

# BULGARIA

## Key characteristics of the insurance market



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# 1 Introduction

## 1.1 General

At the end of 2017 (2017 Q4), 34 insurance companies<sup>1</sup> in Bulgaria submitted their Solvency II related reporting package to the Bulgarian National Supervisory Authority (NSA). These companies accounted for 0,031% of Total assets of insurance undertakings operating within the European Union (EU).

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

**Table 1 - Insurance reporting submissions**

<b>Insurance reporting submissions</b>	<b>#</b>
Life undertakings	1
Non-Life undertakings	21
Reinsurance undertakings <sup>2</sup>	2
Composite undertakings	10
<b>Total</b>	<b>34</b>
<b>Total assets BG / Total assets EU %</b>	<b>0,031%</b>
<b>Ranking BG based on Total assets EU</b>	<b>25</b>

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

## 1.2 Balance sheet

At the end of 2017 (2017 Q4), Bulgaria was the number 25 country in the EU insurance market in terms of assets held with an amount of 3 466 million EUR reported under Solvency II rules.

With regards to the Assets held for index-linked and unit-linked contracts, Bulgaria ranked number 27 in terms of absolute amount with 86 million EUR invested in this category. However, with 2,5% of Total assets of this category, Bulgaria was significantly below the EU average, i.e. 24,3% in terms of Total assets.

In terms of technical provisions, 11,3% of the total balance sheet relates to the life business (i.e. non index-linked and unit-linked business), while 34,6% represented non-life obligations.

<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.

<sup>2</sup> According to the Bulgarian NSA, one Bulgarian reinsurer is a pure reinsurance undertaking and has assets and premium income amounting to the assets and the premium income of all Bulgarian non-life insurers.

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

in Mio EUR	BG			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
Investments, deposits, cash and cash equivalents	2 763	23	79,7%	67,8%	67,3%	22,6%	90,1%	17,2%
Assets held for index-linked and unit-linked contracts	86	27	2,5%	24,2%	24,3%	2,5%	59,3%	16,2%
Other assets	617	20	17,8%	8,1%	8,4%	2,1%	19,5%	4,9%
<b>Total assets</b>	<b>3 466</b>	<b>25</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	393	24	11,3%	46,3%	32,2%	3,0%	64,2%	17,9%
Technical provisions - non-life	1 198	20	34,6%	6,6%	12,9%	2,4%	38,5%	9,1%
Technical provisions - index-linked and unit-linked	82	27	2,4%	25,1%	23,4%	2,4%	58,4%	16,0%
Other liabilities	291	25	8,4%	8,9%	9,0%	4,0%	21,3%	3,9%
<b>Total liabilities</b>	<b>1 963</b>	<b>25</b>	<b>56,6%</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	1 503	24	43,4%	13,1%	22,4%	7,3%	50,9%	11,1%
<b>Total liabilities + Excess of assets over liabilities</b>	<b>3 466</b>	<b>25</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 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 Bulgarian 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 with long-term guarantee (LTG) and transitional measures amounted to 220% and is below that of the EU, which amounted to 237% at year-end 2017. Out of the 28 EU Member States, Bulgaria is ranked at the 15<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	BG		EU				
	Amount	Rank	%	Avg	Min	Max	StD
Total available own funds to meet the SCR	1 386	23	-	-	-	-	-
SCR	630	24	-	-	-	-	-
<b>Surplus available own funds</b>	<b>756</b>	<b>23</b>	-	-	-	-	-
<b>Ratio of Eligible own funds to SCR</b>	<b>220%</b>	<b>15</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)	115%	27	136%	138%	110%	193%	19%
Ratio of Eligible own funds to SCR (25th percentile)	142%	24	162%	164%	128%	214%	24%
Ratio of Eligible own funds to SCR (50th percentile)	183%	21	215%	208%	144%	300%	37%
Ratio of Eligible own funds to SCR (75th percentile)	303%	10	306%	280%	164%	445%	59%
Ratio of Eligible own funds to SCR (90th percentile)	406%	12	457%	396%	173%	643%	99%
<b>Ratio of Eligible own funds to MCR</b>	<b>485%</b>	<b>21</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, Bulgarian participants reported an SCR ratio of 217% including the application of LTGs and transitionals. Removing the measures caused no impact on the SCR ratio.<sup>3</sup>

<sup>3</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 Bulgarian 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, which 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) differ<sup>4</sup> slightly with the latter being higher than the former.. In terms of allocation in percentage, we note a small shift from Property and Deposits towards Bonds, when going from Solvency II Balance Sheet to the Exposure list.

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

in number	Exposure list BG		Solvency II balance sheet BG		Difference
	#	%	#	%	#
Life undertakings	1	3,0%	1	2,9%	0
Non-Life undertakings	20	60,6%	21	61,8%	-1
Reinsurance undertakings <sup>5</sup>	2	6,1%	2	5,9%	0
Undertakings pursuing both life and non-life insurance activity	10	30,3%	10	29,4%	0
<b>Total</b>	<b>33</b>	<b>100,0%</b>	<b>34</b>	<b>100,0%</b>	<b>-1</b>

in Mio EUR	Exposure list BG		Solvency II balance sheet BG		Difference
	Amount	%	Amount	%	%
Holdings in related undertakings, incl. participations and equities	274	10,0%	276	10,0%	0,0%
Holdings in related undertakings, including participations	n/a	n/a	180	6,5%	n/a
Equities	n/a	n/a	96	3,5%	n/a
Equities - listed	n/a	n/a	51	1,9%	n/a
Equities - unlisted	n/a	n/a	45	1,6%	n/a
Collective Investments Undertakings	135	4,9%	135	4,9%	0,0%
Bonds	1 828	66,4%	1 828	66,2%	0,3%
Loans and mortgages	40	1,5%	40	1,5%	0,0%
Property	150	5,5%	155	5,6%	-0,1%
Deposits	201	7,3%	205	7,4%	-0,1%
Cash and cash equivalents	122	4,4%	123	4,5%	0,0%
Other investments	0	0,0%	0	0,0%	0,0%
<b>Total</b>	<b>2 751</b>	<b>100,0%</b>	<b>2 763</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.

<sup>4</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.

<sup>5</sup> According to the Bulgarian NSA, one Bulgarian reinsurer is a pure reinsurance undertaking and has assets and premium income amounting to the assets and the premium income of all Bulgarian non-life insurers.

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

in Mio EUR	BG			EU				
	Amount	Rank	%	%	Avg	Min	Max	Std
Equities - listed	51	21	53,4%	83,7%	75,0%	12,8%	99,6%	21,1%
Equities - unlisted	45	15	46,6%	16,3%	25,0%	0,4%	87,0%	21,1%
<b>Total equities</b>	<b>96</b>	<b>19</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, Bulgarian insurers invested 53,4% of their directly-held equity positions in listed equity in comparison to an average of 75,0% in the EU. With an amount of 51 million EUR, Bulgaria ranked number 21 in the EU.

With an invested amount of 45 million EUR, unlisted equity constituted a significant portion of the equity investment category of the directly-held equity investments, i.e. 46,6%. This placed Bulgaria as the number 15 in the EU.

## 2.2 Asset exposure

From an asset exposure perspective, the insurance market in Bulgaria mainly invested in Government bonds and Corporate bonds (in total 66,3% of Total Investments, deposits, cash and cash equivalents), Equity (10,0%), and Property (5,5%).

Within the bond categories, the insurance market was significantly more exposed to government securities (51,0%) than to the corporate debt (15,3%), categories for which Bulgaria ranked number 24 and 23 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 fifth most important for the Bulgarian insurance market in terms of asset exposures. Within this category, the industry was mainly exposed to Debt funds and Equity funds for which Bulgaria ranked respectively number 24 and number 23 in the EU.

Equity was the third category to which the Bulgarian insurers had the most exposure. Equity of real estate related corporation constitutes 2,4% within the 10% of the total equity exposure.

