2.2 Capital losses on shares

Capital losses may be set off against ordinary income.

#### 5.2.3 Taxation of dividends

A 100% exemption applies for dividends and other profit distributions by resident and non-resident companies to resident corporate shareholders, subject to the condition that the distributing company did not deduct them from the taxable income and all required documentation has been submitted.

As dividends received are exempt from corporate income tax, foreign withholding tax (WHT) paid by Croatian corporate shareholders on dividends received from non-residents cannot be credited against the corporate income tax liability on other types of business income.

Croatian source dividends paid to a non-resident corporation are subject to 12% WHT, unless a tax treaty provides for a lower rate or the EU parent-subsidiary directive applies.

Foreign tax paid may be credited against Croatian tax, but the credit is limited to the amount of Croatian tax payable on the foreign income and provided that the taxpayer can evidence the amount of foreign tax paid.

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<sup>6</sup> [https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/financial-reporting\\_en](https://ec.europa.eu/info/business-economy-euro/company-reporting-and-auditing/company-reporting/financial-reporting_en)

<sup>7</sup> <https://www.ifrs.org/-/media/feature/around-the-world/jurisdiction-profiles/croatia-ifrs-profile.pdf>

## 6 Historical data

The following section contains historical overviews of Solvency I, Solvency II and ECB data in order to provide insights on possible short and long-term trends.

### 6.1 Index-linked and unit-linked investments in comparison to total assets

Based upon the Solvency I and Solvency II (S.02.01) historical information, the evolution of the index-linked and unit-linked investments in comparison to total assets of Croatia is compared to the EU. The break in Graph 4 shows the transition from the Solvency I to the Solvency II regulatory framework. Under Solvency II assets are presented based upon their market value.

**Graph 4 - Evolution of index-linked and unit-linked investments based upon Solvency I and Solvency II**



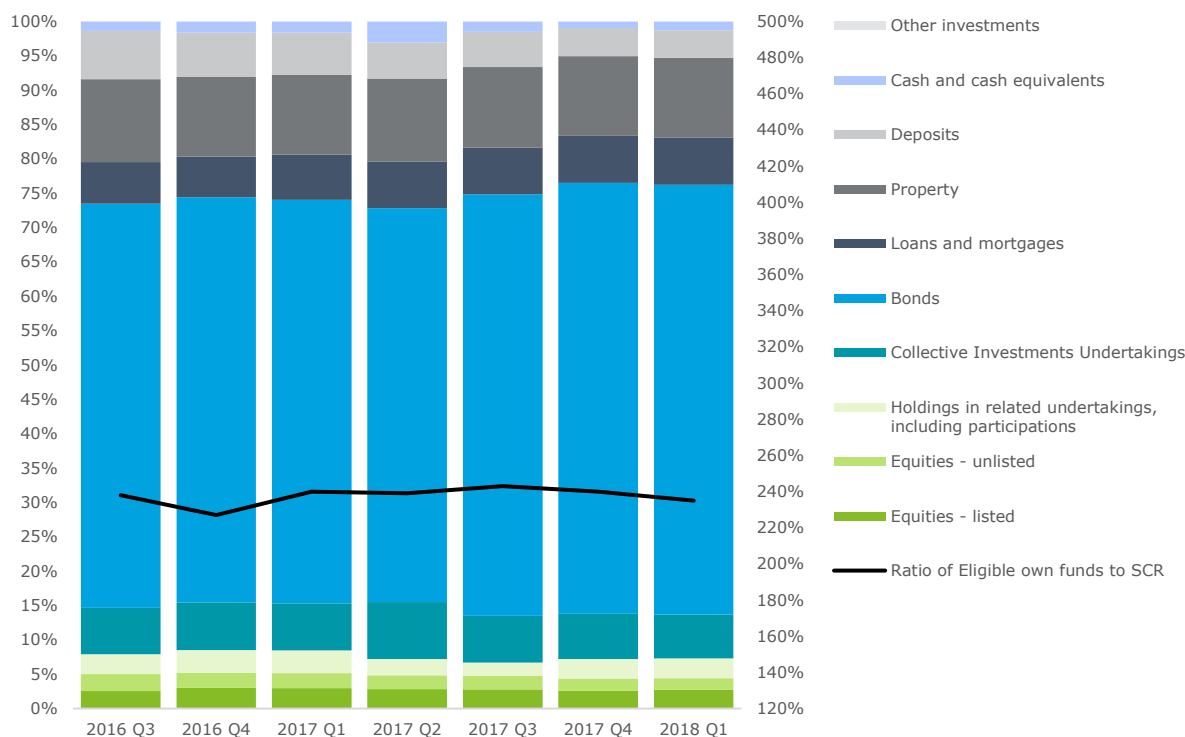
Source: EIOPA Solvency I and Solvency II statistics and Deloitte-CEPS analysis

As shown in Graph 4, the share of index-linked and unit-linked investments in comparison to total assets in Croatia has been increasing since 2011. There is no data available for the period from 2005 until 2011. The graph for the EU shows a relatively stable behaviour over the observation period, with a slightly increasing trend as from 2011.

