

IF NONLINEAR MODELS CANNOT FORECAST, WHAT USE ARE THEY?

Abstract

This paper begins with a brief review of the recent experience using nonlinear models and ideas of chaos to model economic data and to provide forecasts that are better than linear models. The record of improvement is at best meager. The remainder of the paper examines some of the reasons for this lack of improvement. The concepts of "openness" and "isolation" are introduced and a case is made that open and non-isolated systems cannot be forecast; the extent to which economic systems are closed and isolated provides the true pragmatic limits to forecastability. The reasons why local "overfitting", especially with non-parametric models, leads to worse forecasts are discussed. Models and "representations" of data are distinguished and the reliance on minimum mean square forecast error to choose between models and representations is evaluated.

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