How Market Structure Drives Commodity Prices

BIN LI, K. Y. MICHAEL WONG, AMOS H. M. CHAN, TSZ YAN SO, HERMANNI HEIMONEN, Hong Kong University of Science and Technology, DAVID SAAD, Aston University — To understand how market structure drives commodity price trends with respect to resource availability we introduce an agent-based model, in which agents set their prices to maximize profit. At steady state the market self-organizes into three groups: excess producers, consumers and balanced agents. When resources are scarce prices rise sharply below a turning point marking the disappearance of excess producers. By introducing an elasticity parameter to mitigate noise and long-term changes in commodities data, we confirm the trend of rising prices, provide evidence for turning points, and indicate yield points for less essential commodities.

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