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Climate Risk Assessment of the sovereign bond portfolio of European insurers

**UZH Sustainable Finance Conference 2020: Climate
Change & Financial Risk**

Session “From research to practice: How can financial
institutions assess climate transition risk?”

Zürich, 16th January 2020

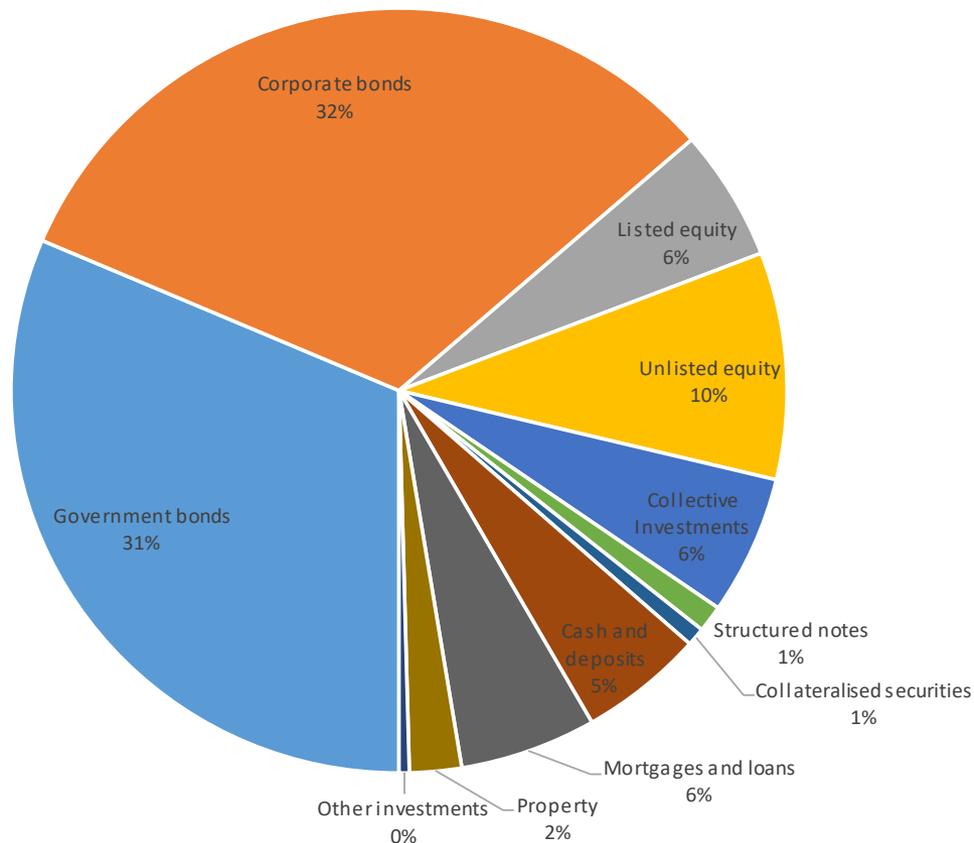
- **Climate change risks** continue to demand **attention from insurers and supervisors alike**
- **Insurers can play a key role** in the transition towards a low carbon economy as major institutional investors, but this transformation carries significant investment risks as well
- It is therefore **crucial that insurers** actively **incorporate climate change risks in their own risk management frameworks**
- At the same time, climate change can also have a significant impact on the liabilities of non-life insurers and reinsurers, as extreme weather related events become more frequent and severe

- EIOPA have taken **several initiatives** to pro-actively tackle the climate challenge
- **Analysis on potential climate-sensitive exposures in insurance investment portfolios** (see EIOPA Financial Stability Report December 2018)
- **EIOPA Opinion on integrating sustainability and climate change risks into the Solvency II framework** (September 2019)
- Work on **sensitivity analysis** on the investments of European insurers to assess transition risks ongoing
- Work on **methodologies for climate change stress testing** to be used in future stress test exercises ongoing
- Importance of the **topic** is also **reflected in the revised EIOPA regulation**

- Analysing the potential impact of climate change is challenging and requires **close cooperation between academia, policymakers and financial regulators/supervisors**
- Thematic article on the impact of climate change on the sovereign bonds portfolio of insurers* provides a great example of this cooperation
- Further cooperation and close dialogue is needed

