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THE MAGAZINE OF FOOD, FARM, AND RESOURCE ISSUES

CHOICES

Second Quarter 1999

Barriers to trade

Regulating animal waste

Information warehouse—1997 Census of Agriculture

Findings

What agricultural and resource economists are finding about food, farm, and resource issues.*

- Conserving Natural Forests. Even with increasing demand for forest products, natural forests worldwide will generally be conserved because supplies will be provided from more intensively managed plantations—say Sohngen, Mendelsohn, and Sedjo.

- Managing Fisheries Better. Government regulations that give more flexibility to the timing of ocean-fish harvest can increase the stock of fish, increase net benefits generated by the industry, and achieve greater utilization of caught fish—say Larkin and Sylvia.

- rBST and the Demand for Milk. Differences in consumer preferences for milk produced with and without rBST suggest potential niche markets for each product—say Misra and Clem.

- Risk and the Industrialization of Agriculture. Although the industrialization of agriculture may reduce some risks, it also brings added risks caused by the surge and ebb of new niche markets, increased leverage needed to acquire capital for value-added activities, new strategic risks associated with new partnerships and competitors and distribution channels, and risks for those outside the tightly aligned supply chain who now face thinner markets for their products—say Boehlje and Lins.

- Food Labeling. The limited space for labels, limits on the effort that consumers devote to using label information, and concerns about companies' rights to commercial-free speech all suggest that mandatory labeling be reserved for key food attributes related to human health, and that voluntary labeling be used for other food attributes—says Caswell.

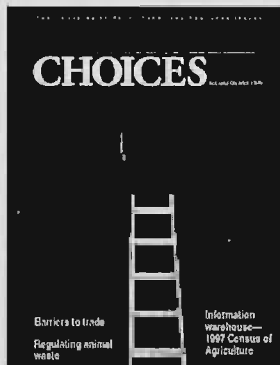
- The Bureau of Reclamation and Water Conservation. Recent BOR policies encourage or require irrigation districts to adopt price incentives that conserve water, but few districts have implemented pricing which reduces irrigation applications—say Michelsen, Taylor, Huffaker, and McGuckin.

- Food Safety Concerns and Fresh Produce Consumption. For most of fourteen major fresh produce categories, risk information has not significantly affected consumption—say Henneberry, Piewthongngam, and Qiang.

- Willingness to Pay for Wetlands. Nebraska households recognize multiple benefits and express positive willingness to pay for a contingent government program to acquire and maintain Rainwater Basin wetlands—says Poor.

- Food Safety and the Demand for Apples. Apple consumers exhibit different degrees of preference for food safety attributes, a factor that marketers might use to segment the market and increase sales—says Baker.

*Findings are taken from recently or soon-to-be published research in the *American Journal of Agricultural Economics, Review of Agricultural Economics, Journal of Agricultural and Resource Economics, Journal of Agricultural Economics, Journal of Agricultural and Applied Economics, Agricultural and Resource Economics Review, Land Economics, Journal of Environmental Economics and Management, Canadian Journal of Agricultural Economics, Agribusiness—An International Journal,* and other journals that publish the research findings of agricultural and resource economists. Abbreviated citations are found on page 19.



ON OUR COVER—Beneath a blue summer sky, a bright barn supports a beckoning ladder. We invite you to come inside... and explore this summer edition of *Choices.* A few of the topics we have in store here: the information warehouse provided by the 1997 Census of Agriculture, livestock waste regulation, economic crises in East Asia and elsewhere, and trade policy. As we head into a busy season, the cover imagery reminds us of pleasant, sunny summer days gone by, or possibly the red, white, and blue of a Fourth of July in farm country. Enjoy!

by Irma Adelman ■ **Guest Editorial**

Financial Crises: Causes, Consequences, and Remedies

Irma Adelman is the Thomas Forsyth Hunt Chair and professor of economics in the Graduate School at the University of California, Berkeley.

Since 1980, three-quarters of the International Monetary Fund's (IMF) member countries, developed and developing alike, have been hit by financial crises. The global economy has thus become quite unstable. Although the origins of these crises differed, they share common features: they are preceded by (1) a lengthy period of large foreign capital inflows (FCI), supporting sizable current account deficits; (2) increases in investment and economic growth; and (3) significant appreciations of the country's currency. The FCI permit running extensive budget deficits and cheap-money policies. The economy booms but at the cost of increased inflation. Inevitably, the currency appreciation decreases the country's competitiveness and widens the current account deficit further. At some point, foreign lenders get worried about the sustainability of the twin deficits and, fearing a devaluation, curtail lending and start withdrawing capital. This triggers a sharp devaluation. Futile currency stabilization efforts reduce foreign reserves to perilously low levels. This accelerates capital flight and leads to precipitous declines in exchange rates. A severe domestic credit crunch ensues as banks and corporations scramble to repay foreign debts with much more expensive dollars. They sell off domestic assets, to generate liquidity, and stock and real estate markets crash. Eventually, the country is forced to approach the IMF. Loan conditions usually entail closing insolvent banks, reducing the budget deficit, raising domestic interest rates, and curtailing wages and social spending. The human, social, and political costs escalate. Nevertheless, eventually the country's international credibility is restored and the crisis is transformed into a severe and prolonged recession.

