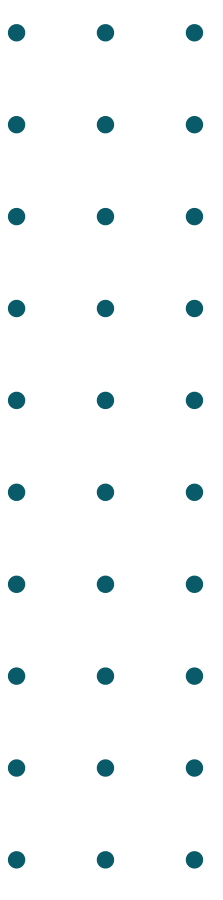


How to Subsidize? The design of government subsidy program for grain post-harvest service centers

In the context of global food security challenges, reducing food waste and loss has emerged as a critical global initiative, which motivate government and firms to establish harvest service centers (GPSCs). To stimulate firms have interesting to setup GPRC, and farmers to use GPRC, government propose three financial subsidy mode, i.e., service utilization subsidy (SUS), processing performance subsidy (PPS), and one-time fixed subsidy (OFS). This speech examines the above three subsidy modes from the benefits of farmers, firm, and government, and propose two new hybrid subsidy models to successfully balance social welfare and firm's interests. To do so, considering heterogeneity of farmer's perceived quality value of GPSC service, and firm's technical cost coefficient for building GPSC, a two-stage sequential game-theoretic model was developed to analyze subsidy capture effect, technology spillover effect, and policy window effect of the SUS, PPS, and OFS modes, respectively. Using backward induction, we analyze equilibrium behaviors under three subsidy models, determining optimal government subsidy levels, firms' establishment decisions for grain post-harvest service centers (GPSCs), optimal pricing strategies, and their dynamic interactions.



 22 January, 2026 (Thu)

 2:30 pm

 YEUNG-P7303

Dr. Jiafu Tang, is currently Cheung Kong Scholarship Chair Professor of MOE and Xinghai Chair Professor of Dongbei University of Finance and Economics (DUFE). He acted as Dean of Management Science & Engineering, DUFE in the periods of 2013-2022. Before joining with DUFE, he serves as Department Head of Systems Engineering and Vice director of the State Key Laboratory of Synthetic Automation of Process Industry with Northeastern University (NEU), in Shenyang, from June 2005 to Sept 2013. He is selected as The State Council members of the Discipline Evaluation Committee. He has awarded several honors, includes 'The Award of Program of the National Innovative Research Teamwork of National Natural Science Foundation of China, 'The Awardee of the NSFC for Distinguished Young Scholars, and The New Century Excellent Talents in University of MOE of China, and Excellent Younger Teachers of MOE, etc. Dr Tang had experiences of visiting at City University of Hong Kong as Research Assistant, Senior Research Associate and Research Fellow in 1998 and 2000, 2008, 2010 respectively, and working at the Hong Kong Polytechnic University as Research Fellow in 2002, 2004 and 2006. Prof Tang published more than 100 papers in referred journals, including POM, MP, JOC, TRB, TS, OMEGA, EJOR, DSS, IJPR, IJPE, FSS, TRC, TRD, TRE, IEEE Trans SMC, IEEE Trans on EM. He has been granted as PI of several major, key projects funded from NSFC. His research interests include Operations Optimization in Manufacturing Systems, Logistics optimization and Operation planning and scheduling in health care service.



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