

Abstracts of Selected Papers

NAREA Annual Meetings, Rehoboth, Delaware, June 10–13, 2007

SESSION: *Assessing Consumer Food Product Demand.* Moderator: John C. Bernard (University of Delaware)

“Kenyan Consumer Awareness, Attitudes, and the Willingness to Pay for Genetically Modified Food: The Case of Rural Maize Consumers.” Fredrick Keter and Okeleke Nzeogwu (University of Maryland Eastern Shore) and Hugo De Groote (International Maize and Wheat Improvement Centre, Nairobi, Kenya).

The study examines Kenyan rural consumer awareness, attitudes towards genetically modified (GM) food, and the willingness to pay (WTP) for GM maize meal. Using the contingent valuation (CV) method, the results revealed that consumers were willing to buy GM maize meal at a premium. Subjective variables were the main determinant of WTP.

“Improvements in Product Share Computation: Full-Factorial Attraction Model.” Ewa J. Kleczyk (Virginia Tech) and Patrick J. Howie (TargetRx).

In this study, an innovative method for market share calculation is proposed. This model improves parameter estimates and solves the challenges associated with pooling data across markets. It is based on a reconceptualization of any market as a series of 2-product markets and by rebalancing market share to 100 percent.

“Demand for Live Aquatic Products in the Mid-Atlantic States.” Venkata S. Puduri and Ramu Govindasamy (Rutgers University).

This study was designed to gather market information on customer attributes and the collective size and scope of live seafood markets in the Northeast. The paper presents the results of socioeconomic characteristics of aquatic product consumers and their preferences.

“Advertising and U.S. Non-Alcoholic Beverage Demand.” Yuqing Zheng and Harry Kaiser (Cornell University).

This research investigates the impact of advertising on U.S. non-alcoholic beverage demand in

an integrated framework. Results reveal that advertising increases demand for fluid milk, soft drinks, and coffee and tea, but not for juices or bottled water. A number of cross-commodity advertising effects exist, and they could be substantial.

SESSION: *Regional Growth and Agriculture.* Moderator: Douglas E. Morris (University of New Hampshire)

“Explaining Regional Comparative Advantage by Measuring Total Factor Productivities: Case of the U.S. Soybean Industry.” C.S. Kim, Glenn Schaible, and Linwood Hoffman (Economic Research Service, USDA).

In this paper, we present an alternative theoretical model for evaluating economic comparative advantage(s) based on assessments of input-biased technical changes, which can explain both nonhomothetic production technology and total factor productivities. The model is then tested by assessing the comparative advantage of soybean production across the United States.

“The Impact of Cattle Farming on the New Hampshire Economy.” Michal Lunak and Douglas E. Morris (University of New Hampshire).

The impact of cattle farming on the New Hampshire economy was investigated using IMPLAN Plus™. Results indicate that cattle farming impacts the state and local economies with more than \$141 million in total output, 3,717 jobs, and more than \$19 million in labor income. The industry also provides over \$7 million in state and local government tax receipts.

“The Opportunity for Agritourism Development in New Jersey.” Brian J. Schilling and Lucas J. Marxen (Rutgers University).

This paper reports the findings from a study commissioned by the New Jersey Department of Agriculture to gain better understanding of the current status and nature of agritourism in New Jersey and its impact on farm viability. Specific focus is placed on elucidating farm operators’

perceptions of challenges that will impact future growth and development of agritourism.

SESSION: *Agricultural Production I*. Moderator: Jeffrey Stokes (Penn State University)

“Mortgage Termination at AgChoice Farm Credit.” Jonathan B. Dressler and Jeffrey R. Stokes (Penn State University).

Mortgage termination is important when considering risk management and can generally be of two types: default and prepayment. Using data from AgChoice Farm Credit, the Agricultural Credit Association (ACA) was utilized to estimate survival and hazard functions. These functions are important components of a competing risks modeling approach to estimating the drivers of mortgage termination.

“Assessing the Profitability of Anaerobic Digesters on Dairy Farms in Pennsylvania.” Elizabeth R. Leuer, Jeffrey Hyde, and Thomas L. Richard (Penn State University).