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

in Mio EUR	BG			EU				
	Amount	Rank	%	%	Avg	Min	Max	Std
<b>Equity</b>	<b>274</b>	<b>22</b>	<b>10,0%</b>	<b>12,0%</b>	<b>9,5%</b>	<b>1,1%</b>	<b>28,1%</b>	<b>6,5%</b>
Common equity	206	22	7,5%	10,4%	7,8%	1,0%	22,5%	6,0%
Equity of real estate related corporation	67	15	2,4%	1,0%	1,1%	0,0%	4,0%	1,2%
Other equity	2	23	0,1%	0,6%	0,6%	0,0%	2,0%	0,7%
<b>Collective Investment Undertakings</b>	<b>135</b>	<b>24</b>	<b>4,9%</b>	<b>19,2%</b>	<b>12,8%</b>	<b>1,5%</b>	<b>41,6%</b>	<b>9,3%</b>
Equity funds	52	23	1,9%	3,2%	2,7%	0,4%	10,9%	2,4%
Private equity funds	0	-	0,0%	0,5%	0,5%	0,0%	6,9%	1,3%
Debt funds	77	24	2,8%	7,8%	5,6%	0,8%	18,0%	4,9%
Money market funds	0	-	0,0%	2,3%	1,1%	0,0%	6,3%	1,6%
Asset allocation funds	5	23	0,2%	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	0	-	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	23	0,0%	2,0%	0,9%	0,0%	7,2%	1,7%
<b>Government bonds</b>	<b>1 402</b>	<b>24</b>	<b>51,0%</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>421</b>	<b>23</b>	<b>15,3%</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>25</b>	<b>0,2%</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>40</b>	<b>23</b>	<b>1,5%</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>150</b>	<b>23</b>	<b>5,5%</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>201</b>	<b>18</b>	<b>7,3%</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>122</b>	<b>24</b>	<b>4,4%</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>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>0,3%</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>2 751</b>	<b>23</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

For Bulgaria, the undertaking type is not published. In accordance with Article 70(2) of the EIOPA Regulation, EIOPA may only divulge information and data - in summary or in aggregated form – so that individual financial institutions cannot be identified.

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

in Mio EUR	BG			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Equity</b>	<b>274</b>	<b>22</b>	<b>10,0%</b>	<b>12,0%</b>	<b>9,5%</b>	<b>1,1%</b>	<b>28,1%</b>	<b>6,5%</b>
Common equity	206	22	7,5%	10,4%	7,8%	1,0%	22,5%	6,0%
Equity of real estate related corporation	67	15	2,4%	1,0%	1,1%	0,0%	4,0%	1,2%
Other equity	2	23	0,1%	0,6%	0,6%	0,0%	2,0%	0,7%
<b>Collective Investment Undertakings - Equity funds</b>	<b>52</b>	<b>24</b>	<b>1,9%</b>	<b>3,8%</b>	<b>3,2%</b>	<b>0,4%</b>	<b>14,7%</b>	<b>3,5%</b>
Equity funds	52	23	1,9%	3,2%	2,7%	0,4%	10,9%	2,4%
Private equity funds	0	-	0,0%	0,5%	0,5%	0,0%	6,9%	1,3%
<b>Structured notes - Equity risk</b>	<b>0</b>	<b>-</b>	<b>0,0%</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>327</b>	<b>22</b>	<b>11,9%</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>208</b>	<b>22</b>	<b>7,5%</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>260</b>	<b>23</b>	<b>9,5%</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>96</b>	<b>19</b>	<b>3,5%</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)	51	21	1,9%	3,0%	2,6%	0,0%	15,4%	3,2%
Equities - unlisted (rescaled to CIC scope)	45	15	1,6%	0,6%	0,6%	0,0%	5,2%	1,0%
<b>Equity exposure based upon (Un)Listed equities (rescaled)</b>	<b>148</b>	<b>22</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 Bulgaria, we note that equity exposures coming from Collective Investment Undertakings amount to 1,9% and are lower than the listed and unlisted equity exposures which in total amount to 3,5%. Hereby the listed and unlisted equities in Bulgaria are very similar to the asset allocation at EU level.

### 2.3.1 Direct and indirect equity exposure

**Table 8 - Direct and indirect equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	BG			EU				
	Amount	Rank	%	%	Avg	Min	Max	StD
<b>Direct equity</b>	<b>274</b>	<b>22</b>	<b>84,0%</b>	<b>75,2%</b>	<b>73,4%</b>	<b>39,2%</b>	<b>94,5%</b>	<b>15,9%</b>
Common equity	206	22	62,9%	64,8%	59,4%	28,6%	93,3%	19,0%
Equity of real estate related corporation	67	15	20,4%	6,4%	8,4%	0,0%	39,1%	9,6%
Other equity	2	23	0,6%	3,9%	5,7%	0,0%	35,3%	8,8%
<b>Indirect equity</b>	<b>52</b>	<b>23</b>	<b>16,0%</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	52	23	16,0%	23,6%	25,9%	4,6%	60,6%	15,7%
Equity funds	52	23	16,0%	20,2%	22,8%	4,6%	52,9%	13,4%
Private equity funds	0	-	0,0%	3,3%	3,1%	0,0%	28,4%	5,7%
Structured notes - Equity risk	0	-	0,0%	1,3%	0,7%	0,0%	4,0%	1,0%
<b>Total Equity exposure</b>	<b>327</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

In 2017 Q4, the insurance market in Bulgaria was invested over four times more in Direct equity (84% of Total equity) than in Indirect equity (16% of Total equity).

In terms of direct equity exposure, Bulgaria ranked number 22 and number 15 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 16% of Total equity.

### 2.3.2 Equity by location

**Table 9 - Equity exposure by location based upon Solvency II exposure list (S.06.02)**

in Mio EUR		BG		
	EU home	EU other	outside EU (1)	Total
<b>Equity</b>	<b>161</b>	<b>108</b>	<b>5</b>	<b>274</b>
Common equity	159	44	2	206
Equity of real estate related corporation	2	63	1	67
Other	0	0	2	2
<b>Collective Investment Undertakings - Equity funds</b>	<b>16</b>	<b>33</b>	<b>3</b>	<b>52</b>
Equity funds	16	33	3	52
Private equity funds	0	0	0	0
<b>Structured notes - Equity risk</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total Equity exposure</b>	<b>178</b>	<b>141</b>	<b>8</b>	<b>327</b>

in %		BG		
	EU home	EU other	outside EU (1)	Total
<b>Equity</b>	<b>58,8%</b>	<b>39,3%</b>	<b>1,8%</b>	<b>100,0%</b>
Common equity	77,2%	21,6%	1,1%	100,0%
Equity of real estate related corporation	3,4%	94,9%	1,8%	100,0%
Other	16,9%	10,7%	72,4%	100,0%
<b>Collective Investment Undertakings - Equity funds</b>	<b>31,5%</b>	<b>62,7%</b>	<b>5,8%</b>	<b>100,0%</b>
Equity funds	31,5%	62,7%	5,8%	100,0%
Private equity funds	-	-	-	-
<b>Structured notes - Equity risk</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total Equity exposure</b>	<b>54,4%</b>	<b>43,1%</b>	<b>2,5%</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 Bulgaria favoured domestic investments to a large extent, dedicating to these 58,8% of their direct equity investments, while on the other hand we observe that the share of domestic market within indirect equity investments is lower and represents 31,5% of the indirect equity investments.

Table 9 also showed that besides the home market, Bulgaria insurers invested significantly more in equity of other EU Member States than that of non-EU Member States. The Netherlands, Luxemburg and Czech Republic were the preferred destinations.



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

in Mio EUR	BG	
	Amount	%
<b>Home country</b>	<b>161</b>	<b>58,8%</b>
BG	161	58,8%
<b>Top 5 countries (outside home country)</b>	<b>107</b>	<b>39,0%</b>
CZ	66	24,0%
LU	23	8,3%
NL	9	3,4%
Rest of World and unassigned	5	1,8%
AT	4	1,4%
<b>Home + Top 5 countries (outside home country)</b>	<b>268</b>	<b>97,8%</b>
<b>Total Direct equity exposure (with real estate corporation)</b>	<b>274</b>	<b>100,0%</b>

in Mio EUR	BG	
	Amount	%
<b>Home country</b>	<b>159</b>	<b>76,6%</b>
BG	159	76,6%
<b>Top 5 countries (outside home country)</b>	<b>42</b>	<b>20,4%</b>
LU	23	10,9%
NL	9	4,5%
Rest of World and unassigned	4	1,9%
CZ	4	1,9%
AT	3	1,3%
<b>Home + Top 5 countries (outside home country)</b>	<b>202</b>	<b>97,1%</b>
<b>Total Direct equity exposure (without real estate corporation)</b>	<b>208</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 a slight 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 11 - Solvency II balance sheet (S.02.01) and Solvency II exposure list (S.06.02) comparison**

in number	Exposure list BG		Solvency II balance sheet BG		Difference
	#	%	#	%	#
Life undertakings	1	3,0%	1	2,9%	0
Non-Life undertakings	20	60,6%	21	61,8%	-1
Reinsurance undertakings	2	6,1%	2	5,9%	0
Undertakings pursuing both life and non-life insurance activity	10	30,3%	10	29,4%	0
<b>Total</b>	<b>33</b>	<b>100,0%</b>	<b>34</b>	<b>100,0%</b>	<b>-1</b>

in Mio EUR	Exposure list BG		Solvency II balance sheet BG		Difference
	Amount	%	Amount	%	%
Assets held for index-linked and unit-linked contracts	83	100,0%	86	100,0%	-3,2%

