HOW TO DECREASE SOLVENCY 2 MARKET RISK CHARGE IN SERBIA

Combine old fashion treatment of government bonds with benefits of the 4th industrial revolution
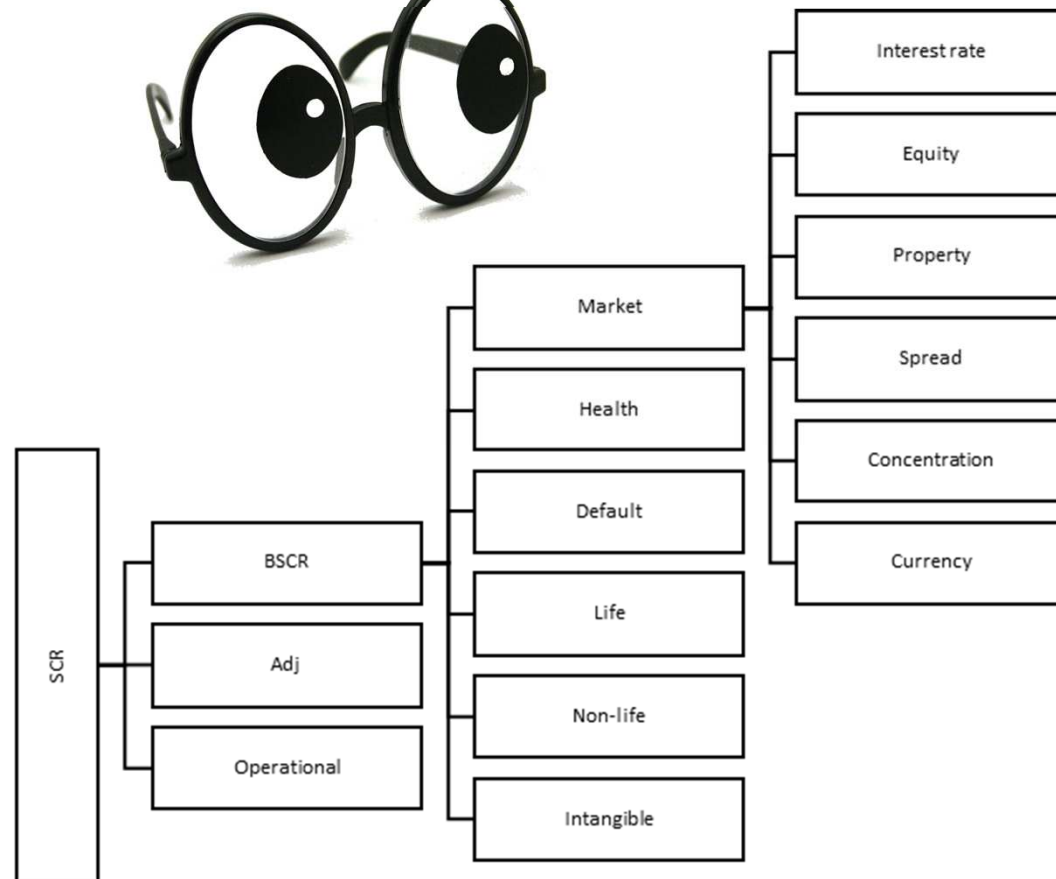
Nikola Rodić

Risk manager & Certified actuary

Societe Generale Osiguranje

MARKET RISK IN SOLVENCY 2

- Solvency 1 approach
  - Focus on UW risks by using a simple parametric formula
  - Market risks are dealt with through quantitative limits
- Solvency 2 uses a completely different approach
  - Lifting restrictions on investments and prescribing the prudent person principle
  - Including market risk in the calculation of capital requirements

| SCR			
	BSCR	Market	Interest rate
		Health	Equity
		Default	Property
	Adj	Life	Spread
	Operational	Non-life	Concentration
		Intangible	Currency

STATUS OF SOVEREIGN RISK IN SOLVENCY 2 AND BASEL 3

- Solvency 2 deals with sovereign exposures in market risk module: spread and market risk concentration

- Solvency 2 gives sovereign exposures risk free status when it comes to exposures to EU member states

- ORSA has been considered as the best way to monitor sovereign risk in the EU

- Basel 3 is the common standard regulating capital requirements for banks around the world

