

## SECTION 2 – RISKS OF INSURANCE COMPANIES

### 2.1 INSURANCE RISKS

#### QUALITATIVE AND QUANTITATIVE INFORMATION

##### Life business

The typical risks of the life insurance portfolio (managed by Intesa Sanpaolo Vita, Intesa Sanpaolo Life and Fideuram Vita) may be divided into three main categories: premium risks, actuarial and demographic risks and reserve risks.

Premium risks are managed initially during definition of the technical features and product pricing, and over the life of the instrument by means of periodic checks on sustainability and profitability (both at product level and at portfolio level, including liabilities). When defining a product, profit testing is used, aimed at measuring profitability and identifying any weaknesses beforehand, by means of specific sensitivity analyses.

Actuarial and demographic risks arise when an unfavourable trend is recorded in the actual loss ratio compared with the trend estimated when the rate was calculated, and these risks are reflected in the level of “reserves”. The loss ratio refers not only to actuarial loss, but also to financial loss (guaranteed interest rate risk). The Company guards against these risks by means of systematic statistical analysis of the evolution of liabilities in its own contract portfolio, divided by risk type, and through simulations of expected profitability of the assets hedging technical reserves.

Reserve risk is guarded against through the exact calculation of mathematical reserves, with a series of detailed checks (for example, checking that all the variables required for the calculation such as yields, quotations, technical foundations, parameters for the supplementary reserves, and recalculation of the value of single contracts are correctly saved in the system) as well as overall verifications, by comparing results with the estimates produced on a monthly basis. Specific attention is paid to checking the correct assumption of contracts, by checking the relative portfolio against the reconstruction of movements during the period, divided by purpose, and checking the consistency of the amounts settled compared with the movements of reserves.

The tables below show the structure of the mathematical reserves by expiry date, excluding reserves for amounts to be paid and before intercompany netting, and the structure of the guaranteed minimum yield as at 31 December 2017.

	(millions of euro)	
<b>Breakdown of mathematical reserves of life branch: maturity</b>	<b>Mathematical reserve</b>	<b>%</b>
up to 1 year	246	0.32
1 to 5 years	5,748	7.48
6 to 10 years	1,396	1.82
11 to 20 years	1,284	1.67
over 20 years	68,166	88.71
<b>TOTAL</b>	<b>76,840</b>	<b>100.00</b>

	(millions of euro)	
<b>Breakdown of risk concentration by type of guarantee</b>	<b>Total Reserves</b>	<b>%</b>
<b>Insurance and investment products with guaranteed annual yield</b>		
0% - 1%	15,790	19.34
from 1% to 3%	49,045	60.07
from 3% to 5%	6,159	7.55
<b>Insurance products</b>	<b>5,846</b>	<b>7.16</b>
<b>Shadow reserve</b>	<b>4,801</b>	<b>5.88</b>
<b>TOTAL</b>	<b>81,641</b>	<b>100.00</b>

The mathematical reserves are calculated on almost the entire portfolio, on a contract-by-contract basis, and the methodology used to determine the reserves takes account of all the future commitments of the company.

The following table shows a breakdown by maturity of financial liabilities, before intercompany netting, represented by assets covering commitments arising under unit- and index-linked policies and subordinated liabilities.

Breakdown of financial liabilities by maturity	(millions of euro)			
	Within 12 months	Over 12 months	Total as at 31.12.2017	Total as at 31.12.2016
Unit linked	211	68,187	68,398	57,352
Index linked	-	1	1	806
Subordinated liabilities	537	1,535	2,072	1,402
<b>Total</b>	<b>748</b>	<b>69,723</b>	<b>70,471</b>	<b>59,560</b>

### Non-life business

The typical risks of the non-life insurance portfolio (managed through Intesa Sanpaolo Assicura and Intesa Sanpaolo Vita) mainly relate to premium and reserve risks.

Premium risks are managed initially during definition of the technical features and product pricing and over the life of the instrument by means of periodic checks on sustainability and profitability (both at product level and at portfolio level, including liabilities).

Reserve risk is monitored through the exact calculation of technical reserves. More specifically, for companies with non-life business the technical reserves may be broken down into: premium reserves, claims reserves, profit sharing and reversal reserves, other technical reserves and the equalisation reserve.

With regard to risk assumption, policies are checked when acquired through an automatic system aimed at detecting the underwriting parameters associated with the applicable tariff. The check is thus not only formal, but also substantive, and in particular allows the identification of exposures in terms of capital and limits of liability, in order to verify that the portfolio matches the technical and tariff scheme agreed upon with the sales network.