## 6.2 Solvency II – excluding index-linked and unit-linked investments

Based upon the Solvency II (S.02.01) quarterly data from 2016 Q3 until 2018 Q1, the evolution of the different asset categories is depicted in Graph 5. Furthermore, the evolution of the SCR ratio is shown over the seven quarters.

**Graph 5 - Evolution Solvency II balance sheet (S.02.01) items (Total Investments, deposits, cash and cash equivalents) and SCR ratio**



Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

The composition of the Croatian insurers' balance sheet has remained relatively stable over the quarters since the introduction of Solvency II on 1 January 2016<sup>8</sup>. This seems to be confirmed by the fact that the most dominant assets classes such as Bonds, Property, Collective Investment Undertakings and Holdings in related undertakings (including participations) and Loans and Mortgages do not suggest a clear trend whether it be downwards or upwards.

Bonds have constituted the major part of the Croatian insurers' balance sheet since the introduction of Solvency II.

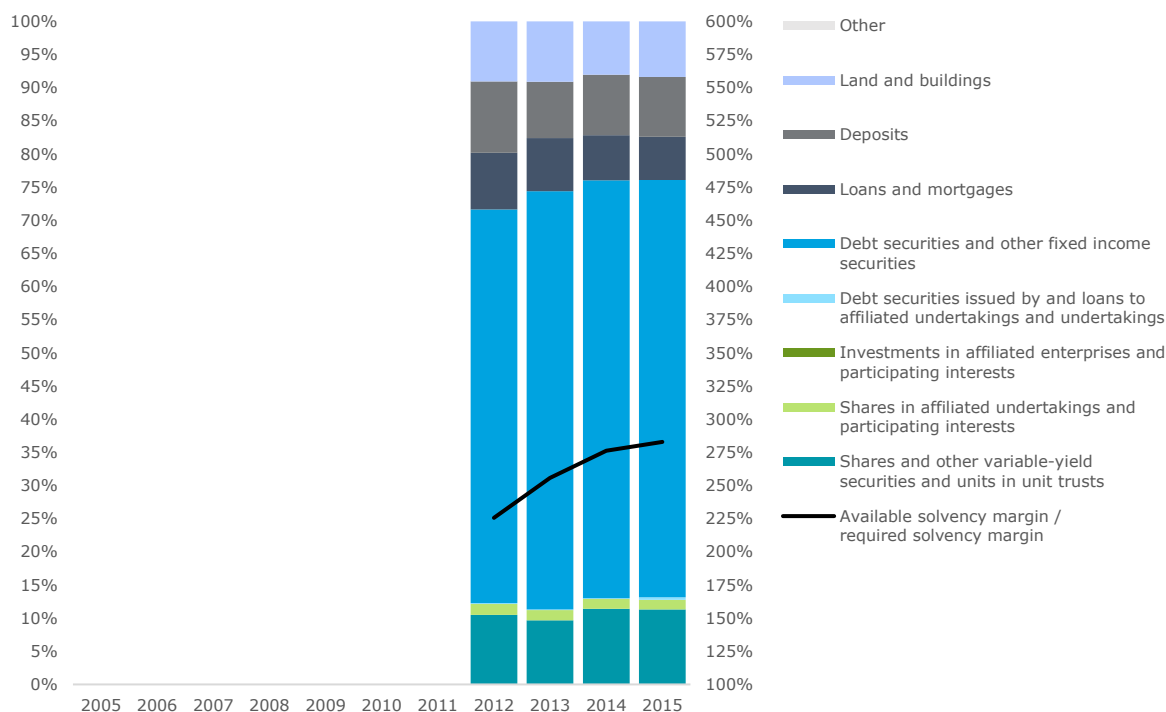
For Croatia, the SCR ratio shows a relatively stable behaviour over the period 2016 Q3 until 2018 Q1. Overall, this trend has not resulted into significant changes in the asset allocation of the overall Croatian insurance market.

<sup>8</sup> Day one reporting, 2016 Q1 and Q2 are not publicly available

### 6.3 Solvency I – excluding index-linked and unit-linked assets

Based upon the Solvency I yearly data from 2005 until 2015, the evolution of the different investment asset categories is depicted in Graph 6. Furthermore, the evolution of the solvency ratio is shown over the history.