Why to analyse the sovereign bond portfolio of European insurers

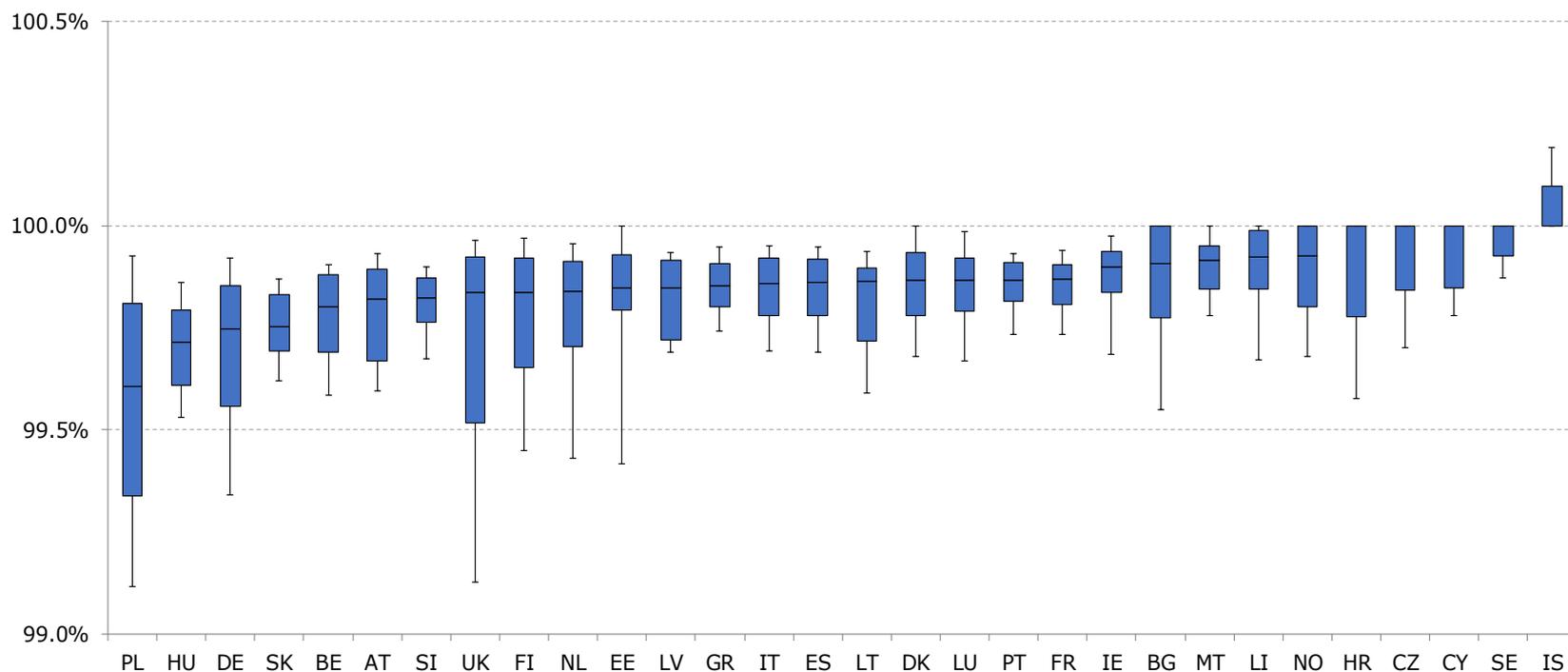
Investment split for the European insurance sector in Q2 2019



- Given the role of the insurance sector in the economy and finance, the exposure of insurance firms to climate-related financial risks deserve to be monitored and assessed

- The results show that the **potential impact** of a disorderly low carbon transition **on insurers portfolios of sovereign bonds is moderate** in terms of its magnitude, **but** it is **non-negligible in several feasible scenarios**
- Overall, **climate policy transition path** chosen and the role of fossil fuels and renewable energy technologies in the sovereign's GVA and fiscal revenues, **can considerably affect the fiscal and financial risk position of a country**, via the change in the probability of default (PD) and in the value of the sovereign bonds and the Climate Spread
- Potential impact on insurers' sovereign bond portfolios differs based on insurers' holdings