- This approach is mirrored in the EU rules, where sovereign exposures are given a risk free treatment

- Similar approach is applied in Serbia, where bank exposure to the Republic of Serbia and National Bank of Serbia in any currency is given a risk free treatment

SAFE ZONE

SIGNIFICANCE OF MARKET RISK IN SOLVENCY 2

- One important information that has emerged throughout Solvency 2 development and implementation is the importance of market risk charge for the overall SCR
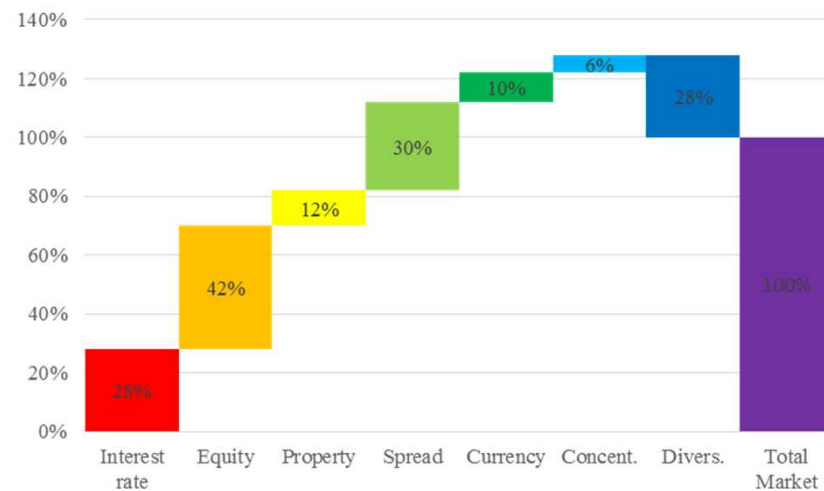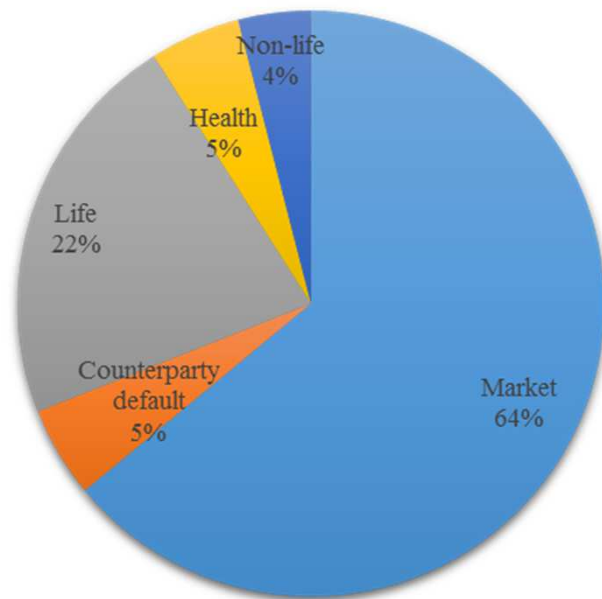
ASSESMENT OF SIGNIFICANCE OF SOVEREIGN RISK IN SOLVENCY 2 IN SERBIA (1/2)

- NBS performed the first quantitative impact study of Solvency 2 in 2018

- One of the most significant issues highlighted was the treatment of Serbian government bonds denominated in EUR

- Mechanical application of the Solvency 2 requirements would result in an unreasonably high capital requirement

- From a risk management perspective ALM in Serbia is conservative
  - Almost all life insurance obligations and a significant part of non-life obligations are in EUR
  - These technical provisions are covered by government bonds in EUR
  - Low risk strategy
    - Currency matching of assets and liabilities
    - Minimization of counterparty risk
    - Takes into account local investment constraints

ASSESMENT OF SIGNIFICANCE OF SOVEREIGN RISK IN SOLVENCY 2 IN SERBIA (2/2)

- NBS in QIS 1 differentiated the exposures to Serbian government bonds in
  - RSD treated as risk free
  - EUR treated as risky

