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Market mechanism based on the endogenous changing of game types such as Minority-Majority games[1] SANGHYUN AHN, GYUCHANG LIM, SOOYONG KIM, KAIST, KYUNGSIK KIM, Pukyong National University — In many social and biological systems agents simultaneously and adaptively compete for limited resources, thereby altering their environment. We propose a evolution function extending Minority-Majority Games that captures the competition between agents to make money. The dynamics changes the ratio of two types of boundedly rational traders, fundamentalists and chartists with the payoff function endogenously. In the previous game theories, the best strategies are not always targeting the minority but are shifting opportunistically between the minority and the majority. And using a mixture of local bifurcation theory and numerical methods, there are possible bifurcation routes to complicated asset price dynamics, chaotic attractors. Hereby we improve the thinking logic of the atoms for attaching the dynamics to the market. This working shows that removing unrealistic features of the game theories leads to models which reproduce a behavior close to what is observed in real markets.

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