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Heterogeneous Intelligence Traders and Market Efficiency: New Evidence from Computational Approach in Artificial Stock Markets

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Abstract : A computational agent-based model of financial markets stresses interactions and dynamics among a very diverse set of traders. The growing body of research in this area relies heavily on computational tools which by-pass the restrictions of an analytical method. The main goal of this research is to understand how the stock market operates and behaves how to invest in the stock market and to study traders' behavior within the context of the artificial stock markets populated by heterogeneous agents. All agents are characterized by adaptive learning behavior represented by the Artificial Neuron Networks. By using agent-based simulations on artificial market, we show that the existence of heterogeneous agents can explain the price dynamics in the financial market. We investigate the relation between market diversity and market efficiency. Our empirical findings demonstrate that greater market heterogeneity play key roles in market efficiency.

Keywords : agent-based modeling, artificial stock market, heterogeneous expectations, financial stylized facts, computational finance
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