Source: EIOPA Solvency II statistics and Deloitte-CEPS analysis

#### 3.2 Asset exposure

Table 12 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 12 - Asset exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	BG			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</b>	<b>72</b>	<b>27</b>	<b>86,7%</b>	<b>64,6%</b>	<b>73,1%</b>	<b>30,1%</b>	<b>97,5%</b>	<b>16,3%</b>
Equity funds	21	27	24,8%	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%
Debt funds	4	28	4,8%	12,2%	19,0%	4,8%	47,5%	11,4%
Money market funds	0	-	0,2%	2,0%	1,7%	0,0%	7,5%	1,8%
Asset allocation funds	10	27	12,4%	14,4%	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%	1,9%	2,4%	0,0%	16,3%	3,8%
Infrastructure funds	0	-	0,0%	0,1%	0,1%	0,0%	2,4%	0,5%
Other	37	19	44,3%	5,1%	6,9%	0,0%	44,3%	10,0%
<b>Government bonds</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>5,9%</b>	<b>6,9%</b>	<b>0,0%</b>	<b>31,4%</b>	<b>8,4%</b>
<b>Corporate bonds</b>	<b>0</b>	<b>-</b>	<b>0,0%</b>	<b>4,5%</b>	<b>6,0%</b>	<b>0,0%</b>	<b>22,7%</b>	<b>6,9%</b>
<b>Structured notes</b>	<b>11</b>	<b>23</b>	<b>13,3%</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>0,3%</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>1,2%</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>0,0%</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>0,3%</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>1,1%</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>83</b>	<b>27</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 (86,7%) and the Structured Notes (13,3%) 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 Collective Investment Undertakings, 86,7% in Bulgaria compared to 73,1% 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 13 - Equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	BG			EU				
	Amount	Rank	%	%	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 - Equity funds</b>	<b>21</b>	<b>27</b>	<b>24,8%</b>	<b>26,5%</b>	<b>29,3%</b>	<b>11,2%</b>	<b>57,5%</b>	<b>10,4%</b>
Equity funds	21	27	24,8%	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%
<b>Structured notes - Equity risk</b>	<b>2</b>	<b>22</b>	<b>2,5%</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>23</b>	<b>27</b>	<b>27,4%</b>	<b>47,1%</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>22</b>	<b>0,0%</b>	<b>16,0%</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>23</b>	<b>27</b>	<b>27,4%</b>	<b>40,0%</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 Bulgaria, we note that total equity exposures related to index-linked and unit-linked contracts (27,4%) are significantly higher in comparison to non index-linked and unit-linked contracts (11,9%). Equity funds are the main contributors to the total equity exposures.

#### 3.3.1 Direct and indirect equity exposure

**Table 14 - Direct and indirect equity exposure based upon Solvency II exposure list (S.06.02)**

in Mio EUR	BG			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>23</b>	<b>27</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	21	27	90,8%	59,1%	81,5%	45,7%	100,0%	15,5%
- Equity funds	21	27	90,8%	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	2	22	9,2%	2,6%	7,4%	0,0%	35,8%	9,6%
<b>Total Equity exposure</b>	<b>23</b>	<b>27</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, Bulgarian insurers invested all of their Assets held for index-linked and unit-linked contracts in Indirect equity.

In terms of direct equity exposure, Bulgaria 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 90,8% of Total equity whereas allocation to Private equity funds were inexistent.

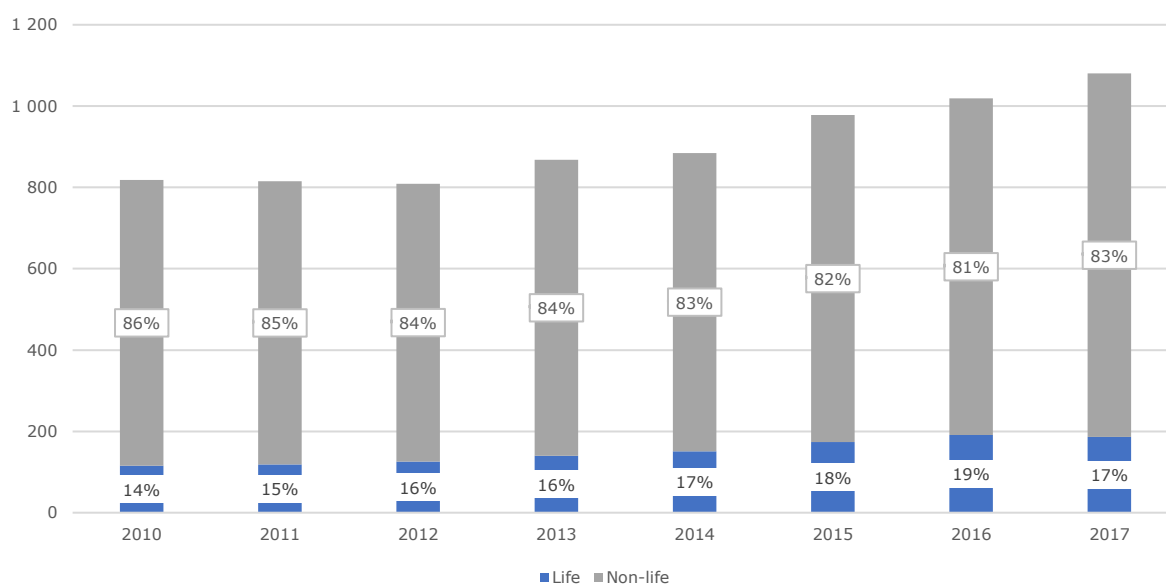
## 4 Insurance products

### 4.1 Overview

This section covers the most important insurance products offered in Bulgaria and the volume of the market. Data reported in this section is obtained from the Financial Supervision Commission (FSC)<sup>6</sup>.

Since 2012, after two years of negative growth rates in which premiums declined by 1,1% to 809 million EUR, the Bulgarian insurance market had steadily rebounded. Achieving an annual average growth rate of 6%, premiums stood at 1 080 million EUR at the end of 2017. The market is highly concentrated towards non-life insurance business, which accounts for 83% of the total premiums income.

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



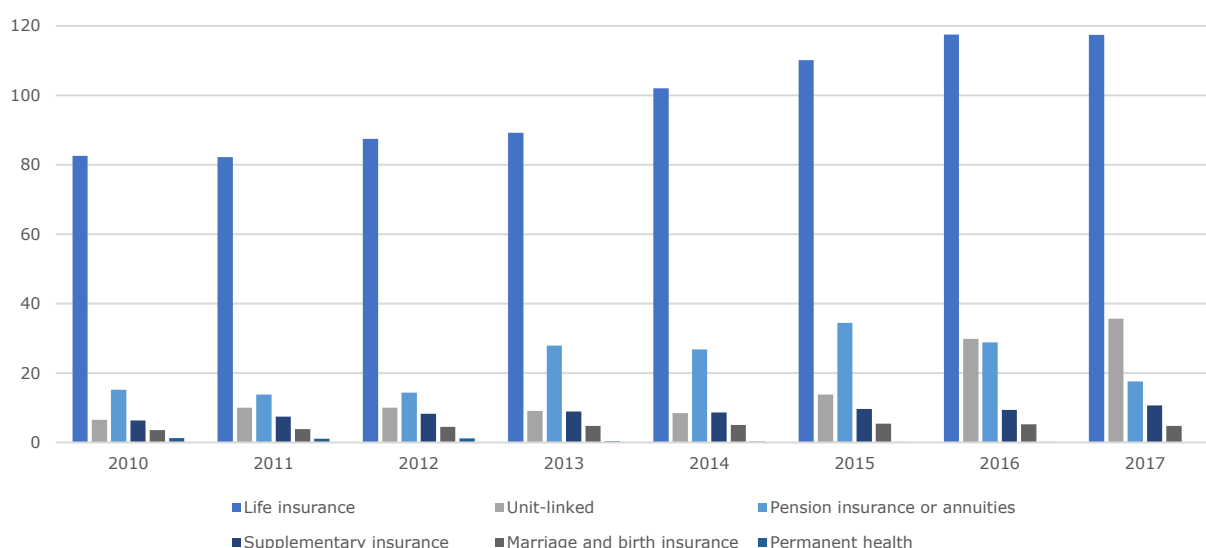
Source: FSC

<sup>6</sup> Available at <http://www.fsc.bg/en>

## 4.2 Life insurance products

Life insurance business, even though it represents less than 20% of the Bulgarian insurance market, has increased considerably over the last years. From 2010 when income premium was at 115 million EUR, it has grown by 65,4% and stood at 191 million EUR at the end of 2016. However, during 2017 gross written premiums declined by 2,6% to 186 million EUR. From this amount, 63% (117 million EUR) is due to life insurance products such as endowment assurance and term assurance, 19% (35 million EUR) is attributed to unit-linked life insurance, and 9% (17 million EUR) to pension insurance or annuities. Finally, 9% arises from marriage and birth, permanent health insurance, or other supplementary products.

