Selected Papers

Due to unforeseen circumstances, the following abstracts of selected papers presented at the 2006 SAEA annual meetings did not appear in the August 2006 *Journal of Agricultural and Applied Economics* edition.

Parametric and Nonparametric Evaluation of U.S. Hog Price Forecast. *William Wolatub, ERS-USDA; Ashagree Yigletu, Southern University and A&M; Christopher G. Davis, ERS-USDA; Sung Chul No, Southern University and A&M.*

Legal Status and U.S. Farm Wages. *Nobuyuki Iwai, Robert D. Emerson, Lurleen M. Walters, University of Florida.*

Using National Agricultural Workers Survey data, we estimate U.S. farm worker wage differentials by legal status. In order to adequately correct sample selection bias, we develop a Heckman-type two-stage method with an ordered probit model in the first stage and a wage equation model in the second stage.

Estimation of Production Functions Using Average Data. *Matthew Salois, Grigorios Livanis, Charles B. Moss, University of Florida.*

Agricultural economists rely on aggregated data at various levels depending on data availability and the econometric techniques employed. However, the implication of aggregation on economic relationships remains an open question. To examine the impact of aggregation on estimation, Monte Carlo techniques and data are employed on production practices.

Calibrating Probabilistic Forecasts. *Paul A. Feldman, James W. Richardson, Keith D. Schumann, Steven L. Klose, Texas A&M University.*

Modeling economic systems often involves assumptions about how data are distributed. Indeed one of the most notable discussions in agricultural economics is how crop yields are distributed. This paper calibrates the probabilistic forecasts of cotton, rice, and sorghum yields for alternative distributional assumptions.

Changing Patterns of Orange Juice Consumption in the Southern United States. *Leigh Ann Love, James A. Sterns, Thomas H. Spreen, Allen F. Wysocki, University of Florida.*

From 2000 through 2004, per capita orange juice purchases decreased by 12.3% while the popularity and media coverage of low-carbohydrate dieting exploded. Results indicated that media coverage of low-carbohydrate diets and dieting was negatively and significantly related to demand for orange juice in the Southern region.

Household Vegetable Demand in the Philippines: Is There an Urban–Rural Divide? *Maria Erlinda M. Mutuc, Suwen Pan, Roderick M. Rejesus, Texas Tech University.*

Using a three-step estimation method and a Nonlinear Quadratic Almost Ideal Demand System (NQAIDS), we find that most expenditure and own-price elasticities of vegetables in the Philippines are around unity. No significant differences in rural–urban demand patterns are observed for most vegetables in the study, except for cabbage and tomatoes.

Dynamic Analysis and Forecasts of Rough Rice Price under Government Price Sup-

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port Program: An Application of Bayesian VAR. *Sung Chul No, Southern University and A&M; Michael E. Salassi, Louisiana State University.*

This study constructs a Bayesian VAR model of U.S. rice prices, in conjunction with supply and demand functions. Various validation tests are conducted to examine whether or not the BVAR model satisfies its dual functionality: Providing a dynamic analysis of the effects of a price support program and generating reasonable short-term rice price forecasts.

Lifting the Fruit and Vegetable Cropping Restriction: Potential Impacts on Cropping Preference in the Lower Rio Grande Valley, Texas. *Roland J. Fumasi, James W. Richardson, Texas A&M University.*

We estimate the effect of lifting the fruit and vegetable cropping restriction on cropping preference in the Lower Rio Grande Valley, using a stochastic simulation model and Stochastic Efficiency analysis. Results suggest that, based on risk-adjusted net returns, lifting the cropping restriction may likely have the most profound effect on watermelon and cabbage acreage.

Dairy Resource Management: The Effects of Concentration and Urbanization. *Erik O'Donoghue, Richard F. Nehring, Charles Barnard, Carmen L. Sandretto, ERS-USDA.*

Dairy farms located in urban-influenced areas face additional competitive pressures compared to rural dairy farms. Trends in excess nitrogen and phosphorus from 1996 through 2004 were tracked and measures of economic performance for dairy farms in the traditional dairy areas in the Northern States were examined using data from USDA's Agricultural Resource Management Survey.

