

Occasional Finance Seminar

Michaelmas Term 2003 - Tuesday, 25 November 2003

Under the auspices of the Centre for Financial Research at the Judge Institute of Management

Professor Doyne Farmer of the Santa Fe Institute will be speaking at 5.15 pm in Room 4.05 at the Judge Institute of Management in the University of Cambridge.

Three classic problems in economics: The surprising effectiveness of zero intelligence models

Three classical problems in economics are addressed using zero intelligence models, in which agents simply make random decisions. The three problems are the nature of supply and demand, the variability of prices, and the shape of the distribution of extreme variations in prices. Also addressed are a few not-quite-so classic problems, such as the origin and nature of innate transaction costs (called market friction by practitioners). The methods of analysis are drawn from statistical mechanics. The models result in simple statistical scaling laws relating order flows to prices and other properties of markets. These are tested using data from the London Stock Exchange. The fact that they match the data so well shows that, at least in some circumstances, the constraints imposed by market institutions are more important than agent rationality.

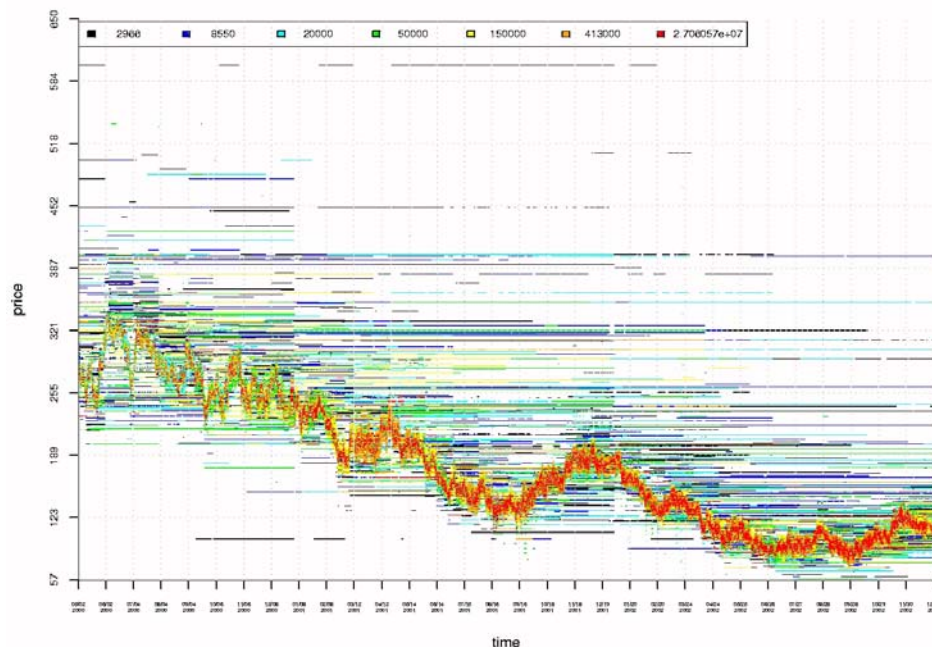


Figure: *Supply and demand for Vodafone, 2000-2002. The horizontal axis is time and the vertical axis is price. The colors show the stored supply and demand, measured as the number of shares for orders to sell or buy at each price level, increasing from black to red. The orangish band across the middle is the region where transactions take place; orders at prices below it represent demand, and orders above it represent supply.*

6.15 pm Drinks