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



Source: FSC

### **4.3 Non-Life insurance products**

The non-life segment of the Bulgarian insurance market grew by 21,2% over the last four years, from 683 million EUR in 2012 to 828 million EUR in 2016, In 2017 premiums further increased by 7,9% to 894 million EUR.

#### **4.3.1 Motor**

Motor related insurance represents 70,1% of the non-life premium income. The segment increased in 2017 by 8,1% to 626 million EUR. Of this, 53,8% is related to motor vehicle liability, while the remaining 46,2% (567 million EUR) is due to land vehicles insurance products.

#### **4.3.2 Fire and other damage to property**

In 2017 fire and other damage to property represented 16,4% of all non-life business. Premiums recorded a growth of 4,7% and stood at 46 million EUR.

#### **4.3.3 Accident and sickness**

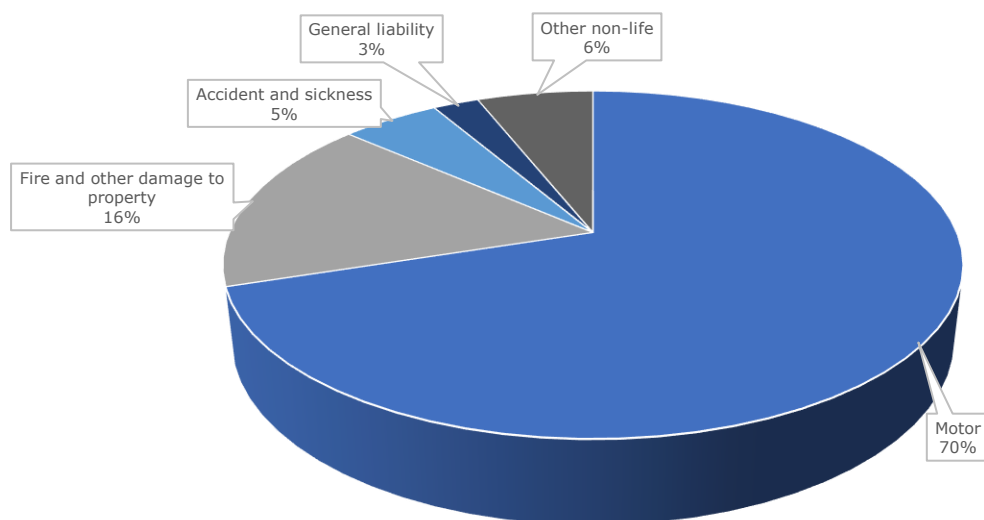
Accident and sickness insurance is the third largest non-life business line, accounting for 5,1% of non-life premiums. Gross premiums written amounted in 2017 to 46 million EUR, 17,9% up compared to year ago.

#### **4.3.4 General Liability**

Total gross premiums written in general liability insurance business amounted to 21,3 million EUR, exhibiting a growth rate of 3,8% to 2016. Liability premiums accounted for 2,4% of total non-life premiums written during 2017.

#### **4.3.5 Other non-life**

Premiums for other non-life insurance business, such as credit and suretyship, legal protection, financial loss, assistance, as well as marine, aviation and transport, decrease by 18,7% in 2017 to 11 million EUR.

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

*Note: Motor includes land vehicles (other than railway rolling stock) insurance and motor vehicle liability. Other non-life insurance includes credit and suretyship, legal protection, financial loss, assistance, as well as marine, aviation and transport.*

Source: FSC

#### 4.4 Average duration

In 2016, EIOPA published their Insurance Stress Test Report<sup>7</sup>, which resulted in the following conclusions for Bulgaria:

- The approximate effective duration for the TP life for all lines of business reported by the EIOPA 2016 stress test participants is 15,44;
- The Macaulay duration for the TP life for all lines of business reported by the EIOPA 2016 stress test participants is 15,33.

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.

<sup>7</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>8</sup>

1. Applicable GAAP at consolidated level: IFRS required for all listed and non-listed (except SMEs that do not have share capital and entities in liquidation and insolvency) companies<sup>9</sup>;
2. Applicable GAAP at statutory level: IFRS required for all listed and non-listed (except SMEs that do not have share capital and entities in liquidation and insolvency) companies<sup>10</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 10%, unless they derive from the “disposal of financial instruments” on regulated stock markets in Bulgaria, or another EEA country.

Capital gains of non-resident corporate shareholders are subject to a final tax of 10% in Bulgaria. Tax treaties may provide for reduced rates or exemption from taxation of capital gains from Bulgarian sources.

#### 5.2.2 Capital losses on shares

Capital losses on shares are deductible, unless they are exempt under the exception above.

#### 5.2.3 Taxation of dividends

A 100% exemption applies on dividends received by resident corporate shareholders from resident or other EU/EEA-resident companies.

If no exemption applies, the dividend is taxed at the ordinary tax rate. Bulgarian source dividends are exempt from withholding tax (WHT) when paid to another Bulgarian company.

Bulgarian source dividends are subject to 5% WHT when paid to a non-resident, unless a tax treaty provides for a lower rate or the EU parent-subsidiary directive applies.

Foreign tax paid may be credit or exempted under a tax treaty. If no tax treaty relief is available, Bulgaria grants a unilateral domestic tax credit.

<sup>8</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>9</sup> <https://www.ifrs.org/-/media/feature/around-the-world/jurisdiction-profiles/bulgaria-ifrs-profile.pdf>

<sup>10</sup> <https://www.ifrs.org/-/media/feature/around-the-world/jurisdiction-profiles/bulgaria-ifrs-profile.pdf>



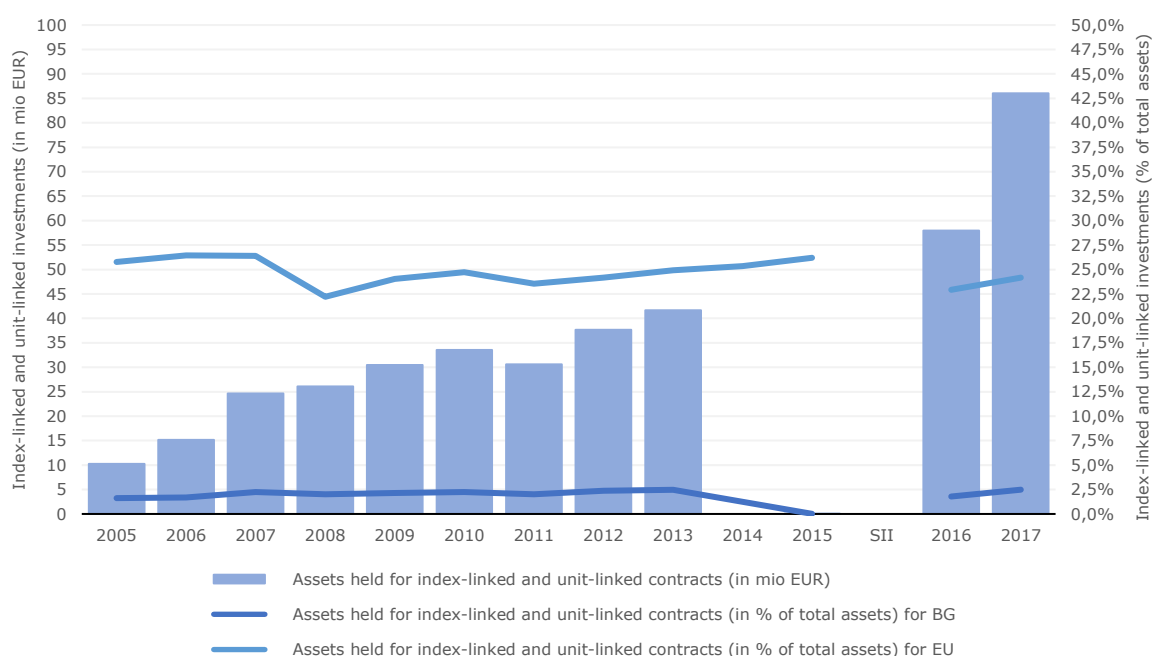
## 6 Historical data

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 Bulgaria 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**