Heterogeneous Production Efficiency of Specialized Swine Producers. *Glynn T. Tonsor, Allen M. Featherstone, Kansas State University.*

This research evaluates technical, allocative, scale, economic, and overall efficiency separately and jointly estimated for farrow-to-finish, farrow-to-feeder, feeder-to-finish, farrow-to-weanling, weanling-to-feeder, and mixed operations. Findings confirm appreciable differences in efficiency and causes of efficiency. In addition, Tobit models examine how demographic factors and expenses influence efficiency and indicate additional variation across specializations.

Willingness-to-Pay for Genetic Attributes in Aquaculture Industries. *Brian C. Boever, R. Wes Harrison, Terrence R. Tiersch, Louisiana State University.*

The genetic make-up of fish stocks is an important factor in aquaculture production. Choice-based conjoint analysis is used to determine importance of genetic improvements to grow-out producers and an estimated willingness-to-pay for selected attributes. Results from a national survey of aquaculture producers reveal growth rate as the most important attribute.

Compensating for Lower Household Income: The Case of U.S. Farm Households. *Brian C. Briggeman, Ken Foster, Purdue University.*

Results from the 2001 ARMS data set state how lower-than-expected income is compensated for by farm households: 1) as total household assets increase, the probability of using borrowed funds increases; 2) if an AMTA payment was received, the probability of selling assets decreases; 3) higher off-farm income increases the probability that spending is decreased.

The Demand for Agritourism in the United States. *Carlos E. Carpio, Michael K. Wohlgenant, Tullaya Boonsaeng, North Carolina State University.*

Data from a 2000 National Survey on Recreation is used to determine the effect of different factors affecting customers' decisions to

participate in agritourism. The estimates of the own price and income elasticities are −0.13 and 0.06, respectively. The total consumer surplus from the agricultural landscape was estimated as 22 billion dollars.

Maximum Value of a Precise Nitrogen Application System for Wheat. *Jon T. Biermacher, Francis M. Epplin, B. Wade Brorsen, John B. Solie, William R. Raun, Oklahoma State University.*

Research is ongoing to develop sensor-based systems to determine crop nitrogen needs. The objective is to determine the expected maximum value of an in-season precision nitrogen application system for winter wheat. Farmers could not afford to pay much more than $9 per acre for a precision system.

Effect of Central American Free Trade Area (CAFTA) on U.S. Sugar Market. *Hassan Marzoughi, P. Lynn Kennedy, Louisiana State University.*

This paper tries to estimates the impact of the establishment of CAFTA on the United States sugar market. This study shows that an increase in the U.S. sugar import quota under the CAFTA agreement will result in a decrease in the U.S. domestic sugar price of about 1.7 cents, or approximately 8.6%.

Cotton Trade Liberalizations and Domestic Agricultural Policy Reforms: A Partial Equilibrium Analysis. *Suwen Pan, Samarendu Mohanty, Mohamadou Fadiga, Mark Welch, Texas Tech University.*

A partial equilibrium model was used to estimate the effects of trade liberalizing reform in the world cotton market. Findings indicate that on average world cotton traded would increase 2.69%, world cotton prices would increase 10.5%, and U.S. market share of world cotton exports would decline 5%.

Despairing over Disparities: Willingness to Pay and Willingness to Accept Differences among Broiler Producers in Louisiana. *Y. Qin, K.P. Paudel, Louisiana State University.*

Cheap talk is the method of contingent valuation survey used to test the existence and magnitude of discrepancies between willingness to pay and willingness to accept (WTP and WTA) measures of compensation. Endowment, information, income, and substitution effects are the major components contributing to the differences in WTP and WTA.

Estimating a Demand Function for Poultry Litter. *R.I. Carreira, H.L. Goodwin, University of Arkansas.*

Excess poultry litter could be a sustainable source of crop nutrients outside of nutrient-saturated regions if crop farmers are willing to utilize it. Using nearly 150 observations of actual poultry litter purchases in Oklahoma, Arkansas, and Missouri, we estimate a demand function for poultry litter produced in northwest Arkansas.