**Graph 6 - Evolution Solvency I balance sheet items (Total Investments, deposits, cash and cash equivalents)**



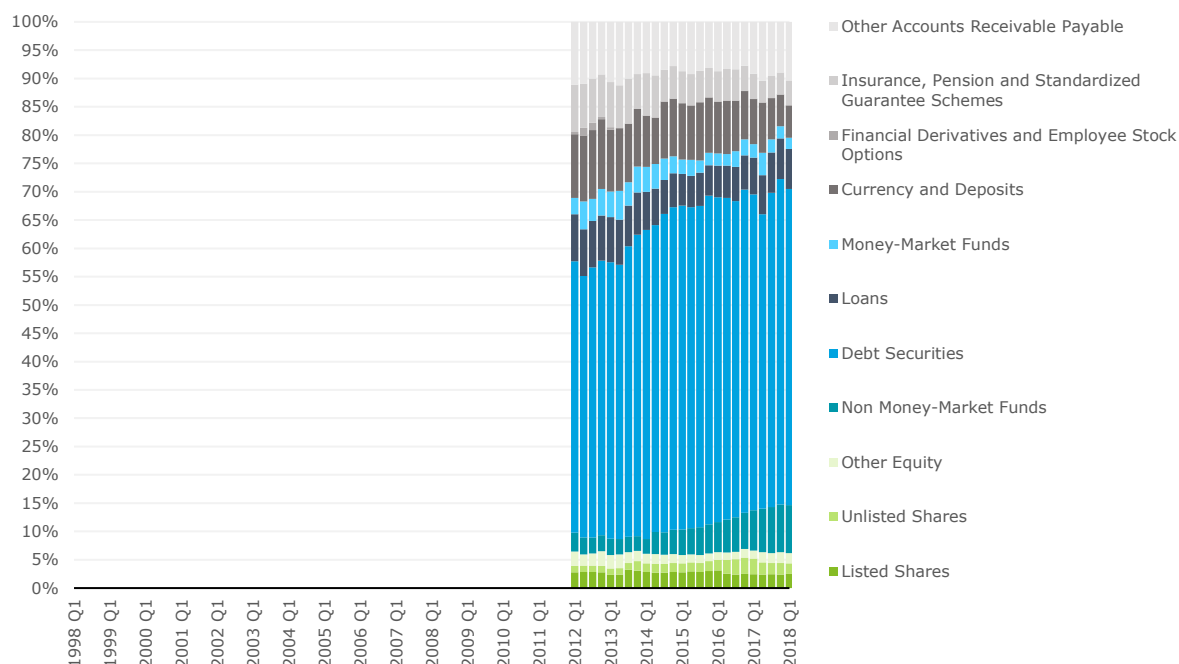
Note: There is no data available for the period between 2005 and 2011.

Source: EIOPA Solvency I statistics and Deloitte-CEPS analysis

Graph 6, which relates to Solvency I figures suggests the following observations. For Croatia, no data is available before 2012. It is clear that the dominance of Bonds that we observed under the rules of Solvency II has been a characteristic of the Croatian insurers' balance sheet for at least the past five years. Shares and other variable-yield securities and units in unit trusts also represent a significant share, together with Deposits and Land and Buildings. Furthermore, the solvency ratio shows an increasing trend from 2012 until 2015.

## 6.4 European Central Bank – including index-linked and unit-linked assets

**Graph 7 - Evolution ECB balance sheet items (asset categories)**



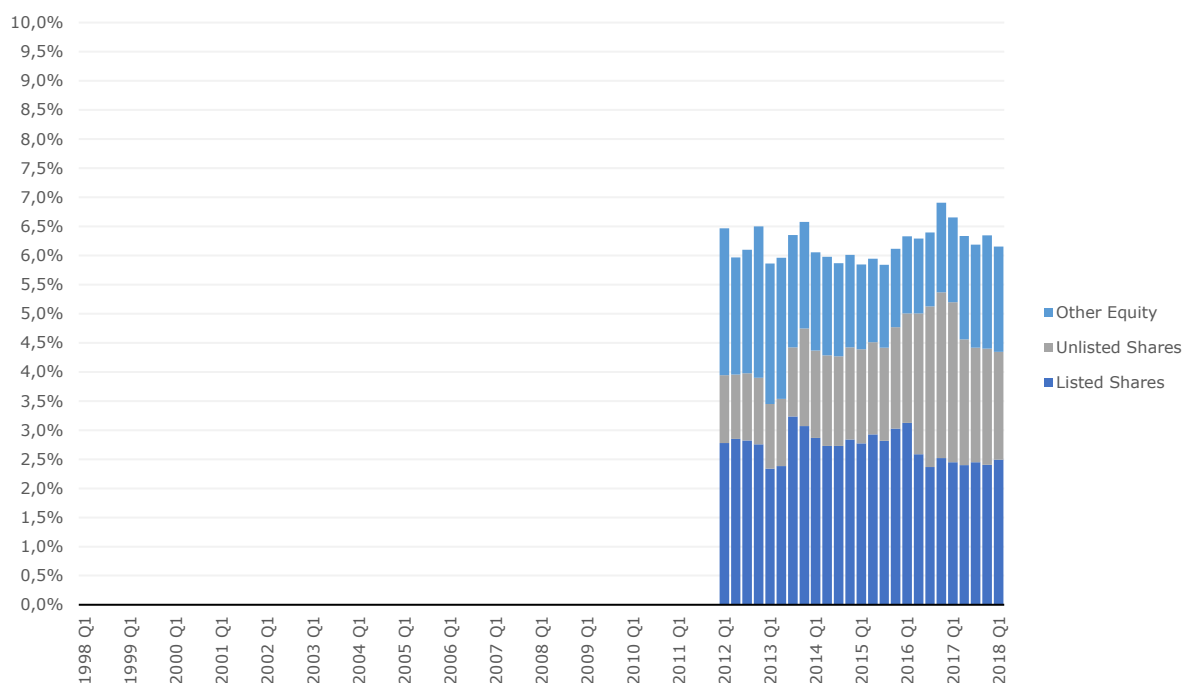
Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

