

**ANNUAL REPORT**  
**RESEARCH PROGRAM**  
**2016/17**

Department of Agricultural and Applied Economics  
College of Agricultural Sciences and Natural Resources  
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## **General Summary**

This report presents research and related outreach activities of the Department of Agricultural and Applied Economics – Texas Tech University during fiscal year 2016/2017. The research program of the Department of Agricultural and Applied Economics addresses various issues of economic significance with a strong applied focus, although there are strong disciplinary elements with the research program. Over one-third of full-time faculty resources are devoted to research. Two faculty positions are joint appoints (25% research) with Texas A&M AgriLife Research – Lubbock. Research projects in the department cover a wide range of subject matter areas: production economics (including finance and risk management), marketing, natural resource economics (including water, energy and environmental), international economics (including trade and development), economic policy analysis, and consumer economics.

During FY 2016/17, there were 78 active individual research projects in the department. Appendix A contains the individual annual progress reports of each active research project. Total expenditures for research projects carried out in FY 2016/17 totaled \$1,569,056 (Table 1). Research support from the four endowments in the department - Larry Combest Agricultural Competiveness Endowed Chair, Emabeth Thompson Professorship in Agricultural Risk Management, Charles C. Thompson Chair in Agricultural Finance, and Thornton Agricultural Finance Institute – provided about 11% of annual research expenditures. Details regarding the funding of specific research projects are provided in Appendix A. Of the \$1.569 million in research expenditures in FY2016/17, 58% was from federal sources, 39% from state sources and 3% from private sources. As shown in Figures 1 and 2, total research expenditures have been increasing in recent years following a significant decline during the early 2000s.

The Ph.D. and M.S. programs in the department are primarily supported through funding from research grants, state line-item funding, university research incentive funding, and departmental endowments. Therefore, the number of graduate students within the department has been closely tied to the amount of research funding available. Graduate enrollment has increased the past few years as the MAB and the Ph.D. programs have grown. Twenty-three graduate degrees were awarded in FY2016/17, 4 Ph.D., 11 M.S. and 8 MAB. Total graduate enrollment in fall 2017 was 54 with 35 Ph.D., 10 M.S., and 9 MAB. The growth in the Ph.D. program has been significantly aided by funding from the Free Market Institute at Texas Tech and the Borlaug Higher Education for Agricultural Development (BHEARD) program through USAID.

A summary of publications and presentations regarding research is provided in Table 3. The department has been very productive over the past several years in journal publications, abstracts, proceeding papers and technical reports. During FY 2016/17, publication output increased from the previous year, which is a function of the increase of graduate enrollment, experienced the past few years. Appendices C and D contain a comprehensive list of all FY 2016/17 publications and presentations, respectively.

### **International Center for Agricultural Competitiveness**

The International Center for Agricultural Competitiveness (ICAC) (formerly known as the Cotton Economics Research Institute (CERI)) coordinates and fosters economic research activities on all aspects of agricultural competitiveness within Texas Tech University and with other research entities. The primary focus is on economic matters, but we collaborate and cooperate with other research efforts, both economic and non-economic in their primary intent. ICAC focuses both on conducting research and the dissemination of research results to users. Within ICAC, production and management, processing, manufacturing, transportation, pricing and marketing, and trade and policy analysis are key research issues. The policy component of the program has become a more prominent part of ICAC's activities.

#### Summary of CERI Activities

ICAC has been focusing on policy analysis in cotton and general farm bill implementation as well as expanding our sorghum world model to include more regions of the world. Policy continues to be a staple of the center, but we have also expanded work into international agricultural development as well.

### **Larry Combest Agricultural Competitiveness Endowed Chair**

The Larry Combest Endowed Chair in Agricultural Competitiveness (Chair) was endowed and filled in August 2008. Dr. Darren Hudson was named the initial chair holder at that time.

1. The Chair supported two Ph.D. students examining immigration issues and impacts of foreign market shocks on agricultural commodity prices.
2. Other on-going research is related macroeconomic impacts on agriculture, foreign agricultural subsidies, and crop insurance.
3. We continue to be involved in our relationship with the United States Military Academy and are working on the relationship between food security and conflict.

### **Thornton Agricultural Finance Institute**

**and**

### **Charles C. Thompson Chair in Agricultural Finance**

The mission of the Thornton Agricultural Finance Institute is to focus faculty research on important topics in agricultural finance, provide support for courses and research in agricultural finance and related areas, and facilitate public service functions related to agricultural finance and banking. Dr. Phillip Johnson is the Director of the Thornton Agricultural Finance Institute.

In FY 2016/17, the institute conducted activities in both the research and service areas. The following sub-sections summarize the activities in those areas.

#### **Research**

The Institute provides a focus for research on important topics in agricultural finance which is a broad area that relates to a number of research projects within the Department of Agricultural and Applied Economics, the College of Agricultural Sciences and Natural Resources and the College of Business Administration. Research projects sponsored by or related to the Institute's mission include:

- An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains (Phase II)
- Application of the Field Print Calculator for Cotton Production in the Texas High Plains
- Provided support in part or whole for 11 graduate students and salary support for 6 faculty.

#### Journal Articles

- Zivkovic, S., Hudson, M., Johnson, P., Park, J. (2017). The Impact of Managerial Behavior on Financial Performance of Agricultural Cooperatives. *Journal of Cooperatives*. 32:1-22.
- Zivkovic, S., Hudson, M., Johnson, P., Park, J. (2016). Attitudes Shaping Cooperative Leadership: A Study on Board - Management Relationship in Cooperatives. *Journal of Agribusiness University of Georgia*, 34(2), 153-163.

#### Proceedings

- Mitchell, D, P. Johnson, and T. Black. 2017. “Fieldprint Calculator: A Sustainability Analysis in the Texas High Plains.” Presentation at the *2017 Beltwide Cotton Conference Proceedings*, Dallas, Texas, January 4-6.

#### Technical Reports

- Kellison, R., *et al.* 2015. An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains. Texas Alliance for Water Conservation 10<sup>th</sup> Annual Report submitted to the Texas Water Development Board, under project number 141G-44-B819, 280 pgs., College of Agricultural Sciences and Natural Resources, Texas Tech University. December 2015.

#### Presentations

- Johnson, P. 2016. “Is Winter Coming?” Presentation at the 44<sup>th</sup> Annual Bankers Agricultural Credit Conference. November 4, 2016, Lubbock, TX.

#### Service

The Institute co-sponsored the 44<sup>th</sup> Annual Bankers Agricultural Credit Conference in November, 2016, which addressed issues and topics related to agricultural lending, the agricultural economy, legal and regulatory issues, commodity outlook and other issues of interest to rural bankers and lenders (Appendix I). The conference is directed by a board of directors made up of representatives from area banks as shown in Appendix I. Dr. Phillip Johnson serves on the Texas Agricultural Cooperative Council (TACC) board of directors. He serves on the Executive Board of Directors, is vice-chair of the Services Section, and a member of the Educational and Member Services Committee. Dr. Johnson participated in numerous TACC activities, which included Cooperative Director Development Programs, the Managers Conference, and the TACC Annual Meeting.

### **Agricultural Risk Management**

The Emabeth Thompson Endowed Professor in Agricultural Risk Management was endowed in 2010. Dr. Stephen Devadoss was hired in 2016 for this professorship.

Farmers face risk in several facets of their operations, including production, marketing, biological, and financial risk. Managing these risks is very important for the viability and success of farmers and ranchers. The goal of agricultural risk management is to conduct research to help farmers and policy makers mitigate the effects of these risks on farmers' profitability. In FY 2016/17, we undertook several studies in the area of risk management and crop insurance, as listed below.

Dr. Stephen Devadoss supported two graduate students from project funding.

### Research

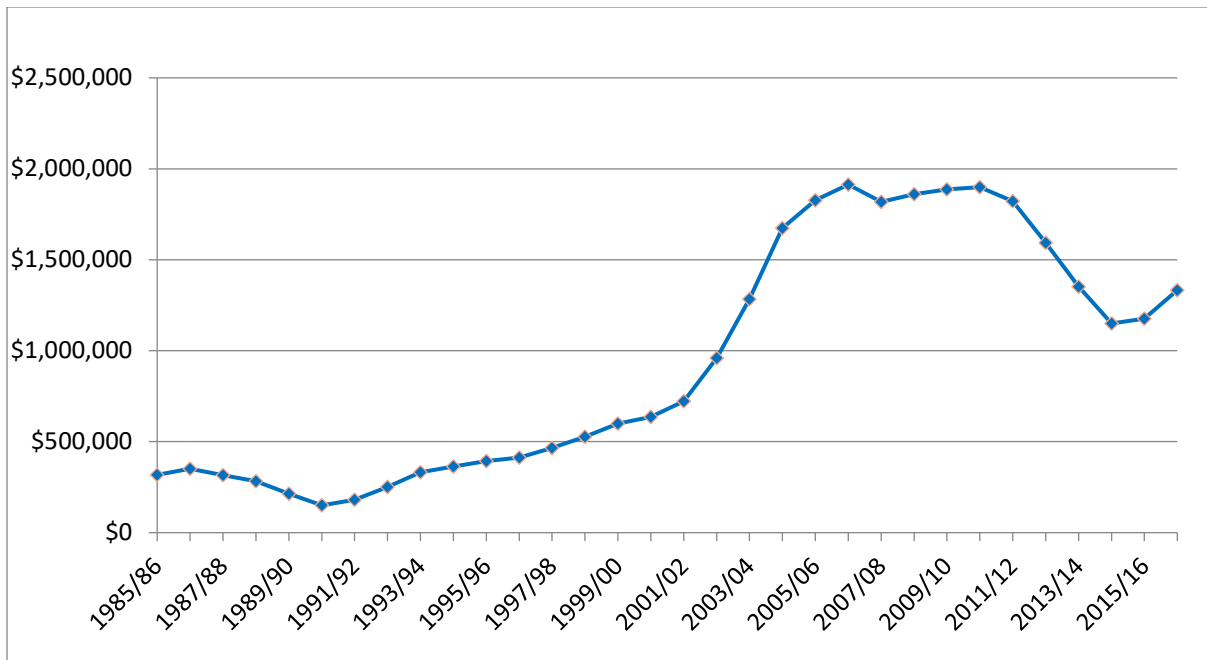
Several projects have been undertaken during the fiscal year 2016-2017 as briefly identified below.

1. Cotton Crop Insurance: The objectives of this project are to a) develop a model to analyze the impact of crop insurance policies (RP, YP, STAX, and SCO) for a representative risk-averse cotton farmer, b) estimate the trivariate distribution for cotton county yield, farm-level yield, and price, c) calibrate the model to a representative cotton farm, d) numerically optimize the model to simulate the effects of these crop insurance policies on production decisions reflecting moral hazard, insurance coverage levels, and insurance payments, and e) determine optimal combination of insurance policies for the representative cotton farmer.
2. Crop Insurance and Wheat Production: The objective of this project is to develop a model for a risk-averse wheat farm faced with various farm programs and crop insurance policies.
3. Technology, Crop Insurance, and Cotton Production: The objective of this project is to comprehensively analyze the effects of crop insurance policies on Bt cotton production in India.

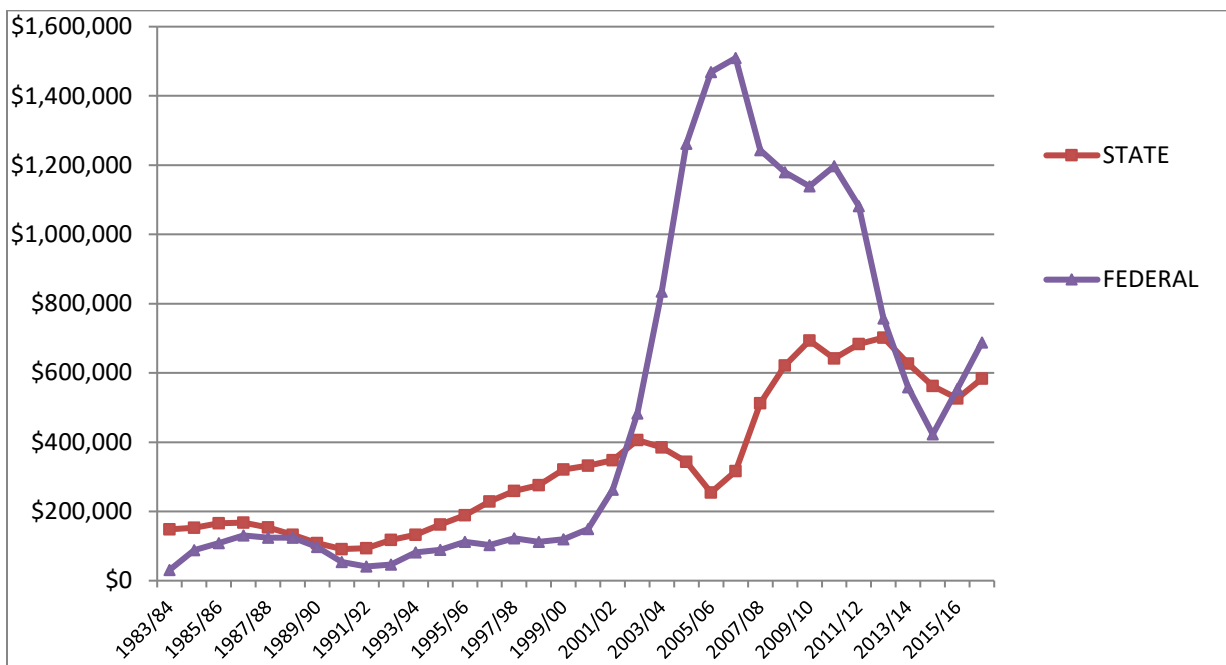
**Table 1. Department of Agricultural and Applied Economics  
Research Expenditures by Source, 1981/82 to 2016/17**

Year	Source			TOTAL*
	State	Federal	Private	
-----Dollars-----				
1981/82	148,983	2,000	27,180	178,163
1982/83	127,105	19,424	19,650	166,179
1983/84	167,660	70,413	29,687	267,760
1984/85	164,292	174,065	68,837	407,194
1985/86	165,413	80,067	33,381	278,911
1986/87	173,392	138,077	54,400	365,869
1987/88	123,265	155,202	22,700	301,167
1988/89	102,134	78,533	0	180,667
1989/90	99,531	57,700	3,000	160,231
1990/91	72,221	25,000	12,525	109,746
1991/92	109,437	40,000	123,475	272,912
1992/93	171,429	75,379	121,825	368,633
1993/94	115,776	130,699	106,250	352,725
1994/95	197,947	60,054	109,686	367,687
1995/96	251,932	145,576	64,500	462,008
1996/97	236,607	104,377	67,400	408,384
1997/98	287,576	116,750	121,232	525,558
1998/99	302,788	116,239	227,016	646,043
1999/00	371,803	126,400	130,705	628,908
2000/01	322,057	203,386	109,734	635,177
2001/02	349,003	457,508	95,508	902,407
2002/03	547,904	787,186	89,321	1,342,474
2003/04	256,145	1,258,791	93,072	1,608,008
2004/05	225,835	1,740,348	104,167	2,070,350
2005/06	281,205	1,406,603	113,416	1,801,224
2006/07	443,437	1,381,152	45,233	1,869,822
2007/08	812,706	942,682	30,167	1,785,555
2008/09	608,033	1,214,264	104,114	1,926,411
2009/10	659,067	1,259,125	32,069	1,950,261
2010/11	659,574	1,117,118	46,810	1,823,502
2011/12	730,582	867,647	91,795	1,690,024
2012/13	716,052	287,427	261,144	1,264,623
2013/14	433,004	520,464	147,768	1,101,236
2014/15	537,015	459,355	87,840	1,084,210
2015/16	608,474	682,622	52,922	1,344,018
2016/17	606,144	922,355	40,557	1,569,056

\*The total reflects expenditures for the specific research projects (in Appendix A), funding associated with cooperative research projects, and other departmental research activities.



**Figure 1. Three-Year Moving Average of Total Research Expenditures.**



**Figure 2. Three-Year Moving Average of State and Federal Research Expenditures.**

**Table 2. Graduate Degrees Awarded, Department of Agricultural and Applied Economics, 1982/83 to 2016/17**

Year	Master of Agribusiness	Master of Agriculture	Master of Science	Ph.D.
1982/83	-	1	5	1
1983/84	-	0	3	0
1984/85	-	1	3	1
1985/86	-	3	10	0
1986/87	-	0	8	0
1987/88	-	1	6	3
1988/89	-	1	5	4
1989/90	-	0	5	0
1990/91	-	0	5	0
1991/92	-	1	5	4
1992/93	-	2	4	1
1993/94	-	4	5	3
1994/95	-	1	3	2
1995/96	-	2	5	2
1996/97	-	3	5	2
1997/98	-	0	4	0
1998/99	-	0	4	2
1999/00	-	1	3	0
2000/01	-	0	3	1
2001/02	-	1	4	0
2002/03	-	1	3	2
2003/04	-	0	5	2
2004/05	-	0	4	2
2005/06	-	1	6	1
2006/07	1	0	3	3
2007/08	-	0	4	3
2008/09	-	0	6	1
2009/10	3	1	8	6
2010/11	3	0	6	2
2011/12	4	0	10	5
2012/13	4	0	3	7
2013/14	5	0	2	1
2014/15	3	0	3	1
2015/16	10	0	7	6
2016/17	8	0	11	4

**Table 3. Department of Agricultural and Applied Economics Publications and Presentations, 1979/80 to 2016/17**

Year	Journal Articles	Books & Chapters	Technical Res. Repts.	Proceeding Papers	Abstracts	Other Presentations
1979/80	1	0	5	1	2	3
1980/81	3	2	9	4	2	5
1981/82	4	5	10	2	1	4
1982/83	5	6	9	4	3	3
1983/84	5	1	10	6	5	2
1984/85	4	1	19	3	13	6
1985/86	11	4	16	5	13	8
1986/87	6	1	16	8	8	7
1987/88	12	3	9	8	9	10
1988/89	11	3	3	5	5	9
1989/90	9	0	3	4	9	12
1990/91	14	2	4	5	10	19
1991/92	7	1	6	12	11	17
1992/93	9	3	1	9	14	10
1993/94	5	2	15	17	9	7
1994/95	7	1	16	16	19	21
1995/96	10	1	3	28	8	12
1996/97	9	0	14	17	9	22
1997/98	9	0	11	12	4	23
1998/99	18	1	14	11	2	16
1999/00	14	3	16	13	3	12
2000/01	15	3	18	21	1	24
2001/02	16	0	19	18	26	8
2002/03	23	7	14	12	8	4
2003/04	19	1	13	23	11	13
2004/05	16	1	7	16	5	16
2005/06	21	5	16	11	10	33
2006/07	27	2	11	11	7	32
2007/08	20	0	8	16	4	23
2008/09	20	1	10	8	11	42
2009/10	21	2	7	17	14	41
2010/11	28	1	9	19	26	38
2011/12	17	1	2	18	16	46
2012/13	53	1	4	10	20	21
2013/14	23	0	3	5	1	39
2014/15	12	1	2	15	3	47
2015/16	39	2	3	20	3	62
2016/17	35	0	2	17	10	58



## Recent Significant Research Findings/Impact Statements

The study “Consumer Demand for Frozen Seafood Product Categories” has shown the following:

- Unbreaded shellfish dominate in the frozen seafood sales with about 50% share. Unbreaded finfish sales have registered a steady increase over the years from about 13% in year-1 to about 20% in year-5. Among the value-added categories, breaded finfish have the largest share of about 15-18% of total frozen seafood sales.
- Breaded products and entrées are normal-necessary goods; while unbreaded products have strongly elastic expenditure responsiveness and are luxuries. Holding all other factors constant, unbreaded products would attract higher expenditures than the two value-added items if expenditure on frozen seafood increases.
- Marshallian cross-price elasticities indicate that: the two value-added categories are mutual gross-substitutes, with the breaded products being stronger substitutes of entrées than vice versa; unbreaded products are gross-substitutes of the two value-added categories; however, both the value-added categories are gross-complements to unbreaded products.
- Shellfish have more elastic demand than finfish in the breaded and unbreaded categories, but not in entrée category. Unbreaded shellfish and both of the breaded product categories have higher own-price elasticity. Breaded shellfish, which has a high average price, is the most elastic to own-price change.
- Finfish and shellfish in a given category are mutual substitutes. Moreover, within the same category, shellfish are stronger substitutes to finfish than vice versa.
- Our overall results imply that consumers do not consider value-added products, especially entrée products, to be strong substitutes for the less-prepared unbreaded products: whereas unbreaded products are stronger substitutes for both the value-added products.