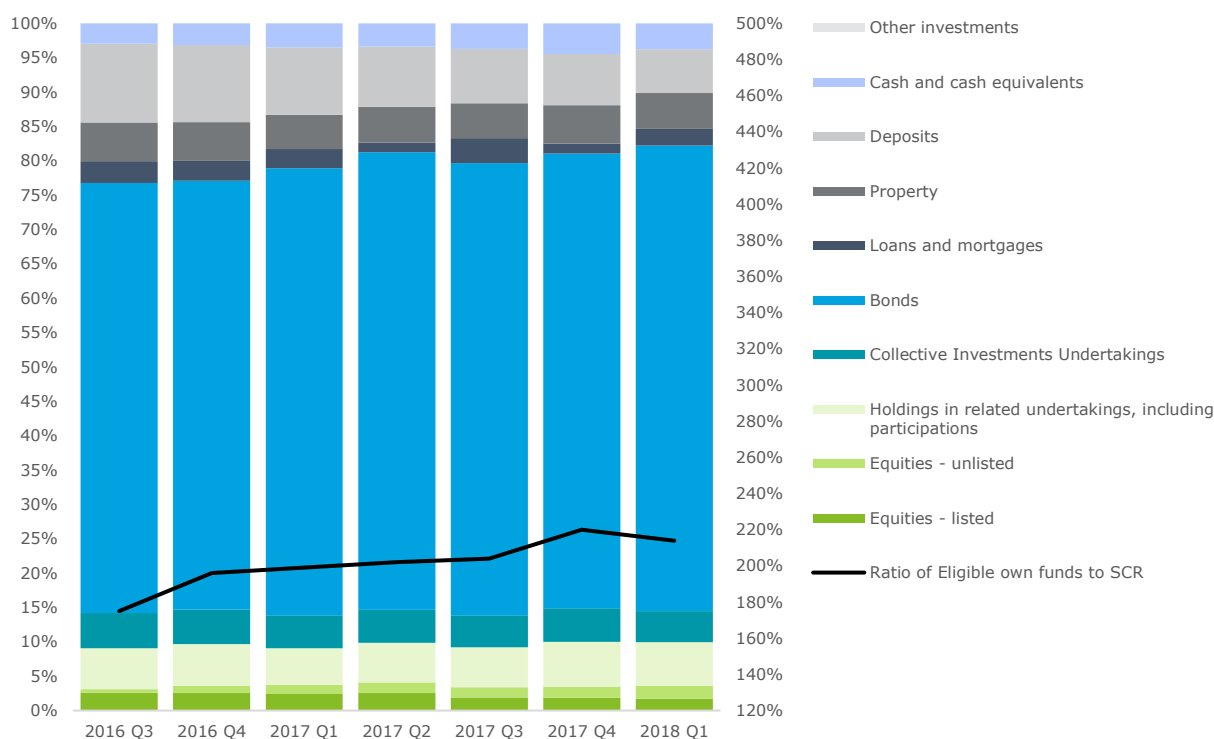
Source: EIOPA Solvency I and Solvency II statistics and Deloitte-CEPS analysis

As shown in Graph 4, the share of index-linked and unit-linked investments in comparison to total assets in Bulgaria has been relatively stable over the observation period, around the level of 2%. There are two missing values for 2014 and 2015. Note that 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 Bulgarian insurers' balance sheet has remained relatively stable over the quarters since the introduction of Solvency II on 1 January 2016<sup>11</sup>. This seems to be confirmed by the fact that the most dominant assets classes such as Deposits, Property, Bonds and Holdings in related undertakings (including participations) do not suggest a clear trend whether it be downwards or upwards. The percentage for deposits has decreased slightly over the Solvency II quarters.

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

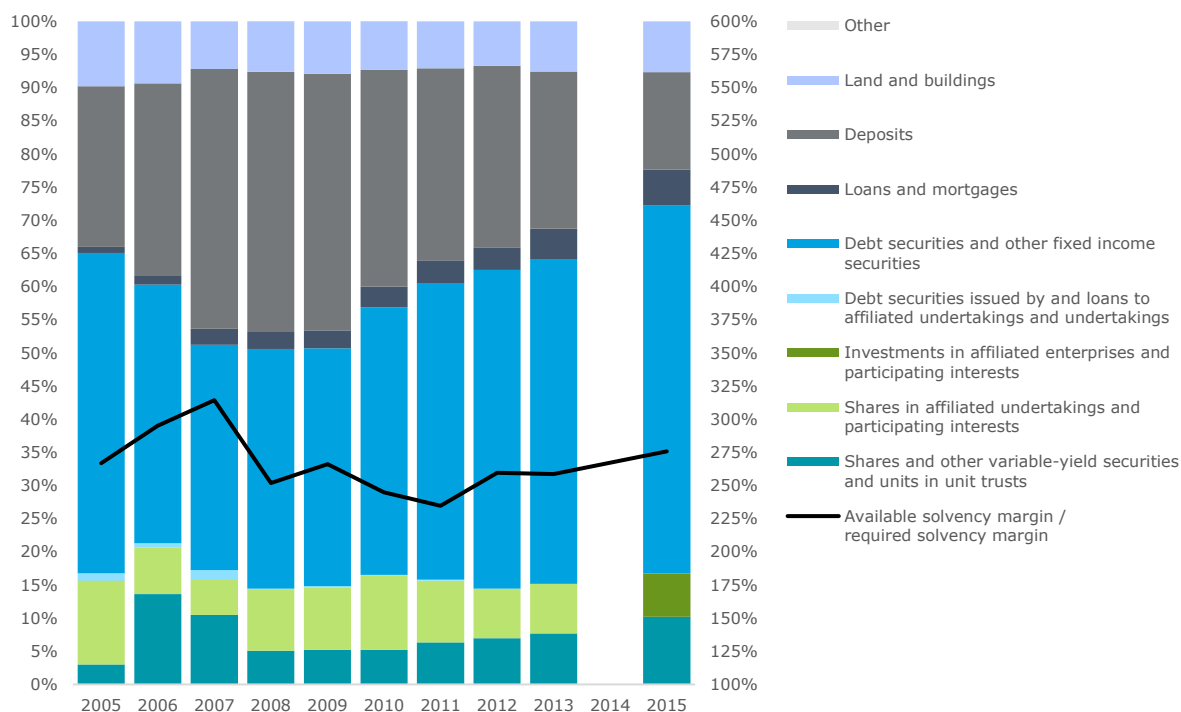
For Bulgaria, the SCR ratio shows a relatively stable behaviour, with a slight increase, over the period 2016 Q3 until 2018 Q1. Overall, this trend has not resulted into significant changes in the asset allocation of the overall Bulgarian insurance market, besides the decrease in deposits.

<sup>11</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)**



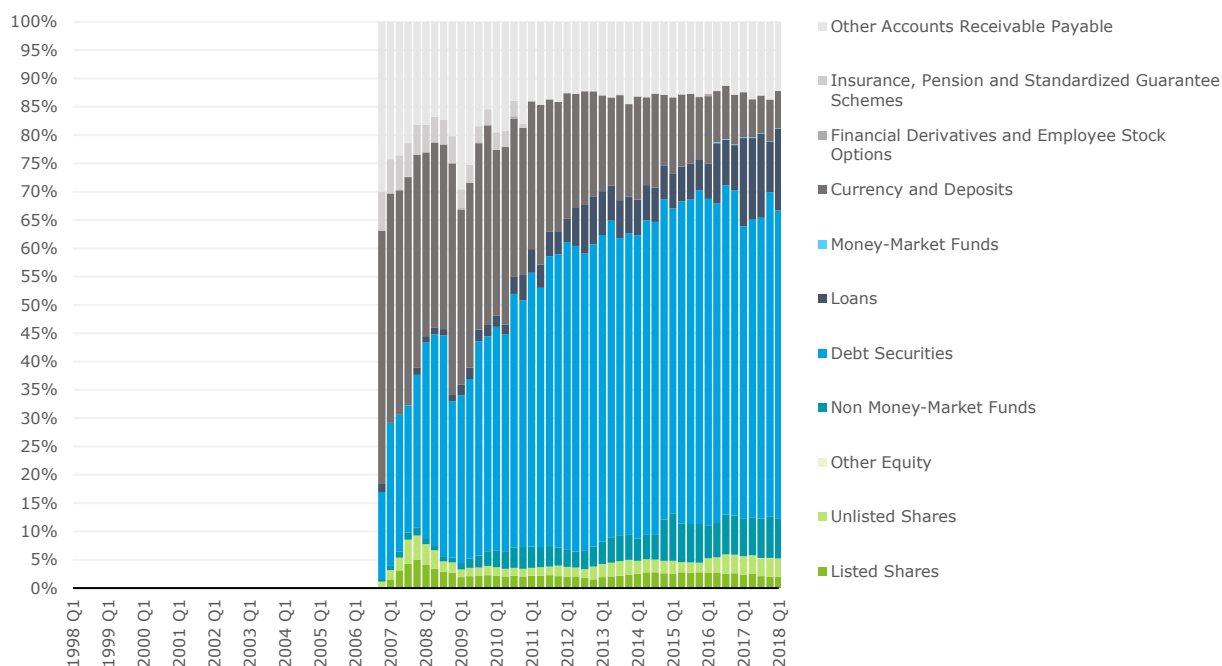
Note: There is no data available for 2014. The value regarding the solvency margin is interpolated.