Adoption of Best Management Practices among Poultry Producers in Louisiana. *K.P. Paudel, Y. Qin, T. Lavargne, K. Wegenhoft, Louisiana State University.*

Poultry producer attitudes toward adopting best management practices (BMPs) to reduce environmental pollution in Louisiana were elicited from a survey. Results indicated that very few farmers have actually adopted BMPs and there are not many who would like to adopt the management practices given the cost share arrangement currently provided by the USDA/NRCS.

Using the AIR Weather Index to Estimate the Contribution of Climate to Corn and Soybean Yields in the U.S. *Oscar Vergara, Gerhard Zuba, Tim Doggett, Air Worldwide Corporation.*

Using historical production data at the county level and statistical analysis, we investigate climate contributions to corn and soybean yields between 1974 and 2003. Crop

yield trends are decomposed into two components: the technology-derived trend and the trend resulting from climate variability. Implications for agricultural risk management and farm policy are discussed.

Biotechnology and Economic Development: The Economic Benefits of Maize Streak Virus Tolerant Maize in Kenya. *Monica Lopez Andreu, David Norman, Orlen Grunewald, Kansas State University.*

Biotechnology potentially provides a means of improving the quality and quantity of agricultural production. A partial equilibrium trade model is applied to Kenya's corn market to study the potential of genetically modified maize tolerant to the Maize Streak Virus. Positive results of the welfare estimation are disaggregated between consumers, large and small Kenyan corn farms.

Economic Impacts of Restricted Animal Movements in Mexico Due to Increased Mexican Regional Bovine Health Criteria. *Megan E. Cunningham, Derrell S. Peel, Oklahoma State University.*

Tuberculosis restrictions on animal movement have important implications for Mexican producers and consumers and the U.S. beef cattle industry. Restrictions cause decreased Mexican cattle exports, increased feedlot production, and decreased beef imports. The Mexican industry incurs greater interregional cattle and meat shipment costs and changes in regional beef cattle production

Technological Leapfrogging as a Source of Competitive Advantage. *Thom Wright, Suzanne Thornsbury, Lourdes Martinez, Michigan State University.*

This paper examines technological leapfrogging industries characterized by long-term investments in perennial crops. Threshold farm size and economic valuation are used to evaluate adoption of harvester innovations. Less than 1% of Polish farmers are able to adopt overhead harvesters and sunk costs limit the ability of rapid adjustments in U.S. technology.

Sanitary and Phytosanitary Measures: A Game Theoretic Model of Comparative Evaluation. *Nandini Banerjee, P. Lynn Kennedy, Louisiana State University.*

The WTO-induced Sanitary and Phytosanitary (SPS) policy is restrictive, and it is severely affecting the exports from developing nations. This paper explores the conditions under which certain restrictions can be mutually beneficial both for the exporter and the importer. A game theoretic model is proposed to determine whether the policy generates mutually beneficial payoffs.

Participatory Watershed Management for Sustainable Rural Livelihoods in India. *Yoganand Budumuru, West Virginia University.*

International development goals moved beyond increasing food production to include poverty reduction and protecting the environment in a sustainable way. Degradation of natural resources due to exploitation coupled with population pressure in developing countries causing further food insecurity and environmental degradation. A participatory watershed management approach is proposed to address this problem effectively.

An Alternative Model for Analyzing the Physician-Hospital Relationship in Rural Areas. *Matthew J. Fannin, James N. Barnes, Louisiana State University.*

We apply Transaction Cost Economics to help decision makers in rural health care markets choose among alternative organizational arrangements to cost-effectively deliver healthcare services. The hospital-physician relationship is analyzed and the transactional attributes and market characteristics are identified as key variables influencing the organizational relationship between hospital and physician.

Empirical Analysis of Food Assistance Pro-

gram Participation: A Case Study of West Virginia. *Ahadu T. Tekle, Tesfa G. Gebremedhin, West Virginia University.*

This study aims at examining the relationship between macroeconomic and policy variables and food stamp program participation in West Virginia. Static and dynamic econometric models are employed. Results indicate that macroeconomic conditions significantly explain food stamp program participation. Results could be helpful to welfare programs in West Virginia.