The study “The Effect of ‘Traffic-Light’ (TL) Nutritional Labelling in Carbonated Soft Drink Purchases in Ecuador” found that:

- The introduction of the traffic light supplemental nutrition labelling has not had the expected effect of reducing the consumption of carbonated soft drinks, especially those high in sugar.
- Over time, the consumption of high sugar soft drinks has been decreasing while the consumption of low and no sugar soft drinks has been increasing.

The poster related to the study “The Effect of ‘Traffic-Light’ (TL) Nutritional Labelling in Carbonated Soft Drink Purchases in Ecuador” received an Outstanding Research Award from the Latin American Section of the American Agricultural Economics Association.

The study “Measuring Prevalence, Profiling and Evaluating the Potential of Policy Impacts using Two Food Security Access Indicators in Guatemala” found that:

- Even though the indicators studied operate in the same dimension of the concept of food security (access) and at the same level (households), they do not only yield different estimates of the prevalence of food insecurity, but also differ significantly (in 40% of cases) when classifying households' food insecurity status. This disagreement results in differences in the estimates of food insecure prevalence across regions and income levels.
- Both indicators yield high estimates of food insecurity across income groups with ELCSA resulting in what seems to be even implausible levels of prevalence of food insecurity in the 5th quintile of the income distribution.
- Cash transfer policies are likely to have only a small effect at reducing the prevalence of food insecurity.

The study “Beef Quality Perceptions and Preferences in Ecuador” found that:

- The majority of survey respondents perceive the quality of the beef they purchase as good or very good (about 79% of consumers), about 20% perceive its quality as fair, and only 1% of the respondents perceive its quality as bad or very bad.
- The majority of survey respondents (at least 50%) also indicated that they were not very familiar with sanitary control, meat maturation, animal welfare, and traceability concepts and processes. Traceability is the concept household respondents seem to be the least familiar with, since 71% of respondents indicated that they do not know anything about this concept.
- Although most households show little understanding of credence attributes, they have positive and economically significant willingness to pay values for all the credence attributes considered in the study: sanitary control, meat maturation, animal welfare and traceability.

The study “Budget Allocation Patterns of American Household across Income Level in the 21 Century” found that:

- Trends in spending patterns, budget allocation, and responses to prices and income can be markedly different between poor and non-poor households. The use of representative or average household for demand analyses can mask substantial differences in economic behavior and status between these two income groups.

The study “An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximation Almost Ideal Demand System (LA-AIDS)” has shown the following:

- LA-AIDS showed that own price elasticities of the five root and tubers are valued to be negative, meaning that every price increase will reduce the demand.
- Cross-price elasticities are a mixture of positive and negative values, implying commodities are a mixture of substitutes and complements.

The study “Demand for Yogurt in the Trend of Manufacturer Brand and Organic Information” has shown the following:

- The own-price elasticities show that demand for yogurt at the manufacturer brand level is elastic. This result is consistent with the differentiated demand results of Villas-Boas (2007) where she reports an average own-price elasticity of -5.64 for yogurt at the brand-store level.

- Among organic products, demand for Pulmuone tended to be more elastic with the own-price elasticity of -5.407 while organic Danone has the lowest own-price elasticity of -2.306, suggesting the organic Danone consumers are less price sensitive to its price changes.
- The effect of change in the demand of organic products is much higher compared to the effect of change in the demand of non-organic products. In other word, as the price of one organic brand increases, organic consumers tend to switch to other organic brands more compared to non-organic brands.
- The effect of a change in the demand of organic brands is much higher compared to the effect of a change in the demand of non-organic brands, which reveals the switching behavior of non-organic yogurt consumers to organic brands in the case of an increase in the price of the non-organic brands.

The study “Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System” has shown the following:

- The elasticity estimates in this study are consistent with the economic theory that own price elasticities are negative. Uncompensated elasticities suggest that own price elasticities are significant and meat products are more of complements than substitutes within the different categories.
- The estimates of elasticities are useful in redefining strategies for consumption of meat and would provide insights into policies targeting livestock sector. Thus, the study has important implications for policy in the livestock sector and adds to the growing literature on meat demand using LA-AIDS model.
- Both the compensated own price and cross price elasticities for meat products are significant. Most compensated cross price elasticities have positive signs as expected of priory implying they are substitutes. The results suggest evidence of different interrelationships among the meat products.
- The income elasticities of all the meat products were positive, significant and can be considered as normal to luxury good. The results were bone beef (1.03), boneless beef (0.99), goat/mutton (0.89), chicken (1.1), and pork (0.96). The findings imply that mutton/goat is a necessity good among the meat products while bone beef and chicken a luxury good contrary to earlier studies.

#### Crop Insurance in Cotton Production

- This study analyzes the impacts of crop insurance policies in cotton production.
- RP&STAX is the optimal policy combination for a risk-averse cotton farmer.

#### Crop Insurance in Wheat Production

- Develops a model for a wheat farm by incorporating farm programs and insurance policies.
- The optimal policy combination is RP with ARC-CO.

#### Emabeth Thompson Endowed Professor in Agricultural Risk Management

- Cotton crop insurance
- Crop insurance and wheat production
- Technology, crop insurance, and cotton production

### Immigration Project

- Analyzes the dynamics of farm labor market in the U.S. agricultural sector.
- An effective guest-worker program is essential to solve labor shortage.

### Pollution and CO<sub>2</sub> Emission

- Studies the carbon dioxide emissions and related pollution problem.
- Statistical distributions of CO<sub>2</sub> emission.

### Processed Food

- Analyzes the gains from trade from now-defunct TTIP.
- Covers processed food trade.

### Tomato Trade

- Examines the effects of the U.S.-Mexican tomato Agreement.
- This agreement causes welfare loss for the United States.

### Chinese Urbanization and Commodity Imports

- Investigates the effects of urbanization on food demand in China.
- This urbanization reduced the demand for grains and fats, but increased the demand for meats, seafood, fruit, vegetables and eggs.

### Climate Change and Cropping Patterns in India

- Studies the effects of climate change and cropping patterns and food security.
- Crop production has shifted from annual to perennial crops.

### Crop Insurance and Technology in Indian Cotton Production

- Analyzes the effects of crop insurance policies on Bt cotton production.
- Drought-resistant variety may lead to lower demand for crop insurance.

Results from the Fieldprint calculator demonstrate that sustainable production practices are associated with profitability in cotton production in the Texas High Plains.

China's sorghum imports in the next decade will decline as a consequence of Chinese policy changes.

Under plausible scenarios, Chinese sorghum imports by 2025 may reach between 30% and 50% of the 2014 record levels.

Swine production growth will be the major factor affecting China's sorghum consumption in the next decade.

Lower tariffs for higher quality Australian sorghum may explain the strong decline on Japanese imports of US sorghum

US imports of tariff-free fresh fruits and vegetables from Latin America represent almost 50% of US consumption, with Mexico as the largest supplier.

Membership of WTO has helped Africa to increase its agricultural exports to the ROW by 300% (in 25 years), but results are dissimilar by country of origin.

Adoption of improved varieties of beans in Uganda showed an overall large impact on household incomes and nutrition.

Dr. Adam Martin won the Independent Institute's Independence Excellence Prize for "The New Egalitarianism," \$10,000

Dr. Adam Martin was a Visiting Scholar at Brown University Political Theory Project in May 2017

The informal sector cannot be removed without harm. Care must be taken in regards to policy in this aspect, as many lives in developing countries depend on this sector as a source of income.

Corruption is pervasive, and the monitoring of it is difficult. Even in the United States, with a quality judicial system, we see bias in the monitoring of corruption through biased corruption convictions.

Historical influence is incredibly important to development outcomes today. Institutions are extraordinarily persistence, such that institutional characteristics present in 1500 affect the quality of institutions today.

#### Renewable Energy

- The Clean Development Mechanism (CDM) of the Kyoto Protocol enables renewable electricity to be more competitive
- At the mean project scale for each technology type in the CDM energy portfolio, the levelized cost of electricity (LCOE) is the highest for solar power projects, followed by landfill gas reduction, fossil fuel switch, wind power and biomass energy, energy efficiency, hydro power, and methane avoidance/reduction projects.
- While the average costs of electricity significantly vary across technology types, the distribution of electricity plants in the CDM power portfolio or within the host countries does not quite follow the relative cost structure.
- While the average costs of electricity significantly vary across locations, the distribution of different types of electricity plants in different regions or host countries does not strictly follow the relative average costs for different locations.

#### International Trade

- Upon obtaining the membership to GATT/WTO, African countries' exports to the rest of the world have been tripled.
- Membership to the GATT/WTO has little effect on trade among developing countries, but has expanded agricultural trade among least developed countries by more than 8 folds

and nonagricultural trade by 78%.

- Membership to the European Union (EU) has substantially increased members' trade in both Agricultural and nonagricultural commodities.

#### Environment

- Highway noise barrier walls increase values of residential homes.
- On average, the prices of residential homes that are within 300 meters of the highway noise barrier walls increases by 11%. This impact decreases as the distance from the noise barriers increases.

Residence in states where the market value of crops in irrigated farms make up to 60 percent of the value of all crops produced, computer usage, number of years of farming, awareness of cost share reimbursement programs, utilization of crop consultants and income above \$150,000, were found to have significant impacts on the adoption and use of efficient irrigation technologies in cotton production in the Cotton Belt region of the U.S.

Producers' awareness of a cost-share reimbursement program, proportion of income from cotton production, utilization of yield hardware/software maps, ownership of livestock and amount of land devoted to other crops besides cotton, were found to be important variables influencing the degree of precision farming practices used in cotton production in the Cotton Belt region of the U.S.

Conserving nonrenewable aquifer water in semi-arid agricultural areas is best done by improving the potential dryland production technologies available to farmers.

Farmers will transition earlier to higher-profit dryland production as water extraction costs increase and therefore leave more water in the aquifer.

Policies to promote increased irrigation efficiency will be generally ineffective enhancing economic growth in hydrologic systems that return usable excess irrigation water to the water resource and its use is not somehow restricted.

In order to promote water conservation and enhance economic growth, irrigation withdrawals *and* irrigation efficiency must be properly incentivized.

For the Southern Ogallala Aquifer it was found that, if the amount of the existing groundwater available is small this leads to a divergence between the competitive and socially optimal solutions for groundwater allocation.

For the Southern Ogallala Aquifer it was found that, the marginal user cost for an additional acre-inch of water is relatively low but reasonable given the levels of uncertainty regarding future technological improvements.

Government intervention in agriculture was found to potentially derail optimal technological development path(s) which in turn can negatively impact long-term agricultural productivity.

Surface runoff enhancement and associated reductions in bio-hazard impacts in Northwest China through ecological restoration was found to be more effective by using evergreen forest alternatives than other types of alternatives commonly used.

Surface runoff enhancement on cropland between 15 and 25 percent slope was found to be the best proportion of cropland to target to maximize the reduction of bio-hazard impacts in Northwest China.

Old age, previous experience with bankruptcy, attitude towards borrowing to finance education, being Hispanic, employment status and salary level were found to be significant variables influencing the likelihood that a student will seek to obtain a student loan.

Recent research on Tibet's caterpillar fungus boom shows that extracting a resource can lead to short run welfare gains but long run welfare losses in a local economy.

Recent research on China's farmland rental market shows that farmland leasing enhanced productivity through transferring farmland from households with less productivity to those with high productivity, and that it also contributed to environmental protection by reducing the consumption of fertilizers and chemicals in agricultural production.

Greater price volatility in residential electric prices decreases the likelihood that a household prefers a particular electric plan, all else equal. This has implications for utilities transferring from conventional energy sources to alternative renewables such as wind and solar.

The spread of potential electric rates is viewed as less desirable by the average household than is higher probabilities of outcome for a smaller range of potential rates.





**Appendix A**  
**PROJECTS**  
2016/17



<b>Project Title</b>	The Interaction Between the Supplemental Nutrition Assistance Program and Private Charities to Enhance Food Security in Low Income Families
<b>Principal Investigators</b>	Ryan Williams, Tullaya Boonsaeng, Carlos Carpio, Conrad Lyford
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	<ol style="list-style-type: none"> <li>1) To analyze the relative importance of factors affecting low income households decisions to participate in the SNAP program as well as to use the services provided by food charities.</li> <li>2) To analyze the relation between participation in the SNAP program and households use of private food charities.</li> <li>3) To determine the impact of SNAP participation and the use of private food charities (separately and jointly) on low income households' food insecurity.</li> </ol>
<b>Project Summary and Accomplishments</b>	<p>The Supplemental Nutrition Assistance Program (SNAP and private food charities play an important role in providing food for low income families. The SNAP budget was about \$74 million and the number of the program participants were about 45.8 million in 2015. Private food charities provide assistance to 46 million people including 14 million children. Abundant research has been done on factors affecting households' participation in SNAP; however, relatively little research has been done on how food charities interact with SNAP, to improve food security.</p> <p>Into this gap, the FoodAPS data set, obtained from a nationally representative survey of United States households' food acquisitions purchases collected from April 2012 to January 2013, provides a much needed opportunity to understand food charities' role and consider ways to develop strategies for enhanced food security from private food charities. The FoodAPS data set has detailed information and prices paid for food acquired over a one week period. Most significantly, for the first time data includes information and data on food acquired through consumer purchases, SNAP benefits and food charities. As such, the data allows analysis at a level not possible with other data sources.</p>
<b>Keywords</b>	Food charities, Supplemental Nutrition Assistance Programs, SNAP, FoodAPS data

<b>Project Title</b>	Budget Allocation Patterns of American Household across Income Level in the 21 <sup>st</sup> Century
<b>Principal Investigators</b>	Tullaya Boonsaeng and Carlos Carpio
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	1) to assess and contrast general trends in budget allocation patterns of poor and non-poor U.S. households among eight broad categories of commodities: food, apparel and services, transportation, health care, utilities, shelter and household operations, other nondurable expenditures and services, and durable goods; and 2) to calculate and compare price and income elasticities for the seven categories of commodities obtained from demand models estimated for poor and non-poor US households.
<b>Project Summary and Accomplishments</b>	This study examined the budget allocation patterns of poor and non-poor households in the United States during the 2000-2015 period. Data from the quarterly interview component of the BLS Consumer Expenditure Survey was used to calculate household's annual expenditures on seven commodity groups: food, utilities, apparel, transportation, medical care, other nondurables and durables. The sample included 10,799 poor households and 52,425 non-poor households. An Exact Affine Stone Index (EASI) demand system was used to estimate demand relationships (i.e., price, income elasticities and marginal effects). Overall, we find that trends in spending patterns, budget allocation, and responses to prices and income can be markedly different between poor and non-poor households. The use of representative or average household for demand analyses can mask substantial differences in economic behavior and status between these two income groups.
<b>Keywords</b>	Budget allocation patterns, poor and non-poor households, elasticities.

<b>Project Title</b>	Data Collection Period and Food Demand System Estimation Using Cross Sectional Data
<b>Principal Investigators</b>	Tullaya Boonsaeng and Carlos Carpio
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	<ol style="list-style-type: none"> <li>1) To analyze the impact of data collection periods in the estimation of food demand models using cross sectional data (biweekly, monthly and yearly data).</li> <li>2) To provide improved comprehensive elasticity measures of US consumers demand for food at home products.</li> <li>3) To compare on the results of elasticities in the difference types of models and price indices.</li> </ol>
<b>Project Summary and Accomplishments</b>	<p>This study analyzes U.S. consumers' demand for eight food commodity groups: Cereal and Bakery goods, Meat and Eggs, Dairy, Fruits and Vegetables, Nonalcoholic Beverages, Fats and Oils, Sugar and Sweets, and Miscellaneous goods. The data used in this study is Nielsen Homescan data for the period 2002-2006. Three different levels of temporal aggregation, biweekly, monthly and yearly were considered. We conclude that the data collection period does affect the value of elasticities obtained from estimated food demand models. Moreover, larger biases in the estimated elasticities are likely to be present even when using econometric methods currently recommended to account for this problem.</p>
<b>Keywords</b>	Censored demand models, EASI demand model.

<b>Project Title</b>	The Effect of Supplemental Nutrition Assistance Program on Food and Nonfood Spending Among Low-Income Households
<b>Principal Investigators</b>	Carlos Carpio, Tullaya Boonsaeng – Texas Tech University Chen Zhen – University of Georgia Abigail M. Okrent, Economic Research Service
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	The main objective of this project is to evaluate the effect of SNAP on households' expenditures on food and nonfood expenditures.
<b>Project Summary and Accomplishments</b>	The main objective of this project is to evaluate the effect of SNAP on households expenditures on food and nonfood expenditures. We consider six subgroups of non-durable goods: food, utilities, apparel, transportation, medical care, and other nonfood spending. Endogeneity and measurement error of the SNAP participation variable and endogeneity of total expenditures are accounted for with the use of specialized econometric procedures. Although we find statistically significant effects of SNAP participation on non-durable good expenditures, we generally do not find evidence of differences in the marginal propensities to spend values on non-durables out of cash and SNAP benefits across a wide variety of model specifications and econometric procedures. Thus, we do not find evidence that households' income from SNAP benefits is treated any different than income from cash sources.
<b>Keywords</b>	Measurement error, binary variable, Generalized Method of Moments.

<b>Project Title</b>	Consumers' Preferences for Low Water Footprint Cotton Products
<b>Principal Investigators</b>	Carlos Carpio, Tullaya Boonsaeng, Ryan B. Williams, Phillip Johnson
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	The primary goal of this proposal is to evaluate domestic consumers' perceptions and preferences for low water foot print cotton products.
<b>Project Summary and Accomplishments</b>	With about 7.8 million bales of production, an acreage harvested of 5.2 million, and \$2.467 billion in cotton sales in 2016, the state of Texas is number one in cotton production in the United States. Cotton is also the most important crop and the second most important agricultural commodity in Texas. The Texas High Plains accounts for about two-thirds of Texas cotton and cottonseed since it grows cotton on about 3.7 million acres per year and produces an about 3.7 million bales per year. However, there is a lot of uncertainty regarding to future of cotton production in the region due to the depletion of the Ogallala Aquifer, the region's water supply. Most, if not all, research efforts devoted to improve the sustainability of cotton production in the region have focused on technological improvements in crop varieties and irrigation management and systems. This study proposes to explore the use of demand-market based opportunities to increase the value of dryland cotton produced in the region which in turn could potentially help to reduce pressures over the Ogallala Aquifer. Higher value dryland cotton production could also reduce the economic impact of the loss of irrigated agriculture in the region. Developing or marketing products that respond to consumers' concerns regarding water footprint in cotton can provide the Texas High Plains region a first mover advantage to capture this growing market segment of the population.
<b>Keywords</b>	Consumer's perceptions and preferences, Texas cotton, low water footprint.

