



THE UNIVERSITY OF KANSAS
WORKING PAPERS SERIES IN
THEORETICAL AND APPLIED ECONOMICS

THE NONLINEAR SKELETONS IN THE CLOSET

By William A. Barnett, Barry E. Jones, Milka Kirova,
Travis Nesmith, and Meenakshi Pasupathy

May 28, 2004

ABSTRACT

Although nonlinearity is the rule in economic theory, nonlinearity tends to make life difficult for econometricians. While there have been many advances in nonlinear econometrics in recent years, some problems produced by nonlinearity remain 'skeletons in the closet' in empirical economic research. In this paper, we open the door to that closet and take a look at two of the biggest skeletons. For a deeper look into that closet, see the just-published book by W. A. Barnett and Jane Binner (2004), *Functional Structure and Approximation in Econometrics*, North Holland, Elsevier Science.

KEYWORDS: Nonlinearity, curvature, regularity, cointegration, bispectrum, chaos, bifurcation

JEL CLASSIFICATION: C14, C22, E37, E32