

Business Case

Practical application of transition risk scenario analysis using PACTA tool & IORP Stress Test

1. Introduction of climate change scenario analysis

Climate change constitutes a serious risk for society, including insurance and reinsurance undertakings (collectively “undertakings”). The detrimental impact of global warming on natural and human systems is already visible today and without further international climate action, the global average temperature and associated physical risks will continue to increase, raising underwriting risk of undertakings, impacting asset values and challenging their business strategies.

Talking about climate change risk we refer to all risks coming from trends or events caused by climate change. The European Commission’s Guidelines on non-financial reporting affirms that climate change risk can broadly be divided into two different channels: physical risks and transition risk.

- Physical risks are risks faced by financial institutions due to the economic costs and financial losses caused by direct physical effects of climate change (such as flood, fires, heatwaves, temperature changes, rising sea levels, reduced water availability, etc.).
- Transition risks are risks that arise from the transition to a low-carbon and climate resilient economy. They are all the risks related to the process of adjustment towards a low-carbon economy to meet the objectives of the Paris Climate Agreement.

On April 2021, the European Commission has published a Delegated Regulation (EU) 2021/1256 amending the Delegated Regulation (EU) 2015/35 (Solvency II Directive) as regards the integration of sustainability risks in the governance of insurance and reinsurance undertakings, specifying that insurance companies should integrate sustainability risks in their risk management and ORSA.

Following the Del. Reg. (EU) 2021/1256 on the inclusion of sustainability risks within the Risk Management policy framework (art. 2), EIOPA (European Insurance and Occupational Pensions Authority) introduces the requirement to integrate climate change risks within the Governance system, the risk management activities and the ORSA.

In the ORSA Report, insurance companies must perform an assessment to identify exposures to the risk of climate change and subject these exposures to a short-term and long-term climate change risk assessment by using climate change scenarios analysis.

To perform climate change scenario analysis EIOPA suggests different methodologies/tools that can be used for assets and liabilities side. To assess the impact of climate change on the asset side, PACTA (Paris Agreement Capital Transition Assessment) tool is one of the EIOPA recommended methods.

In addition to that, EIOPA itself has carried out its first climate stress test for the Institutions for Occupational Retirement Provisions (IORPs), providing an inputs’ helper tool with final stress factors to assess the reduction in asset value associated with transition risk.

2. PACTA (Paris Agreement Capital Transition Assessment) tool

Launched in 2018, the Paris Agreement Capital Transition Assessment (PACTA) was developed by the 2° Degrees Investing Initiative (2DII) in conjunction with a wide range of partners. It is a tool open source which assesses the alignment of corporate bonds, and listed equities with international climate objectives such as the Paris Agreement. The objective is to analyse the current exposure of firms' investment portfolios to economic activities affected by the transition to a low-carbon economy, illustrating the alignment with a transition within a period of five years and assessing the expected future exposure to high and low-carbon economic activities.

PACTA tool measures the alignment of an investment portfolio into eight economic sectors considered "climate relevant" that collectively account for about 75% of global greenhouse gas emission. The climate relevant sectors are power, coal mining, oil and gas upstream sectors, auto manufacturing, cement, steel, aviation, and shipping.

The time horizon of the scenario analysis is five years, which reflects the time horizon of capital expenditure planning for which meaningful data is available, across all sectors. Although this time horizon may differ across sectors, a homogeneous time-period is taken to allow the comparison of results among different sectors.

PACTA compares the technology mix and 5-year production plans of underlying companies in the portfolio with the sectoral pathways (also known as technology roadmaps) towards a given scenario, allowing for a dynamic, scenario based and forward-looking approach.

3. 2022 IORP Stress Test

EIOPA, together with the ESRB (European Systemic Risk Board) and the ECB (European Central Bank), has carried out its first climate stress test for the Institutions for Occupational Retirement Provisions (IORPs) sector in the European Economic Area (EEA) to gain insights into the effects of environmental risks on the occupational pension sector.

The main objective it was to assess IORPs' exposure to environmental risks by estimating the impact of transition risk on IORPs' financial position. Specifically, it is designed to simulate the scenario of a sudden, disorderly climate-policies transition to a green economy in line with the objective of the Paris Agreement. The time horizon of the analysis is 10 year and the final output provided by EIOPA to run the analysis is an inputs' helper tool, which brings together all variables and shocks that Companies need to apply to both assets and liabilities to assess the value reduction associated with the occurrence of transition risk.

4. Scope of the Business Case

The following business case consists in the application of the PACTA tool and IORP Stress Test to analyse the alignment of an investment portfolio with the objective of the Paris Agreement, and the possible future market value reduction if such climate change scenario will occur. The objective is to understand which features and elements of the portfolio lead to such climate risk exposure, since all the considerations that may emerge from the analysis could be used to inform risk management, target setting and climate strategies.

Dividing up the assets at risk by sector, technology and geography provides crucial insight to understand where risk originates from and where opportunities lie. To this end, all the data and information obtainable

from the PACTA climate scenario analysis are crucial to find the best strategy to minimize the exposure to the transition risk. This means finding the strategy that leads to the best possible production-alignment with the objective of Paris Agreement and the least possible reduction in the market value of the portfolio.

Therefore, such an analysis can be useful both as an adaptation and prevention strategy. In the first case, to limit the losses that would be incurred by an existing portfolio, such as losses caused by those portfolio companies which are strongly exposed to technologies with higher risk. In the second case, to select a future investment portfolio in line with a path of gradual decarbonization of assets on the balance sheet and base its investment policy considering these results.