<b>Project Title</b>	The Distributional Welfare Effect of SNAP on Food and Agricultural Producers and Low and High Income Customers
<b>Principal Investigators</b>	Tullaya Boonsaeng and Carlos Carpio
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	N/A
<b>Ending Date</b>	N/A
<b>Project Objective</b>	The main objective of the study is to evaluate the welfare effect of the SNAP program on both program participants and nonparticipants as well as on food and agricultural producers.
<b>Project Summary and Accomplishments</b>	The academic research on the Supplemental Nutrition Assistance Program (SNAP) is very large. A main focus of the literature has been on the effects of the program on participants; mainly, the effect of participation at increasing food expenditures. Other literature has focused on the effects of participation in hunger, food insecurity, and health outcomes. With few exceptions, the literature on SNAP effects is remarkable for its general inattention to the market consequences of the program, namely its effect on demand, prices and welfare; therefore, the main objective of the study is to evaluate the welfare effect of the SNAP program on both program participants and nonparticipants as well as on agricultural producers. Specific objectives include: 1) to evaluate the price, demand and welfare effects of the elimination of the SNAP program on agricultural producers and three types of households: SNAP participants, SNAP eligible nonparticipants, and ineligible households; and 2) to estimate updated food products price and income elasticities for low and high income household; and 3) to estimate updated SNAP participants' marginal propensities to spend out of SNAP benefits on individual food products. The proposed project also evaluates the impact of food policy on agricultural markets which has broader implications for the sustainability of the U.S. agricultural system.
<b>Keywords</b>	SNAP, elasticities, low and high income households.



<b>Project Title</b>	The Effect of ‘Traffic-Light’ (TL) Nutritional Labelling in Carbonated Soft Drink Purchases in Ecuador
<b>Principal Investigators</b>	Luis Sandoval-Mejia, Zamorano University, Honduras Carlos Carpio, Texas Tech University Marcos Sanchez, Texas Tech University Iván Borja, Universidad San Francisco de Quito, Ecuador Tania Cabrera, Universidad Nacional de Loja, Ecuador Patricia Guerrero, Universidad Nacional de Loja, Ecuador
<b>Departmental Involvement</b>	AAEC, ANFS
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2015
<b>Ending Date</b>	N/A
<b>Project Objective</b>	The objective of this paper was to evaluate the effect of the TL supplemental nutritional information on consumers’ purchase behavior in Ecuador. More specifically, we concentrated on the purchase behavior of carbonated soft drinks.
<b>Project Summary and Accomplishments</b>	Overweight and obesity have become global concerns in developed and developing countries because of their rise in recent years and their association with the prevalence of non-communicable diseases. Ecuador is an example of a developing country concerned with the overweight and obesity problem. To address the problem via the promotion of healthy eating habits, the country approved in 2013 a technical regulation for the labelling of packed processed food products. The regulation included the inclusion of a mandatory traffic-light (TL) supplemental nutritional information labelling system to be included in the package of all processed foods for sale in the country. This new labelling system displays a traffic light panel for the product content of sugar, fat and salt in addition to the traditional nutrient declaration label. For our analysis, we used monthly aggregate purchase data (total expenditures, quantities and average prices) of carbonated soft drinks from January 2013 to December 2015 from a panel of 1,646 Ecuadorian households and estimated a non-linear Almost Ideal Demand System demand system where we model the demand for high sugar and low sugar carbonated soft drinks.
<b>Keywords</b>	Traffic light nutritional labelling, supplemental nutritional labelling, non-fiscal policy, soft drinks price elasticities.

<b>Project Title</b>	Measuring Prevalence, Profiling and Evaluating the Potential of Policy Impacts using Two Food Security Access Indicators in Guatemala
<b>Principal Investigators</b>	Luis Sandoval-Mejia, Zamorano University, Honduras Carlos Carpio, Texas Tech University
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2015
<b>Ending Date</b>	N/A
<b>Project Objective</b>	The overall goal of this study was to evaluate the performance of two food security indicators aimed to measure the access dimension of food security: 1) to estimate the prevalence of food insecurity in a country, 2) to conduct food security profiling assessments, and 3) to evaluate the potential impact of a cash transfer policy.
<b>Project Summary and Accomplishments</b>	Food security is a multi-dimensional concept that requires multiple indicators to properly measure it; however, single food security indicators are often used without any attention to the food security dimension in which they operate. The misuse of individual food security indicators can have important implications for policy design and implementation. The overall goal of this study was to evaluate the performance of two food security indicators aimed to measure the access dimension of food security. The two food security indicators considered are the Latin America and Caribbean Food Security Scale, and a food security indicator based on daily per capita food energy available calculated using household expenditure surveys. Data for the study comes from the 2011 Survey of Living Standards from Guatemala.
<b>Keywords</b>	ELCSA, undernourishment, food security, Guatemala.

<b>Project Title</b>	Beef Quality Perceptions and Preferences in Ecuador
<b>Principal Investigators</b>	Carlos Carpio, Texas Tech University María José Castillo, Escuela Superior Politécnica del Litoral, Guayaquil, Ecuador
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2015
<b>Ending Date</b>	N/A
<b>Project Objective</b>	Specific objectives of this study include: 1) to evaluate Ecuadorian consumers' perception, knowledge and experiences regarding beef quality, 2) to assess consumer preferences for beef attributes, and 3) to evaluate the effect of educational information on consumer preferences for beef quality characteristics.
<b>Project Summary and Accomplishments</b>	Compared to other beef producing countries in the continent (e.g. Argentina, Brazil and the USA), meat consumption in Ecuador is very low. Moreover, beef consumers have generally limited knowledge about meat cuts and quality cues. The purpose of this study is to explore the role of the consumer for improving beef quality and the efficiency of the beef supply chain, through demand of higher quality beef, in the context of a developing country such as Ecuador. The data for the study comes from a survey conducted in 2016 to 544 randomly selected household consumers located in the cities of Guayaquil and Santo Domingo. The survey was organized into four sections that collected information about households': 1) socio-economic demographic characteristics, 2) consumption of beef products, 3) knowledge, opinions and experiences about beef quality, and 4) responses to two sets of stated choice experiments to assess their preferences for intrinsic and credence attributes. The first choice experiment included only intrinsic attributes (color and texture) and the price of the beef product. The second experiment included the same intrinsic attributes as in the first experiment, the price levels as well as credence attributes (sanitary control, meat maturation, animal welfare and traceability).
<b>Keywords</b>	Choice experiments, willingness to pay, credence attributes.

<b>Project Title</b>	The Effect of Quinoa's Price Changes in the Welfare of Bolivian Households
<b>Principal Investigators</b>	Ximena Paz Portal, Texas Tech University Carlos Carpio, Texas Tech University Jaime Málaga, Texas Tech University Chenggang Wang, Texas Tech University
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2015
<b>Ending Date</b>	N/A
<b>Project Objective</b>	1) Assess the overall importance of quinoa expenditure as a share of total expenditures and as a share of food expenditures; 2) To assess the sensitivity of supply and demand to price changes; and 3) To assess the welfare impacts across different sociodemographic groups
<b>Project Summary and Accomplishments</b>	Several factors have led to the fluctuation in the price of quinoa in Bolivia including the growing demand for this product in developed countries. In order to investigate the welfare impact on households from higher quinoa prices we evaluated Bolivian households' gains (for producers) and losses (for consumers) resulting from an increase in the price of quinoa. These gains or losses depend on whether the household was a net seller or a net buyer. We evaluated both short and mid-term effects. For short term analyses it is assumed that the quantity of quinoa produced or consumed does not change and that only the price changes. On the other hand, mid-term estimated effects take into account changes in quantities produced and consumed as well as changes in prices.
<b>Keywords</b>	Super foods, short and long-term impacts, economic development.

<b>Project Title</b>	Consumer Demand for Frozen Seafood Product Categories
<b>Principal Investigators</b>	Prasanna Surathkal, Madan Dey, Carole Engle, Benaissa Chidmi, Kehar Singh
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	The primary purpose of this study is explore demand relationships between three seafood categories: breaded products, entrées, and breaded products.
<b>Project Summary and Accomplishments</b>	We model the demand for frozen seafood in the United States using the linear approximate almost ideal demand system (LA-AIDS) employing market-level monthly retail scanner panel data. Our emphasis is on the demand relationships between the three aggregate frozen seafood categories, namely, breaded products, entrées and unbreaded products, and on the demand relationships for these categories when disaggregated as finfish and shellfish. We use fixed effects on the spatial and temporal variation in demand and incorporated demographic shifter variables. Our results show that unbreaded products, as compared to value-added categories of breaded seafood and seafood entrées, would gain market share if expenditure on frozen seafood increases. We also find that unbreaded products are stronger substitutes for value-added products than vice versa. We explore similar relationships between frozen shellfish and finfish products. Unbreaded shellfish can be expected to gain market share if expenditure on frozen seafood were to increase.
<b>Keywords</b>	Almost ideal demand system, consumer demand, panel data, product differentiation, scanner data, seafood.
<b>Important Publications and Presentations</b>	Aquaculture Economics & Management, Vol. 21, Issue 1, 2017.

<b>Project Title</b>	An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximation Almost Ideal Demand System (LA-AIDS)
<b>Principal Investigators</b>	Patrick Kibet Rono, Shaikh M. Rahman, Benaissa Chidmi
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	This article examines Kenya's household demand for major roots and tubers using data obtained from Kenya Integrated Household Survey of 2005-2006.
<b>Project Summary and Accomplishments</b>	The normalized data is analyzed using the Linear Approximation Almost Ideal Demand System (LA-AIDS) model with symmetry and homogeneity restrictions imposed. Estimated own-price elasticities indicate that the demand for potato, sweet potato, arrow roots, and cooking bananas are elastic while the demand for cassava is price inelastic. Estimated cross-price elasticities suggest that potato and sweet potato, potato and arrow roots, and potato and cooking bananas are substitutes while potato and cassava are compliments. Estimated income elasticities for potatoes and cassava are positive but less than one, thus these are necessity food items in Kenya's roots and tubers demand system. However, estimated income elasticities for sweet potato, arrow roots, and cooking bananas are all positive and greater than one implying that these are luxury food items for the Kenyan households. Keywords Root and tubers, Linear Approximate Almost Ideal Demand System (LA-AIDS), Marshallian Elasticity, Hicksian Elasticity.
<b>Keywords</b>	Root and tuber, LA-AIDS, Marshallian and Hicksian elasticities.
<b>Important Publications and Presentations</b>	Presented at Southern Agricultural Economics Association (SAEA) 2017 Annual Meeting, February 4-7, 2017, Mobile, Alabama.

<b>Project Title</b>	Demand for Yogurt in the Trend of Manufacturer Brand and Organic Information
<b>Principal Investigators</b>	Rezgar Mohammed, Olga Murova, Benaissa Chidmi
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	To analyze and estimate the demand for yogurt at brand level, incorporating the organic feature.
<b>Project Summary and Accomplishments</b>	The random coefficients multinomial logit model was used to study the demand for yogurt which is differentiated by manufacturer brands and organic information. For this purpose, we used the scanner-level data set collected by the Information Resource Incorporated at the chain level. General Mills and Danone are the two brands with the highest market shares. In general, demand for yogurt has found to be elastic for all brands. On average, consumers are more price-sensitive to non-organic brands than organic brands. Results revealed some degree of brand loyalty and the switching behavior among yogurt consumers. Foreign direct investments, MENA, panel data.
<b>Keywords</b>	Demand, elasticity, yogurt, BLP.
<b>Important Publications and Presentations</b>	Presented at Southern Agricultural Economics Association (SAEA) 2017 Annual Meeting, February 4-7, 2017, Mobile, Alabama.

<b>Project Title</b>	Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System
<b>Principal Investigators</b>	Mumina Shibia, Shaikh M. Rahman, Benaissa Chidmi
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	To examine a household demand system for five meat products in Kenya: beef with bones, boneless beef, mutton, chicken, and pork.
<b>Project Summary and Accomplishments</b>	Per capita consumption of meat products has been rapidly increasing in Sub-Saharan African countries including Kenya. This paper examines a household demand system for five meat products in Kenya: beef with bones, boneless beef, mutton, chicken, and pork. The Linear Approximate Almost Ideal Demand System (LA/AIDS) model is used because of its flexibility and ease of application with household expenditure data. The LA/AIDS model is estimated using household consumption data obtained from Kenya Integrated Household Budget Survey of 2013. Expectedly, the estimates of uncompensated and compensated own price elasticities of demand for all five meat products are negative but larger than $-1$ . Although the estimates of uncompensated cross price elasticities are negative implying that these meat products are gross complements, the estimates of compensated cross price elasticities are found to be positive indicating a quite strong substitution between these meat products. Expenditure elasticities of demand for the meat products are positive implying normal goods. Mutton/goat is a necessity good (elasticity $<1$ ) among the Kenyan households.
<b>Keywords</b>	LA-AIDS, meat demand, elasticities, Kenya.
<b>Important Publications and Presentations</b>	Presented at Southern Agricultural Economics Association (SAEA) 2017 Annual Meeting, February 4-7, 2017, Mobile, Alabama.



<b>Project Title</b>	Production and Moral Hazard Effects of 2014 Cotton Farm Bill Policies
<b>Principal Investigators</b>	Stephen Devadoss, Jeff Luckstead
<b>Departmental Involvement</b>	AAEC University of Arkansas
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	The objectives of this project are to a) develop a model to analyze the impact of crop insurance policies (RP, YP, STAX, and SCO) for a representative risk-averse cotton farmer, b) estimate the trivariate distribution for cotton county yield, farm-level yield, and price, c) calibrate the model to a representative cotton farm, d) numerically optimize the model to simulate the effects of these crop insurance policies on production decisions reflecting moral hazard, insurance coverage levels, and insurance payments, and e) determine optimal combination of insurance policies for the representative cotton farmer.
<b>Project Summary and Accomplishments</b>	We develop a model for a representative risk-averse cotton farmer to analyze the impact of crop insurance policies (RP, YP, STAX, and SCO). The model is calibrated and numerically optimized to quantify the effects of different insurance policy combinations on input use (moral hazard), insurance coverage levels, premiums, and certainty equivalent. When the farmer elects only RP, the optimal coverage rate is 80%. Under RP&STAX, the optimal RP coverage rate is 70% and the STAX coverage rate is 90%. RP&STAX is the optimal policy combination based on certainty equivalents. The RP&SCO combination has the lowest moral hazard effect.
<b>Keywords</b>	Cotton, crop insurance, moral hazard, RP, STAX, SCO, YP
<b>Important Publications and Presentations</b>	Devadoss, S., and J. Luckstead, "Production and Moral Hazard Effects of 2014 Cotton Farm Bill Policies," <u>Journal of Agricultural and Applied Economics</u> , 2017 (forthcoming).

<b>Project Title</b>	Crop Insurance and Wheat Production
<b>Principal Investigators</b>	Stephen Devadoss, Jeff Luckstead
<b>Departmental Involvement</b>	AAEC University of Arkansas
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	The objective of this study is to develop a model for a risk-averse wheat farm faced with various farm programs and crop insurance policies.
<b>Project Summary and Accomplishments</b>	We develop a model to comprehensively analyze the effects of 2014 Farm Bill wheat policies—loan deficiency payments (LDP), price loss coverage (PLC), agriculture risk coverage-county (ARC-CO), individual revenue protection crop insurance (RP), and supplemental coverage option (SCO)—on input use, yield, certainty equivalent, optimal RP insurance coverage level, expected payments, and premiums. We calibrate the model to three representative dryland wheat farms in Kansas. The simulation results show that the expected LDP payment is zero for 2014, RP causes input use and yield to decline, and ARC-CO, PLC, and SCO result in higher input use and yield. Thus, the results provide evidence of moral hazard associated with RP and SCO insurance. If the farmer selects only RP insurance, then the optimal coverage level is between 80% and 85%, but drops to between 70% and 75% if SCO is added. Based on certainty equivalent analysis, the optimal policy combination is RP with ARC-CO.
<b>Keywords</b>	Calibration, crop insurance, wheat policies.

<b>Project Title</b>	A Dynamic General Equilibrium Analysis of Immigration Policies and Agricultural Labor Markets
<b>Principal Investigators</b>	Stephen Devadoss and Jeff Luckstead
<b>Departmental Involvement</b>	AAEC University of Arkansas
<b>Funding Amount</b>	\$399,867
<b>Funding Agency</b>	United States Dept. of Agriculture/AFRI/NIFA
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	January 2018
<b>Project Objective</b>	<p>The overall goal of this project is to comprehensively analyze the dynamics of farm labor market in the U.S. agricultural sector and the effectiveness of immigration policies in reconciling labor supply and demand in the short- and long-run. The specific objectives are to:</p> <ol style="list-style-type: none"> <li>1) model the economic and social motives of legal and illegal immigrant labor entrance to the United States,</li> <li>2) ascertain the demand for farm laborers in production of various crops,</li> <li>3) examine the impacts of the expansion of the guest-worker programs on farm labor supply and U.S. agricultural operations,</li> <li>4) determine the effects of tighter border and domestic enforcement policies on illegal immigration and agriculture,</li> <li>5) investigate the consequence of proposed U.S. legislation on legalizing the status of the current unauthorized immigrants on farm labor supply and future immigrant entrance, and</li> <li>6) draw policy implications and provide recommendations to alleviate farm labor shortages.</li> </ol>
<b>Project Summary and Accomplishments</b>	<p>U.S. agriculture, particularly labor-intensive crops, rely heavily on immigrant farm workers. Given the inadequate supply of the current guest-worker program for meeting the farm labor demand, U.S. farmers are facing a labor shortage. Furthermore, worksite and border enforcements and the recent U.S. economic recession have exacerbated farm labor scarcity. The farm labor market is clearly strained. Research is needed to study the effectiveness of the guest-worker program, border and domestic enforcements, proposed immigration reforms, and macroeconomic conditions.</p>
<b>Keywords</b>	Border control, deportation, farm labor, labor-intensive agricultural production.
<b>Important Publications</b>	Stephen Devadoss and Jeff Luckstead, "A Dynamic Analysis of U.S.-Mexican Farm Labor Markets." In review.

<b>Project Title</b>	Pollution and CO2 Emission
<b>Principal Investigators</b>	Stephen Devadoss, Texas Tech Sherzod Akhundjanov, Utah State Jeff Luckstead, University of Arkansas
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	The purpose of the present study is twofold. First, we investigate the size distribution of carbon dioxide emissions of the world's countries and determine the theoretical probability distribution that provides the best approximation for its empirical counterpart. Second, we examine whether the size distribution of carbon emissions adheres to a prominent empirical regularity known as Zipf's law.
<b>Project Summary and Accomplishments</b>	We examine the size distribution of national carbon dioxide (CO2) emissions on a sample of 210 countries and territories for the period 2000-2010. We employ lognormal, double Pareto-lognormal, lognormal-upper tail Pareto, and Pareto tails-lognormal distributions to estimate CO2 size distribution. The analysis demonstrates that all three composites of Pareto and lognormal distributions consistently fit the size distribution of CO2 emissions better than lognormal distribution, with the Pareto tails-lognormal, which models lower and upper tails with Pareto and middle range with lognormal and endogenously identifies the transition points, having a slight edge over other Pareto distributions. The parametric analysis reveals that the upper-tail of CO2 emissions is characterized by Zipf's law, with power-law density exponent ranging between 1.12- 1.22 under different parameterizations. The power law in the upper-tail implies that large countries emit much of the CO2.
<b>Keywords</b>	CO2 emission, Pareto, pollution, size distribution.
<b>Important Publications and Presentations</b>	Akhundjanov, S., S. Devadoss, and J. Luckstead, "Size Distribution of National CO2 Emissions," <i>Energy Economics</i> , 2017 (forthcoming).