Graph 7 relates to figures of investments by Croatian insurers as reported by the ECB. The series is reported from 2012 Q1 as no data is available before this quarter. It can be observed that bonds dominated the Croatian balance sheets during the observation period. However, a decrease in the importance of Insurance, Pension and Standardised Guarantee Schemes, and Currency and Deposits is observable. Additionally, there is a steady increase in non money-market funds starting from 2012 Q1.

On the next page, the Equity asset classes are presented in a more detailed view. Furthermore, the evolution of the listed shares (normalised to a start value of 100) of Croatian is plotted against the aggregated EU data.

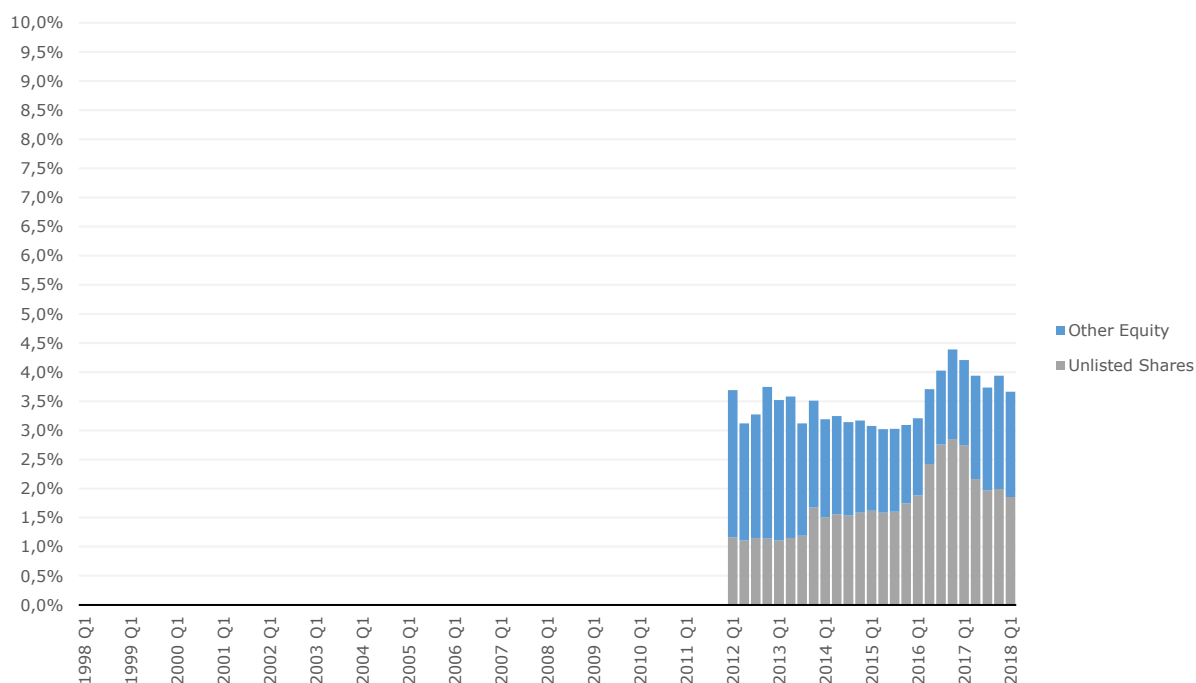
We remark that these graphs include index-linked and unit-linked assets, which cannot be individualised from the figures published by the ECB.

