DIRECTED RESEARCH PROBLEM STATEMENT

Research Theme	Climate Risk Modelling		Problem Nr.	PS21006

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1. **Project Title:** Integrating Climate Risks into the future of Credit Risk Assessment, and the next Frontier of Banking

2. **Project Goal:** To develop a research-based approach for quantifying the impact of climate change on expected credit losses

3. **Higher level description of problem:** As understanding of the potential impact of climate change on economies, industries and individuals increases, financial industry participants are shifting focus towards development of robust and credible methodologies for quantifying the impact of climate risk on their operations and, by extension, the operations of their clients.

   Credit risk, which is the risk of financial loss resulting from a customer's failure to fulfil their obligation to repay the outstanding principle and interest on a loan, is the primary risk assumed by banks when granting credit. Effective management of credit risk is reliant on accurate estimation of expected credit losses which, in turn, relies on accurate estimation of the probability that a customer will default on a loan and expected recoveries post the point of default, including recoveries from sale of collateral.

   Both the ability of a customer to generate cashflows and hence service debt, and the future value of loan collateral, can be impacted by climate change. Accurate estimate of expected credit losses therefore requires accurate modelling of the impact of climate change on associated risk measures.

4. **Project objectives:** To research available methodologies for quantification of the impact of climate change on expected credit losses and to make recommendations regarding suitable approaches for adoption within the banking industry.
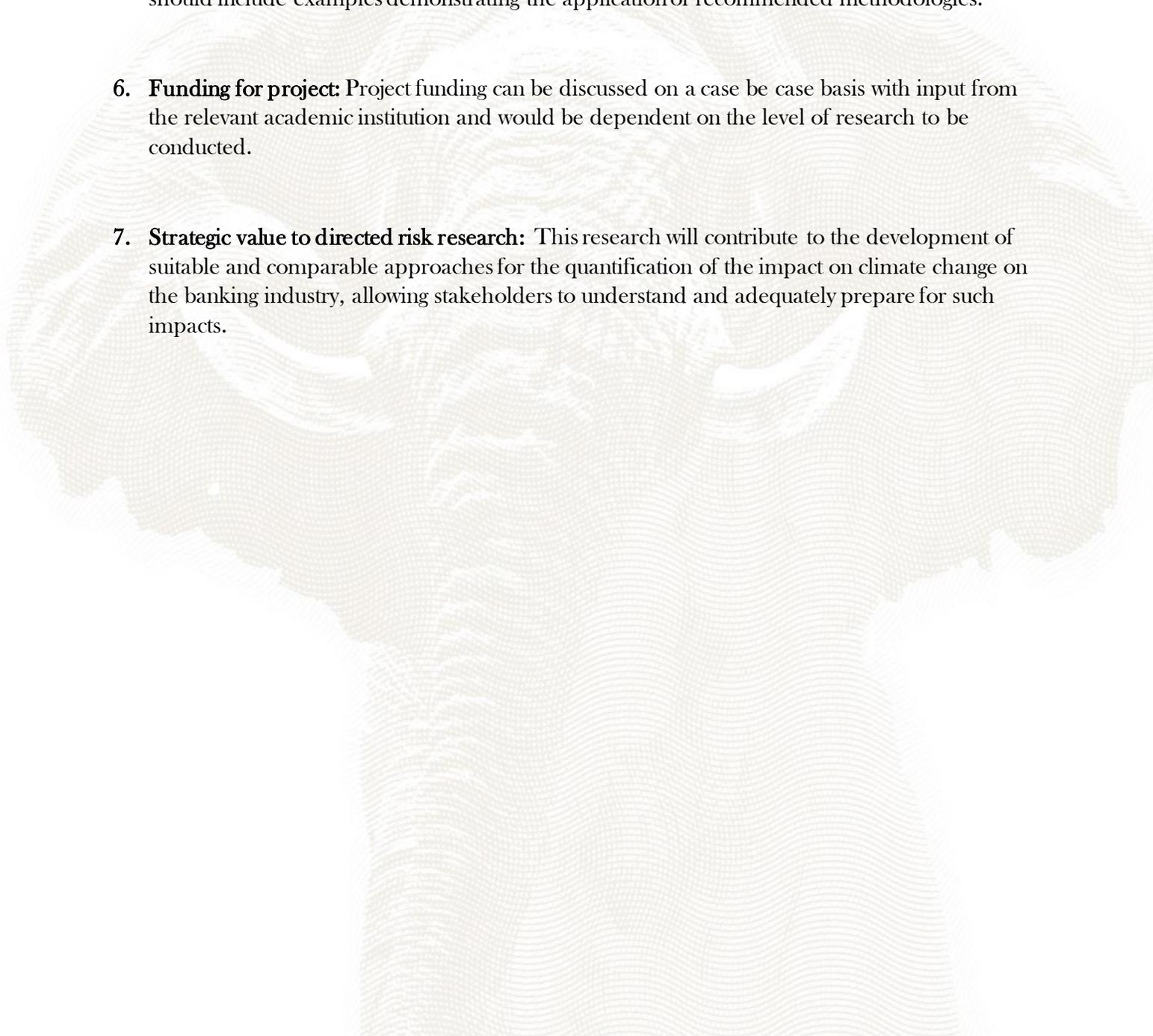
5. **Outputs required:** A research report detailing available methodologies for quantification of the impact of climate change on expected credit losses and providing recommendations for suitable methodologies that could be adopted within the banking industry. The research report should include examples demonstrating the application of recommended methodologies.

6. **Funding for project:** Project funding can be discussed on a case be case basis with input from the relevant academic institution and would be dependent on the level of research to be conducted.

7. **Strategic value to directed risk research:** This research will contribute to the development of suitable and comparable approaches for the quantification of the impact on climate change on the banking industry, allowing stakeholders to understand and adequately prepare for such impacts.