Choice-Based Conjoint Experiment with Genetically Engineered Cotton in the Mississippi Delta. *Swagata "Ban" Banerjee, Steven W. Martin, Darren Hudson, Mississippi State University.*

Producers' preferences for cottonseed are examined using a willingness-to-pay (WTP) approach via mail surveys. Results indicate a positive WTP for yield, technology, and fiber quality, and it increases with the level of technology and quality, respectively. WTP varies directly with farm size and inversely with farm labor.

Valuing House and Landscape Attributes: Application of the Hedonic Pricing Technique. *Madison Coley, Wojciech J. Florkowski, University of Georgia.*

Hedonic pricing is used to determine the effect of a landscape element such as the lawn area on the home selling price of single-family homes in Athens, GA. Results show that lawn area and the use of zoysiagrass as the dominant species positively and significantly influenced the selling price.

Testing for Market Integration and the Law of One Price in World Shrimp Markets. *Ferdinand D. Vinuya, Clemson.*

Market integration/law of one price tests reveal a single stochastic trend for aggregate shrimp prices in the Economic Union, Japan, and the United States, pointing to an integrated shrimp market. Product-level price tests of wholesale markets in New York, Japan, and Europe also point to strong market integration and support for LOP.

Economic Impacts of Red Tide on Restaurant Sales. *Kimberly L. Morgan, Sherry L. Larkin, University of Florida.*

Three Southwest Florida waterfront restaurants provided daily sales data from January 1996 to September 2005 for analysis using a multiple regression time series model. Preliminary results indicated that daily sales fell $616 (representing a loss of 5% to 14% depending on restaurant location) during a red tide bloom.

The Economics of Eating Fresh Fruits and Vegetables: Recognizing Discernible Patterns for Obesity Differences among Lower- and Higher-Income Consumers. *Eugene Jones, Ohio State University.*

Fresh fruits and vegetables are perceived to be nutritious and healthy, but more costly than some less nutritious foods. Supermarket scanner data are used to analyze the purchase behavior of higher- and lower-income consumers for produce. Lower-income consumers pay lower prices for every sub-category except bananas. Lower-income consumers are also shown to have higher own-price elasticities

Crop Insurance Adoption: Evaluating Yield Insurance Options Based on Sparse Data and Attitudes Toward Risk. *Keith D. Schumann, James W. Richardson, Texas A&M University.*

Inferences on crop yield distribution are often made from assumptions based on sparse observed yield data; inferences on risk attitudes are often made intuitively without specific regard to the interplay of the specific yield variability. This paper analyzes premium-subsidized yield insurance options for feed grain producers using a distributional nonparametric test across assumptions on risk attitudes.

Testing the Efficiency of an Alternative Crop Index Insurance Product Based on an Agronomy Simulation Model. *Xiaohui Deng, California State University–Fresno; Barry J. Barnett, Yingzhuo Yu, Axel Garcia, Gerrit Hoogenboom, University of Georgia.*

This study evaluates the yield risk protection performance of three index-based crop insurances. Insureds can simultaneously adjust the restricted coverage and scale parameters in the index insurance design to optimize their well-being. Results suggest that even in heterogeneous production regions, index-based insurances may still provide comparable yield risk protection.

Evaluating Differences in the Rate of Return on Assets Across Farm Size and Commodities. *George M. Knapek, J. Marc Raulston, Joe L. Outlaw, James W. Richardson, David P. Anderson, James D. Sartwelle, III, Texas A&M University.*

As policymakers begin gearing up for the 2007 Farm Bill, tighter payment limitations are again an issue. This paper analyzed the rate of return on assets (ROA) for 62 representative farms located in the major U.S. production regions. The results indicate very few statistically significant differences across farm sizes and/or commodities grown.

The Viability of a Crop Insurance Investment Account: The Case for Obion County, Tennessee. *Delton C. Gerloff, University of Tennessee.*

This paper evaluates the feasibility of farmer-owned crop insurance accounts. The accounts, similar to retirement accounts, accumulate pre-subsidy premiums and dispense indemnities. Government involvement is that of guaranteeing loans if indemnities exceed the account balance. Substantial government savings occur through insurance premium subsidy elimination.