**Graph 8 - Evolution ECB balance sheet items (equity categories)**

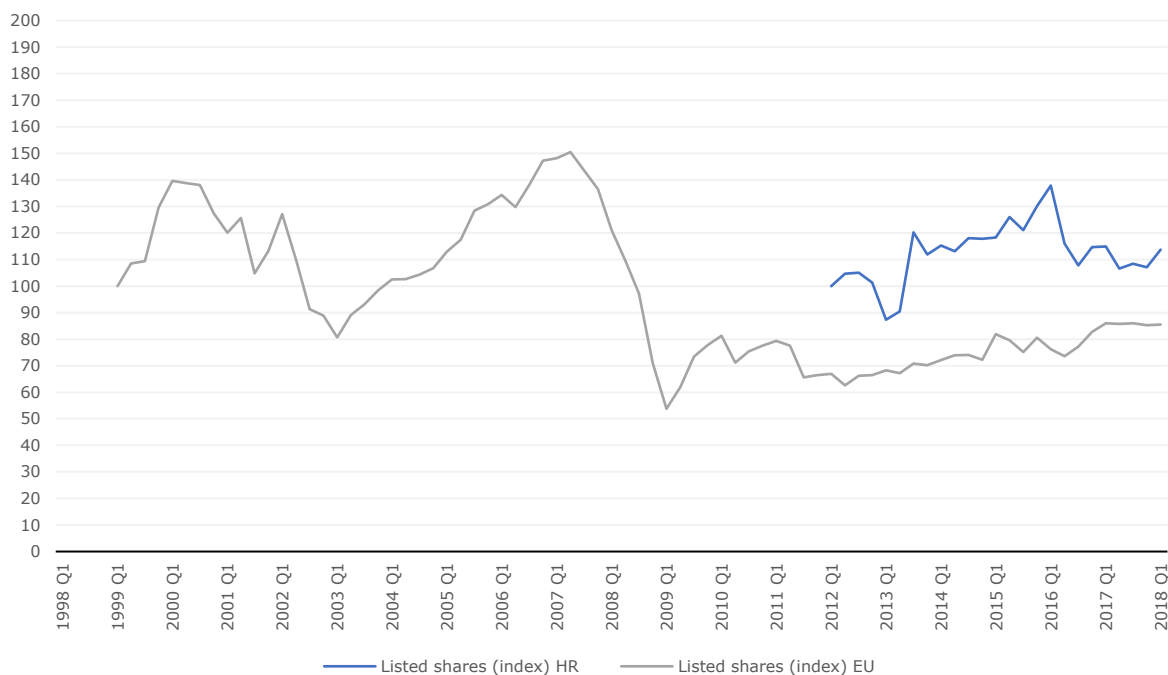


Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

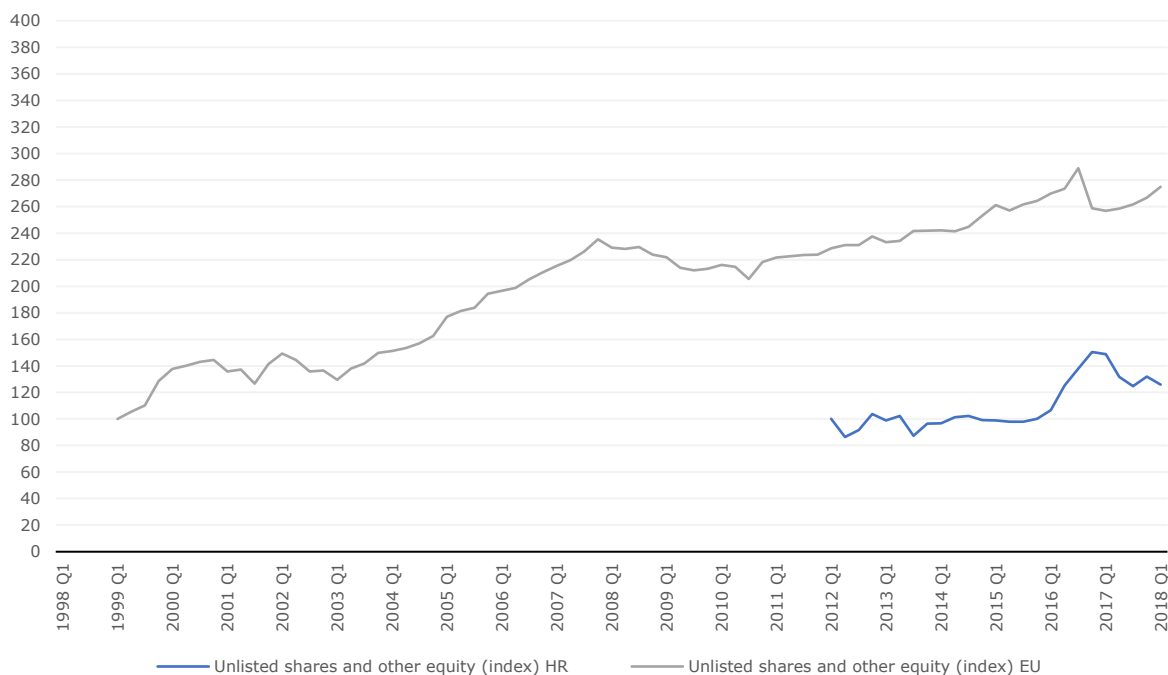
**Graph 9 - Evolution ECB balance sheet items (Unlisted Shares and Other Equity)**



Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

**Graph 10 - Evolution ECB listed shares HR and EU (as index)**

Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

**Graph 11- Evolution ECB unlisted shares HR and EU (as index)**

Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis



## 6.5 Trends in Equity Investments

This section provides a trend analysis of the equity investments of insurers in Croatia using the balance sheet data of the insurance sector from the ECB Statistical Data warehouse. Given the availability of the equity split in the ECB database, the analysis focuses on investments in listed shares and investments in unlisted shares and other equity.