A stochastic capital budgeting approach was used to analyze the effect of herd size on the distribution of net present value (NPV) of an anaerobic digester in Pennsylvania. We found that 2,000-cow dairy farms meet or exceed the break-even point 88 percent of the time, while 500-cow farms break even about 8 percent of the time.

“Dairy Resource Management: A Focus on Conventional and Pasture-Based Systems.” Richard F. Nehring, Jeffrey M. Gillespie, Erik J. O’Donoghue, and Carmen L. Sandretto (Economic Research Service, USDA).

A number of trends are leading to renewed interest in pasture-based dairy operations in the United States. Multinomial logit analysis is used to explore demographic, structural, financial, and other influences on selection of pasture-based versus conventional production. Results suggest that a number of factors influence whether pasture is used.

“Empirical Dairy Profits Under Fluctuating Prices.” Masato Nakane and Loren Tauer (Cornell University).

Production theory suggests that average profits would be greater with more variation in prices if farmers correctly adjusted use of inputs and out-

puts to changes in prices. We provide an empirical non-parametric analysis of farmers’ profits under price changes over 12 years using an unbalanced panel of dairy farmers.

SESSION: *Carbon Sequestration and Public Policy*. Moderator: Antonio Bento (University of Maryland)

“Carbon Liability, Carbon Capture and Storage Insurance Expectations, and the Relevant Public Policies Issues.” Jesse E. Gandee and Vishakha Maskey (West Virginia University).

Carbon capture and storage technologies are central to the U.S. administration’s policy to reduce greenhouse gases (GHGs). There are, however, significant legal concerns regarding these technologies. This paper establishes an analytical framework to assess expected damages and risk from carbon leakages, in addition to relative insurance programs.

“A Policy Analysis of How Increased Ethanol Production May Influence Soil Carbon Sequestration.” Mark Sperow (West Virginia University).

National Resources Inventory data and the IPCC (Intergovernmental Panel on Climate Change) method are used to estimate soil carbon changes from corn production increases to satisfy projected increased ethanol production. Carbon dioxide emission estimates from increased ethanol are also used to assess the environmental impact of policies that encourage both carbon sequestration and ethanol production.

“A CO₂ Sequestration Supply Curve for a Coal-to-Liquid Project in China.” Hui Su, Haixiao Huang, and Jerald J. Fletcher (West Virginia University).

The Shenhua coal liquefaction project in China will generate significant quantities of CO₂. Sequestering the CO₂ is politically attractive and may provide Clean Development Mechanism carbon credits. Using a programming model to estimate sequestration costs, a supply curve is estimated and implications for carbon management are discussed.

“The Effect of Short-Term Certified Emission Reductions on Optimal Forest Rotation Age

and Supply of Carbon Services.” Shinsuke Uchida (University of Maryland) and Gregmar I. Galinato (Washington State University).

We examine the implications of creating carbon credits on economically optimal harvesting decisions and supply of carbon credits under the Clean Development Mechanism. Optimal harvesting strategies are analyzed with revenues from sequestered carbon. Theoretical results are applied to a case study on the potential for converting marginal grassland into carbon forest plantations in the Philippines.

SESSION: Organic Food Demand. Moderator: Edward C. Jaenicke (Penn State University)

“Understanding Willingness to Pay for Organic, Natural, and Non-Genetically Modified Foods.” John C. Bernard and Alexis Solano (University of Delaware).

Increases in organic and natural foods are important trends in the food system. These may be partially in response to consumer concerns, such as the use of genetically modified (GM) foods. Surveys and experimental auctions were used to better understand these issues and the willingness to pay for these food versions.

“Consumer Demand Changes in the U.S. Organic Dairy Sector.” Mitsuko Chikasada and Edward C. Jaenicke (Penn State University) and Carolyn Dimitri (Economic Research Service, USDA).

Based on a national sample of U.S. households, we estimate a censored demand system for purchases of organic and non-organic dairy products. Preliminary results show that (i) organic milk demand became more inelastic and (ii) the expenditure elasticity of organic milk decreased from 2003 to 2004.

“Cluster Analysis of Willingness to Pay and Labeling Preference for Non-GM and Organic Food.” Katie R. Gifford and John C. Bernard (University of Delaware).