Subsequently, statistical checks are carried out to verify potentially anomalous situations (such as concentration by area or by type of risk) and to keep under control accumulation at the level of individual persons (with particular reference to policies that provide cover in the accident and health branches). This is also carried out in order to provide the Financial Reporting Actuarial Analysis and Reinsurance Unit with suitable indications of the portfolio characteristics in order to prepare the annual reinsurance plan.

The following table presents the development of claims by year of generation, broken down into the major business lines of operation, as at 31 December 2017.

Development of Claims Reserves	(millions of euro)					TOTAL
	2013	2014	2015	2016	2017	
<b>Reserve amount:</b>						
as at 31/12 generation year N	118	124	122	128	132	
as at 31/12 year N+1	111	102	99	108		
as at 31/12 year N+2	108	99	97			
as at 31/12 year N+3	106	97				
as at 31/12 year N+4	105					
<b>Total claims paid</b>	<b>92</b>	<b>84</b>	<b>84</b>	<b>76</b>	<b>43</b>	<b>379</b>
<b>Claims reserve booked as at 31.12.2016</b>	<b>14</b>	<b>14</b>	<b>13</b>	<b>32</b>	<b>88</b>	<b>161</b>
<b>Final claims reserve for previous years</b>						<b>19</b>
<b>Total claims reserve booked as at 31.12.2017</b>						<b>180</b>

## 2.2 FINANCIAL RISKS

### Financial Risks

These risks derive from the level or volatility of market prices of financial instruments that impact the book value of both assets and liabilities. The risk factors identified by the company are as follows:

- Interest rate risk: impacts assets and liabilities whose value is sensitive to changes in the forward structure of interest rates or the volatility of interest rates;
- Equity price risk: derives from the level or volatility of market prices of equities and impacts assets and liabilities whose value is sensitive to changes in equity prices;
- Property risk: derives from the level or volatility of market prices of real estate property and impacts assets and liabilities sensitive to said changes;
- Foreign exchange risk: derives from changes in the level or volatility of foreign exchange rates;
- Spread risk: impacts assets and liabilities whose value is sensitive to adverse changes in credit spreads;
- Concentration risk: reflects the risk of holding high percentages of financial assets of the same counterparty.

### Investment portfolios

As at 31 December 2017, the investment portfolios of Group companies, recorded at book value, amounted to 156,043 million euro. Of these, the part regarding traditional revaluable life policies, the financial risk of which is shared with the policyholders by virtue of the mechanism whereby the returns on assets subject to segregated management are determined, non-life policies and free capital amounted to 81,821 million euro. The other component, whose risk is borne solely by the policyholders, mainly consists of investments related to Index-Linked policies, Unit-Linked policies and Pension Funds and amounted to 74,222 million euro. Considering the various types of risks, the analysis of investment portfolios, described below, concentrates on the financial assets used to cover traditional revaluable life policies, non-life policies and free capital.

### Financial assets under segregated funds and free capital

In terms of breakdown by asset class, net of loans on policies and positions in derivative financial instruments (-57 million euro at book value) detailed below, 85.48% of the assets (69,987 million euro) consisted of bonds, whereas assets subject to equity price risk represented 1.97% of the total and amounted to 1,612 million euro. The remainder (12.55%, 10,278 million euro) consisted of investments relating to UCI, private equity and hedge funds.

### Interest rate risk exposure

The breakdown by maturity of bonds showed 6.30% short-term (under 1 year), 31.65% medium-term and 47.53% long-term (over five years).

(millions of euro)			
Financial assets	Book value	%	Duration
<b>Fixed-rate bonds</b>	<b>64,334</b>	<b>78.57</b>	<b>6.02</b>
up to 1 year	4,393	5.37	
1 to 5 years	23,600	28.82	
over 5 years	36,341	44.38	
<b>Floating rate/indexed bonds</b>	<b>5,653</b>	<b>6.91</b>	<b>3.73</b>
up to 1 year	766	0.94	
1 to 5 years	2,314	2.83	
over 5 years	2,573	3.14	
<b>TOTAL</b>	<b>69,987</b>	<b>85.48</b>	<b>-</b>
<b>Equities or similar capital securities</b>	<b>1,612</b>	<b>1.97</b>	
<b>UCI, Private Equity, Hedge Fund</b>	<b>10,278</b>	<b>12.55</b>	
<b>TOTAL AS AT 31.12.2017</b>	<b>81,877</b>	<b>100.00</b>	

The sensitivity of the fair value of the portfolio of financial assets to interest rate movements, summarised in the table below, highlights both exposure of the securities portfolio and the effect of positions represented by hedging derivatives which reduce its sensitivity. For example, a parallel shift in the yield curve of +100 basis points leads to a negative fair value change in the bond portfolios of 3,834 million euro.