### 6.5.1 Listed Shares

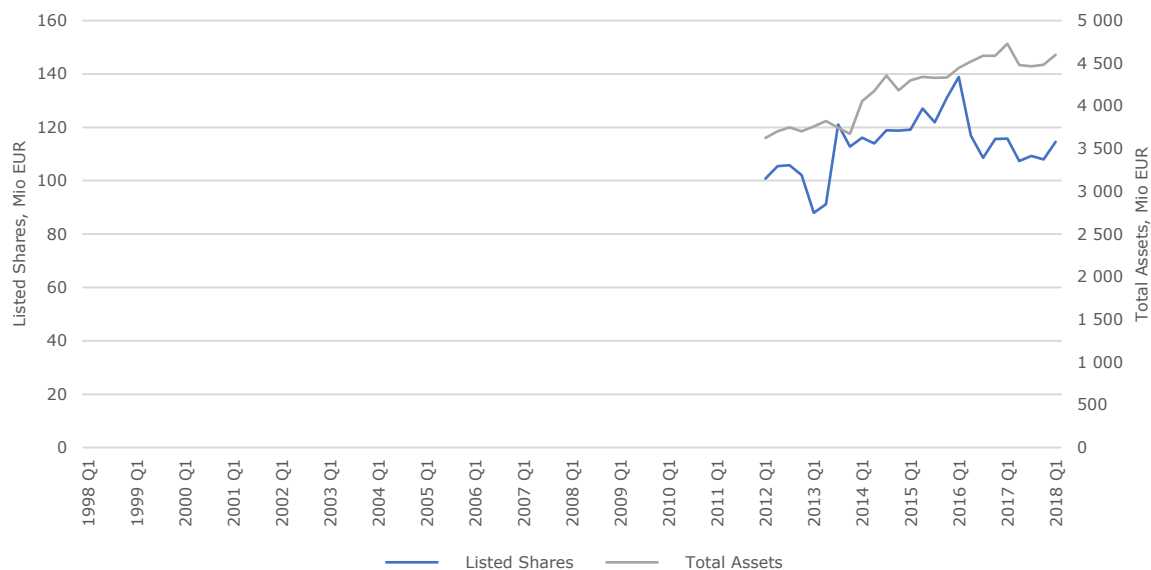
In the analysis below, the listed shares of insurance corporations are plotted against the total assets in the industry both in amounts and in indexed values. The aim of this comparative analysis is to understand the evolution of listed shares in the overall insurance market. Similarity of the growth patterns in the listed shares and total assets can be considered as an indication of the extent to which the equity investments are driven by a good (or bad) economic environment in the industry at a certain point in time. A presentation of the variables only in amounts might dilute the magnitude of the growths for countries with large assets because in such a representation, the listed shares will be overstated. Therefore, we also plot each series as indexed to the initial point in their available history.

In the next step, we focus on the relationship with the listed shares and stock market indices. The ECB QSA balance sheet items are valued at market prices at the end of each quarter. Therefore, it is plausible to assume that the changes in the stock prices are reflected on the amounts held in listed shares. In order to remove this “price effect” from the observed amounts of listed shares and approximate the “real” amounts held in shares, we consider adjusting the observed amounts in listed shares. Even though we observe high correlations with listed shares and several stock indices, since the exact destinations of the portfolio invested in listed shares at each period is not observable, we build a “Weighted Equity Index” similar to the EIOPA Equity Dampener.

Amounts invested in listed shares and the total amount of assets of the insurance sector are plotted in Graph 13 while the indexed values of the series are presented in Graph 13. Investments in listed shares display a volatile pattern, fluctuating around 113 million EUR. In 2016 Q1, listed shares reach a peak value of 139 million EUR. Following the peak, investments drop 15,83% to 117 million EUR. On the other hand, total assets increase steadily over the period of 2012-2018 starting from 3 626 million EUR in 2012 Q1 and going up to 4 601 million EUR in 2018 Q1.

