

SCMS Seminar



EXHAUSTIBLE RESOURCES WITH EXPLORATION AND PRODUCTION ADJUSTMENT COSTS

Speaker: Dr. Cong Qin
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Time: 14:00 p.m.-15:00 p.m., Friday, March 24th, 2017

Venue: Room 2201, East Guanghua Tower (Main), Fudan University

Abstract:

In this paper, we develop a general equilibrium model of exhaustible resources with production adjustment costs by singular control. There exists a unique socially optimal consumption path which consists of a no-adjustment part and can be reproduced by a competitive market. Based on the basic model, we further give an extension to incorporate demand uncertainty and exploration activity. In particular, uncertainties combined with adjustment costs can naturally explain many economic phenomena observed in the real markets, such as backwardation, contango, Samuelson effect, and high volatility conditional on backwardation. Finally, compared to either using exploration or production adjustments only, the combination of both exploration and production adjustments can significantly prolong the price staying at the bottom. This may help us to understand why prices of many commodities can be quite low for a long time.