(millions of euro)				
	Book value	%	Fair value changes due to interest rate fluctuations	
			+100 bps	-100 bps
Fixed-rate bonds	64,334	91.92	-3,653	4,050
Floating rate/indexed bonds	5,653	8.08	-181	197
Interest rate risk hedging effect	-	-	-	-
<b>TOTAL</b>	<b>69,987</b>	<b>100.00</b>	<b>-3,834</b>	<b>4,247</b>

**Credit risk exposure**

The table below sets forth the distribution of the bond portfolio by rating class: AAA/AA bonds represented 3.21% of total investments and A bonds approximately 5.31%. Low investment grade securities (BBB) were 74.87% of the total, while the portion of speculative grade or unrated was minimal (2.09%).

With regard to exposure to BBB rated securities, the majority of the exposure related to bonds issued by the Republic of Italy.

Breakdown of financial assets by issuer rating	(millions of euro)	
	Book value	%
<b>Bonds</b>	<b>69,987</b>	<b>85.48</b>
AAA	1,658	2.02
AA	972	1.19
A	4,350	5.31
BBB	61,299	74.87
Speculative grade	1,572	1.92
Unrated	136	0.17
<b>Equities or similar capital securities</b>	<b>1,612</b>	<b>1.97</b>
<b>UCI, Private Equity, Hedge Fund</b>	<b>10,278</b>	<b>12.55</b>
<b>TOTAL</b>	<b>81,877</b>	<b>100.00</b>

The analysis of the exposure in terms of the issuers/counterparties produced the following results: securities issued by governments, central banks and other public entities made up 75.00% of the total investments, whereas the securities of corporate issuers contributed around 25.00%.

The sensitivity values of the fair value of the bonds with respect to a variation in the creditworthiness of the issuers, namely a market credit spread shock of  $\pm 100$  basis points, as at end of 2017, are shown in the table below.

	Book value	%	(millions of euro)	
			Fair value changes due to credit spread fluctuations	
			+100 bps	-100 bps
Government bonds	52,493	75.00	-3,036	3,396
Corporate bonds	17,494	25.00	-857	906
<b>TOTAL</b>	<b>69,987</b>	<b>100.00</b>	<b>-3,893</b>	<b>4,302</b>

**Equity risk exposure**

The sensitivity of the equity portfolio to a hypothetical deterioration in equity prices of 10% amounts to 161 million euro, as shown in the table below.

	Book value	%	(millions of euro)
			Fair value changes due to stock price fluctuations
			-10%
Equities - Financial institutions	205	12.72	-20
Equities - Non-financial companies and other counterparties	1,407	87.28	-141
<b>TOTAL</b>	<b>1,612</b>	<b>100.00</b>	<b>-161</b>

**Exchange risk exposure**

Approximately 97% of investments are made up of assets denominated in the EU currency. The residual exposure to exchange risk was hedged by positions in financial instruments, particularly domestic currency swaps, in the same currency.

**Financial derivative instruments**

Financial derivative instruments are used to hedge the financial risks of the investment portfolio or for effective management. Liquidity risk associated with positions in financial derivative instruments is primarily attributable to plain-vanilla derivatives (chiefly interest rate swaps, credit default swaps and futures) traded on OTC markets with significant liquidity characteristics and sizes. These instruments are thus also liquid and easily liquidated both with the counterparty with which they were traded and with other market operators.

The table below shows the book values of the financial derivative instruments as at 31 December 2017.

Type of underlying	INTEREST RATES		EQUITIES, EQUITY INDICES, COMMODITIES, EXCHANGE RATES		TOTAL	
	Quoted	Unquoted	Quoted	Unquoted	Quoted	Unquoted
	Hedging derivatives	-	4	-	-	-
Effective management derivatives	-	-67	6	-	6	-67
<b>TOTAL</b>	-	<b>-63</b>	<b>6</b>	-	<b>6</b>	<b>-63</b>

The capital losses shown for the hedging derivatives are offset, due to the nature of the instruments, by the capital gains on the positions hedged. For the purpose of reducing investment risk, the instruments shown under effective management derivatives are also netted with the appreciation of the associated assets.