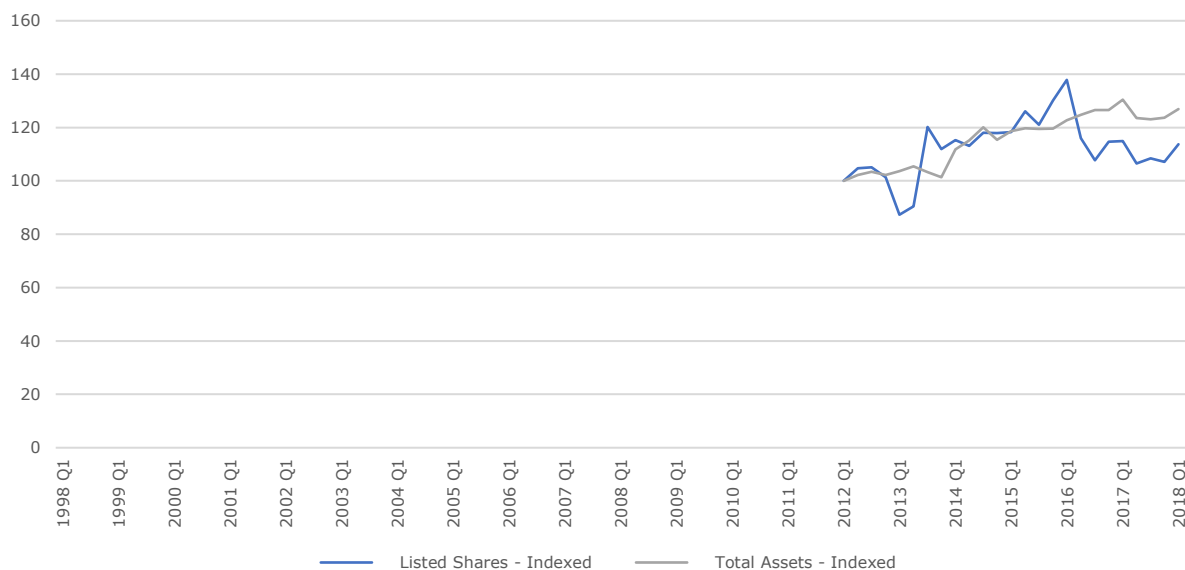
On the indexed values of total assets and investments in listed shares, differences in the growth pattern of these two series can be better observed. Over the period of 2012 – 2018, indexed value of total assets increases by 27%, while indexed value of listed shares decrease by 14% of their initial values.

**Graph 12 - Evolution of Listed Shares and Total Assets (in Mio EUR)**



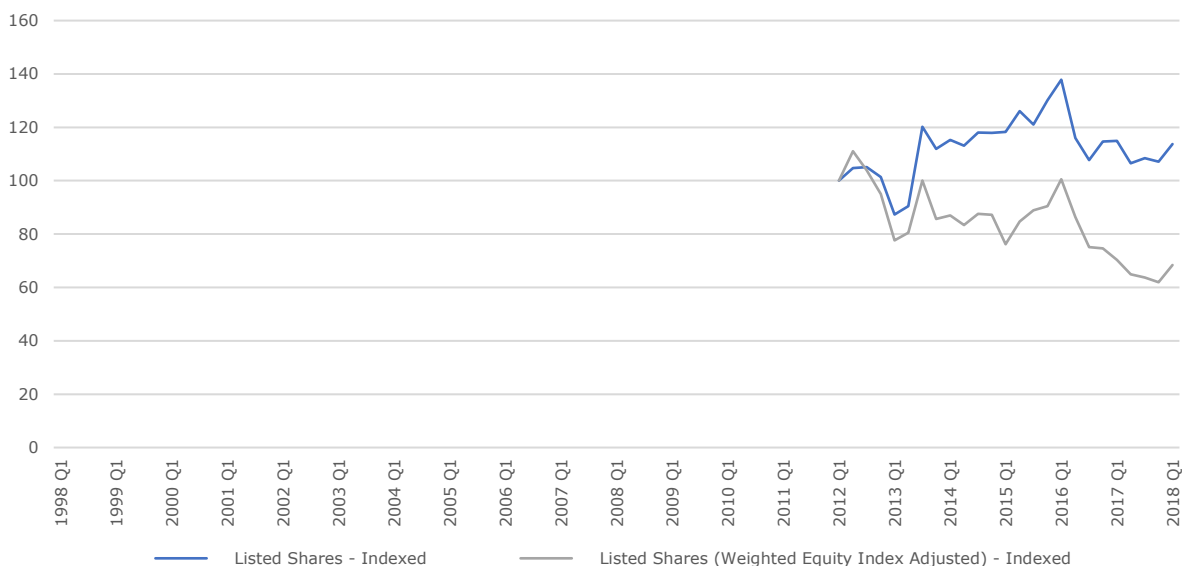
Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

**Graph 13 - Evolution of Listed Shares and Total Assets (indexed values)**



Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

Graph 14 presents the indexed values of the amounts invested in listed shares against its Weighted Equity Index adjusted counterpart. We observe that adjusted and unadjusted series follow a similar pattern starting from 2012 Q3. However, during this period, the adjusted series are below the unadjusted series, which suggest that there is a price effect in the investments of listed shares.