<b>Project Title</b>	Implications of Transatlantic Trade and Investment Partnership and Trans-Pacific Partnership for Food Processing Sector
<b>Principal Investigators</b>	Stephen Devadoss, Texas Tech Jeff Luckstead, University of Arkansas
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$398,186
<b>Funding Agency</b>	United States Dept. of Agriculture/AFRI/NIFA
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	<p>The overall goal of this project is to comprehensively analyze the effects of TTIP and TPP trade liberalization on the value-added food and beverage sector. The specific objectives are to:</p> <ol style="list-style-type: none"> <li>1. formulate a theoretical model characterizing <ul style="list-style-type: none"> <li>(a) the monopolistic competition and firm-level heterogeneity in the food processing industry to analyze the effects of trade, and</li> <li>(b) MNEs to assess the effects of cross-border FDI in the food processing sector;</li> </ul> </li> <li>2. implement the theoretical model in objective 1 to empirically quantify the effects of i) TTIP between the United States and the European Union, ii) TPP between the United States and trans-Pacific countries, and iii) TTIP and TPP simultaneously on production, productivity, consumption, trade, and welfare for the <ul style="list-style-type: none"> <li>(a) aggregate food processing industry and</li> <li>(b) prominent segments (dairy products, beverages, meat products, and processed vegetables) of this industry;</li> </ul> </li> <li>3. draw policy implications from these trade liberalization analyses and provide recommendations for future trade agreements to policy makers and food producers.</li> </ol>
<b>Project Summary and Accomplishments</b>	<p>Processed food exports increased from \$37 billion in 1998 to \$104 billion in 2012. Also, foreign direct investments in food production expanded from \$108 billion in 1998 to \$475 billion in 2012. Two major markets for U.S. food exports are the EU and East Asian countries, but these countries impose substantial tariff and non-tariff barriers. The United States is actively negotiating the Transatlantic Trade and Investment Partnership (TTIP) with the EU and Trans-Pacific Partnership (TPP) with Pacific Rim countries, which will</p>

enhance market access. Food processing firms vary in sizes and engage in monopolistic competition in highly differentiated products.

**Keywords**

European Union, Trans-Atlantic Trade and Investment Partnership, United States

**Important Publications and Presentations**

Devadoss, S., and J. Luckstead, “Implications of the Comprehensive Economic and Trade Agreement for Processed Food Markets,” Canadian Journal of Agricultural Economics, (forthcoming)

Luckstead, J., and S. Devadoss, “Impacts of TTIP on Processed Food Trade under Monopolistic Competition and Firm Heterogeneity,” American Journal of Agricultural Economics, 98(5), 2016: 1-14.

Dhamodharan, M., S. Devadoss, and J. Luckstead, “Imperfect Competition, Trade Policies, and Technological Changes in the Orange Juice Market,” Journal of Agricultural and Resource Economics, 41(2), 2016: 189-203.

<b>Project Title</b>	Welfare Analysis of the U.S.-Mexican Tomato Suspension Agreement
<b>Principal Investigators</b>	Stephen Devadoss, Elijah Kosse
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	The objective of this study is to investigate the effects of the U.S.-Mexican tomato Agreement on three broad categories of tomatoes [greenhouse, field, and small (cherry & grape)] tomatoes on prices, supply, demand, trade, and welfare to understand the gains and losses of producers and consumers.
<b>Project Summary and Accomplishments</b>	<p>In 1996, the United States and Mexico signed the Suspension Agreement which sets a minimum/floor price on tomato imports from Mexico. This agreement was re-signed in 2013, covering many tomato categories (field, greenhouse, and cherry &amp; grape), each with distinct minimum import price.</p> <p>This study develops a three-county spatial equilibrium trade model of the United States, Mexico, and Canada to analyze the effects of the recent Agreement on prices, production, consumption, trade flows, and welfare in each country and for each tomato category. While only the United States and Mexico are signatories, Canada was included since the U.S. minimum price distorts prices across the region.</p> <p>For the United States, welfare is negative across three tomato categories, with producers gaining but consumers losing more, with field tomatoes having the highest net loss (-\$57.04 million). Due to consumer gains and quota revenues ameliorating much of the producer surplus loss, Mexico also gains across each category, in particular field tomatoes (\$46.85 million). Canada gains in field and cherry &amp; grape tomatoes (\$0.59 and \$0.01 million, respectively) though they lose for greenhouse tomatoes (-\$0.59 million). For each category of tomatoes, the sum of welfare for all three countries is negative, implying a deadweight loss.</p>
<b>Keywords</b>	Mexico, tomato trade, United States, welfare analysis.
<b>Important Publications and Presentations</b>	Kosse, E., and S. Devadoss, "Welfare Analysis of the U.S.-Mexican Tomato Suspension Agreement," <u>Journal of Agricultural and Applied Economics</u> , 48(4), 2016: 430-449.

<b>Project Title</b>	Chinese Urbanization and Import Demand for Food
<b>Principal Investigators</b>	Stephen Devadoss, Texas Tech Vardges Hovhannisyan, University of Wyoming
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	December 2019
<b>Project Objective</b>	The major objective of the current study is to investigate the effects of urbanization on food demand in China by addressing the fundamental issues not examined in previous studies.
<b>Project Summary and Accomplishments</b>	Urbanization in China has been on a steady rise recently, which has contributed to the changing consumer food preferences and consumption patterns. This carries significant implications for food security in China and the global food trade, given the role China plays on global food markets. This study investigates the effects of urbanization on food demand in China by developing a structural framework that incorporates urbanization into a theory-plausible demand system. It also considers the effects of urbanization-induced loss of agricultural land and deteriorating soil quality on food supply. Modeling the demand and supply components simultaneously allows us to undertake equilibrium analysis to determine prices. Based on the urbanization elasticities derived and estimated in this study, our findings indicate that urbanization has reduced demand for grains and fats, while increasing demand for meats, seafood, fruit, vegetables and eggs.
<b>Keywords</b>	Consumer food preference, EASI demand model, structural change, urbanization.
<b>Important Publications and Presentations</b>	Hovhannisyan, V., and S. Devadoss, “Effects of Urbanization on Food Demand in China.” Study complete, not published.



<b>Project Title</b>	Climate Change and Cropping Pattern in India
<b>Principal Investigators</b>	Stephen Devadoss, Niranjana Jayaramu
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	December 2020
<b>Project Objective</b>	The objective of this project is to analyze the effects of climate change on cropping patterns and food security in India.
<b>Project Summary and Accomplishments</b>	Because of climate change, farmers have switched crops from grains, legumes, and oilseeds to coconuts and other perennial crops. Consequently, there is a precipitous decline in grains, legumes, and oilseeds, which has serious implications for food security because drought can lead to less production and food shortages. In contrast, increased acreage under coconut has caused supply surges and plummeting prices. Because of the asset fixity in coconut plantations, it is difficult to remove the trees and switch to short-term crops. Since acreages and supply for grains, legumes, and oilseeds shrank significantly, their prices increase, leading to food insecurity problem. This study will be part of a graduate student's dissertation.
<b>Keywords</b>	Climate change, coconut, grains, food shortage, food security.

<b>Project Title</b>	Technology, Crop Insurance, and Cotton Production in India
<b>Principal Investigators</b>	Stephen Devadoss and Darren Hudson, Texas Tech University Jeff Luckstead, University of Arkansas
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2018
<b>Project Objective</b>	The objective of this project is to comprehensively analyze the effects of crop insurance policies on Bt cotton production in India.
<b>Project Summary and Accomplishments</b>	India is a leading producer and user of cotton. However, cotton production is subject to weather vagaries and faces significant variability. This variability is mitigated by drought resistant varieties developed from Bt cotton production. In addition, crop insurance also helps to protect cotton farmers from weather and yield risk. This study will examine theoretically and quantify empirically the effects of crop insurance under Bt cotton technology developments.
<b>Keywords</b>	Bt cotton, crop insurance, India, production, risk management.

<b>Project Title</b>	An International Research Experience for Students: an Agroforestry project in the Montane Highlands of Rural Borneo
<b>Principal Investigators</b>	Michael C. Farmer, Robin Verble, Tigga Kingston
<b>Departmental Involvement</b>	AAEC, NRM, BIOL
<b>Funding Amount</b>	\$218,000
<b>Funding Agency</b>	National Science Foundation
<b>Beginning Date</b>	June 2017
<b>Ending Date</b>	May 2020
<b>Project Objective</b>	To establish long term ecological monitoring of a new multi-use agroforestry project to track program forest restoration benefits.
<b>Project Summary and Accomplishments</b>	This project will collect baseline ecological data to record the response of a degraded tropical forest in the Bornean highlands to the introduction of an agroforestry system. The highlands were returned to indigenous (Kadazan) persons in Malaysian Borneo following two clear-cuttings over the last century; and the agroforestry system is designed to restore the forest canopy. 11 undergraduate and 2 MS students from underrepresented groups in STEM disciplines will collect data in paid 8-week summer ecological field research experiences. Data include soil properties (organic matter, chemical content, pH, water holding capacity, fungi to bacteria ratio), arthropod diversity (beetles, ants and butterflies) and <i>fructivorous</i> and <i>insectivorous</i> bat communities.
<b>Keywords</b>	Agroforestry, agricultural led development, rural entrepreneurship.

<b>Project Title</b>	An Evaluation of Long Term Cooperative Stability in Sheridan County 6 Local Enhanced Management Area (SD6): A Game Theoretic and Spatial Economic Framework
<b>Principal Investigators</b>	Michael Farmer, Jaime Bologna, Don Lacombe, Stephen Devadoss
<b>Departmental Involvement</b>	AAEC, PFP
<b>Funding Amount</b>	\$62,429
<b>Funding Agency</b>	United States Dept. of Agriculture - ARS
<b>Beginning Date</b>	January 2018
<b>Ending Date</b>	August 2019
<b>Project Objective</b>	Project and simulate observed behavior of producers in the 1 <sup>st</sup> LEMA 5yr agreement using spatial model estimates to examine the severity of any threats to water use cooperation among SD6 producers.
<b>Project Summary and Accomplishments</b>	<p>The stylized facts of irrigation choices in SD6 under LEMA suggest a high degree of compliance in water use choices by irrigators to the LEMA targets over the last five years.</p> <p>Use of metered irrigation data from individual fields allows us to unpack the strongest motivations of individual producers in their observed water use choices.</p> <p>Yet economic explanations for this seemingly remarkable level of cooperation are not uniform. The data is consistent in broad terms with very different long-term outcomes. Some economic models predict long-term Cooperation. Other explanations predict decay of the current consensus over time.</p> <p>To effectively govern water use in SD6 over time (or in the wider OAP study area or even perhaps to inform planning in other water systems), it is important to explore which of the several behavioral motivations suggested in the economics literature exercise relatively strong influence on the observed behavior.</p>
<b>Keywords</b>	Cooperative game theory, common pool resource management, agricultural irrigation policy.

<b>Project Title</b>	Rural Entrepreneurship in the Montane Highlands of Malaysian Borneo
<b>Principal Investigators</b>	Michael C. Farmer
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$23,292
<b>Funding Agency</b>	J. William Fulbright Foreign Scholarship Board, U.S. Dept. of State
<b>Beginning Date</b>	December 2017
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	Complete and institutional analysis and development assessment of readiness and obstacles to rural enterprise development
<b>Project Summary and Accomplishments</b>	The case involves an emerging agroforestry program to jointly increase incomes and partly restore function in highly impaired tropical highland forest lands that have been returned to indigenous Kadazan producers. The study examines the impact of informal rules in use, to be identified by this study, and which may obviate effective self-governing and enterprise development initiatives.
<b>Keywords</b>	IAD analysis, rural entrepreneurship, agricultural led economic development, agroforestry, natural resource governance.

<b>Project Title</b>	Structural Models of the U.S. and World Fiber Markets (Cotton FAPRI)
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$250,000
<b>Funding Agency</b>	USDA Office of the Chief Economist
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	To estimate and maintain a structural econometric model of U.S. and global fiber markets to be used in policy and market analysis.
<b>Project Summary and Accomplishments</b>	<p>This project is a continuation of the FAPRI-consortium model that has been a mainstay of cotton policy analysis both nationally and internationally. We continue to update, revise, and refine the model and utilize the model for policy analysis and baseline projections. Results of the baseline and policy analysis have been presented to Congressional staff, USDA researchers, and private industry, and has been featured in popular press outlets such as Bloomberg.com, <i>Southwest Farm Press</i>, and other regional and local media. Several critical research projects were completed or are underway related to this project:</p> <ol style="list-style-type: none"> <li>1. Impacts of ethanol policy on cotton acreage in the Texas High Plains.</li> <li>2. Global baseline projections.</li> <li>3. Impacts of Chinese currency depreciation</li> </ol>
<b>Keywords</b>	Cotton, structural models, forecasting, international markets, policy analysis.

<b>Project Title</b>	Economic Decisions Under Stress
<b>Principal Investigators</b>	Darren Hudson, Ryan Williams, Donna McAllister, Jessica Alquist, and Breanna Harris
<b>Departmental Involvement</b>	AAEC, PSY, BIOL
<b>Funding Amount</b>	\$114,000
<b>Funding Agency</b>	Vice-President for Research Seed Grant Initiative
<b>Beginning Date</b>	June 2017
<b>Ending Date</b>	October 2018
<b>Project Objective</b>	To examine the impacts that stress and duress have on effective economic decision-making.
<b>Project Summary and Accomplishments</b>	This project is just beginning. We will use laboratory economic and psychology experiments to examine the role stress plays in decision-making. Control subjects will simply play an economic game that has real payoffs. Treatment subjects will have stress induced in a number of ways and play the same game with real payoffs. We will also be collecting saliva for detection of cortisol and testosterone levels pre-and post-experiment to examine the role these hormones play in stress expression and associated decision-making.
<b>Keywords</b>	Stress, decision-making, psychology, hormones.

<b>Project Title</b>	An Analysis of Cotton Economics, Production Systems, Trade, and Policy
<b>Principal Investigators</b>	Darren Hudson
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$20,000
<b>Funding Agency</b>	Cotton Incorporated
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	The purpose of this broad project is to examine the many facets of the economics of cotton production, processing, and trade.
<b>Project Summary and Accomplishments</b>	This is an annually funded project to support research in the area of cotton economics. A primary use for this funding is supporting the maintenance of the foreign subsidies database. However, funding is used to support research projects in several areas of cotton economics.
<b>Keywords</b>	Stress, decision-making, psychology, hormones
<b>Important Publications and Presentations</b>	<p>Liu, B. and D. Hudson. "The Export Elasticity of Demand for Cotton." Paper presented at the Beltwide Cotton Conferences, Dallas, TX, January 4-6, 2017.</p> <p>Siami-Namini, S. and D. Hudson. "The Impacts of Energy Prices and Exchange Rates on Cotton Price." Paper presented at the Beltwide Cotton Conferences, Dallas, TX, January 4-6, 2017.</p> <p>Wade, E. and D. Hudson. "The Evolution of the Cotton Ginning Industry." Paper presented at the Beltwide Cotton Conferences, Dallas, TX, January 4-6, 2017.</p>



<b>Project Title</b>	Application of the FieldPrint Calculator for Cotton Production in the Texas High Plains
<b>Principal Investigators</b>	Phillip Johnson and Donna McCallister
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$54,000 – Expenditures 9/16 – 8/17 \$17,968 Total Expenditures 6/14 – 8/17 \$48,457
<b>Funding Agency</b>	Cotton Foundation
<b>Beginning Date</b>	June 2014
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	The objectives of this project are to (1) expand the scope of the pilot project applying the FieldPrint Calculator to the TAWC data to include sites across the Texas High Plains region; (2) evaluate how the FieldPrint metrics change with adoption of different production practices such as tillage and irrigation methods; and (3) evaluate the relationship between the FieldPrint metrics and crop profitability.
<b>Project Summary and Accomplishments</b>	Field data has been collected data from the TAWC sites for 2007-2016. This data has been entered into the FieldPrint Calculator to generate the metrics used to measure sustainability. The metric values have been converted into index values based on the mean value of each metric across all years. Calculation of baseline measurements of the metrics within the Calculator for various production practices. Changes in production practices such as irrigation methods, irrigation management technologies, residue management, crop rotations, and tillage practices for a given field will be evaluated for the level of metrics compared to the baseline (current) scenario. These comparisons will provide participating producers information to evaluate changes in their operations from a sustainability perspective. Analysis of the relationship between the sustainability metrics and profitability have been presented at the 2015, 2016 and 2017 Beltwide Cotton Conferences. Texas Tech University became an Affiliate Member of Field to Market in 2017.
<b>Keywords</b>	FieldPrint calculator, sustainability
<b>Important Publications and Presentations</b>	Gillum, Miranda and Phillip Johnson. 2015. Fieldprint Calculator: Results from the Texas High Plains. Proceeding of the 2015 Beltwide Cotton Conferences p. 689-692.  Gillum, Miranda and Phillip Johnson. 2016. Fieldprint Calculator: The Effects of Irrigation and Tillage Practices on Sustainability in the Texas

High Plains. Proceeding of the 2016 Beltwide Cotton Conferences p. 812-817.

M.S. Thesis: Analysis of the Effects of Physical Sustainability on Profitability for Crop Production in the Southern High Plains of Texas by Miranda Gillum

Gillum, Miranda, Phillip Johnson, Darren Hudson, and Ryan Williams. Fieldprint<sup>®</sup> Calculator: An Evaluation of the Effects of Management Systems on Physical Sustainability in the Southern High Plains of Texas. Crops & Soils Magazine 2016 49: 1: 26-29.

Mitchell, D., P. Johnson, and T. Black. 2017. Fieldprint Calculator: A Sustainability Analysis in the Texas High Plains. 2017 Beltwide Cotton Conference Proceedings.

<b>Project Title</b>	An Integrated Approach to Water Conservation for Agriculture in the Texas Southern High Plains (Phase II)
<b>Principal Investigators</b>	Chuck West, Rick Kellison, Phillip Johnson, Eduardo Segarra, Rudy Ritz, Donna Mitchell McCallister, Courtney Meyers, Jeff Pate and Steven Klose
<b>Departmental Involvement</b>	AAEC, AGED, ACOM, PSS
<b>Funding Amount</b>	Expenditures 9/16 – 8/17 \$47,748 Total Expenditures 1/14 – 9/17 \$134,158
<b>Funding Agency</b>	Texas Water Development Board - \$481,667 (AAEC part of \$3.6 million)
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	August 2020
<b>Project Objective</b>	The overall objective of this project has been to develop environmentally sustainable and economically feasible integrated production systems that will ensure the viability of agricultural activities in the Texas High Plains.
<b>Project Summary and Accomplishments</b>	This represents Phase II of the TAWC project. The primary responsibility of the Economic Task is to develop and maintain profitability records along with various agronomic and economic components for each demonstration site and system within the project. These cost and return analyses aid in the understanding of how irrigation interacts in the profitability of the systems and the management of agronomic options that are available for producers to manage water resources while producing sustainable profits. In addition to the annual cost and return budgets for each site, additional analyses will be conducted within the Economic Task. These analyses relate to the financial viability of producers with declining water availability and/or water use restrictions imposed by regional water policies.
<b>Keywords</b>	Water
<b>Important Publications and Presentations</b>	The Third Annual “Water College” was held in January 2017 with approximately 150 in attendance.

**Project Title** The (Virtual) Grass is Greener: A Video Game-Assisted Approach to Enhancing Farm and Ranch Management Courses

**Principal Investigators** Kelly Lange, Texas Tech  
Rachna Tewari and Joey Mehlhorn, University of Tennessee - Martin

**Departmental Involvement** AAEC

**Funding Amount** \$5,000  
**Funding Agency** Association of Public and Land Grant Universities (APLU)

**Beginning Date** September 2017

**Ending Date** August 2018

**Project Objective** The project utilizes a video game format to assist with the instruction of undergraduate students enrolled in farm and ranch management courses at Texas Tech University and the University of Tennessee at Martin.

**Project Summary and Accomplishments** Farm and ranch management courses at each institution have traditionally been taught using “paper and pencil” methods. This project uses video game software “Farming Simulator” to introduce a more realistic, personalized, and dynamic approach to the instruction of farm management topics.

