Using discounted flexibility values to solve for the decision costs of sequential investment policies

May 13, 2016, 14h30, ISCTE-IUL, Auditorium ONE02 (Building I)

Mark Shackleton
Lancaster University Management School

Mark Shackleton is Professor of Finance at Lancaster University Management School, Associate Dean for Postgraduate Studies (2013-date) and has acted as MSc Finance programme director (2002-2009) and head of department (2010-2013). Having studied Physics at Oxford, Mark’s first role was as a banker in London and New York. Taking an MBA at INSEAD with distinction and following two years consulting, he embarked upon a PhD in Finance at London Business School before entering academic research and teaching at Lancaster in 1997. Teaching on their MBA and MSc degrees, he has visited Oxford (1996), Warwick (2005) and Cambridge (2009), winning teaching prizes. He researches real options (the value of operational flexibility), volatility estimation/impact, mortgages, house prices and investments particularly in the area of energy. He has interviewed on national radio and television for the BBC. He has supervised fourteen PhD students to completion, published over thirty academic articles (including Nobel laureate Robert Shiller as a coauthor), is Associate Editor of the Journal of Banking and Finance, sits on the Scottish Accountants (ICAS) Qualifications Board and has consulted to corporations as well as given executive education.

[Abstract] Optimal stopping investment problems typically locate the policy triggers that correspond to associated decision costs numerically. Whilst these search procedures can in principle tackle problems of any scale, in practice investment systems have studied few decision points because no structure for option variables and their conditions has been available. By assuming policy trigger values, we present a framework that uses discounts to solve for decision costs and option values explicitly. This is possible for investment networks of increasing scale and complexity and affords greater intuition than numerical work alone. We extend classical hysteresis including a third interim mode; firstly with three thresholds we assume this mode is negotiable only one way, secondly with four thresholds we assume it can be traversed up or down using two way discounting. The framework presented supports systems of even greater and complexity and is suitable for extending numerical work to complex problems.