

A Reassessment of Dimension Calculations Using Some Monetary Data

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Abstract:

In a previous article Ramsey and Rothman warned against incautious use of the Grassberger-Procaccia procedure to estimate correlation dimension with relatively small data sets and recommended an improved procedure. In this paper we apply those techniques to a series used by DeCoster and Mitchell who claimed that their dimension calculations produced evidence of chaos. We show that even with the enhanced procedures of Ramsey and Yuan, there is no evidence for a simple attractor in these data. However, dimension calculations do not provide evidence either for or against the presence of nonlinear dynamical processes that are not restricted to attracting sets.

Keywords:

Chaos; Correlation Dimension; Nonlinearity;  
Small Sample Bias; Dynamical Systems.

JEL Classification:

C22, E40

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