**Keywords** Farm management, teaching methods, video game, software.

<b>Project Title</b>	Growing the Next Generation of Agribusiness Entrepreneurs: Advancing Economic Opportunities
<b>Principal Investigators</b>	Kelly Lange, Sanja Zivkovic, and Donna McCallister, AAEC Eric Irlbeck, AGED Rachna Tewari, University of Tennessee-Martin
<b>Departmental Involvement</b>	AAEC, AGED
<b>Funding Amount</b>	\$343,235 (pending – submitted 7-27-17)
<b>Funding Agency</b>	United States Dept. of Agriculture – AFRI Foundational Program
<b>Beginning Date</b>	January 2018
<b>Ending Date</b>	December 2020
<b>Project Objective</b>	Conduct qualitative, quantitative, and experimental research related to agribusiness entrepreneurial decision-making processes, with particular emphasis on gender differences, develop online courses in agribusiness entrepreneurship at TTU and UTM, and develop an agribusiness entrepreneurship website to connect current and future agribusiness entrepreneurs.
<b>Project Summary and Accomplishments</b>	Increased understanding of factors impacting agribusiness entrepreneurial decision-making processes, as well as improved entrepreneurial education and extension resource availability will enable future agribusiness entrepreneurs to increase their likelihood of successful business establishment and management. This multi-institutional and multi-disciplinary integrated project develops a collaborative relationship between Texas Tech University and the University of Tennessee at Martin to conduct research in order to gain knowledge of agribusiness entrepreneurial tendencies and disseminate this knowledge through online university courses and an agribusiness entrepreneurial website.
<b>Keywords</b>	Agribusiness, entrepreneurship, gender-based decision-making processes.

<b>Project Title</b>	Texas Tech University as Management Entity for the USAID Feed the Future Peanut Research Innovation Lab (PRIL) – a Systems Approach to Increased Global Food Security
<b>Principal Investigators</b>	Gad Perry, Wilna Oldewage, Darren Hudson, Rao Kottapalli, Kelly Lange, Venugopal Mendu, Amy Boren, Mary Murimi, David Weindorf, Amy Koerber
<b>Departmental Involvement</b>	NRM, Nutrition Sciences, AAEC, Bioinformatics, PSS, AGED, COMS
<b>Funding Amount</b>	\$14 million, TTU AAEC portion \$68,875 (submitted 9-6-17)
<b>Funding Agency</b>	USAID
<b>Beginning Date</b>	October 2017
<b>Ending Date</b>	September 2022
<b>Project Objective</b>	The Peanut Research Innovation Lab will enhance global food security by directing research and building capacity addressing the most important scientific and social constraints to growing and using peanuts throughout developing country value chains.
<b>Project Summary and Accomplishments</b>	PRIL will leverage global and host-country scientific and economic know-how to develop and disseminate improved production methods, farm mechanization, postharvest technology solutions, value-added products, and peanut varieties that match smallholder farmers and rural and urban consumer priorities and preferences, increase parity in gender- and age-related access, and produce market-based sustainable and widespread development outcomes at all scales.
<b>Keywords</b>	Peanuts, food security, agriculture globalization.

<b>Project Title</b>	BHEARD Ghana Program
<b>Principal Investigators</b>	Conrad Lyford
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$304,453 (9/15 - 8/16, \$76,113)
<b>Funding Agency</b>	USAID/Michigan State University
<b>Beginning Date</b>	August 2014
<b>Ending Date</b>	July 2018
<b>Project Objective</b>	The United States Agency for International Development (USAID), in partnership with the Association of Public and Land-grant Universities (APLU) and the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, has selected Michigan State University (MSU) to implement the Feed the Future Borlaug Higher Education Agricultural Research and Development (BHEARD) Program. Honoring the legacy of Nobel Peace Prize Laureate Norman Borlaug, this is a major new effort to increase the number of agricultural scientists and strengthen scientific institutions in developing countries. The program will support long-term training of agricultural researchers at the master's and doctoral levels and will link scientific and higher education communities in Feed the Future countries and the United States. The Texas Tech component of this is two fully funded students from Ghana including fieldwork.
<b>Project Summary and Accomplishments</b>	The two PhD students from Ghana are currently proceeding well in our TTU-Agricultural Economics program. We are in process of compiling data from several secondary sources that should form a key basis for future publications and dissertation research by the students. These data sets include official government statistics from Ghana for health, nutrition, and economic data as well the baseline data from Feed the Future. The students are in process of writing their first peer reviewed journal submission.
<b>Keywords</b>	USAID, Ghana, food security, Feed the Future.

<b>Project Title</b>	Assessing Potential Chinese Demand for Grain Sorghum
<b>Principal Investigator</b>	Jaime E. Malaga and Haiyan Wang
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	May 2017
<b>Project Objective</b>	To estimate the parameters of the Chinese derived demand for grain sorghum and use them to forecast potential sorghum imports.
<b>Project Summary and Accomplishments</b>	China has been showing an impressive growth on consumption of animal protein which has resulted on a rapidly increasing derived demand for feed grains. Corn is the key feed crop for China; however, government policies have boosted domestic corn prices above international levels. This is not the case of grain sorghum which is a close corn substitute. USDA estimates that in recent years consumption of sorghum in China expanded almost ten times and in August 2013 China, for the first time, imported sorghum from the United States for feed use. These facts indicate that China is becoming a large market of feed grain where sorghum is a close and cheaper substitute for corn. The objective of this research was to estimate the parameters of China's sorghum derived demand and use them to forecast the Chinese potential demand of grain sorghum in the near future. Two econometric models model were used to determine the effect of the changes in livestock production, feed ratios, corn prices and government policies on sorghum demand and own-and cross-price elasticities. Official U.S. and Chinese data sources were used. Results of this study suggest that the Chinese corn policy was the main factor behind the huge expansion of sorghum imports. Under plausible scenarios for key variables in the next decade, Chinese sorghum imports will tend to decline from the records levels of 2014-2015. Under Chinese changes in their corn policy, the main factor behind sorghum use and imports will be the expansion of the swine industry. The Chinese model parameters would be eventually incorporated into the TTU Sorghum Supply, Demand and Trade Model in order to provide improved baseline forecasts of the world sorghum market variables. Research papers from this analysis have been presentation at the SAEA and AAEC meetings.
<b>Keywords</b>	Sorghum, China, international trade.



<b>Project Title</b>	Impacts of New Bean Varietal Adoption on Income and Food Consumption in Uganda
<b>Principal Investigators</b>	Jaime E. Malaga, Carlos Carpio, Carlos Labarta (CIAT)
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	The main objective of this study is to evaluate the impacts of new beans varietal adoption on income and food consumption of household farmers in Uganda.
<b>Project Summary and Accomplishments</b>	The study uses an econometric household production/consumption model incorporating demand system estimation for price and expenditure elasticities. Data used derives from a survey collected in Uganda for a project managed by the International Center for Tropical Agriculture (CIAT). The results revealed that there is simultaneity of production and consumption decisions for the crop. Therefore, enhancing productivity and total production will be a key policy strategy to ensure that household bean production meets household consumption needs. Moreover, the results also indicated that the households with large number of members consumed larger share of beans than any other food group. The government of Uganda may also need to introduce policies aimed at increasing production of other food items that affect the production decisions like cereals, other starches, other pulses, nuts, vegetables, and fruits. Such policies however should be administered in great care not to distort the market. The estimated elasticities can also inform important policy interventions. Beans like all other food items is a normal good. Therefore, there is need for the policy makers to come up with more incentives to increase the productivity of beans resulting to improved household income and better nutrition. This study is the first collaborative research between the Texas Tech AAEC Department and the Center for Tropical Agriculture (CIAT) and should lead to similar studies in other developing countries.
<b>Keywords</b>	New varietal adoption, Uganda, international development.

<b>Project Title</b>	Impacts of GATT/WTO on African Agricultural and Non-Agricultural Trade
<b>Principal Investigator</b>	Gertrude Nakakeeto, Jaime E. Malaga and Shaikh Rahman
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	Evaluate the benefits of GATT and WTO for African Mid and Low income countries. .
<b>Project Summary and Accomplishments</b>	Contemporary economics literature has rigorously investigated the trade flow benefits of the countries' membership in the General Agreement on Tariffs and Trade (GATT), and its successor the World Trade Organization (WTO). One important though untested conclusion from this literature is that developing (middle income) and least developed (low income) countries have received little or no benefit from their membership to GATT/WTO due to the special treatment accorded to them by the agreements of the multilateral trading institution. This study investigates this issue using a panel data set of agricultural and non-agricultural trade flows. The trade data is obtained from UNCOMTRADE and it is composed of African country exports (53) to the Rest of the World (193 countries) for the period 1990-2014. The gravity model results are very interesting: On average, membership to GATT/WTO has increased African Agricultural (AG) and nonagricultural (NONAG) exports to the ROW by more than 3 folds (249.03% and 289.61%, respectively). Finally, membership to the GATT/WTO does not impact trade among developing countries and least developed countries but has expanded agricultural trade among least developed countries by more than 8 folds and nonagricultural trade by 78%... These results are robust to various country aggregations and incorporate recent advances in the specification and estimation of the gravity equation to account for sample selection problems, omitted variable bias, and heteroscedasticity. Results have been presented at the Center for the Study of African Economies Conference, Oxford University, UK, on March 2017.and a publication should be coming soon.
<b>Keywords</b>	International trade, Africa, WTO.

<b>Project Title</b>	International Partial Equilibrium Model of Sorghum Supply, Demand and Trade
<b>Principal Investigator</b>	Jaime E. Malaga and Kazuyoshi Ishida
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	To update and expand the TTU world sorghum econometric model which will provide the US sorghum industry with information relevant to domestic and international policy strategies pertaining to the future of grain sorghum.
<b>Project Summary and Accomplishments</b>	Texas Tech University developed a supply/demand/trade partial equilibrium econometric model with USDA funding in the past. Such model needed to be updated with more current data and expanded to include more recent developments like the surge of China as a main destination market and Australia as a growing exporter. The original model included only the US, Mexico and Japan, so new estimations on parameters of other countries needed to be performed and incorporated in the model in order to provide more relevant forecasting and simulation. The model was able to forecast ten years of impacts on future sorghum supply, demand, and trade of alternatives scenarios of key exogenous variables. US supply equations were separated by regions (Texas, Kansas, and other states) A Japanese demand equation was re-estimated and expanded future simulations will include impacts of corn prices livestock production, foreign policies, sorghum yield improvements, expansion of exports to other countries, and derived demand from the US ethanol industry. A preliminary result of the expanded model was selected for presentation at the 2015 Meetings of the Agricultural and Applied Economics in San Francisco.
<b>Keywords</b>	Grain sorghum, international trade, trade forecasting models.

<b>Project Title</b>	Latin American Competition for the US and EU Fruit and Vegetable Markets.
<b>Principal Investigator</b>	Jaime E. Malaga
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	Assess potential impacts of FTA changes on the competitiveness of LA exports in US and EU markets.
<b>Project Summary and Accomplishments</b>	<p>US fruit and vegetable consumption has been increasing steadily over recent years at a rate above all other food groups and Latin American countries have been expanding their market share of the US domestic market approaching a 50% level. In the EU countries LA exports strongly compete with Middle East and African exports. Free Trade Agreements, lower cost of production and counter seasonality are among the factors explaining the mentioned trend. Nevertheless, foodborne illness outbreaks in the US have been linked to some produce imports and USDA has put in place a new Food Safety and Modernization Act (FSMA) requiring both US and imported produce to comply with the new strict standards. This process may imply important changes on LA countries' market shares. Countries with better capabilities to follow new procedures will be able to expand their presence in the US market at expense of smaller countries affecting the positive impact of FTAs on their agricultural exports sectors. A potential modification of NAFTA, CAFTA and other US-LA trade agreements would have effects on US import levels seasonal availability and domestic prices. A presentation on the topic was delivered at the 2016 Annual Meeting of the Agricultural and Applied Economics Association where potential collaboration with USDA agencies was discussed. A paper has been accepted for presentation at the 11<sup>th</sup> World Congress on Agriculture and Horticulture in Paris, France in 2018</p>
<b>Keywords</b>	Fruit and vegetable markets, international trade.

<b>Project Title</b>	Governing Natural Resources in the American West
<b>Principal Investigators</b>	Adam Martin
<b>Departmental Involvement</b>	Free Market Institute, AAEC
<b>Funding Amount</b>	\$50,000
<b>Funding Agency</b>	Charles Koch Foundation
<b>Beginning Date</b>	July 2016
<b>Ending Date</b>	August 2017
<b>Project Objective</b>	To bring together two groups of social scientists who work on natural resource issues to explore gains from trade: (a) quantitative applied economists who focus on the technical conditions of economic activity, and (b) political economists and other social scientists who focus on qualitative work and the institutions that govern economic activity, focusing on the question of how the natural resources of western states might be governed more effectively.
<b>Project Summary and Accomplishments</b>	This project brought together a mix of scholars interested in the intersection of property rights and natural resources to encourage new research on contemporary and historical resource issues facing the American West. After a call for papers, 8 proposals were selected to receive research support from this project. Paper authors presented their working papers and received feedback at Texas Tech on August 25, 2017. The event kicked off on August 24 with a public lecture by P.J. Hill, Professor Emeritus of Economics at Wheaton College. The lecture was co-sponsored by and held at the National Ranching Heritage Center at Texas Tech.
<b>Keywords</b>	Institutions, natural resources, political economy, property rights.

<b>Project Title</b>	Sustaining Agriculture through Adaptive Management to Preserve the Ogallala Aquifer under a Changing Climate
<b>Principal Investigators</b>	Donna McCallister
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$229,840
<b>Funding Agency</b>	United States Dept. of Agriculture –NIFA-CAP
<b>Beginning Date</b>	March 2016
<b>Ending Date</b>	February 2020
<b>Project Objective</b>	Develop and identify new technologies for precision irrigation that improve water use efficiency and have the greatest potential for adoption.
<b>Project Summary and Accomplishments</b>	A meta-analysis will be conducted of peer-reviewed journal articles to quantify the relative effect of irrigation technology and management systems on water use efficiencies and agronomic yields across the Ogallala Aquifer regions. The meta-analysis will identify the most promising management systems. We will further quantify relationships with irrigation types and rates, weather, north-south climatic gradients, soil characteristics, and cropping systems allowing producers and consultants to compare the relative benefits and risks of adopting novel technologies for their locations and cropping systems.
<b>Keywords</b>	Meta-analysis, water use efficiency, Ogallala Aquifer.

<b>Project Title</b>	Application of the Fieldprint Calculator for Cotton Production in the Texas High Plains
<b>Principal Investigators</b>	Donna McCallister, Phillip Johnson
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$18,000
<b>Funding Agency</b>	National Cotton Council
<b>Beginning Date</b>	June 2017
<b>Ending Date</b>	May 2018
<b>Project Objective</b>	The objectives of this project are to 1) expand the scope of the pilot project applying the Fieldprint Calculator to the TAWC data to include sites across the Texas High Plains region; 2) evaluate how the Fieldprint metrics change with adoption of different production practices such as tillage and irrigation methods; and 3) evaluate the relationship between the Fieldprint metrics and crop profitability.
<b>Project Summary and Accomplishments</b>	Field data has been collected data from the TAWC sites for 2007-2016. This data has been entered into the FieldPrint Calculator to generate the metrics used to measure sustainability. The metric values have been converted into index values based on the mean value of each metric across all years. calculation of baseline measurements of the metrics within the Calculator for various production practices. Changes in production practices such as irrigation methods, irrigation management technologies, residue management, crop rotations, and tillage practices for a given field will be evaluated for the level of metrics compared to the baseline (current) scenario. These comparisons will provide participating producers information to evaluate changes in their operations from a sustainability perspective.
<b>Keywords</b>	FieldPrint calculator, cotton production, tillage, irrigation.

<b>Project Title</b>	Infrastructure Productivity: Prospects for the 21 <sup>st</sup> Century
<b>Principal Investigators</b>	Aman Khan and Olga Murova
<b>Departmental Involvement</b>	POLS, AAEC
<b>Funding Amount Funding Agency</b>	Various
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	September 20117
<b>Project Objective</b>	TTU is organizing and hosting a conference on US infrastructure. This conference looks at the infrastructure challenges facing the United States from a multi-dimensional perspective. It is targeted for policy makers, business leaders, academics, managers and administrators of various public, private and non-profit organizations, as well as individuals.
<b>Project Summary and Accomplishments</b>	The main objective of this research paper is to analyze current state of the U.S. infrastructure and to develop prospects on the future of the U.S. infrastructure for the 21 <sup>st</sup> century. According to the report of the American Society of Civil Engineers in 2013 US infrastructure scores an average grade of D+. The U.S. government spending on infrastructure has declined over the past several years, and in 2016 the U.S. spent less than 2 percent of overall gross domestic product on infrastructure (Debbie Carlson, 2016). An International Monetary Fund (IMF) study found that in advanced economies, boosting infrastructure investment by 1% of gross domestic product (GDP) can raise overall GDP by 1.5% four years later (Harrison, 2017). A number of studies examined carry a message that investment in infrastructure today is essential for a healthy economy of the future. The overall conclusion is that if government and private-sector infrastructure players would adopt best proven practices of infrastructure investment they could increase productivity and achieve savings.
<b>Keywords</b>	Infrastructure, productivity, investment, savings.



<b>Project Title</b>	Productivity and Efficiency Analysis of the U.S. Financial Securities Across the U.S. States
<b>Principal Investigators</b>	Aman Khan and Olga Murova
<b>Departmental Involvement</b>	POLS, AAEC
<b>Funding Amount</b>	Various
<b>Funding Agency</b>	
<b>Beginning Date</b>	March 2017
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	Analyze productivity and efficiency of main financial securities across all states of the US.
<b>Project Summary and Accomplishments</b>	The main objective of this research paper is to analyze current state of the U.S. main financial securities using data from Comprehensive Annual Financial Reports (CAFR). CAFRs are publicly available information. They report states' activities and balances for each fiscal year. Currently data set is collected and the main securities that represent the main bulk of the total state's activities are identified for analysis. DEA model will be utilized in this research to identify the most efficient securities. This model will also identify the optimal mix of securities that will bring the highest financial return.
<b>Keywords</b>	Financial securities, DEA, efficiency, productivity, CAFR reports.

<b>Project Title</b>	The Impact of a Sorghum-Based Ethanol Plant on Local Sorghum Basis and Cotton Acreage: A Spatial Approach
<b>Principal Investigators</b>	Bing Liu, Darren Hudson, Michael Farmer, Jamie Bologna Pavlik
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2017
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding how the location of ethanol plants affects cotton acreage of surround areas.
<b>Project Summary and Accomplishments</b>	This study examines the impacts of a sorghum-based ethanol plant established in a major cotton producing area on local sorghum basis and cotton acreage distribution using county-level panel data from 2002 to 2014. Spatial econometric models are employed to account for any spatial dependence. Our results support the conclusion sorghum basis and cotton acreage within a county depends on characteristics of its neighbors. Specifically, the findings indicate that the sorghum basis increased by 1.5 cents per bushel in the short-run resulting from hosting a 40 million-gallon ethanol plant, and a short-run increase by 0.2 percent in cotton acres over all counties.
<b>Keywords</b>	Cotton acreage, ethanol plant location, sorghum basis, spatial models.

<b>Project Title</b>	Executive Influence over Reported Corruption Convictions: Are Conviction Rates a Biased Measure of US State-Level Corruption?
<b>Principal Investigators</b>	Jamie Bologna Pavlik
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2016
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding the bias in corruption conviction measures.
<b>Project Summary and Accomplishments</b>	Using state level data on corruption convictions from the U.S. Department of Justice’s Public Integrity Section (PIN) and political importance over five consecutive presidential terms from 1993-2012, I find evidence that reported federal corruption convictions tend to be higher in politically important states. However, this effect decreases in magnitude and becomes statistically insignificant when states have a governor of the same political party as the president. Thus, corruption convictions are systematically different across states based on political factors.
<b>Keywords</b>	Corruption convictions, political importance, congressional dominance.