Why are financial crises frequent now while absent before 1973? Largely because, in 1973, when the supply of dollars became woefully inadequate for world trade, the global financial system was changed drastically. Flexible exchange rates replaced fixed ones; and, under U.S. and IMF pressure, open capital markets replaced closed, short-term capital markets and regulated foreign investment flows.

These changes created an environment which enables financial crises by robbing countries of their economic autonomy. Governments become unable to employ their traditional policy instruments (interest rates, government expenditures, and exchange rates) unilaterally: raising interest rates above world markets triggers a large FCI, setting the stage for a financial crisis; fixing them below world markets triggers a large foreign capital outflow, generating the crisis. Similarly, setting exchange rates above equilibrium levels leads to a current account deficit (stage I); fixing them below equilibrium stimulates capital flight and investment abroad, producing the crisis. Finally, running a budget deficit to stimulate growth or providing social programs more generous than the international norm causes capital outflows. Flexible exchange rates amplify the effects of these international capital flows, by allowing speculation on foreign exchange markets that are excessively large ($1.5 trillion of daily transactions; $600 billion speculative), excessively liquid, excessively volatile, imperfectly informed, and subject to herd psychology.

The resulting loss of economic autonomy afflicts both developed and developing nations, but has more severe consequences for developing ones, for, if their capital markets are open and unregulated, their governments cannot stimulate further development. All countries are left with responsibilities without instruments. It is therefore hardly surprising that periodically governments ignore the international constraints on their economic freedom and trigger a financial crisis. So far, the United States has enjoyed both economic autonomy and immunity from crisis because dollars are the sole global asset. But it is about to lose that immunity once the Euro joins the dollar.

What must be done? One, we must negotiate with the European Union to precommit to a stable Euro-dollar exchange rate. Two, we must discontinue pressuring developing countries from regulating or taxing portfolio investment and foreign borrowing. Three, we must require greater financial transparency: in OECD banks, disclosure of lending to hedge funds and foreign exposure; and, in LDC banks, better and more timely reporting and governance.

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Bruce R. Beattie is professor of agricultural and resource economics at the University of Arizona, where he served as department head from 1990 to 1996. One of his perennial interests is rent-seeking behavior, within the academy and elsewhere. Beattie spent the summer and fall of 1996 writing and speaking about the economic consequences of the Karnal-bunt-related quarantine of the Desert Southwest, the subject of an article in this issue.

After teaching high school science for five years, and serving a six-year tour as a Navy pilot in Antarctica, **Dan R. Biggerstaff** returned to Montana State University to complete his MS in agronomy and PhD in crop science. Biggerstaff is the general manager of Western Plant Breeders, a cereal grain breeding company directly impacted by the Karnal bunt episode in Arizona, the subject of his article with co-author Beattie. Kb quarantine restrictions eventually forced Western Plant Breeders to relocate their Central Arizona field research to the Imperial Valley of California.

Sabrina Isé Lovell is an economist in the Economy and Environment Division of the U.S. Environmental Protection Agency's Office of Policy. She joined EPA in the fall of 1997, just as attention was being focused on outbreaks of *Pfiesteria* in Chesapeake Bay tributaries and the adequacy of federal regulations regarding animal agriculture. She is involved in efforts to update a number of existing EPA regulations and continues research in this area. She received her PhD in Agricultural and Resource Economics at the University of California, Berkeley in 1997, where her research focused on land use, water rights, and the preservation of wetlands.

Peter J. Kuch is the director of the Natural Resource Sectors Program in the U.S. Environmental Protection Agency's Office of Policy. In the late 1980s he became concerned about animal waste management and the adequacy of permitting programs for confined animal feeding operations. These interests have led to research on the state environmental regulation and the livestock producing sectors, and an involvement in EPA's current efforts to revise the Federal National Pollution Discharge Elimination Program for animal feeding operations.

Professor of agricultural and resource economics at the University of Arizona, **Robert Innes** focuses much of his research on a variety of issues in microeconomic theory, industrial organization, finance, agricultural policy, environmental economics, and law. In 1994–95, Innes served as a senior economist on the President's Council of Economic Advisers with responsibility for agricultural, natural resource, and international trade issues. Innes's work on livestock waste management and policy was largely spurred by farm bill debates during his tenure in Washington, especially debates concerning the environmental costs of livestock production and the need for policy measures to mitigate these costs.