Source: EIOPA Solvency I statistics and Deloitte-CEPS analysis

Graph 6, which relates to Solvency I figures suggests the following observations. The dominance of Bonds that we observe under the rules of Solvency II has been part of the Bulgarian insurers' balance sheet for more than a decade, but has fluctuated over time. Between 2007 and 2010 the share of bonds was decreased in favour of deposits. Deposits represent a significant share, but steadily decrease as of 2010. Although the equity investment remains relatively stable, the composition varies over time, with a notable increase in Shares and other variable-yield securities and units in unit trusts in 2006 and a sharp decrease during the following two years. Furthermore, the solvency ratio showed a very significant decrease in 2007, but has remained rather stable over the rest of the scope. One data point is missing for the Bulgarian Solvency 1 data for 2014.

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

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



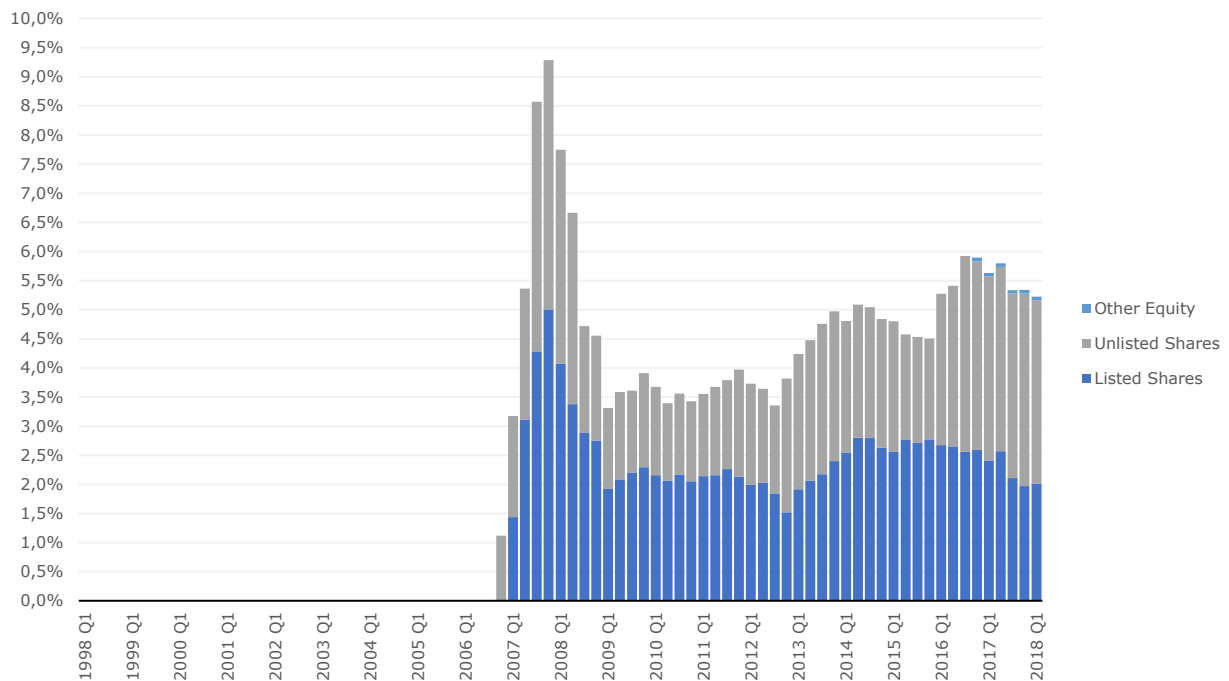
Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

Graph 7 relates to figures of investments by Bulgarian Insurers as reported by the ECB. The series is reported from 2006 Q4 as data points are missing before that quarter. It can be observed that no real balance sheet items dominated the Bulgarian balance sheets in 2006Q4, but that over time, during the observation period, bonds became increasingly dominant, whereas currency and deposits decreased significantly over the same period. However, a decrease in the importance of Financial Derivatives and Other Accounts Receivable Payable. Additionally, there is a steady increase in Non Money-Market Funds and Loans starting from 2009 Q2. According to the Bulgarian NSA, this steady increase in non money-market funds reflects the search for yield in a low interest rate environment.

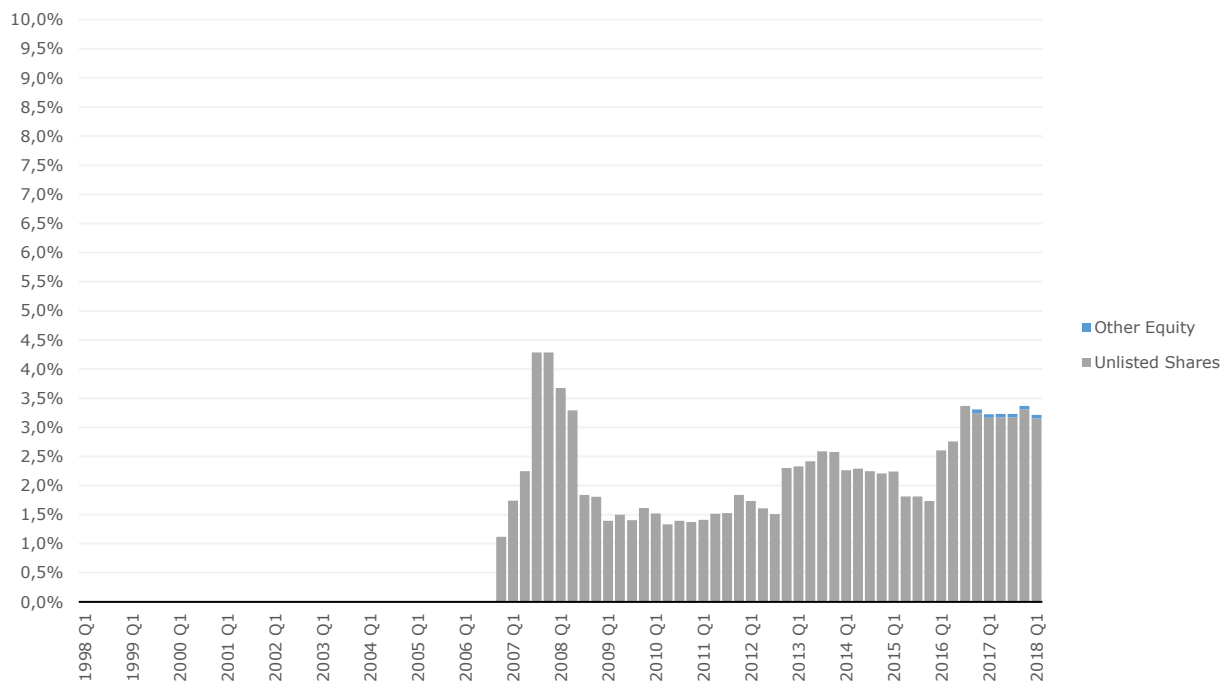
According to the Bulgarian NSA, the index-linked and unit-linked investments have almost no impact on the observed trends in listed shares, unlisted shares and other equity.

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 Germany 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.

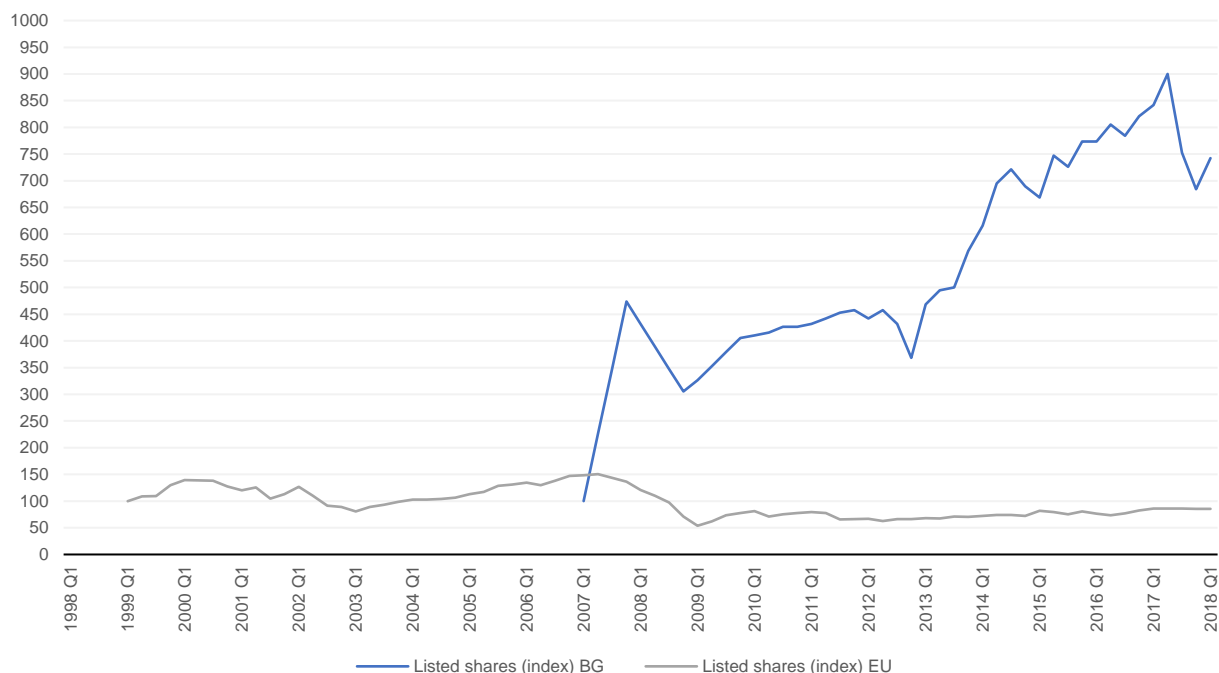
**Graph 8 - Evolution ECB balance sheet items (equity categories)**

Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

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

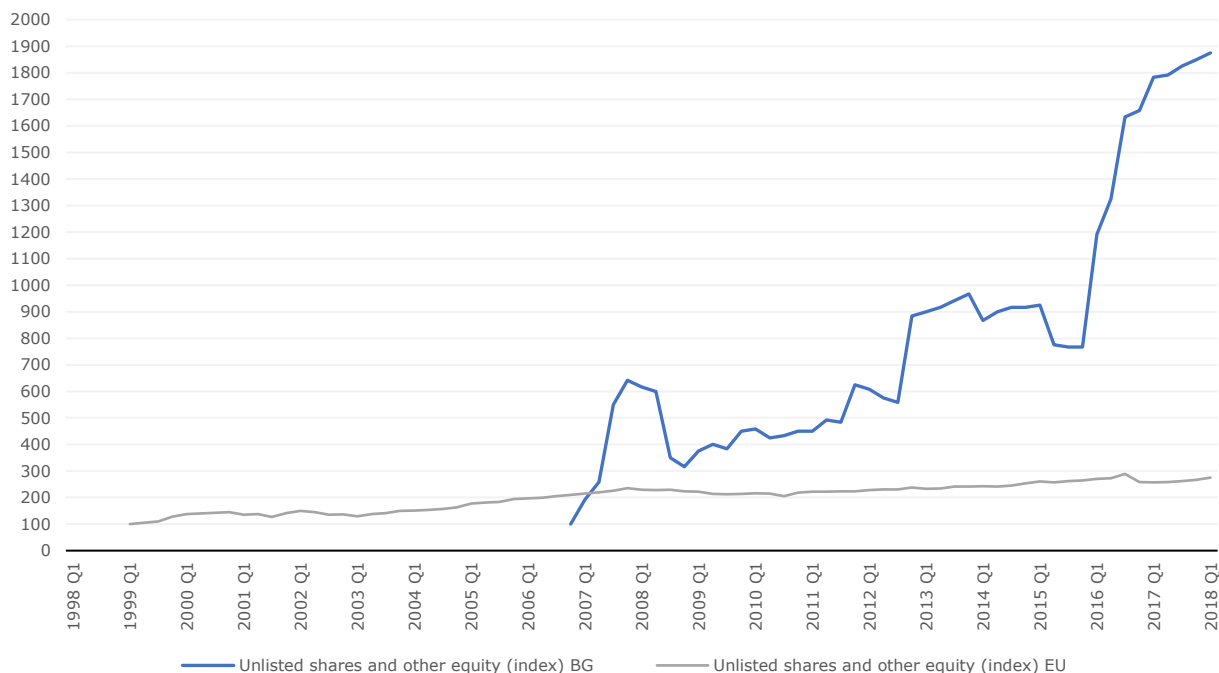
Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

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



Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

**Graph 11 - Evolution ECB Unlisted shares BG and EU (as index)**



## 6.5 Trends in Equity Investments

This section provides a trend analysis of the equity investments of insurers in Bulgaria 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.

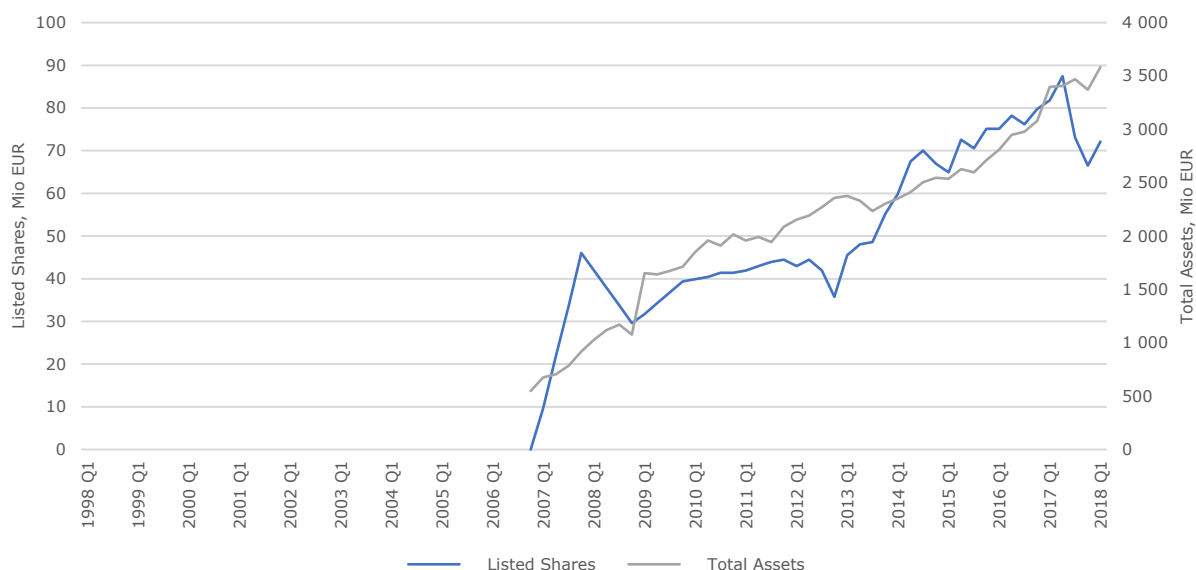
In the next step, we focus on the relationship with the listed shares and stock market indices. The ECB QSA balance sheet items are valued at market prices at the end of each quarter. Therefore, it is plausible to assume that the changes in the stock prices are reflected on the amounts held in listed 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<sup>12</sup>. Overall, we observe an upward trend total assets of the insurance sector and investments in listed shares. However, besides the period of Global Financial Crisis, we observe more than 10% decrease in the amounts invested in listed shares in 2012 Q4 and 2017 Q3. The decrease in 2017 is followed by another drop of 9,09%. After these declines, we observe that the investments recover.

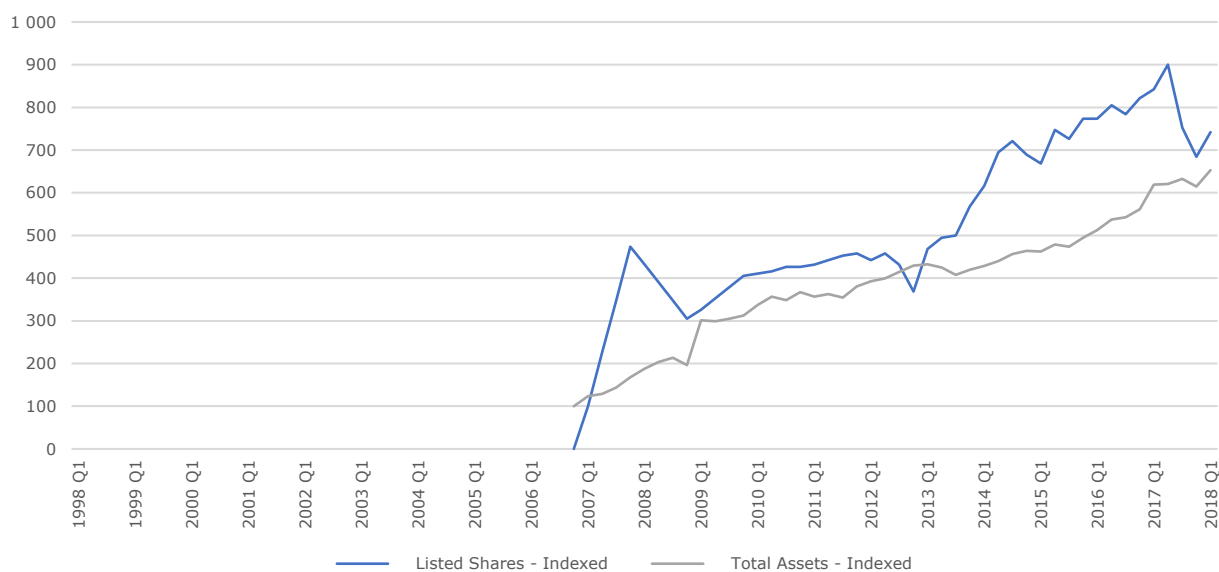
On the indexed values of total assets and investments in listed shares, differences in the growth pattern of these two series can be better observed. Over the period of 2006 Q4 – 2018 Q1, indexed value of total assets increases by 553%, while indexed value of listed shares increases by 642% of their initial values.