<b>Project Title</b>	Does Corruption Impact the Informal-Formal Sector Wage Gap? Evidence from Brazil
<b>Principal Investigators</b>	Jamie Bologna Pavlik and Amir B. Ferreira Neto
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2016
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding the impact of corruption on the formal-informal income gap.
<b>Project Summary and Accomplishments</b>	Many countries rely on the informal economy as a source of employment. These same countries experience a significant amount of corruption, potentially exacerbating the existing formal-informal income gap. Using individual and municipal level data from Brazil, we show that the income gap is larger in municipalities with more corruption. This finding holds after controlling for selection effects and is robust to the exclusion of taxes. We also exploit random variation in corruption with difference-in-difference techniques to find that corruption remains an important determinant of this income gap. Thus, addressing the formal-informal income gap may first require the elimination of corruption.
<b>Keywords</b>	Corruption, informal employment, formal-informal income gap, dual labor market.

<b>Project Title</b>	The Impact of State Level Regulations on the Gender Wage Gap
<b>Principal Investigators</b>	Jamie Bologna Pavlik, Amanda Ross, Joshua C. Hall
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	July 2017
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding regulation's impact on the gender wage gap.
<b>Project Summary and Accomplishments</b>	Using IPUMS data on U.S. states from 1990 to 2010 we find that economic freedom is positively related to an increase in the gender wage gap, but the association is statistically insignificant. Decreases in government spending, however, are statistically associated with increased gender income disparities across states.
<b>Keywords</b>	Gender wage gap, regulation, economic freedom.

<b>Project Title</b>	The Legacy of Representation in Medieval Europe for Incomes and Institutions Today
<b>Principal Investigators</b>	Jamie Bologna Pavlik, Andrew T. Young
<b>Departmental Involvement</b>	AAEC, Free Market Institute
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2017
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding historical influence on institutions.
<b>Project Summary and Accomplishments</b>	In this paper, we combine data containing information on representative assemblies for 30 European polities during the medieval and early modern periods with ancestry data available for 165 countries. We find that representative assembly experience in these early periods is positively and significantly correlated to present-day income levels and legal institutions. Importantly, we find these effects to hold after controlling for general European influence, a major flaw in past historical empirical development papers.
<b>Keywords</b>	Institutions, property rights, European influence.

<b>Project Title</b>	Do Constitutional Entrenchment and Specificity Matter?
<b>Principal Investigators</b>	Jamie Bologna Pavlik, Andrew T. Young
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2017
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding the effect constitutions have on institutional quality.
<b>Project Summary and Accomplishments</b>	<p>Following the work of Douglas North and other scholars of the New Institutional Economics (e.g., North and Thomas 1973; North and Weingast 1989; North 1990) political economists conceive of institutions as the “rules of the game” according to which individuals conform their actions and interactions. At the constitutional level, there are the rules of the game that constraint the actions and interactions of political agents specifically. In their classic work, <i>The Calculus of Consent</i>, Buchanan and Tullock (1962) emphasize that good governance arises under constitutions that effectively constrain those in power and are durable over time (e.g., only amendable with large supermajority consent). Versteeg and Zackin (2016) refer to this conception of a constitution as the “entrenched/spare” model: political agents are provided with general limitations on their powers that are difficult to change over time. They contrast this with an “unentrenched/specific” model where a constitution is designed for “limiting the latitude within which agents operate (through specificity) and relaxing the rigidity of the constitutional boundaries (increasing flexibility) to accommodate [...] increased scope and detail” (p. 658). Versteeg and Zackin gather evidence from countries’ constitutional texts covering 1850-2005 and demonstrate that democratic constitutions are increasingly specific and subject to more frequent revisions. They document an important stylized fact and an immediate follow-up question is: Does the unentrenchment of constitutions promote or hinder economic development and growth? This question is of particular interest since the “unentrenched/specific” model is contradictory to many political economists’ prior beliefs about what sort of constitution will be associated with good governance. The question is ultimately an empirical one and we propose to explore it using the Versteeg and Zackin data along with data on country-level welfare outcomes (e.g., per capita income levels and growth; life expectancy) from the Penn World Tables (PWT) (Feenstra et al. 2015). The PWT contains data going back to 1950. We will also explore the</p>

relationship between unentrenchment and the economic institutions that may mediate between constitutions and welfare outcomes. We will employ the Fraser Institute's Economic Freedom of the World (EFW) index (Gwartney et al. 2016) as a measure of economic institutions. Numerous studies have reported positive correlations between the EFW indexes various welfare outcomes (Hall et al. 2014). The EFW index goes back to 1970.

**Keywords**

Institutions, constitutions, entrenchment.



<b>Project Title</b>	Historical Technological Diffusion and Development Today: An Empirical Test of the Diamond Hypothesis
<b>Principal Investigators</b>	Jamie Bologna Pavlik and Andrew T. Young
<b>Departmental Involvement</b>	AAEC, Free Market Institute
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2017
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding historical influence on institutions
<b>Project Summary and Accomplishments</b>	We examine the influence historical technology adoption has on present-day income from a spatial perspective. More specifically, we aim to test two hypotheses: (1) if historical technology adoption crossed borders, and (2) whether distinguishing between east-west and north-south neighbors is meaningful to the results. Ultimately, we would like to provide an empirical test of the Jared Diamond hypothesis. While the focus of this project is on technology adoption, rather than governmental institutions, the intuition behind this paper is essentially one of knowledge transfer and how effectively this knowledge flows across areas. Thus, the findings of this project apply to this area of research more generally as the transfer of governmental institutions begins with the transfer of ideas.
<b>Keywords</b>	Institutions, property rights, spillovers, technology adoption.

<b>Project Title</b>	Does it Pay to Live in the Battleground? The Effect of Divide the Dollar Politics on Income
<b>Principal Investigators</b>	Jamie Bologna Pavlik and Maria Tackett
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	October 2016
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding how divide the dollar politics affects income levels.
<b>Project Summary and Accomplishments</b>	Does it pay to be a locale of political importance? Political business cycle theory predicts that the executive has an incentive to manipulate macroeconomic policy to increase the chances of their party remaining in office. Political Science literature finds that core counties within swing states and core counties within core states enjoy disproportionately higher federal spending. We attempt to find out if this increased attention leads to higher economic growth for politically important counties during presidential elections. We examine a panel of the U.S. counties spanning from 1970 to 2012 and control for county demographics in a linear regression analysis to answer our question.
<b>Keywords</b>	Divide-the-dollar politics, growth, battleground states, political business cycles.

<b>Project Title</b>	Does the Effect Corruption has on Income Inequality Depend on the Informal Sector?
<b>Principal Investigators</b>	Jamie Bologna Pavlik and Sean E. Mulholland
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2016
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding how corruption and informal employment interact to affect inequality.
<b>Project Summary and Accomplishments</b>	Corruption is often thought to benefit the rich at the expense of the poor. The intuition behind this is that wealthier individuals tend to have better political connections, making it easier for them to engage in corruption (Tanzi, 1998). However, corruption in countries characterized by a large informal sector may have less of a harmful impact on income inequality. Researchers find that when a larger proportion of economic activity takes place informally, corruption increases income inequality by a lower amount. However, empirical studies testing these ideas employ measures of income inequality that do not incorporate incomes coming from the informal sector. In this paper, we re-estimate the corruption-inequality relationship using inequality measures that explicitly include informal income. We find that the informal sector does indeed reduce the inequality caused by corruption.
<b>Keywords</b>	Corruption, informal economy, inequality.

<b>Project Title</b>	Is the Devil in the Shadow? An Analysis of the Direct and Indirect Effects of Institutions on Income
<b>Principal Investigators</b>	Jamie Bologna Pavlik
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	February 2016
<b>Ending Date</b>	Ongoing
<b>Project Objective</b>	Understanding how institutions affect income both directly and indirectly through the informal sector.
<b>Project Summary and Accomplishments</b>	The positive relationship between institution quality and “official” income is well-documented. It is unclear, however, if this relationship holds once the “unofficial” economy is accounted for. An improvement in institutional quality tends to shift production out of the shadow and into the official sector. This can result in an increase in official income, at the expense of the shadow economy. This paper uses a mediation analysis to explore the total, direct, and indirect effects of institutional quality on formal, informal, and total income per-worker in Brazil. The results indicate that an improvement in institutional quality leads to a positive change in total income per-worker. It seems that while positive institutional change does reallocate production from the shadows to the official sector, the reallocation increases productivity.
<b>Keywords</b>	Institutions, informal economy, official income.

<b>Project Title</b>	BHEARD Kenya Program
<b>Principal Investigators</b>	Shaikh M. Rahman
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$300,746 (9-16 to 8-17 \$76,698)
<b>Funding Agency</b>	USAID/Michigan State University
<b>Beginning Date</b>	August 2015
<b>Ending Date</b>	July 2019
<b>Project Objective</b>	The United States Agency for International Development (USAID), in partnership with the Association of Public and Land-grant Universities (APLU) and the International Maize and Wheat Improvement Center (CIMMYT) in Mexico, has selected Michigan State University (MSU) to implement the Feed the Future Borlaug Higher Education Agricultural Research and Development (BHEARD) Program. Honoring the legacy of Nobel Peace Prize Laureate Norman Borlaug, this is a major new effort to increase the number of agricultural scientists and strengthen scientific institutions in developing countries. The program supports long-term training of agricultural researchers at the master's and doctoral levels and links scientific and higher education communities in Feed the Future countries and the United States. The TTU component of this is two fully funded Ph.D. students from Kenya including fieldwork.
<b>Project Summary and Accomplishments</b>	The two PhD students from Kenya are currently proceeding well in our Ph.D. program in Agricultural Economics. The students have successfully finished the second year of their study. They are now in the process of collecting and compiling data from several secondary sources that should form a key basis for their dissertation research and future publications.
<b>Keywords</b>	BHEARD, USAID, Feed the Future, Kenya, food security.
<b>Important Publications and Presentations</b>	The students have presented two papers in the 2017 SAEA annual conference in Mobile, Alabama. The titles of the papers are “An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximate Almost Ideal Demand System (LA-AIDS)” and “Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System”.

<b>Project Title</b>	The Levelized Costs of Electricity Generation by CDM Power Projects
<b>Principal Investigators</b>	Shaikh M. Rahman, Randall Spalding-Fecher, Grant Kirkman and Eric Haites
<b>Departmental Involvement</b>	AAEC, Carbon Limits, UNFCCC, Margaree Consultants
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	2017
<b>Ending Date</b>	Not specified
<b>Project Objective</b>	The objective of this research is to examine the cost structure of electricity generation by various types of power projects financed under the Clean Development Mechanism (CDM) of the Kyoto Protocol.
<b>Project Summary and Accomplishments</b>	Using CDM project data, cost of electricity generation and its variation across technology and over time and space are estimated applying alternative functional forms. Results show that the average cost of electricity decreases with the project scale and duration, and scale and duration effects significantly vary across underlying technology. Results also show that the distribution of the power projects in the CDM portfolio or a given location does not strictly follow the relative cost structure. About 68 percent of the CDM power portfolio consists of hydro and wind power projects with relatively higher costs which account for about 46 percent of total annual electricity generation by all projects. Methane avoidance/ reduction and landfill gas projects are the least cost categories for electricity generation, which account for only 9 percent of all power projects and 1.3 percent of annual electricity generation. At the observed scales of hydro and wind power projects, India has a comparative advantage over China. Still, the extent of both hydro and wind power projects in China is much larger than that in India, both by the number of projects and total expected electricity output. These results provide a basis for evaluating the overall competitiveness of alternative power sources for alternative CER price scenarios.
<b>Keywords</b>	Cost of electricity, Clean Development Mechanism, Kyoto Protocol.
<b>Important Publications and Presentations</b>	The article was submitted to <i>Energy</i> journal in May 2017. It was returned with the suggestion of revision and resubmission of the article for a second review.

<b>Project Title</b>	Enhancing the Drought Coping Capacity of the Vulnerable Pastoral and Agro-pastoral Households in Northern Kenya
<b>Principal Investigators</b>	Shaikh M. Rahman and Stephen Devadoss
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$38,368 (submitted)
<b>Funding Agency</b>	United States Dept. of Agriculture – Foreign Agriculture Services
<b>Beginning Date</b>	September 2017
<b>Ending Date</b>	August 2019
<b>Project Objective</b>	The long term objective of this project is to strengthen the drought coping capacity of the small pastoral and agro-pastoral communities in Northern Kenya and enhance their food security and sustainability. Short term objectives of this project are to (1) identify the challenges faced by the households during droughts and assess their vulnerability to droughts; (2) assess the resources available to the community, develop a community resource map, and examine the feasibility of supply-side and demand-side response strategies; (3) identify the difficulties faced by vulnerable households in subscribing to the available livestock insurance scheme, and evaluate the mechanisms and institutional support systems required for the expansion of the scheme; and (4) develop a Drought Management Plan (DMP), outlining practical response strategies and drought risk mitigation tools, defining the roles of the stakeholders, and prioritizing institutional mechanisms and support systems.
<b>Project Summary and Accomplishments</b>	The project will identify the challenges and practical solutions using a bottom-up approach. Rapid Community Resource Assessment (CRA) and household survey methods will be used. The CRA process will use a broad based survey that comprises a review of secondary data, interview of key personnel, and stakeholder and focus group discussions. A community resource map will be outlined following the CRA process. A household survey will be conducted to assess the challenges faced by different vulnerable groups, disaggregated by income, gender, and other relevant criteria. Collected information and data through the CRA process and household survey will be analyzed to develop a draft Drought Management Plan (DMP). The draft DMP will be shared with the stakeholders at all levels for evaluation. Incorporating the comments and suggestions, the DMP will be finalized and submitted for implementation.
<b>Keywords</b>	Drought, Kenya, pastoral, community resource assessment, community resource map, drought management plan.

<b>Project Title</b>	Enhancing Resilience to Natural Disaster Related Shocks among the Small Farmers and Vulnerable Households in Bangladesh: The Role of Micro-savings and Micro-insurance
<b>Principal Investigators</b>	Shaikh M. Rahman and Stephen Devadoss
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$39,886 (submitted)
<b>Funding Agency</b>	United States Dept. of Agriculture – Foreign Agricultural Services
<b>Beginning Date</b>	September 2017
<b>Ending Date</b>	August 2019
<b>Project Objective</b>	The long-term objective of this project is to enhance resilience of small farmers and vulnerable households in Bangladesh to natural disaster related shocks and reduce their reliance upon emergency food assistance. The short term objectives are to (1) identify the challenges faced by the population in the Northeast region of Bangladesh who are affected by frequent floods; (2) evaluate existing disaster management programs for the affected population, identify the gaps, and evaluate the scope of micro-savings and micro-insurance; (3) examine the structures of the available micro-savings and micro-insurance schemes and identify their limitations in mitigating disaster related shocks; (4) develop feasible micro-savings and micro-insurance schemes that are suitable to the needs of small farmers and vulnerable households and easily accessible; and (5) evaluate the effectiveness of the proposed schemes in enhancing resilience to disaster related shocks
<b>Project Summary and Accomplishments</b>	The project will use a bottom-up approach to identify the challenges and find practical solutions. Three specific methods will be used: (1) a broad based survey; (2) a rapid Participatory Rural Appraisal (PRA) process; and (3) a household survey. The broad based survey will comprise a review of literature and secondary data, discussions in symposiums, and interview of key personnel. The rapid PRA process will include community meetings, focus group discussions, and individual interviews. The household survey will be conducted on a representative sample of population of different socio-economic status. Collected information and data through these methods will be used to develop micro-savings and micro-insurance schemes for disaster risk management. The schemes and other research findings will be shared with the stakeholders at all levels for evaluation.
<b>Keywords</b>	Natural disaster, small farmers, vulnerable households, Bangladesh, micro-savings, micro-insurance.



<b>Project Title</b>	Economic Freedom and Agricultural Productivity – Discovering the Linkages
<b>Principal Investigators</b>	Eduardo Segarra
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	Core departmental research funds
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2016
<b>Ending Date</b>	August 2018
<b>Project Objective</b>	To evaluate the impacts of economic freedom on agricultural productivity. Specifically, to find out if government intervention in agriculture negatively affects agricultural productivity and the “speed” of technological progress in agriculture
<b>Project Summary and Accomplishments</b>	A graduate student (Maryam Almasifard) who is working on her Ph.D. in Agricultural and Applied Economics has been working on her dissertation proposal addressing this topic.
<b>Keywords</b>	Economic freedom, government intervention, agricultural productivity.

<b>Project Title</b>	Is Technological Progress/Development in Agriculture Endogenous?
<b>Principal Investigators</b>	Eduardo Segarra
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2015
<b>Ending Date</b>	August 2018
<b>Project Objective</b>	To find out what the core factors influencing technological innovation(s) (technological progress) in agriculture are .... And what the impacts of variables such as planning horizon, discount rates and stochasticity of biotic/abiotic factors are on the dynamics associated with the evolution, development and adoption of advanced production practices/systems in agriculture.
<b>Project Summary and Accomplishments</b>	Work regarding the collection of basic data and the formulation of the simulation/optimization models has been completed. A journal article has been submitted for consideration in a national in scope journal.
<b>Keywords</b>	Technological progress, advance production systems in agriculture.

<b>Project Title</b>	Sustainability of Water Resource Use in the Hexi Corridor of China
<b>Principal Investigators</b>	Eduardo Segarra
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	Kai Li and Professor Donxia Yue's salaries and living expenses are
<b>Funding Agency</b>	being funded by Lanzhou University in support of this project.
<b>Beginning Date</b>	August 2015
<b>Ending Date</b>	May 2018
<b>Project Objective</b>	To evaluate the current and future viability of water resource use sustainability for agricultural production in the Hexi corridor of China.
<b>Project Summary and Accomplishments</b>	Work regarding the collection of basic data and the formulation of simulation/optimization models were completed and a journal article is in the process of being submitted for possible publication. A Visiting Scholar (Kai Li) currently working on his Ph.D. in Ecological Management spent the 2016-2017 academic year working on this project. Professor Donxia Yue will be spending the Fall 2017 in our department as Visiting Professor working on this project.
<b>Keywords</b>	Water use sustainability, advanced production systems in agriculture.

<b>Project Title</b>	Factors Influencing the Adoption of Precision Agricultural Practices in Cotton Production in the U.S.
<b>Principal Investigators</b>	Eduardo Segarra and Chenggang Wang
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	Core departmental research funds
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	August 2015
<b>Ending Date</b>	May 2018
<b>Project Objective</b>	To evaluate factors influencing the adoption of precision agricultural practices in cotton production in the U.S.
<b>Project Summary and Accomplishments</b>	This project was supported for several years by Cotton Incorporated and several surveys were elicited. This data is being used by a current Ph.D. student (Eric Asare) in his dissertation research.
<b>Keywords</b>	Precision farming, precision agriculture, technology adoption, advanced production systems in agriculture.
<b>Important Publications and Presentations</b>	Eric Asare is almost finished writing his dissertation. Results have been obtained, a couple of journal articles are being finalized for submission. Eric Asare will be graduating in December 2017 with his Ph.D. degree.