Factor and cluster analysis were used to provide market segmentation of consumer willingness to pay (WTP) and preference for labeling of fresh and processed foods with traits including non-GM and organic. Surveys and experimental auctions were used to collect the data for analysis.

Non-GM and fresh products emerged as potentially underutilized niche markets.

“Hispanic Consumers’ Perceptions of Locally Grown Ethnic Produce: A Study from the East Coast of the United States.” Ramu Govindasamy and Venkata S. Puduri (Rutgers University).

The study aimed to predict the Hispanic consumer’s willingness to buy ethnic produce grown on local farms. The study results analyze and compare the effects of Hispanic consumers’ socioeconomic characteristics and their expressed value judgments on their willingness to buy locally grown ethnic fruits and vegetables.

“The Impact of the Organic Mainstream Movement: A Case Study of New England Organic Produce Prices.” Megan M. Dolan and Julie A. Caswell (University of Massachusetts Amherst).

Organic products are becoming widely marketed across different retail formats. Analysis of pricing and product availability in a sample of seventeen New England micro-markets shows that product pricing for thirteen fresh produce items is affected by product, store, market (presence of competitors of different store types), and community characteristics.

SESSION: Topics in Rural Economic Change. Moderator: Titus Awokuse (University of Delaware)

“A Spatial Model of Regional Variations in Business Growth in Appalachia.” Gebremeskel H. Gebremariam, Tesfa G. Gebremedhin, Peter V. Schaeffer, Tim T. Phipps, and Randall W. Jackson (West Virginia University).

In this study, a spatial growth equilibrium model of business growth is developed and empirically estimated using cross-sectional data from Appalachia for 1990–2000. Besides the existence of spatial spillover effects, the results suggest that population size and human capital endowments play key roles in determining regional variations in business growth.

“Linking Market-Valued Community Skill Profiles with Corporate Outsourced Functions to Identify Financially Attractive Rural Source-

ing Targets.” Douglas E. Morris, Lyndon Goodridge, and Mark Kilens (University of New Hampshire).

This paper presents industry’s self-determined problems with outsourcing and the matching of skills in rural America that could result in rural sourcing rather than outsourcing. Seventy-eight percent of the surveyed industries are willing to rural source, and 74 percent of rural respondents find the opportunity appealing if it meets their skills and interests without having to relocate.

“Migration of University of Maine Graduates.” Ewa J. Kleczyk (Virginia Tech).

This study focuses on the issues of “why” and “where” University of Maine students resettle after graduation and what can be done to increase the retention of college graduates in Maine. The results are useful to the University of Maine and the state of Maine in creating policy options that help retain more college graduates.

“An Empirical Analysis of Employment, Migration, Local Public Services, and Regional Income Growth in Appalachia.” Gebremeskel H. Gebremariam, Tesfa G. Gebremedhin, Peter V. Schaeffer, Randall W. Jackson, and Tim T. Phipps (West Virginia University).

This study develops a simultaneous-equation system under the assumptions of profit maximization of firms and utility maximization of households. The empirical implementation of the model used county-level data from all Appalachian counties for 1980–2000. Generally, the results are consistent with theoretical expectations and empirical findings in the equilibrium growth literature.

SESSION: *Agricultural Production II*. Moderator: Loren Tauer (Cornell University)

“Is Consistent Estimation of Risk Preferences Possible Using Revealed Preference Data?” David R. Just (Cornell University) and Richard E. Just (University of Maryland).

In this paper we consider the half-century–old pursuit of risk preference estimation in its two major contexts of portfolio selection in finance and producer choice under risk related to prices and/or production.

“Spatial and Temporal Analysis of Asian Soybean Rust Confirmations During 2005 and 2006.” Michael J. Livingston, Michael J. Roberts, and David Schimmelpfennig (Economic Research Service, USDA).

We examine relationships between unconditional, soybean-rust–occurrence probabilities and potential determinants using a probit analysis, which accounts for spatial and temporal autocorrelation, and relationships between occurrence probabilities conditional on the timing and location of previous confirmations, using an extended partial likelihood methodology.

“Implications of Growing Biofuel Demand for Northeast Feedstocks.” Todd M. Schmit and William G. Tomek (Cornell University).

