



Nanyang Technological University
DIVISION OF ECONOMICS
Seminar Series

The Division of Economics invites you to a seminar by Professor
Jens Hougaard

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- Speaker** : **Jens Hougaard**
Professor
Department of Food and Resource Economics
University of Copenhagen, Denmark
- Topic** : **"Sharing the cost of risky projects"**
- Chairperson** : **Asst Prof Au Pak Hung**
Division of Economics
School of Humanities & Social Sciences
- Date** : **Monday, 16 November 2015**
- Time** : **2.30pm to 3.30pm**
- Venue** : **Meeting Room 4 (HSS-04-71)**
Nanyang Technological University
School of Humanities and Social Sciences
14, Nanyang Drive
Singapore 637332

About the Speaker:

Dr Hougaard is a professor in the Section for Production, Markets, and Policy in the University of Copenhagen. His interest is in applied microeconomics, efficiency analysis, health economics and network economics. His research has appeared in leading journals such as *Games and Economic Behavior*, *Economic Theory*, *Journal of Health Economics*, among many others.

Abstract:

Users share the cost of unreliable non rival projects (items). For instance they pay today for R&D that may deliver a cure to some viruses, they pay for the edges of a network that will cover their connectivity needs, but the edges may fail, and so on. Each user has a binary inelastic need that is served if and only if certain subsets of items are actually functioning. We ask how should the cost be divided when individual needs are heterogenous. To reach a simple and transparent division method, we impose three powerful separability properties: Independence of Timing ensures the same expected cost shares when computed before or after the random realization of the projects. Cost Additivity together with Separability Across Items ensure that the cost shares of an item depend only upon the service provided by that item for a given realization of all other items. Combining these with fair bounds on the liability of agents with more or less flexible needs, and of agents for whom an item is either indispensable or useless, we characterize two rules: the Ex Post Service rule is the expectation of the equal division of costs between the agents who end up served; the Needs Priority rule splits the cost first between those agents for whom an item is critical ex post, or if there are no such agents between those who end up being served. We submit as a reasonable family of rules the convex combinations of these two extreme approaches.

Keywords: Cost sharing; Fair allocation; Risk; Public goods; Network reliability.

JEL classification: C71, D30, D85, M41

Reservation:

Admission is free. Please reply to h-dae@ntu.edu.sg to confirm your attendance.