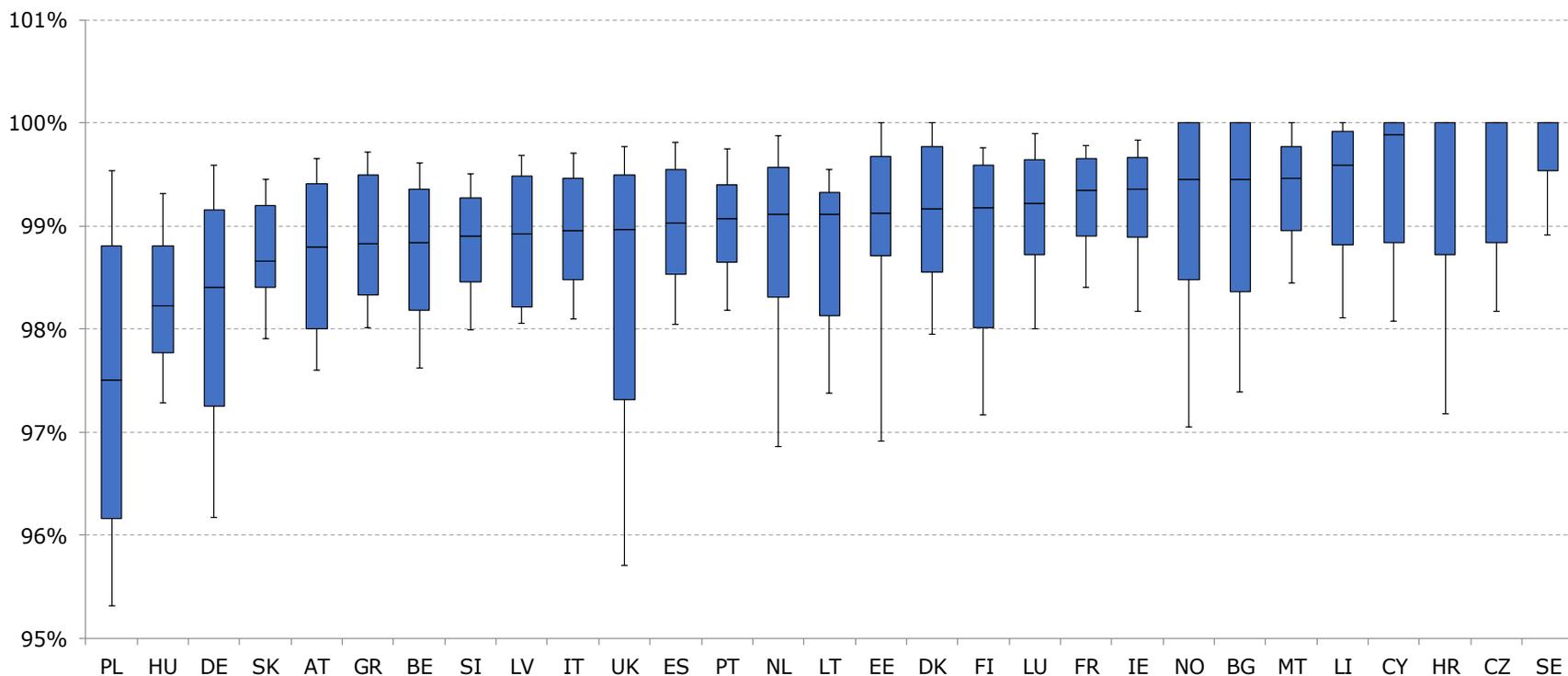
Distribution of impact on sovereign holdings of European insurers conditioned to the country of the holder, across climate policy shock scenarios and under the mild scenario on market conditions



Source: EIOPA

Note: Y-axis corresponds to the percentage of the original value of government portfolios (e.g. 100% expresses 0% impact, 97% corresponds to drop of 3%).

Distribution of impact on sovereign holdings of European insurers conditioned to the country of the holder, across climate policy shock scenarios and under the adverse scenario on market conditions



Source: EIOPA

Note: Y-axis corresponds to the percentage of the original value of government portfolios (e.g. 100% expresses 0% impact, 97% corresponds to drop of 3%).

Assessing climate-related financial risks is challenging for the industry and regulators



- A main obstacle for insurers is the **lack of appropriate methodologies** to price forward-looking climate risks and opportunities in the value of individual financial contracts and in the probabilities of default of investors' portfolios
- Climate risks are **forward-looking characterised by deep uncertainty** (fat tailed distributions, non-linearity, endogeneity - potential multiple equilibria)
- Climate transition risks **cannot be priced based on historical market data** but require to use the information on future climate policy shocks produced by climate economic models
- Pricing climate in investors' portfolio **requires to move from the backward-looking nature of traditional financial risk assessment to a forward-looking assessment**

- The work done could help to **raise awareness of climate risk for insurers**
- The conducted **climate financial risk pricing exercise could be** further extended and **used in a climate stress-test exercise** for financial risk monitoring and assessment purposes
- **Further work is needed** and cooperation between EIOPA and academia will continue
- In this respect, **EIOPA** recently **launched call for research proposals**, setting up a research platform for the cooperation



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Thank you for your attention!

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