<b>Project Title</b>	Groundwater Use in the Texas High Plains
<b>Principal Investigators</b>	Chenggang Wang
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$13,000 (\$6000 from September 2016 to August 2017)
<b>Funding Agency</b>	Texas A&M University/Texas AgriLife Research – Lubbock
<b>Beginning Date</b>	January 2013
<b>Ending Date</b>	January 2017
<b>Project Objective</b>	The objective of this project is to study the optimal allocation of irrigation water resources in Texas High Plains. The analysis involves spatial and temporal allocation of water. The spatial allocation of water is concerned with partitioning the field into an irrigated part and a non-irrigated part. The temporal allocation of water is concerned with scheduling the irrigation water over various crop growth stages from planting to harvest. The project will also examine the efficiency of water use at the regional level with an integrated hydro-economic modelling approach.
<b>Project Summary and Accomplishments</b>	In the 2015-2016 project year our research effort was to develop a USDA grant aiming at developing a hydro-econometric model that predicts future groundwater conditions.
<b>Keywords</b>	Groundwater, optimization, deficit irrigation.

<b>Project Title</b>	Emergence of Institutions for Sustainable Production of the Caterpillar Fungus Resource on the Tibetan Plateau
<b>Principal Investigators</b>	Chenggang Wang
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$3500
<b>Funding Agency</b>	Texas Tech University
<b>Beginning Date</b>	January 2017
<b>Ending Date</b>	December 2017
<b>Project Objective</b>	The purpose of the project is to build an interdisciplinary research team to develop a National Science Foundation proposal for studying the emergence of governing institutions for the Caterpillar Fungus resource on the Tibetan Plateau. The targeted grant is the NSF's Dynamics of Coupled Natural and Human Systems program. The SCP grant, if awarded, would facilitate my collaboration with researchers outside Texas Tech University in proposal development. The grant will allow me to conduct a pilot survey in the Tibetan Plateau in 2017 summer. The data will be analyzed to provide primary findings to support the NSF proposal.
<b>Project Summary and Accomplishments</b>	In July 2017, I surveyed 90 Tibetan households to collect data on household consumption, production, and the conditions of the pastures. The data are being processed in preparation for the NSF proposal.
<b>Keywords</b>	Institutional economics, resource extraction, Tibetan plateau.

<b>Project Title</b>	A Socioeconomic Survey of Pastoralism in the Qinghai-Tibet Plateau
<b>Principal Investigators</b>	Chenggang Wang, Texas Tech Zeng Tang, College of Pastoral Science and Technology, Lanzhou University
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount Funding Agency</b>	The College of Pastoral Science provided financial support for household surveys conducted in five Tibetan autonomous prefectures of China.
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	To be determined
<b>Project Objective</b>	Understand the grazing behavior of Tibetan pastoralists; identify the socioeconomic factors associated with grassland degradation in the Tibetan plateau; and untangle the human and natural forces driving the process of grassland degradation. This pilot study is intended to pave the ground for a longitudinal study of Tibetan pastoralism and economic development.
<b>Project Summary and Accomplishments</b>	<p>The Tibetan Plateau is the source of major rivers in East Asia and Southeastern Asia, including China's Yangtze, Yellow River, and South Asia's Mekong River, Brahmaputra River, to name a few. Ninety percent of the runoff from Tibetan rivers goes through China, India, Vietnam, Cambodia, Laos, Thailand, Burma, Bangladesh, Bhutan, and Pakistan. Grassland degradation on the Tibetan plateau can lead to erosion and desertification, destabilizing water supply in those countries. Significant loss of irrigation water in Asia's major food producing regions without doubt will impact the life of many people, especially the low-income, and create turbulence in the global commodity markets.</p> <p>Many factors have been identified in the literature to explain continuous grassland degradation on the Tibetan Plateau. Ninety five percent of the over 300 Tibetan pastoralists we interviewed said their grassland had been degrading. And the two most frequent explanations they offered are droughts and overstocking. Natural scientists have studied extensively the climatic impact on grassland degradation on the Tibetan plateau, yet little is known of the socioeconomic factors behind overstocking. The survey we conducted covers over 300 households in 11 counties of five Tibetan autonomous prefectures on the Qinghai-Tibet plateau. We placed our survey sites in the upstreams of three major Asian rivers, Yangtze, Yellow River, and Mekong, and our questionnaire covered a wide range of questions regarding household demographics, religion, land use rights, herd size dynamics, and grazing</p>

practices. The dataset is the first of its kind with extensive spatial coverage and rich socio-economic information. Since the official statistics published by Chinese government are notoriously unreliable, this dataset itself is of great value in solving the puzzle of overstocking on the Tibetan plateau.

**Keywords**

Grassland degradation, pastoralism, rural development.



<b>Project Title</b>	Hydro-econometric Model for Assessment of Desired Future Conditions in the Texas High Plains
<b>Principal Investigators</b>	Zhuping Sheng, Texas AgriLife Research & Extension Center, El Paso Chenggang Wang, Texas Tech University James Bordovsky, Texas AgriLife Research and Extension Center, Lubbock
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	Under review.
<b>Funding Agency</b>	United States Dept. of Agriculture – NIFA
<b>Beginning Date</b>	Unknown
<b>Ending Date</b>	Unknown
<b>Project Objective</b>	In this proposed project we introduce an econometric approach to estimating groundwater pumpage based on the irrigator’s water use behavior. In contrast to the previous groundwater demand estimation methods described above, the econometric model provides a behavioral explanation for historic groundwater pumpage. Specifically, groundwater demand is jointly determined by economic variables such as crop returns and fixed costs associated with irrigation technology, and hydrologic constraints such as pumping lift and maximum well yield. The econometrically estimated groundwater demand model can serve several important purposes that previous methods cannot do. First, because the model explicitly describes the relation between hydrologic constraints and groundwater pumpage, it can be integrated with the existing GAM to form a closed-loop model system. The benefits of having a closed-loop hydro-econometric model are two folds: 1) the performance of each model can be improved through iterating the data exchange process; 2) in simulating future groundwater use scenarios, the model will take into account the dynamic interactions between the irrigator’s pumping behavior and changes in groundwater resource conditions. Second, because the econometric model will quantify the effects of economic variables on groundwater pumpage, it will be convenient to incorporate changes in economic conditions into scenario analysis in simulating desired future conditions.
<b>Project Summary and Accomplishments</b>	Pending, for review.
<b>Keywords</b>	Groundwater economics, future water conditions.

<b>Project Title</b>	The External Costs of Wind Farm Development on the Great Plains: Are Developers Making an Effort to Minimize These Costs?
<b>Principal Investigators</b>	Ryan Williams
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2011
<b>Ending Date</b>	October 2016
<b>Project Objective</b>	Determine the extent to which wind farm developers have selected development sites which minimize the impact on avian species and human populations.
<b>Project Summary and Accomplishments</b>	The presence of human populations on the great plains neither increases nor decreases the likelihood of wind farm development. Additionally, the presence of human populations is not correlated with the size of wind farm development. The same results hold for sage grouse and prairie chicken habitat. As development relates to habitat for migratory waterfowl, there is an increased likelihood of development in good waterfowl habitat. However, the size of development is decreasing with the presence of such habitat.
	Published in <i>The Electricity Journal</i>
<b>Keywords</b>	Wind energy, externalities, land use, avian habitats.

<b>Project Title</b>	Price Volatility and Residential Electricity Decisions
<b>Principal Investigators</b>	Ryan Williams, Eric Cardella, Brad Ewing
<b>Departmental Involvement</b>	AAEC Energy, Economics, and Law – Rawls College of Business
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	September 2015
<b>Ending Date</b>	October 2016
<b>Project Objective</b>	Determine the extent to which price volatility influences consumer demand for residential electricity energy source.
<b>Project Summary and Accomplishments</b>	Consumer response to mean prices for electricity are well understood. However, due to the changing nature of energy source mix in the portfolio of residential electricity production, the volatility of energy source prices is likely to reach the consumer. We evaluate consumer preference for “green” electricity energy sources relative to the alternative under varying price volatility scenarios using a choice-based experiment via household survey. Our results suggest that price volatility in monthly rates significantly impacts respondents’ plan choices and, specifically, their decision to adopt the green power plan. In particular, increased volatility in the green power plan reduces the likelihood of respondents choosing the green plan, while increased volatility in the conventional plan increases the likelihood of respondents choosing the green plan.
<b>Keywords</b>	Wind Energy, Externalities, Land Use, Avian Habitats
<b>Important Publications and Presentations</b>	Cardella, E., B.T. Ewing, and R.B. Williams. (2016) “Price volatility and residential electricity decisions: Experimental evidence on the convergence of energy generating source.” Energy Economics. <a href="http://dx.doi.org/10.1016/j.eneco.2016.07.012">http://dx.doi.org/10.1016/j.eneco.2016.07.012</a>

<b>Project Title</b>	Consumer Preference for Alternative Milk Packaging
<b>Principal Investigators</b>	Ryan Williams, Clinton Neill (student)
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	April 2013
<b>Ending Date</b>	October 2016
<b>Project Objective</b>	Evaluate the consumer willingness-to-pay for glass bottled milk packaging.
<b>Project Summary and Accomplishments</b>	<p>Literature exists which evaluates consumer preferences for eco-labeled products. This study investigates consumer response to a “perceived” environmental good embodied in the glass bottle. A customer intercept contingent valuation survey was conducted. The results of the study constituted the MS thesis for Mr. Neill.</p> <p>Published in <i>Journal of Agricultural and Applied Economics</i></p> <p>Neill, C.L.* and <b>R.B. Williams</b>. (forthcoming) “Consumer preference for alternative milk packaging: The case of an inferred environmental attribute.” <i>Journal of Agricultural and Applied Economics</i>.</p>
<b>Keywords</b>	Milk packaging, contingent valuation, willingness-to-pay.

<b>Project Title</b>	Economic Considerations for Rainwater Harvesting Investment
<b>Principal Investigators</b>	Ryan Williams, Texas Tech Nathan Howell, West Texas A&M University
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$7,000
<b>Funding Agency</b>	High Plains Underground Water District
<b>Beginning Date</b>	November 2016
<b>Ending Date</b>	In progress
<b>Project Objective</b>	Evaluate the factors influencing whether entities establish rainwater harvest systems and the type of systems they choose to install.
<b>Project Summary and Accomplishments</b>	A consumer survey was conducted with the opportunity for follow-up. Those respondents choosing to allow further contact were considered for installation of water quantity and quality instrumentation.
<b>Keywords</b>	Rainwater harvest, contingent valuation, water quality.

<b>Project Title</b>	Consumer Preference for Water-conserving Landscape Designs
<b>Principal Investigators</b>	Ryan Williams, Joey Young, Vikram Baliga
<b>Departmental Involvement</b>	AAEC, PSS
<b>Funding Amount</b>	\$3,000
<b>Funding Agency</b>	High Plains Underground Water District
<b>Beginning Date</b>	November 2015
<b>Ending Date</b>	In progress
<b>Project Objective</b>	Evaluate the factors influencing whether households would be willing to adopt alternative landscape designs and, if so, how much they would be willing to pay.
<b>Project Summary and Accomplishments</b>	A consumer survey was conducted involving a choice-based experiment. The results have been presented at the Annual Meetings of the Agricultural and Applied Economics Association.
<b>Keywords</b>	Landscape design, residential water conservation, choice-based experiment.

<b>Project Title</b>	Information Nudges to Induce Consumer Choice of Electricity Generated by “Green” Energy Sources
<b>Principal Investigators</b>	Ryan Williams, Eric Cardella, Brad Ewing
<b>Departmental Involvement</b>	AAEC Area of Energy, Economics and Law, Rawls College of Business
<b>Funding Amount</b>	N/A
<b>Funding Agency</b>	N/A
<b>Beginning Date</b>	January 2016
<b>Ending Date</b>	In progress
<b>Project Objective</b>	Evaluate the factors influencing whether households change their electricity plan behavior as a result of information nudges. This information will be useful to public utilities as they move toward non-conventional energy sources for electricity production.
<b>Project Summary and Accomplishments</b>	A consumer survey was conducted involving a choice-based experiment. The results are being evaluated and will be presented at an upcoming conference.
<b>Keywords</b>	Renewable energy, information nudge, choice-based experiment.

<b>Project Title</b>	Ogallala Aquifer Program
<b>Principal Investigators</b>	Ryan Williams, Donna Mitchell, Lal Almas, Bridget Guerrero, Mallory Vestal, Seong Park, Bill Golden
<b>Departmental Involvement</b>	Agricultural and Applied Economics West Texas A&M University Texas AgriLife Research Kansas State University
<b>Funding Amount</b>	\$400,000
<b>Funding Agency</b>	USDA Ogallala Aquifer Program
<b>Beginning Date</b>	January 2014
<b>Ending Date</b>	In progress
<b>Project Objective</b>	Objectives include: Analysis of other funded projects that lacked economic considerations. Evaluation of the impact of CRP on water conservation.
<b>Project Summary and Accomplishments</b>	This project is ongoing and represents efforts to improve on previously gained knowledge. The primary output is training of graduate students, reports to stakeholders, and support of other scientists in the Ogallala Aquifer region.



<b>Project Title</b>	Preparing Globally Engaged Faculty and Graduates of Agricultural Sciences to Address the Food Security and Hunger Challenges of the 21st Century
<b>Principal Investigators</b>	Sanja Zivkovic, Darren Hudson, Sukant Misra, Bridget Guerrero, Tilahun Sahlu, Steve Zeng
<b>Departmental Involvement</b>	AAEC Texas A&M, Langston State University
<b>Funding Amount</b>	\$737,870 pending
<b>Funding Agency</b>	United States Department of Agriculture
<b>Beginning Date</b>	Fall 2017
<b>Ending Date</b>	Summer 2020
<b>Project Objective</b>	The overall goal of the program is to develop an integrated, comprehensive, and multi-disciplinary initiative to globalize agricultural sciences curricula and offer experiential learning to undergraduates and graduates. Moreover, Master of International Agribusiness program, focused in the priority area of food security, will be developed.
<b>Project Summary and Accomplishments</b>	Higher education in agricultural sciences and natural resources is confronted with a myriad of grand challenges, with one of the most important being the challenge of global food security and hunger. These issues are more prevalent in developing countries, and solutions to these challenges mostly reside in those countries. If American universities and colleges desire to maintain a leadership position in addressing these challenges, institutions of higher education must proactively adjust academic programs in agricultural sciences to adapt to the new global systems. They must also prepare the next generation of agricultural scientists to effectively address the global food security challenges of the 21st century. This approach will prepare our next generation of agricultural and natural resource scientists to successfully meet the global food security challenges. Thirty students will participate in study-abroad programs to Ethiopia and twelve courses will be revised to add new materials pertaining to globally relevant topics in hunger and food security. The proposed program is multi-institutional, with Texas Tech University, West Texas A&M University, and San Angelo University (Hispanic serving institution) collaborating in this effort. Moreover, the program has a strong international component to facilitate the enhancement of faculty teaching competency and student preparedness through experiential learning.
<b>Keywords</b>	Food security, hunger challenges, Study Abroad, Ethiopia.

<b>Project Title</b>	The Impact of the Relational Trust on Performance and Leadership of Agricultural Cooperatives
<b>Principal Investigators</b>	Sanja Zivkovic, Kishor Luitel
<b>Departmental Involvement</b>	AAEC
<b>Funding Amount</b>	\$44,387 Pending
<b>Funding Agency</b>	Purdue University Center for Food and Agricultural Business
<b>Beginning Date</b>	Fall 2017
<b>Ending Date</b>	Summer 2018
<b>Project Objective</b>	The proposed research project aims to understand the factors that affect trust and members' attitudes and behaviors and determine whether there is members' trust or mistrust towards the board and managers among existing 177 agricultural cooperatives in Texas.
<b>Project Summary and Accomplishments</b>	One of the main challenges cooperatives are facing is trust among the members, board of directors and managers. Despite the existing comprehensive literature on trust in cooperatives, the relationship between trust and performance is still uncertain. The study aims to address perception and expression of trust internally, within members, board of directors and managers in agriculture cooperatives. Furthermore, it will be examined whether trust affects financial performance and leadership of these cooperatives. Findings of the study will help cooperatives and academy better understand the ways in which trust impacts decisions and relationships in these unique types of agribusinesses.
<b>Keywords</b>	Trust, agricultural cooperatives, members, directors, managers, performance.

<b>Project Title</b>	Growing The Next Generation Of Agribusiness Entrepreneurs: Advancing Economic Opportunities
<b>Principal Investigators</b>	Kelly Lange, Erica Irlbeck, Donna McCallister, Rachna Tewari, Sanja Zivkovic
<b>Departmental Involvement</b>	AAEC, AGED Texas A&M University, University of Tennessee
<b>Funding Amount</b>	\$330,560 Pending
<b>Funding Agency</b>	United States Department of Agriculture
<b>Beginning Date</b>	Fall 2017
<b>Ending Date</b>	Summer 2020
<b>Project Objective</b>	The objectives of this project are to: (1) Conduct qualitative, quantitative, and experimental research related to agribusiness entrepreneurial decision-making processes of men versus women and examine women's contribution to agribusiness entrepreneurship; (2) Educate and motivate the next generation of agribusiness entrepreneurs via distance-based university-level courses; and (3) Connect current and future agribusiness entrepreneurs through a web-based interface providing educational and research materials as well as offering opportunities for agribusiness entrepreneurs across the country and globe to interact with and learn from their peers.
<b>Project Summary and Accomplishments</b>	This project addresses the Program Area Priority of Innovation for Rural Entrepreneurs and Communities. Agribusiness entrepreneurial initiatives are critical components to strong rural economies. Increased understanding of factors impacting agribusiness entrepreneurial decision-making processes, as well as improved entrepreneurial education and extension resource availability will enable future agribusiness entrepreneurs to increase their likelihood of successful business establishment and management. This multi-institutional and multi-disciplinary integrated project develops a collaborative relationship between Texas Tech University and the University of Tennessee at Martin to conduct research in order to gain knowledge of agribusiness entrepreneurial tendencies and disseminate this knowledge through online university courses and an agribusiness entrepreneurial website.
<b>Keywords</b>	Agribusiness entrepreneurship, women, rural entrepreneurs and communities, decision-making.



## **Appendix B**

Research Funding

2016/17



**Research Expenditures (\$), Department of Agricultural and Applied Economics, Texas Tech University**

September 1, 2016 through August 31, 2017

	External														
	State					Federal			Private		GRAND TOTAL				
	Research		TOTAL	Applied	Outside	TOTAL		TOTAL		TOTAL					
Endowments	Incentive	Other	INTERNAL	Economics	TTU	CASNR	Other	STATE	USDA	USAID	FEDERAL	PRIVATE	PRIVATE		
Boonsaeng			-	18,000				18,000			-		-	18,000	
Carpio		2,525	19,735	22,260	9,720			9,720		56,938	56,938		-	88,918	
Chidmi				-	5,152			5,152			-		-	5,152	
Devadoss	9,284		40,937	50,221				-	144,438		144,438		-	194,659	
Elam				-				-			-		-	-	
Farmer				-	5,615			5,615			-		-	5,615	
Hudson	64,023		4,117	68,140		15,000		15,000	363,667		363,667	22,589	22,589	469,396	
Johnson, P	96,498	500		96,998		47,748		47,748			-	17,968	17,968	162,714	
Lange			25,956	25,956			19,718	19,718			-		-	45,674	
Lyford		565	28,580	29,145	855			855		114,566	114,566		-	144,566	
Malaga		2,011	14,950	16,961				-			-		-	16,961	
Martin				-				-			-		-	-	
Mitchell			59,742	59,742				-	25,720		25,720		-	85,462	
Murova		1,666	5,333	6,999	12,093			12,093			-		-	19,092	
Rahman				-	2,883			2,883		90,114	90,114		-	92,997	
Segarra		351	249	600	21,018			21,018			-		-	21,618	
Wang		1,090	3,483	4,573				-			-		-	4,573	
Williams		240		240				-	126,912		126,912		-	127,152	
Zivkovic		50	37,530	37,580		2359		2,359			-		-	39,939	
Gen. Operating		1,067	961	2,028	42,540			42,540			-		-	44,568	
<b>TOTAL</b>	<b>169,805</b>	<b>10,065</b>	<b>241,573</b>	<b>421,443</b>	<b>117,876</b>	<b>65,107</b>	<b>-</b>	<b>19,718</b>	<b>184,701</b>	<b>660,737</b>	<b>261,618</b>	<b>922,355</b>	<b>40,557</b>	<b>40,557</b>	<b>1,569,056</b>

\* Includes general operating expenses, as well as allocations to Principal Investigators





**Appendix C**  
PUBLICATIONS  
2016/17



## **JOURNAL ARTICLES**

Asare, E., and E. Segarra. 2017. "Explaining Individuals' Behavior Towards their Acquisition of Students' Loan in the US." *Applied Economics and Finance*, in press.

