

## **Economics Seminar, Indian Statistical Institute, New Delhi.**

SPEAKER: Abhishek Ranjan

TITLE: **Arbitrage structure and finite date model with financial restriction.**

TIME: 11:30 AM - 01:00 PM

DAY & DATE: Friday, 27th September, 2013

PLACE: Seminar Room 2

Abstract:

We consider a  $(T + 1)$ -date model of a financial exchange economy with finitely many agents having non-ordered preferences and portfolio constraints. There is a market for physical commodities for every state today and in the future, and financial transfers across time and states are allowed by means of finitely many nominal or numeraire assets. We examine the properties of the financial structure  $\mathcal{F}$  and the set of its (limited) arbitrage-free prices  $\mathcal{Q}_{\mathcal{F}}$ . The set of arbitrage-free prices is shown to be a convex cone under sufficient condition that holds in particular for short lived assets. Furthermore, we provide examples of equivalent financial structures  $\mathcal{F}$  and  $\mathcal{F}'$  such that  $\mathcal{Q}_{\mathcal{F}}$  is a convex cone, but  $\mathcal{Q}_{\mathcal{F}'}$  is neither convex nor a cone. At the end, we provide several existence results of equilibrium in a financial exchange economy for which portfolios are either defined by linear constraints or a convex set extending the framework of unconstrained case by Cass (1984,2006), Werner (1985), Duffie (1987), Gaenakopolos and Polemarchakis (1997), framework of linear equality constraints by Balasko et al. (1990) and framework of 2-date by Cornet and Gopalan (2007), Aouani and Cornet (2011,2013).

Key words:  $(T + 1)$ -date model, financial structure, arbitrage-free prices, equivalent financial structure, financial restriction.

JEL Classification: C02, C62, D52, D53.

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