京都大学
KYOTO UNIVERSITY

Report of KU - UZH Joint Research Project

Section 1

Project title:	Modelling Sustainable Finance
Project coordinator (KU) **Name** **Position** **Faculty, department**	 Chiaki Hara Professor Institute of Economic Research
Project coordinator (UZH) **Name** **Position** **Faculty, department**	 Thorsten Hens Professor Department of Finance, Economics, Business and Informatics
Period of project	From: 01.09.2023 To: 31.03.2024
Project location	
No. of participants	[KU] Faculty members: 2 Students: 1 Others: [UZH] Faculty members: 1 Students: 1 Others: Others: 3 *A participant list can be attached instead of completing the above section. The list should include the details above.
URL at which project outcomes can be viewed (e.g. workshop notifications/programs/reports, evidence of academic papers published or otherwise made available, etc.)	https://www.kier.kyoto-u.ac.jp/search_workshop/?search_term%5B%5D=490 https://sites.google.com/view/workshop-sustainable-finance/home
Photographs with captions	Please submit digital files (such as JPEG or GIF files) of the photographs used in your report as attachments. The size of each image should be 4MB, so that it can be used for printed materials. Please ensure that none of the photographs submitted will cause any issues relating to portrait rights.

Section 2

Summary of the project (approx. 200 words)

There has been a large body of literature that investigate whether the firm's propensity for greener production may increase its stock prices (and its market value), but the results have often been mixed. This fact points to the need for a rigorous, simple, tractable, and yet reasonably general model of asset markets with environmentally conscious consumers.

The purpose of this project is to develop such a theoretically sound model for the study of sustainable finance. Specifically, we extend the celebrated Capital Asset Pricing Model (CAPM) to the case where the consumers/investors care not only about the mean and variance of stock returns but also how green the production activities of the firms they invest in are. We show that the equilibrium stock prices will be discounted (and, hence, the stock returns will be increased) by the index of the harm that the firm's production activities will cause on environment; and that the consumers/investors' optimal portfolios involve not only the bond and the market portfolio but also an idiosyncratic term that reflects how his/her green consciousness differs from the average consumer's counterpart. We further establish that unless the asset markets are complete, the firm should not pursue mere profit maximization but take its shareholders' preferences for greener production activities into consideration.