Growth in bioenergy fuels has implications for grain and oilseed prices. As these commodities or derivatives serve as feedstocks for livestock, primary price effects will reverberate through feed prices and production. The relationship between mixed-feed prices and grain and feedstock prices is estimated in order to forecast the effect on feed costs.

“Quebec’s New Maple Syrup Supply Management and Its Impact on Northeastern U.S. Producers.” Veronique Theriault, George K. Criner, and Kathryn Hopkins (University of Maine) and Maurice Doyon (Université Laval).

Maple syrup is produced only in the United States and Canada, with most being produced in Quebec. Large production increases in the 1990s led Quebec to employ a supply management system. This research explores the effectiveness of this system in the Quebec maple market, and examines the degree to which Quebec’s production curtailment and promotional efforts affect producers in the northeastern United States.

SESSION: *Environmental Pollution*. Moderator: Richard Ready (Penn State University)

“Poultry Litter Management in Two Mid-Atlantic States.” Alan R. Collins (West Virginia University) and Doug Parker (University of Maryland).

Mail survey data were used to analyze litter transport and implementation of best management practices (BMPs) for land application as strate-

gies for poultry growers in Maryland and West Virginia. Off-farm transport was a common strategy to address insufficient land resources. Larger farms were more likely to implement BMPs.

“Designing Water Quality Markets to Efficiently Manage Nonpoint Source Risk.” Gaurav S. Ghosh and James S. Shortle (Penn State University).

Existing water quality markets address low reliability of nonpoint emissions through trade ratios, which we show as grossly inefficient. We develop an alternative approach in which the nonpoint emission is a multi-attribute good (with reliability-related attributes) and demonstrate that this approach achieves economically and environmentally superior outcomes.

“Ambient-Based Pollution Mechanisms: A Comparison of Homogenous and Heterogeneous Groups of Emitters.” Gregory L. Poe and Jordan F. Suter (Cornell University) and Christian A. Vossler (University of Tennessee).

Experimental economic methods are used to investigate ambient-based pollution tax mechanisms in homogeneous and heterogeneous group settings calibrated to dairy herd size grouping in New York State. Heterogeneous groupings are more effective at reaching pollution targets. Yet, large farms tend to overabate while small farms underabate. Bankruptcy of small farms emerges as a policy concern.

“Balancing Competing Water Uses in Participatory Watershed Planning and Management.” Shannon H. Rogers and John M. Halstead (University of New Hampshire) and Thomas Seager (Purdue University).

Sustainably managing watersheds for multiple uses requires a structured multi-disciplinary decision making process. Surveys show that watershed residents value the natural qualities of the river and are less concerned with economic values. Conjoint analysis and other qualitative techniques will provide a more thorough understanding of data collected and policy implications.

SESSION: Agricultural Land Preservation. Moderator: Jerald Fletcher (West Virginia University)

“Houses in the Fields and Forests: A Spatial Economic Analysis of Residential Development Trends in Maine.” Kathleen P. Bell (University of Maine).

A spatial economic model is developed to examine conversion of lands to residential use in Maine from 1993 to 2004. By providing a mechanism to anticipate residential development in Maine, this research advances scientific understanding, fills significant information gaps, and allows for proactive rather than reactive growth management strategies.

“Tradeoffs and Substitution in Agricultural Land Preservation: The Role of Geographic Proximity.” Joshua M. Duke (University of Delaware) and Robert J. Johnston (University of Connecticut).

This paper explores systematic differences between preferences for land preservation within local political jurisdictions and those for preservation at the state level, using linked community and statewide choice experiments. The paper models relationships between proximity and preferences for preservation attributes, and discusses implications for benefit estimation and policy guidance.

“The Relationship Between Agricultural Preservation Programs, Land Use Patterns, and Population Density: An Empirical Investigation in Maryland.” Jacqueline Geoghegan and Wayne Gray (Clark University), Lori Lynch (University of Maryland), and Samuel Dworikin (Clark University).

The locations of agricultural parcels, their surrounding land uses, and measures of demand pressures are compared to test whether the presence of development pressure and/or differences in the spatial distribution of surrounding land use is associated with a lower probability of enrollment in an agricultural preservation program.

