Innovation finance and perceptions of risk and uncertainty

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Project description:

This project aims to address the research question of how perceptions of risk and uncertainty by fund managers and other investors in innovation shape their investment decisions. Outcomes of efforts to develop new products and services are often difficult to predict, which poses substantial problems for investors trying to estimate the likelihood of success in order to determine a market price for innovation projects. Technical innovation (Fagerberg and Verspagen, 2009) creates investment opportunities whose payoff distributions reflect substantial risk and often escape specification at all. In classical finance theory, which deals with expected returns and easily quantifiable risk, financing problems of innovative firms are often rationalised by moral hazard problems that are induced by asymmetric information. Such agency problems create capital market frictions and may cause financial constraints for such firms (Mina, Lahr and Hughes, 2013).

The emerging literature on crowdfunding and peer-to-peer lending (Belleflamme et al., 2014), in combination with insights from experimental and theoretical research on ambiguity aversion (Guidolin and Rinaldi, 2013; Epstein and Schneider, 2010), can offer new insights into investment behaviours at the level of individual investors. Whether any of the concepts of ambiguity can be usefully applied to the context of early-stage financing and innovation finance in particular has yet to be investigated. Venture capital, business angels, other informal venture funding, crowdfunding, peer-to-peer lending and similar funding structures characterised by large information asymmetries and uncertainty are likely to show effects of ambiguity aversion. From a policy perspective, findings from this project may help to address the equity gap in small business and early stage financing (NESTA, 2009).

Applicants are encouraged to explore possible ways to develop or test theoretical predictions of how ambiguity averse investors make decisions under uncertainty when investing in innovation projects. This may include, for example, alternative explanations of investment patterns such as overconfidence of venture capital fund managers (Zacharakis and Shepherd, 2001). This project will most likely employ a range of methods to address the research question, such as surveys, experiments (e.g., of the Ellsberg (1961) type), theoretical modelling or quantitative analyses of asset prices and investment decisions, but should be mainly empirical. The topic of this project is related to research at the Open University Business School's True Potential Centre for the Public Understanding of Finance, which may create further opportunities for collaboration and sharing of expertise in the field of investment decisions by individuals and households.

About the supervisors:

Henry is a Lecturer in Finance. His research is on innovation finance, and he has published papers on financing activities of innovative firms and the consequences of venture capital and private equity financing in small and large enterprises. Stuart is a Senior Lecturer in Economics. His research is on the relationship between finance and innovation, with a focus on innovation dynamics in technology sectors such as pharmaceuticals, biotechnology and renewable energy. He also has interests combining both qualitative and quantitative methodological approaches. Mark is Professor of Organisational Behaviour and has a long standing interest in the work, behaviour and performance of professional traders and the role of emotion in financial decision-making for traders and investors.

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