INSTABILITY AND NONLINEARITY IN FINANCIAL MARKETS

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Abstract:

The present financial crisis has shown the limitations of traditional approaches to understand the instability and the complexity in financial markets. These traditional approaches are developed under the normality, stationarity and no autocorrelation and homoscedasticity hypotheses and assuming propositions and assumptions from Modern Finance Theory such as efficient market Hypothesis and Rational Expectation Hypothesis which do not explain financial market behavior.

The instability and complexity in financial markets may be caused by the heterogeneity of information and the interaction of agents. This research work develops a nonlinear deterministic approach assuming the hypothesis of the heterogeneity of information which may explain better the reduction of instability in financial markets.

A nonlinear deterministic approach is applied to stock market indices with different time scales to compute measures which help to understand the effects of the heterogeneity of information on the instability and the complexity of financial markets in the short and the long-run time.

Results show the hypothesis of heterogeneity of information reduces instability in financial markets and has important consequences for stock market index forecast, monetary policy coordination, capital flows control and the need for new regulation forms in financial markets.

Keywords
Instability, nonlinearity, heterogeneity of information, financial markets

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