“Spatial Models of Open Space Loss in the Mid-Atlantic Region of the U.S.” Nga P. Nguyen, Simanti Banerjee, and Richard Ready (Penn State University).

The drivers of open space loss at the minor civil division (MCD) in the mid-Atlantic region of the United States are examined in a spatial framework for the period 1992–2001. Population

growth and initial population density of MCDs emerge to be the most important drivers of land use change.

SESSION: *Research Methods I*. Moderator: Cynthia Nickerson (Economic Research Service, USDA)

“Understanding Heteroskedasticity in IID-Based Discrete Choice Models: An Application of the Mixed Logit Model to U.S. Oil Policies.” Brett R. Gelso (American University).

This analysis focuses on understanding the role of heteroskedasticity in an IID-based choice model. As such, using a mixed logit model, we investigate the effects of offshore U.S. oil policies between 1983 and 2006 and explicitly focus on the role of non-constant error variance in the behavioral process of tract choice.

“An Experimental Exploration of Risk: Stigma as a Threshold Anomaly.” Kent D. Messer, Deborah Kerley, William D. Schulze, and Brian Wansink (Cornell University).

Stigma in the context of risk represents a shunning of a risky situation that cannot be explained by the actual level of risk. This research provides evidence on the nature of the stigma anomaly and suggests that stigma is characterized by a step function response and has implications for environmental policy.

“Diving Demand for Large Ship Artificial Reefs.” Ash Morgan and William Huth (University of West Florida) and Matt Massey (U.S. Environmental Protection Agency).

The research develops both an economic impact analysis and travel cost model to provide the first estimate of demand for the world’s largest artificial reef (USS Oriskany) and its total contribution to the northwest Florida regional economy. We also provide policy-based analysis that measures the value to divers from creating a “multiple ship reefing area” as opposed to single-site destinations.

“Non-Monetary Values and Restoration Equivalents in a Random Utility Model of Beach Recreation.” George R. Parsons and Ami Kang (University of Delaware).

We estimate a random utility model of beach recreation in Texas and use the results to estimate non-monetary values of beach closures at Padre Island National Seashore. Our model is estimated using 800 Texas residents and 64 beaches. Our non-monetary values include beach cleaning, nourishment, and several other selected characteristics.

SESSION: *Trade Issues I*. Moderator: Robert Johnston (University of Connecticut)

“The Impact of Exchange Rate Volatility on U.S. Foreign Direct Investment in Latin America.” Callye R. Masten and Titus O. Awokuse (University of Delaware).

This paper examines the relationship between exchange rate volatility, political institutions, and foreign direct investment inflow into Latin America across three sectors: food processing, industrial manufacturing, and services. The empirical results suggest that exchange rate volatility is minimal while the role of political and other economic factors is significant.

“Impact of Avian Influenza on Japan’s Poultry Meat Imports.” Fawzi A. Taha (Economic Research Service, USDA).

The 2003 outbreak of Highly Pathogenic Avian Influenza (HPAI) in Asia triggered a substantial change in Japan’s pattern of poultry meat imports. Initially, Japan’s import demand for poultry meat dropped, due to consumer fears of infection. After consumers realized that cooking poultry meat kills the virus, demand for cooked poultry meat rose, substituting for uncooked poultry meat.

“The U.S. Cluster Rule for the Pulp and Paper Industry and Trade between the United States and Canada.” Yu-Chen Yang and Bruce A. Larson (University of Connecticut).

We investigate the impact of the cluster rule on trade between the United States and Canada for five major categories of the U.S. pulp and paper industry. There were negative significant impacts on U.S. domestic sales prices and export prices to Canada for paperboard, printing and writing paper, and Kraft paper.

SESSION: *Environmental Issues in Developing Countries*. Moderator: Gebremeskel Gebremariam (West Virginia University)

“The Environmental Kuznets Curve: Are Economists Moving Down the Wrong Path?” Jill Caviglia-Harris and Dustin Chambers (Salisbury University) and James R. Kahn (Washington and Lee University).

