

## Data Sheet C

**Scholarship financed by PNRR (National Recovery and Resilience Plan) funds pursuant to DM (Ministerial Decree) No. 117 of 02.03.2023**

**Mission 4, Component 2 'From Research to Enterprise', Investment 3.3 'Introduction of innovative PhDs that addresses the innovation needs of enterprises and promote the recruitment of researchers in enterprises'**

**Available post pursuant to DM 117/2023 within the Economics PhD 39<sup>th</sup> cycle: 1**

<p><b>1 post with scholarship for the following binding research topic:</b> 'Integration of climate risk assessment into investment decisions to promote the transition to a low-carbon economy: policy evaluation and resource optimization.'</p>
<p><b>Scholarship co-funded by:</b> OpenEconomics S.r.l.</p>
<p><b><u>"Introduction to the Innovative PhD with Luiss and OpenEconomics S.r.l."</u></b></p> <p>The PhD project focuses on research in the field of climate-related financial risk, aiming to develop the theme of integrating physical and transition risks related to climate change within economic and financial models. The objective is to align financial analysis practices with decarbonization policy goals and with the risks associated with them.</p> <p><b><u>Consistency with the objectives of the PNRR:</u></b></p> <p>The National Recovery and Resilience Plan (PNRR) includes significant investments in green technologies and infrastructures to reduce carbon emissions and promote the use of renewable energy. These investments are expected to help Italy mitigate climate risks by limiting further global warming. Furthermore, some projects within the PNRR are aimed at climate change adaptation, such as those for land protection and water resource management. These projects aim to reduce Italy's vulnerability to climate risks such as floods, droughts, and sea level rise. The PNRR also includes investments in innovation and research to develop more effective technologies and methods to address climate risks. This may involve research on climate models, carbon capture and storage technologies, and methods to integrate climate risks into economic and policy decisions. Specifically, the research project aims to identify economic and financial evaluation methodologies useful for internalizing climate and environmental risks, both physical and transitional, as well as the resulting energy policies in policy analyses and investment choices.</p> <p><b><u>Description of the Project:</u></b></p> <p>The proposed research project aims to explore the possibility of integrating the analysis of climate risks - both physical and transitional - into the existing economic/financial literature. The objective is to understand how mitigation policy scenarios for these risks can be effectively integrated into the construction and calibration processes of economic and financial models, for example, through the development of scenario-based models. Such models should enable us to understand how shocks - arising from different socioeconomic, energy, and environmental scenarios - propagate throughout the economy and impact not only individual sectors but also financial markets. The development of these models will require the application of advanced quantitative and econometric methods (including machine learning techniques, predictive modelling, Monte Carlo simulations, and bootstrap) for data processing and interpretation. The ultimate aim of the project is to develop tools that assist policymakers and financial market operators in making decisions that incorporate climate risk scenarios, effectively contributing to the transition towards a more sustainable and resilient economy.</p>
<p><b><u>Compulsory months of attendance abroad:</u></b> The visiting period for PHD students shall last at least 6 months (maximum 12) in a location to be specified by the start of the programme (by December 2023).</p>
<p><b><u>Compulsory months of attendance in companies:</u></b> OpenEconomics S.r.l. (minimum 6 months - maximum 12 months).</p>