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<sup>12</sup> It has to be noted that the initial value for the amounts invested in listed shares is 0. Therefore, on the graphs of listed shares, we observe a small jump at the beginning of the available history.

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

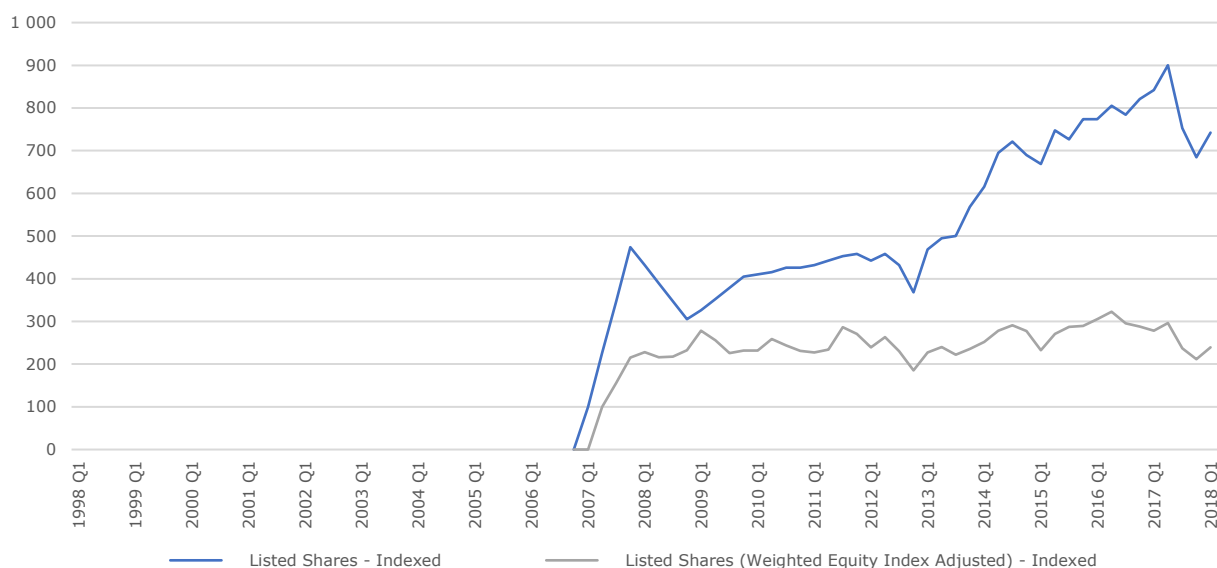
Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

**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. As it can be observed in the graph, the adjustments shifts the values of listed shares for the whole observation period, which suggest that there is a price effect in the amounts invested in listed shares for the period of 2006 Q4 – 2018 Q1. The adjusted series suggest that the amounts invested in listed shares doubles 2007 and after that follow a gradual upward trend until 2016 Q2. After this date, investments in listed shares start to decrease.



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

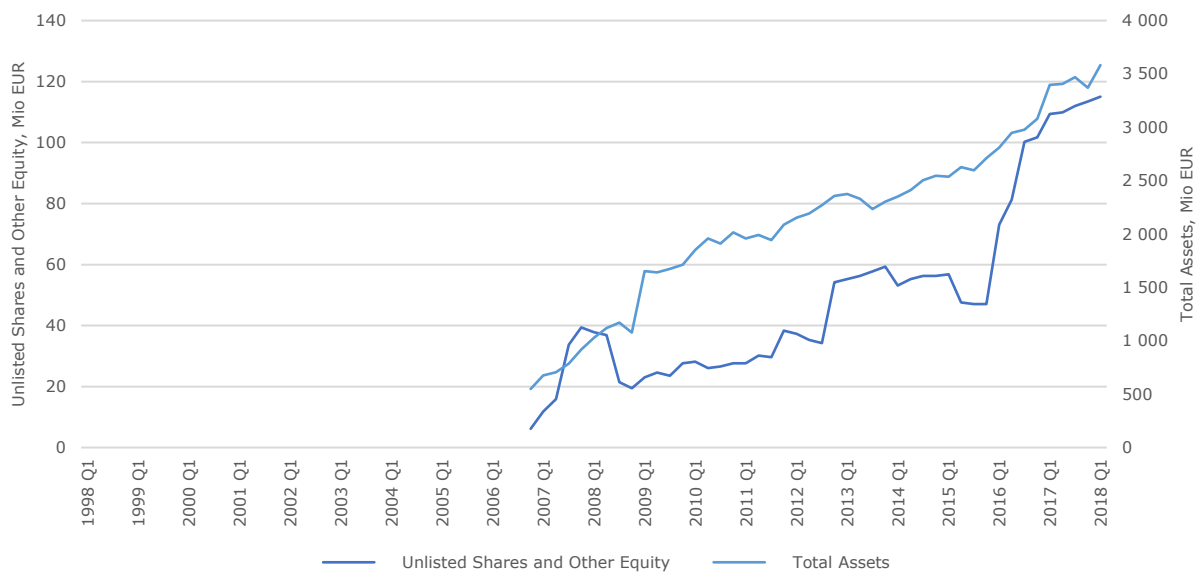
Source: ECB Statistical Data Warehouse and Deloitte-CEPS analysis

### 6.5.2 Unlisted Shares

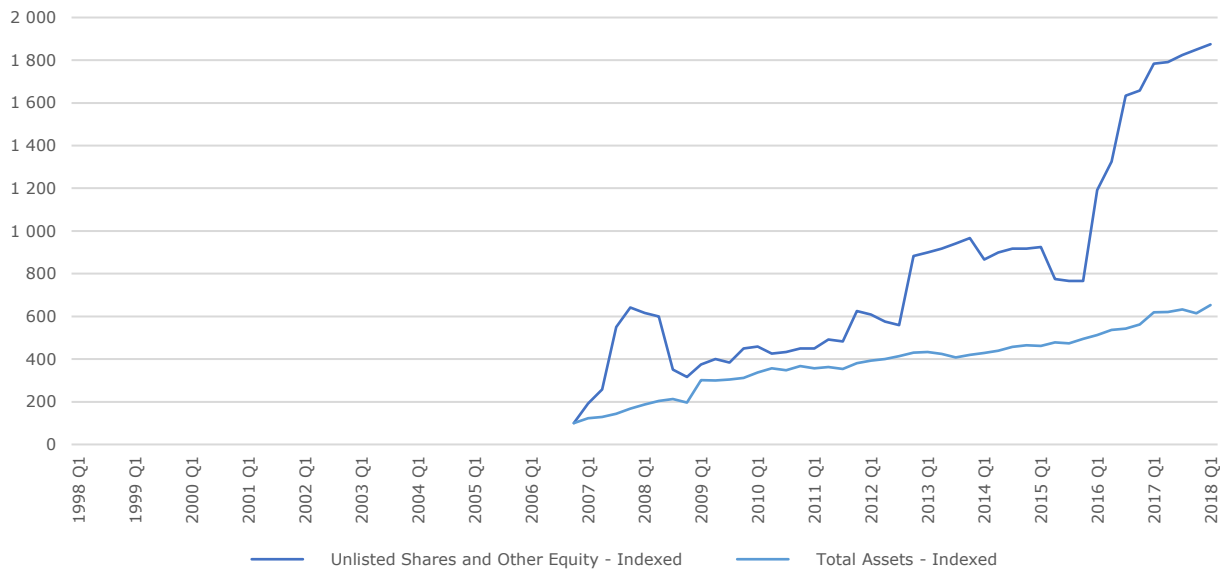
Graph 15 depicts the amounts invested in unlisted shares and other equity plotted against the total assets in the insurance markets of while Graph 16 presents the indexed values of the series for an easier comparison of the movements in these two series. Similar to the listed shares and total assets, we observe an overall upward trend in the amounts invested in unlisted shares and other equity. In the case of unlisted shares and other equity, we observe steep increases in 2007 Q3 – 2007 Q4, 2012 Q4, and 2016 Q1 – 2017 Q1.

The growth patterns of total assets and unlisted shares and other equity can be compared on the indexed amounts. Over the period 2006 Q4 – 2018 Q1, indexed value of total assets increases to 653 while indexed value of unlisted shares and other equity reach 1 875.

According to the Bulgarian NSA, the increase of the “Unlisted Shares and Other Equity” including the sharp increases in ‘Unlisted Shares and Other Equity’ in 2006, 2012, and 2016, reflects a search for yield in a low interest rate environment.

**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