Research on the validity, application, and measurement of the Environmental Kuznets Curve (EKC) has been prolific. This paper incorporates time series with a comprehensive measurement of environmental damage called the Ecological Footprint (EF) to test this theory. We find no evidence of an EKC relation according to the EF or any of its subcomponents.

“Poverty and Natural Resource Use: Asset Poverty, Shocks, and Firewood Collection in Rural Ethiopia.” Bayou Demeke and Narishwar Ghimire (Penn State University) and Jonse Bonka (Addis Ababa University).

This paper estimates a relationship between poverty and firewood collection behavior among rural Ethiopian households. Panel data covering 1994 to 2000 is used to estimate random effects tobit and probit models. Households with smaller land holdings, smaller number of livestock, and those facing significant shocks collect and sell more firewood.

“Linking the Benefits of Conservation and Business in Trophy-Hunting: The Case of Lion Hunting in Tanzania.” Shefali V. Mehta, Stephen Polasky, Bernard Kissui, Dennis Rentsch, and Jennifer Schmitt (University of Minnesota).

In Tanzania, trophy-hunting plays a major role in the Serengeti region. We present a dynamic model demonstrating that management practices targeting lions based on age and size can promote a sustainable population. Also, introducing price discrimination can increase the company’s profits based on the clients’ willingness to pay for larger males.

“Making Choices after Clearing the Forest: Estimates of Peer Effects in Amazonian Land Use.” Shubhayu Saha, Erin O. Sills, and Subhrendu K. Pattanayak (North Carolina State University), and Jill L. Caviglia-Harris (Salisbury University).

This paper estimates how social interactions among farmers belonging to farmer associations

influence their land use choices in the Amazon frontier. Controlling for spatial correlation and using past land use choices, we find evidence of peer effects among farmers belonging to the same associations on the proportion of land devoted to agriculture and pasture.

SESSION: Land Conservation. Moderator: Kathleen Bell (University of Maine)

“Using Market Values for Targeting Ecologically Valuable Natural Resource Land: An Application to Maryland’s GreenPrint Program.” Lori Lynch and Karen Palm (University of Maryland).

Thirty-eight states preserve lands with ecological value. Maryland’s GreenPrint program has developed a comprehensive ordinal ranking mechanism that proxies ecological valuation but doesn’t include costs. An estimated hedonic model is used to predict prices for high-rated GreenPrint parcels. Including land values allows the program to preserve more acres with an “excellent” rating.

“Promoting Cost Effective Conservation: The Application of Binary Linear Programming to Farmland Protection in Delaware and Maryland.” Kent D. Messer (Cornell University).

To achieve maximum benefits, land conservation needs to be cost effective, yet most organizations use “benefit targeting” that gives priority to parcels with the highest benefits and ignores costs. This research applies optimization to achieve dramatic improvements in efficiencies for ongoing farmland protection efforts in Delaware and Maryland.

“The Efficient Allocation of Public Resources Using MALPF’s Farmland Auction.” Andrew J. Stocking, John K. Horowitz, and Lori Lynch (University of Maryland).

Between 1980 and the present, Maryland used an auction to identify and purchase the development rights from farmland owners. Using 23 years of data from one of the most active counties in Maryland, we studied the determinants of auction efficiency and empirically tested several theoretical hypotheses on auction performance.

SESSION: Research Methods II. Moderator: Bayou Demeke (Penn State University)

“Incentive Compatible Mechanism Design for Discrete Choice Surveys: A Binary Choice Case.” Chhandita Das and Christopher M. Anderson (University of Rhode Island).

This paper designs a dominant strategy mechanism for discrete choice surveys in order to mitigate the free-rider problem in such questions. To do this we adapt Clarke’s pivotal mechanism to discrete choice questions. We design induced value experiments to verify the proposed theory, and evaluate its performance with respect to two alternative demand revelation mechanisms.

“New Zealand’s Catch Balancing Regime: A Model of Enforcement Strategies.” Gabriela Dobrot and Jongoh Nam (University of Rhode Island).

The article examines the viability of New Zealand’s use of a catch-balancing regime. The enforcement strategy presented draws on literature regarding applications of the Revelation Principle. The results of our model show how efficient management of the fish stock as well as a reduction of the discarding temptation can be achieved.