Elena I. Ianchovichina, a native of Bulgaria, is assistant professor in the Department of Agricultural Economics at Kansas State University. She specializes in the analysis of trade policy issues and general equilibrium modeling. In 1998, as a consultant to the World Bank, Ianchovichina analyzed the global implications of the East Asian crisis. The 1998 edition of *Global Economics Prospects and the Developing Countries*, an annual publication of the World Bank, incorporates results from her research. In this issue of *Choices*, she and co-authors extend her work and discuss the implications of the East Asian crisis for North American farmers and food manufacturers.

Thomas W. Hertel is professor of agricultural economics at Purdue University, and the founding director of the Global Trade Analysis Project. The Project maintains a global economic data base and an applied general equilibrium modeling framework. Hertel specializes in the economywide analysis of trade policies and has published numerous journal articles on the topic. Hertel has served as a consultant to the World Bank, the OECD, the European Commission, the Ford Foundation, and the Australian Industry Commission.

Robert McDougall is a deputy director of the Global Trade Analysis Project (GTAP) at Purdue University. He is a native of Australia, with degrees in science and commerce from the University of Melbourne. McDougall has worked in quantitative economic analysis, especially CGE modeling, and has led several CGE model development projects. Current activities include maintenance and development of the GTAP data base, development and applications with dynamic GTAP, and application of entropy/information theory methods to data base construction.

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Publisher
The American Agricultural Economics Association
415 S. Duff Ave., Suite C
Ames, IA 50010-6600

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Ames, IA 50010-6600

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Malcolm Abbott is with the Australian Competition and Consumer Commission, a governmental agency responsible for enforcing Australia's trade practice and anti-trust laws. Prior to this, he was a lecturer of economics at Deaking University in Melbourne. Abbot has published on the economics of education and wool marketing. An article in this issue was sparked by earlier research on the collapse of the Australian wool price support scheme and its relation to similar collapses in New Zealand and South Africa.

Professor and Eminent Scholar **Andrew Schmitz** holds the Ben Hill Griffin III Endowed Chair in the Department of Food and Resource Economics at the University of Florida. Schmitz is an expert in the areas of international trade, marketing, and agricultural policy. He has served as a consultant to the U.S. Tarriff Commission, U.S. Departments of Agriculture and Transportation, Canada Agriculture, Canadian Wheat Board, International Food Policy Research Institute, and numerous other governmental and private institutions.

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Julian M. Alston is professor of economics at the University of California, Davis, where he teaches graduate and undergraduate classes in microeconomic theory and the analysis of agricultural markets and policies. Prior to his joining the faculty at UC Davis, Alston was chief economist in the Department of Agriculture in Victoria, Australia. His experience in public policy analysis shaped his research interests in economic analysis of agricultural markets and public policies concerning agricultural incomes, prices, trade, and agricultural research and promotion.

Philip G. Pardey is a research fellow at the International Food Policy Research Institute, where he leads the global and regional program of research on Agricultural Science and Technology Policy. He also holds an appointment as an associate professor in the Department of Applied Economics at the University of Minnesota, and was previously a senior research officer at the International Service for National Agricultural Research in The Hague, Netherlands. His research interests include the economics of technical change in agriculture, research policy, and economic development.

Vincent H. Smith is professor of economics in the Department of Agricultural Economics and Economics and senior research fellow in the Trade Research Center at Montana State University. Smith is interested in international trade and domestic policy, the economics of science and social science research, and rural health issues. He holds teaching and research appointments and works with extension colleagues on outreach programs addressing international agricultural commodity issues.

Alan Randall is a professor of agricultural, environmental, and development economics at The Ohio State University, and recently became chair of the department. He first worked with benefit-cost analysis (BCA) during his MS research at the University of Sydney in the late 1960s and has continued to address the theory, methods, and applications of BCA throughout his career. In the early 1980s a philosophical dimension was added to his agenda when he took up the challenge of trying to explain why benefits and costs matter to public policy. A National Science Foundation grant supported a formal project on this topic, with Don Hubin and Michael Farmer. This fruitful and continuing collaboration has influenced much of Randall's subsequent writing, including the present essay.

CHOICES (ISSN 0886-5558) is published quarterly by the American Agricultural Economics Association for people who want to be informed about food, farm, and resource issues—and the policies that affect them. Views expressed herein are those of the authors, and not necessarily those of CHOICES or its publisher. Postage paid at Ames, IA, and additional mailing offices. All rights reserved. Quotation with credit is permitted. © 1999 Vol. 14, No. 2, American Agricultural Economics Association. Subscription rates for U.S.: individuals—$20.00 per year, libraries—$32.50 per year (four editions). (Canada, Mexico, South America, United Kingdom and Europe $30; other $40.) Send subscription correspondence to CHOICES, AAEA Business Office, 415 South Duff Ave., Suite C, Ames, IA 50010-6600. Telephone (515)233-3234, FAX (515)233-3101. Writers' guidelines are available at our Web site: **www.aaea.org/choices/**. Send four copies of each manuscript to the editor, Harry W. Ayer, Department of Agricultural and Resource Economics, University of Arizona, Tucson, AZ 85721, telephone (520)621-6257 and FAX (520)621-6250.