Economic Analysis and Impact of Sod Production in Texas. *Lawrence L. Falconer, Texas A&M University.*

This paper presents analysis of the cost structure for a medium-sized sod producing operation in Texas and results of a mail survey providing information on the production economics and marketing of sod in Texas. Results are compared with findings from previous studies conducted in Florida and Alabama.

Risk Efficient Strategies for Using Winter Wheat Pasture. *Karen W. Taylor, Francis M. Epplin, Derrell S. Peel, Oklahoma State University.*

Two objectives were pursued. The first was to determine the expected value of two monensin supplementation strategies for steers and heifers pastured on fall-winter wheat with alternative beginning weights. The second was to determine the expected value of extending the fall-winter wheat pasture grazing season by one or two weeks.

Economically Feasible Crop Production Alternatives to Peanuts in Southwestern Oklahoma. *Shankar Devkota, Rodney Holcomb, Merritt Taylor, Francis Epplin, Oklahoma State University.*

Changes in the U.S. peanut program have resulted in drastically decreased planted acres and forced many peanut producers in the Southwest to consider alternative crops. This study examined the economic risk associated with producing peanuts and common alternatives to peanuts. Irrigated peanuts are the best choice for risk-averse farmers.

Sources of Farm Inefficiency in Kansas Farms. *Orlen Grunewald, Monica Lopez Andreu, Kansas State University.*

Data Envelopment Analysis was used to calculate efficiency measures for 200 multiproduct Kansas farms from 1984–2004. Production, financial, and demographic variables were used to quantify the causes of inefficiencies. We found that labor, owned acreage, pro-

duction intensity, and farmers' age were significant in explaining farm inefficiency levels.

Urban Influence on Costs of Production in Selected Regions: A Frontier Approach. *Richard Nehring, David Banker, Vince Breneman, ERS-USDA.*

The intrusion of low-density nonfarm development into rural areas is affecting more U.S. farmland. The direct effect of converting rural lands to housing and other nonfarm uses may be overshadowed by the secondary effects of "urban influence" on farmland interspersed among nonfarm development. This paper extends previous work across time and regions, differentiating trends separately on livestock and grain farms.

Food Programs, Family Demographics, and Food Security of Children. *Jermisha Johnson, Gerald Whelelock, Hezekiah Jones, Alabama A&M University.*

Children's food security for young families with least experienced parents (children 0–2) and more experienced parents (children 3–5) are compared controlling for Food Stamp and WIC participants. Children of never married, LEP-using FS exhibits food insecurity. Children of MEP without FS and without HS diploma experience the most hunger.

Measuring the Impact of Agriculture and Community Development Policies on Selected Counties in Mississippi. *Albert Myles, Albert Allen, Mississippi State University.*

Economic developers and government officials must understand the importance of agriculture and incorporate it into a comprehensive economic development plan for rural areas. Agriculture adds ambience to the local area making it attractive for farm-related tourism development.

Repayment Capacity among Smallholder Fish Farmers in Kenya. *Aloyce R. Kaliba, University of Arkansas at Pine Bluff.*

A binary choice model was used to show that availability of credit was associated with production of good quality fish that attracted higher prices. Repayment capacity analysis showed that higher prices allowed smallholder fish farmers to generate enough revenues to repay loans under different market conditions.

Switching of Wine Juice Production Methods: An Application to the Indiana Wine Market. *Whitney Oliver Peake, Brian C. Briggeman, Purdue University.*

A southern Indiana–based winery, in which the operator can plant additional vineyard acres or import the grape juice to expand wine production, is analyzed using a real options approach. The compound option result concludes that a winery operator should plant vineyard acres while importing grape juice until the vineyard reaches full production.

Planning an Expansion of Blueberry Production by Southern Growers. *Wojciech J. Florkowski, University of Georgia.*

A random utility model is applied to examine growers' decisions to expand blueberry orchards. A logit decision model is estimated using survey data from Georgia commercial growers. Results indicate the importance of credit and water availability for the expansion decision. Effects of demographics and income on the expansion decision were simulated.

Marketing Sweet Potatoes to the United Kingdom. *Roger A. Hinson, David H. Picha, Louisiana State University.*

The sweet potato, though nutritious and healthful, has languished as measured by per capita consumption. Value-adding products have been developed, but have not been successful in expanding consumption and acceptance. Specialty pack exports to the United Kingdom, with expansion to continental Europe, are a potential market for appropriately packaged product.