“Morality, Protest Bids, and Nonmarket Valuation: What Do Survey Responses Really Mean?” Brett R. Gelso (American University).

This paper discusses the implications for non-market valuation when economic agents have preferences that are not strictly within the neo-classical (benefits versus costs) decision-making framework. We show how ethical foundations influence a respondent’s valuation of environmental attributes in a revealed preference (RP) survey with a random parameters logit (RPL) model.

“Study Frequency of Recreational Activities Using Quantile Regression Methods with Censored Data.” Ekaterina D. Gnedenko and Bruce A. Larson (University of Connecticut).

This paper addresses the question of excess zeros in recreational demand models. Our approach is to apply a censored least absolute deviations estimator as an alternative non-parametric approach to estimation frequencies of recreational visits to multiple destinations. Performance of this approach can be superior if there is a fail-

ure of the assumptions made under the parametric modeling.

SESSION: *Technology Adoption Decisions.* Moderator: David Just (Cornell University)

“A Needle in the Haystack: Identifying Invasive Species Detection and Control Strategies Using a Spatial Stochastic Dynamic Model.” Kshama P. Harpankar and Shefali V. Mehta (University of Minnesota).

Invasive species management is obfuscated by several characteristics including significant linkages between the economic and ecological sides and the spatial dimension of the invasion process. This paper presents a spatial dynamic model from the vantage of a landowner who chooses among management activities, namely detection and control of potential populations.

“Uncertainty in Invasive Species Decision Making: Addressing Uncertain Probabilities in Expected Utility Models.” Craig D. Osteen (Economic Research Service, USDA) and L. Joe Moffitt (University of Massachusetts).

This paper examines selection of invasive species management strategies under uncertainty, using soybean rust as an example. The authors apply information gap decision theory to examine the effects of uncertain probabilities on expected performance of alternative strategies and compare choices under expected utility and alternative criteria.

“Farmer Willingness to Adopt High Available Phosphorus (HAP) Corn.” Amy L. Parish, John C. Bernard, and John D. Pesek (University of Delaware).

Delmarva corn farmers were surveyed to assess their willingness to adopt High Available Phosphorus (HAP) corn. HAP corn would allow poultry to utilize more phosphorus, which could reduce phosphorus pollution. Conjoint analysis involving yield, premiums, and fees was used to model the adoption path of potential HAP varieties.

“Benefits of the National Cooperative Soil Survey: Evidence from Corn Yield Trends.” Archana Pradhan and Jerald J. Fletcher (West Virginia University).

Benefits from the soil survey are diverse and dispersed spatially, temporarily, and among user groups. Temporally, benefits can be divided into historical, current, and future benefits. This paper attempts to find evidence for and estimates of past benefits through an analysis of corn production using county-level data.

SESSION: Trade Issues II. Moderator: George Parsons (University of Delaware)

“The Contribution of Foreign Direct Investment to China’s Export Performance: Evidence from Disaggregated Sectors.” Weishi Gu and Titus O. Awokuse (University of Delaware).

This paper examines the role of foreign direct investment (FDI) in stimulating China’s exports using sectoral data from 1995 to 2004 for six manufacturing export sectors. Empirical results from fixed effect models indicate that FDI inflow to China has a positive effect on total exports of the industrial sectors as a whole, but that specific effects of FDI vary by sector.

“An Economic Analysis of U.S. Rice Export Promotion Programs.” Pimbuha Rusmevichientong and Harry M. Kaiser (Cornell University).

The effectiveness of U.S. rice export promotion programs is addressed. A single-equation of U.S. rice export demand is econometrically estimated over the period 1980–2006. The model is simulated with and without the programs to measure the total impact. Average and marginal benefit-cost ratio is computed to evaluate the profitability and the optimality of the export promotion programs, respectively.

“Dairy Product Consumption Patterns and Trends in China: Implications for Future Growth.” Huiyuan Zou and Andrew M. Novakovic (Cornell University).

We update and summarize dairy product consumption trends in China. Intra-China dairy market regions are described based on geography and demographic descriptors. China National Statistic Bureau data are used to check consumer responses in different regions, and, at the same time, serve to test the hypothesis that China’s dairy consumption preferences are different across the country.