

Endogenous network in OTC markets

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1 Abstract

This paper investigates how the structure of an inter-dealer market may be dynamically determined by the trade-off between the benefits of inventory risk-sharing and the costs of maintaining relationships. We employ a zero intelligence (ZI) approach, in which agents behave without strategic intent, to understand the key interactions in this system. Each ZI agent randomly determines a quantity and price for the traded assets constrained solely by their capacities of holding inventories. Trade occurs between ZI agents when their price quantity pairs intersect with others such that neither agent makes a loss. Our model shows that the trade-off between holding inventory and the cost of maintaining links determines the shape of the inter-dealer network. We observe the core-periphery feature of inter-dealer networks: dealers with large capacities comprise the core of the network, while dealers with small capacities are at the periphery. The effect of the failures of core and periphery dealers are analyzed.