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Articles

Nonlinear and Chaotic Dynamics: An Economist's Guide

The Changing Structure of the U.S. Flour Milling Industry

Determination of a Variable Price Support Schedule as Applied to Agricultural Production Control

Nonfarm Prospects Under Agricultural Liberalization

Book Reviews

A Taste of the Country: A Collection of Calvin Beale's Writings

Three Faces of Power

Imperfect Competition and Political Economy: The New Trade Theory in Agricultural Trade Research

U.S. Grain Policies and the World Market

The Political Economy of U.S. Agriculture: Challenges for the 1990s

Risk Analysis: A Guide to Principles and Methods for Analyzing Health and Environmental Risks

Agricultural Risk Management

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In This Issue

As a special feature of this issue, the Journal presents an article by Michael Weiss on the methodology of dynamical systems. Thirty years ago in *Econometrica*, Benoit Mandelbrot wrote the first in a series of articles challenging neoclassical economic theory's imitation of 19th-century energy physics. Those articles upset some of the fundamental notions of deterministic mechanics inherent in neoclassical theory. According to Mirkowski, Mandelbrot's contributions to economics were essentially dormant while he moved on to physics and meteorology. However, a significant and growing group of mathematically inclined economists is now taking an interest in, and extending, his ideas. Weiss's article provides the essentials of chaos for modeling dynamic behavior.

The three remaining articles more nearly reflect the traditional applied analyses of agricultural economics. Kim, Lin, and Leath examine the flour milling industry. Huang and Hyberg try their hand at fine-tuning agricultural price supports. Kilkenny models the off-farm effects of liberalizing agricultural trade policy. In the future, topics included in these papers, such as firm failures, commodity stocks, and employment fluctuations, may be extended with the insights of chaotic dynamics. In the meantime, our near-term analyses can simply assume that tracks and outcomes are not "sensitively dependent on initial conditions."

Kim, Lin, and Leath look at causes and consequences of the reduced number, expanded size, and changed location of flour mills in the United States. Size efficiencies and automation will increase the number of large mills, reduce the number of small mills and the total number of mills, and reduce employment. Mills have tended to move from sources of wheat supply toward markets for flour. Despite the estimated decline of mills from 203 in 1990 to 160 by the year 2000, the authors see no problem in meeting an increased demand for flour.

The Huang and Hyberg alternative to production controls for supply management is a form of price discrimination they call variable pricing support schedules. They propose to manage supplies of commodities with prices rather than with control of land use. The highest of the variable support prices would go to the first units of production, with the lowest prices for the last units at below expected market prices. Their programming model yielded price schedules that favor small farms over large farms, compared with the traditional mandatory production control programs.

Kilkenny looks beyond farms and agriculture as she examines the effects of liberalizing agricultural trade

policies. She argues that because freer trade reallocates resources throughout the economy, a computable general equilibrium model is useful in tracing the effects of a free trade policy. She employs a 10-sector CGE model to examine the effects of liberalizing policies under three adjustment scenarios. She allows government deficit reduction effects of liberalization to affect outcomes. Her analysis concludes that, if resulting savings reduce government deficits, additions to GNP, perhaps \$4.5 billion, will ensue from multilateral trade liberalization. Improvements in GNP from trade liberalization in the 1990's are expected to be less.

Several of the book reviews in this issue vary from our standard economics fare, thus reminding us that, notwithstanding the title of this journal, we do embrace all the social sciences. That eclecticism is well represented by Calvin Beale's diverse writings, collected under the title *A Taste of the Country*, insightfully and supportingly reviewed by Sonya Salamon.

Members of the economics club can reach beyond Walrasian optima, witness Kenneth Boulding's *Three Faces of Power*, reviewed by Dwight Gadsby. Boulding has presented the three dimensions of human relations—threat, exchange, and love—in many articles and books. Here, like Lasswell, he shows the relationship between political and economic force.

The other books reviewed in this issue are closer to conventional agricultural economics and policy. Daniel Pick recommends reading the collection of papers on imperfect competition and trade theory edited by Carter, McCalla, and Sharples. Robert Green is only moderately supportive of the collection of papers on grain policies and the world market, prepared by Roberts, Love, Field, and Klijn. Dave Ervin recommends the collection of papers on the political economy of agriculture, edited by Kramer, but emphasizes that the historical content is stronger than its empirical content.

Michael Wetzstein reviews two recent books on risk. The guide to principles and methods of risk analysis by Cohrssen and Covello is directed primarily at health and environmental risks. Never mind, the methods and principles apply to the broad range of problems in which risk is an element of concern. Wetzstein says the guide is "an excellent foundation for any student interested in learning how risk analysis is currently undertaken." The book by Fleisher on agricultural risk management is a broad overview of techniques. As such, this short volume may lack some of the detail of other references, but it is an excellent text with which to enter the field of risk management.

Gene Wunderlich