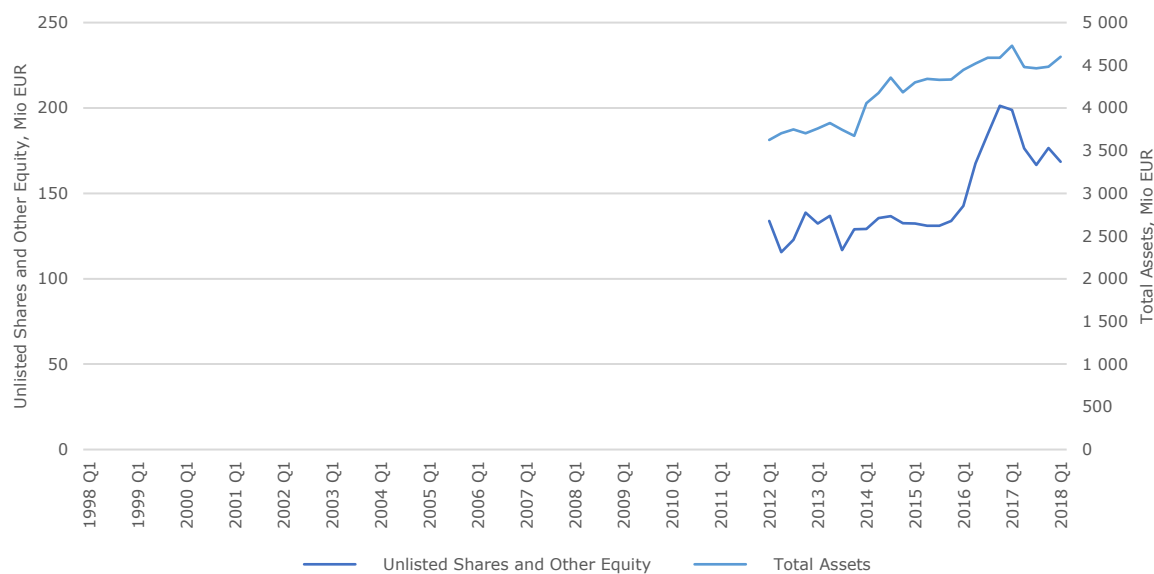
**Graph 14 - Evolution of Listed Shares – Indexed (Weighted Equity Index Adjusted)**

Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

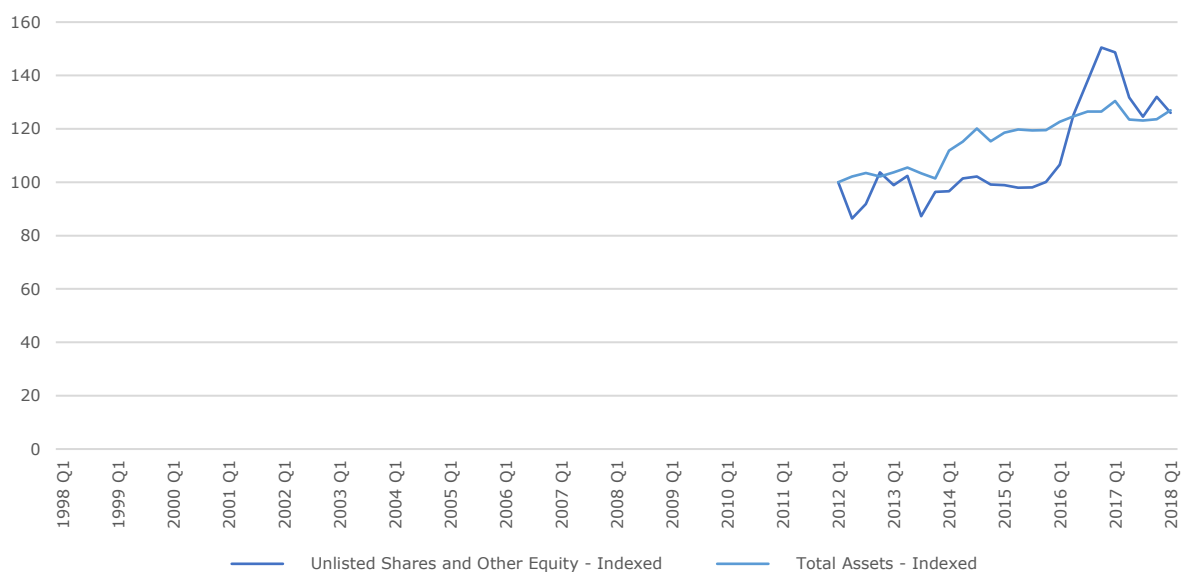
### 6.5.2 Unlisted Shares

Graph 15 depicts the amounts invested in unlisted shares and other equity plotted against the total assets in the insurance markets of while Graph 16 presents the indexed values of the series for an easier comparison of the movements in these two series. Investments in unlisted shares and other equity experience a steep increase during 2016, reaching a total amount of 201 million EUR in 2016 Q4. However, over the period of 2017 – 2018, unlisted shares and other equity decrease with 15,30% reaching a final value of 168 million EUR.

The growth patterns of total assets and unlisted shares and other equity can be compared on the indexed amounts. Over the period 2012 – 2018, indexed value of total assets reach 127 while indexed value of unlisted shares and other equity increases to 126.

**Graph 15 - Evolution of Total Unlisted Shares and Other Equity and Total Assets (in Mio EUR)**

Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis

**Graph 16 - Evolution of Unlisted Shares and Other Equity (indexed values)**

Source: ECB Statistical Data warehouse and Deloitte-CEPS analysis