An Analysis of Cointegration: Investigation

of the Cost-Price Squeeze in Agriculture. *Jody L. Campiche, Henry L. Bryant, James W. Richardson, Joe L. Outlaw, Texas A&M University.*

The differences in prices paid and prices received by farmers are examined using cointegration analysis. A Johansen cointegration test between prices paid and prices received revealed that the series were cointegrated. After accounting for technological change, we do not reject a long-run one-for-one correspondence between prices paid and prices received.

Impact of Fuel Price Increases on Texas Crops. *Chris R. Eggerman, James W. Richardson, Joe L. Outlaw, Sarah A. McMahon, Texas A&M University.*

This study estimates the impact of fuel price increases on Texas crop income with probabilistic forecasts of 2006–2008 production costs, planted acres, and net returns for the state's major crops under alternative fuel cost assumptions. Revenue forecasts are entered into an input-output model to estimate impacts on the state economy.

Ethanol Pricing: Explanations and Interrelationships. *L.M. Higgins, H.L. Bryant, J.L. Outlaw, J.W. Richardson, Henry L. Bryant, Texas A&M University.*

With the 2005 Energy Bill's passage, the production and use of ethanol is set to become an integral component of the transportation fuel market. Undoubtedly this will affect the transportation fuel and agricultural industries. This paper uses an econometric time-series approach to reveal historical ethanol price behavior and relationships.

Macro Economic Impacts of Installing Rice-Husk Electricity Power Plants in Thailand. *Y. Kunimitsu, Tatsuki Ueda, National Institute for Rural Engineering, Tskuba City.*

Macro economic impacts of rice-husk power plants (RHPP) in Thailand were analyzed by an Input/Output method. Results show that RHPP decreased sensitivity coefficients, especially in the petroleum-sector; economic merits were realized in the agricultural-sector but total induced production effects were lowered; and induced imports by consumption were reduced with RHPP.

Economic Analysis of Solid-Set Sprinklers to Control Dust in Feedlots. *S.H. Amosson, B. Guerrero, L.K. Almas, Texas A&M University.*

Feedlot dust is a critical problem that contributes to cattle death and illness as well as air pollution. This analysis identifies the effects of feedlot dust on cattle and the benefits/methods of controlling feedlot dust. A cost analysis of one popular method of controlling dust, solid-set sprinklers is presented.

Farm Programs and Agriculture Land Value: Case of Southern Agriculture. *Saleem Shaik, Mississippi State University; Glenn A. Helmers, University of Nebraska, Joseph A. Atwood, Montana State University.*

The proportion of agricultural land values generated by farm program payments and farm returns in the southern region are examined. The contribution of farm program payments to agricultural land values in the southern region has increased during the last three farm bill periods to 65%, compared to 22% in the other regions.

Will the Mississippi and Louisiana Dairy Industry Survive Hurricane Katrina? *Cary Herndon, Mississippi State University.*

The Mississippi and Louisiana dairy industry was devastated by Hurricane Katrina when 400+ farms were severely damaged. These producers face difficult choices between repairing damages (estimated at $120,000/farm) or ceasing operations. An estimated 25% to 30% of impacted farms may quit milking, which reduces the critical mass needed to sustain this industry.

Economic Impacts of the Green Industry in

the United States. *Charles R. Hall, Alan W. Hodges, John J. Haydu, University of Tennessee.*

This study estimates the economic impacts of the U.S. environmental horticulture industry (also known as the Green Industry) to be $147.8 billion in output, 1,964,339 jobs, $95.1 billion in value added, $64.3 billion in labor income, and $6.9 billion in indirect business taxes, with these values expressed in 2004 dollars.

Consumer Demand for a Ban on Antibiotic Drug Use in Pork Production. *Jayson L. Lusk, Bailey Norwood, Ross Pruitt, Oklahoma State University.*

Consumer demand for a ban on sub-therapeutic antibiotic use in pork production is measured using non-hypothetical choice experiments in a grocery store setting. These experiments reveal the private and public value consumers place on a ban, which is used with cost estimates to estimate the welfare impacts of a ban.