- We developed a model to estimate the magnitude of the sovereign risk in Solvency 2 in Serbia
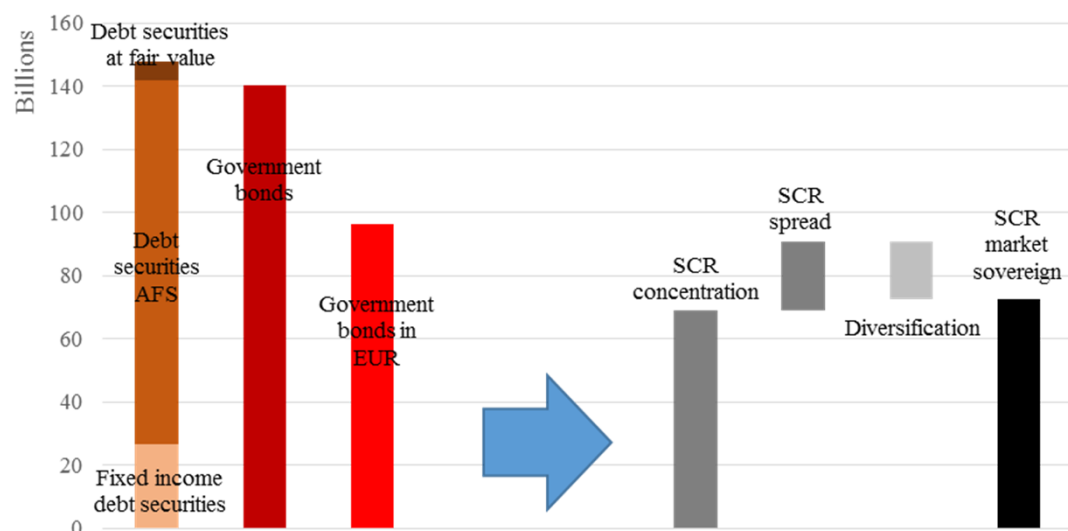
- S2 capital requirement of 73 billion RSD just for sovereign exposure is much higher than the total Solvency 1 requirement of 16.5 billion RSD

POSIBILE WAY TO SIGNIFICANTLY DECREASE SOLVENCY 2 MARKET RISK DUE TO SOVEREIGN RISK IN SERBIA

- Adequate treatment of risk of sovereign exposure of the Serbian insurance market can be tackled in two ways and in two phases

1. Before Serbia becomes an EU member state – application of 0% factor to exposure to Serbian government bonds in RSD and EUR in both spread and market risk concentrations submodule (equivalent to treatment in domestic banking regulation)

2. After Serbia becomes an EU member state – treatment of Serbian government bonds
   - In RSD as risk free (full application of Solvency 2 requirements to member state sovereign risk)
   - In EUR as Serbian government bonds in RSD with a EUR currency clause
     - Need to reorganize the practice of issuing government bonds – settlement of EUR government bonds in RSD
     - Accounting point of view – the contracts with currency clause in EUR are essentially contracts in local currency with integrated financial derivative
     - Change of treatment of technical provisions in EUR – reclassified as RSD technical provisions with a EUR currency clause (this treatment would allow to use RFR in RSD for discounting)

BENEFITS OF 4TH INDUSTRIAL REVOLUTION FOR SOLVENCY 2 CALCULATIONS

- Solvency 2 calculations are much more complex than they were in the Solvency 1 world

- Solvency 2 calculations reveal the need for:
  - Stochastic modeling
  - Increased need of granular data
  - Industrial style calculations
  - Significant computing power

- The requirements of complex Solvency 2 calculations cannot be satisfied manually and there is a strong need to harness the power of modern technologies and benefit from the achievements of the 4th industrial revolution

Professor Balthazar is able to solve all problems by using his magic machine

CONCLUSIONS

- QIS should serve as an input for Solvency 2 implementation and accession negotiation of Serbia with the EU

- We propose a treatment of risk of sovereign exposure that would result in a significant decrease of capital requirement (aligned with actual risk)
    - Before Serbia joins the EU exposure to all Serbian government bonds can be treated as risk free
    - After Serbia joins the EU the old-fashioned treatment of Serbian sovereign exposures in EUR using the currency clause

- Treatment of Serbian government bonds in EUR should be tackled as soon as possible giving local insurance companies certainty of business environment and mitigating the risk of Serbian insurance market becoming too expensive to operate in from a Solvency 2 perspective

- Insurance companies have to prepare on time and invest in modern technologies in order to enable Solvency 2 calculations and benefit from the achievements of the 4th industrial revolution

Thank you for your attention

nikola.a.rodic@socgen.com