Bologna Pavlik, Jamie. 2017. "Corruption: The Good, the Bad, and the Uncertain" *Review of Development Economics* (forthcoming).

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2379061](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2379061)

Bologna Pavlik, Jamie. 2017. "Political Influence over the Number of Corruption Convictions: Evidence from Detailed Individual Case Files" *Constitutional Political Economy* (forthcoming).

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2731250](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2731250)

Bologna, Jamie. 2017. "Contagious Corruption, Informal Employment, and Income: Evidence from Brazilian Municipalities" *The Annals of Regional Science* 58(1), 67 – 118.

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Cardella, E., B.T. Ewing, and R.B. Williams. 2017. "Price Volatility and Residential Electricity Decisions: Experimental Evidence on the Convergence of Energy Generating Sources." *Energy Economics* 62:428-437. <http://dx.doi.org/10.1016/j.eneco.2016.07.012>

Cortez, O. and O. Murova. 2017. The Gears of Investment in Education: An Econometric Analysis on the Impact of Growth, Economic, and Education Indicators on Public Education Expenditure in Developed and Developing Economies. *The Journal of American Business Review, Cambridge*, 5(2).

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Estrada-Chavira, M. E., M. Portillo-Vasquez, G. Calderon-Zavala, E. Segarra, M. A. Martinez-Damian, and S. E. Medina-Cuellar. 2017. Potencialidades para el Fortalecimiento de Exportacion de Fresa de Michoacan a Estados Unidos de Norteamerica. *Revista Chapingo Serie Horticultura*, in press.

Kosse, E. and S. Devadoss. 2016. "Welfare Analysis of the U.S.-Mexican Tomato Suspension Agreement," *Journal of Agricultural and Applied Economics*, 48(4): 430-449.

- Liu, Y., C. Wang, Z. Tang, and Z. Nan. "Impacts of Farmland Transfer on Cost and Cost Efficiency of Wheat and Maize Production: An Empirical Study in Gansu, China." *Sustainability*, forthcoming 2017.
- Luckstead, J., and S. Devadoss. 2016. "Impacts of TTIP on Processed Food Trade under Monopolistic Competition and Firm Heterogeneity," *American Journal of Agricultural Economics*, 98(5): 1-14.
- Luckstead, J., and S. Devadoss. 2017. "Pareto Tails and Lognormal Body of U.S. Cities Size Distribution," *Physica*, 465(January): 573-578.
- Luckstead, J., S. Devadoss, and D. Danforth. 2017. "The Size Distributions of All Indian Cities," *Physica*, 474(May): 237-249.
- Martin, A. 2017. "The New Egalitarianism," *The Independent Review*: Vol. 22, No. 1, 15-25.
- Mitchell, D., D. Hudson, and R. Williams. 2017. "A Monte Carlo Analysis on the Impact of Climate Change on Future Crop Choice and Water Use in Uzbekistan." *Food Security: The Science, Sociology and Economics of Food Production and Access to Food*, 9: 697-709.
- Mitchell, D., D. Hudson, R.B. Williams, and P. Johnson. 2017. "A Monte Carlo Analysis on the Impact of Climate Change on Food Security and Water Availability in Uzbekistan." *Food Security*, 4: 697-709.
- Morales, S., M.T. Brashears, C. Akers, J. Malaga, and G. Wingenbach. 2017. "United States and Latin American Undergraduate Students' Knowledge, Attitudes and Perception of Global Agricultural Issues". *Journal of International Agricultural & Extension Education*, 24(2), 78-92.
- Murova, O. and A. Khan. 2017. Public Investments, Productivity and Economic Growth: A Cross-State Study of Selected Public Expenditures in the United States. *International Journal of Productivity and Performance Management*, 66(2).
- Murova, O. and A.P. Bacho. 2017. Financial Performance Analysis of Corn-based Ethanol Enterprises in the U.S. *Business and Economic Research*, 7(1).
- Neill, C.L. and R.B. Williams. 2016. "Consumer Preference for Alternative Milk Packaging: The Case of an Inferred Environmental Attribute." *Journal of Agricultural and Applied Economics* 48(3):241-256. <http://dx.doi.org/10.1017/aae.2016.17>
- Post, R., D. Hudson, D. Mitchell, P. Bell, A. Perliger, and R. Williams. 2016. "Rethinking the Water-Food-Climate Nexus and Conflict: An Opportunity Cost Approach." *Applied Economics and Policy Perspectives*, 38: 538-567.
- Rahman, S. M., R-S. Fletcher, E. Haites, and G. A. Kirkman. 2017. "The Levelized Costs of Electricity Generation by CDM Power Projects." Under revision for resubmission to *Energy* journal.

Rahman, S. M., R-S. Fletcher, E. Haites, and G. A. Kirkman, 2017. "Costs of Electricity Generation by Power Projects under the Clean Development Mechanism." Under revision for resubmission to *Energy Economics*.

Rahman, S. M. and A. Dinar. 2017. "The Value of Certified Emission Reductions: Determining Optimal Weight for Mitigation Balance across Sectors and Regions," Working Paper.

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Rahman, S. M., and R. Just. 2017. "Optimal Contracting for Cattle Feeding: A Multitask Principal-Agent Model," For the *American Journal of Agricultural Economics*.

Rahman, S. M. 2017. "Optimal Contracting for Cattle Feeding: An Assessment of Climatic Conditions." For *Applied Economics Perspectives and Policy*.

Surathkal, P., M. Dey, C. Engle, B. Chidmi, K. Singh. 2017. "Consumer Demand for Frozen Seafood Product Categories." *Aquaculture Economics & Management, Vol. 21, Issue 1*.

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Williams, R.B. and S. Zivkovic. 2016. "The External Costs of Wind Farm Development on the High Plains: Are Developers Making an Effort to Minimize These Costs?" *The Electricity Journal* 29(9):31-35. <http://dx.doi.org/10.1016/j.tej.2016.10.011>

Vorontikova, E., and S. Devadoss. 2016. "The Effects of Panama Canal Expansion of U.S. Dairy Trade Flows: West, East, and Gulf District Regions," *International Food and Agribusiness Management Review*, 19(A): 37-56.

Zivkovic, S., D. Hudson, P. Johnson, and J. Park. 2017. The Impact of Managerial Behavior on Financial Performance of Agricultural Cooperatives. *Journal of Cooperatives*. 32:1-22.

Zivkovic, S., D. Hudson, P. Johnson, and J. Park. 2016. Attitudes Shaping Cooperative Leadership: A Study on Board - Management Relationship in Cooperatives. *Journal of Agribusiness*.

## **BOOK CHAPTERS**

## **TECHNICAL REPORTS**

Castillo, M.J., and C.E. Carpio. "Beef Demand in Ecuador: Quality Perceptions and the Efficiency of the Beef Supply Chain." Final report for *Global Development Network*, Washington DC, May, 2017.

Gillum, M. B., Johnson, P., Hudson, M., Williams, R. (2016). "FieldPrint Calculator: A Tool to Evaluate the Effects of Management on Physical Sustainability" (vol. 49, pp. 26-29). *Crop Soils*.

## **PROCEEDING PAPERS**

Aborisade, O. and C.E. Carpio. "Household Demand for Meat in Nigeria." Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017.

Asare, E., E. Segarra, C. Wang, A. Mishra. "Modeling the Choice of Precision Agriculture Information Source by Cotton Producers in the Southern USA." Paper presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Ishida, K. and J. Malaga. "A Partial Equilibrium Model of Grain Sorghum in the Markets of the United States, Japan, Mexico, and Australia." Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017. <https://ageconsearch.tind.io/record/252809?ln=en>.

Lange, K. and R. Tewari. "Classroom Assessment Techniques for Student Comprehension Evaluation." Presentation at the *2017 North American Colleges and Teachers of Agriculture (NACTA) Conference*. Purdue University, West Lafayette, IN. July 1, 2017.

Lange, K., R. Tewari, and J. Brimlow. "Reflections on Classroom Assessment Techniques in Agribusiness Courses." Presentation included in organized symposium, "Examining Teaching and Learning in Agribusiness and Agricultural Economics across Multiple Institutions: Classroom Assessments and Other Innovative Strategies." *Western Agricultural Economics Association Conference*, Lake Tahoe, NV. July 10, 2017.

Liu, B. and D. Hudson. "The Export Elasticity of Demand for Cotton." Paper presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Mitchell, D, P. Johnson, and T. Black. 2017. "Fieldprint Calculator: A Sustainability Analysis in the Texas High Plains." Paper presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Nakakeeto, G., S. M. Rahman, and J. Malaga. "International Trade and the GATT/WTO: Has Membership Benefitted Africa?" *Proceedings of the Centre for the Study of African Economies (CSAE) Annual Conference on Economic Development in Africa*, Oxford University, March 2017. Available at: [https://editorialexpress.com/cgi-bin/conference/download.cgi?db\\_name=CSAE2017&paper\\_id=579](https://editorialexpress.com/cgi-bin/conference/download.cgi?db_name=CSAE2017&paper_id=579)

Nakakeeto, G., J. Malaga, and S. Rahman. "The EU Membership Package: Full or Partial Integration?" Poster presented at the *Annual Meetings of the Agricultural and Applied Economics Association*. Chicago, IL, August, 2017.

Nakakeeto, G., J. C. Pope, S. M. Rahman, and E. Asare. "The Impact of Highway Noise Barrier Walls on Housing Prices in the Neighborhood." Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017. Available at: <http://ageconsearch.umn.edu/record/252857>

Pate, J., D. Mitchell, and W. Keeling. "Economic Advantages of Soil Moisture Probes on the Texas Southern High Plains." Poster presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Rono, P. K., S. M. Rahman, and B. Chidmi. "An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximate Almost Ideal Demand System (LA-AIDS)." Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017.  
. Available at: <http://ageconsearch.umn.edu/record/252786>

Sandoval, L., and C.E. Carpio. "Measuring Prevalence, Profiling and Evaluating the Potential of Policy Impacts using Two Food Security Access Indicators in Guatemala. Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017.

Shibia, M., S. M. Rahman, and B. Chidmi. "Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System." Selected paper and published in *Proceedings of the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association*, Mobile, AL, February 4-7, 2017. Available at: <http://ageconsearch.umn.edu/record/252789>.

Siame-Namini, S. and D. Hudson. "The Impacts of Energy Prices and Exchange Rates on Cotton Price." Paper presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Wade, E. and D. Hudson. "The Evolution of the Cotton Ginning Industry." Paper presented and published in the *Proceedings of the Beltwide Cotton Conference*, Dallas, TX, January 4-6, 2017.

Zivkovic, S., D. Hudson, P.N. Johnson, J.L. Park. "A Study on Attitudes Shaping Cooperative Leadership." Selected for presentation at Symposium, College Station, TX, March 30, 2017.

## **ABSTRACTS**

Asare, E. and E. Segarra. 2017. Adoption and Extent of Adoption of Georeferenced Grid Soil Sampling Technology by Cotton Producers in the Southern US. Abstract in Journal of Agricultural and Applied Economics. Selected for presentation at the annual meeting of the Southern Agricultural Economics Association, February 4-7, Mobile, Alabama.

Bologna, J. "Corruption: The Good, the Bad, and the Uncertain" *Review of Development Economics* (forthcoming). [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2379061](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2379061)

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Dhakal, C., K. Lange, M. Parajulee, and E. Segarra. 2017. Stochastic and Deterministic Cotton Yield Response to Nitrogen. Abstract in *Journal of Agricultural and Applied Economics*. Poster selected for presentation at the annual meeting of the Southern Agricultural Economics Association, February 4-7, Mobile, Alabama.

Lange, K. and R. Tewari. "Classroom Assessment Techniques for Student Comprehension Evaluation." *NACTA Journal* 61(Supp 1):8.

Mohammed, R. (Presenter & Author), O. Murova, B. Chidmi, Southern Association of Agricultural Scientists, Mobile, Alabama, "Demand for yogurt in the trend of manufacturer brand and organic information," Regional, peer-reviewed/refereed, published in proceedings. (February 6, 2017).

Murova, O. and A. Bacho. Southern Association of Agricultural Scientists, Mobile, Alabama, "Analysis of financial characteristics of corn-based ethanol enterprises in the United States," Regional, peer-reviewed/refereed, published in proceedings. (February 7, 2017).

## **OTHER PUBLICATIONS & PROFESSIONAL ACTIVITIES**

### **THESES AND DISSERTATIONS**

Cortez, Omar D. "The Gears of Investment in Education: An Analysis of How Growth, Economic, and Education Indicators Impact Public Education Expenditure in Developed and Developing Countries." Thesis. Chair: Dr. Olga Murova. December 2016.

Eaves, Karalyn L. "The Costs and Benefits of Yield and Minimum Income Insurance to Rural Agricultural Households in Ethiopia." Thesis. Chair: Dr. Darren Hudson. May 2017.

Ishida, Kazuyoshi. "Why Has the Market Share of U.S. Grain Sorghum Declined in the Japanese Market?" Dissertation. Chair: Dr. Jaime Malaga. August 2017



March, Raymond J. "Self-Regulation in the Pharmaceutical Market." Dissertation. Chair: Dr. Adam Martin. May 2017.

Paz Portal, Ximena A. "The Effects of Quinoa's Price Changes in the Welfare of Bolivian Households." Thesis. Chair: Dr. Carlos Carpio. August 2017.

Sandoval-Mejia, Luis A. "Essays in Food Security in Latin America." Dissertation. Chair: Dr. Carlos Carpio. August 2017.

Wang, Haiyan. "China's Grain Sorghum Import Demand: Measuring the Effect of Policies on Price Relationships and Future Trends." Dissertation. Dr. Jaime Malaga. August 2017.



**Appendix D**

PRESENTATIONS THAT WERE NOT  
PUBLISHED IN ANY OUTLET

2016/17



Aboohamidi, A. and D. Hudson. "The Impact of the Financial Crisis on the Wealth of the Farm and Nonfarm Households in the United States." Paper Presented to the 2017 Southern Agricultural Economics Association Annual Meetings, Mobile, AL, February 2017.

Akhundjanov, S., S. Devadoss, and J. Luckstead, "Size Distribution of National CO2 Emissions," Presented at the Western Economic Association International, San Diego, June 2017.

Boonsaeng, Tullaya, and Carlos E. Carpio. "Budget Allocation Patterns of American Household across Income level in the 21 Century" Selected Paper at the annual meetings of the Annual Meetings of the American Agricultural and Applied Economics Association, Chicago, IL July 30-August 1, 2017.

Devadoss, Stephen and Jeff Luckstead, "A Dynamic General Equilibrium Analysis of Immigration Policies and Agricultural Labor Markets," USDA-NIFA AFRI Project Directors Workshop, Economics, Markets, and Trade, Boston, 2016.

Devadoss, S., and J. Luckstead, "Implications of CETA for Canadian, EU, and US Processed Food Markets," Presented at the European Association of Agricultural Economists Congress, Parma, Italy, August-September, 2017.

Devadoss, S., and J. Luckstead, "Effects of U.S. Policies on Illegal Immigration," Presented at the Agricultural and Applied Economics Association, Chicago, July-August, 2017.

Devadoss, S., and J. Luckstead, "Pareto Tails and Lognormal Body of U.S. Cities Size Distribution," Presented at the Western Economic Association International, San Diego, June, 2017.

Devadoss, S., and J. Luckstead, "U.S. Immigration Policies," Paper presented at the Dept. of Agricultural Economics, Louisiana State University, September, 2017.

Devadoss, S., and J. Luckstead, "U.S. Immigration Policies," Paper presented at the Dept. of Agricultural Economics, New Mexico State University, March, 2017.

Devadoss, S., and J. Luckstead, "A Dynamic General Equilibrium Analysis of Immigration Policies and Agricultural Labor Markets," USDA-NIFA AFRI Project Directors Workshop, Economics, Markets, and Trade, Boston, August, 2016.

Hovhannisyan, V., and S. Devadoss, "Effects of Urbanization on Food Demand in China," Presented at the Agricultural and Applied Economics Association, Chicago, July-August, 2017.

Hudson, D., "The Impact of Agriculture on the South Plains," Farm Bill Prospects, Lynn and Lubbock County Farm Bureau, Lubbock, TX, (Regional). August 17, 2017.

Hudson, D., and E. Wade, "The Evolution of the Texas Cotton Industry," Texas Cotton Ginners Association Annual Meeting, Ft Worth, TX, (State). June 18, 2017.

Hudson, D., "The Outlook for the US Cattle and Feed Markets," Hi-Pro Feeds Annual Sales Meeting, Ruidoso, NM, (National). June 8, 2017.

Hudson, D. (Presenter & Author) and E. Wade, "The Future of the Texas Cotton Ginning Industry," Texas Independent Cotton Ginners Association Annual Meeting, San Antonio, TX, (State). March 2017.

Hudson, D., "Trends in Competitiveness of Delta Agriculture." 44th Annual Delta Ag Expo, January 2017.

Hudson, D., "2016 Cotton Outlook." Bankers Agricultural Credit Conference, Lubbock, TX, November 4, 2016.

Hudson, D., "2016 Cotton Flow Meeting." Cotton Flow Meeting, Texas Cotton Association, Lubbock, TX, September 16, 2016.

Hudson, D., "Water Constraints and Innovation in Agriculture", Crop Quest Annual Consultant Meeting, Wichita KS, November 9, 2016.

Johnson, P., "Is Winter Coming?" Bankers Agricultural Credit Conference, Lubbock, (Regional). November 4, 2016.

Kosse, E., and S. Devadoss, "Welfare Effects of the U.S.-Mexican Tomato Agreement," Presented at the Southern Agricultural Economics Association, Mobile, AL, February 2017.

Luckstead, J., and S. Devadoss, "Modeling the Farm-Level Relationship between Idiosyncratic Risk and Yield for Policy Analysis," Presented at the Dept. of Agricultural and Applied Economics, Texas Tech University, September 2016.

Luckstead, J., and S. Devadoss, "Implication of 2014 Farm Policies for Wheat Production," Presented at the American Agricultural and Applied Economics Association, Boston, August 2016.

Luckstead, J., and S. Devadoss, "Implications of Transatlantic Trade and Investment Partnership and Trans-Pacific Partnership for Food Processing Sector," USDA-NIFA AFRI Project Directors Workshop, Economics, Markets, and Trade, Boston, August 2016.

Luckstead, J., and S. Devadoss, "Farm-Level Crop Insurance Analysis," Presented at the Western Agricultural Economics Association, Lake Tahoe, July 2017.

Luckstead, J., and S. Devadoss, "Implication of 2014 Farm Policies for Wheat Production," Presented at the American Agricultural and Applied Economics Association, Boston, August 2016.

Luitel, K., S. Adhikari, A. Benfield, A. Wright, D. Hudson, and T. Knight. "Believing Yourself: Perceived Risk Taking Behavior and Risk Management Decision of Cotton Farmers' in Texas."

Selected Paper Presentation, American Agricultural Economics Association Annual Meeting, Chicago, IL, August 2017.

Malaga, J. "Trends in Preferential Trade Agreements in Latin America." Presentation at the Annual Meetings of the Agricultural and Applied Economics Association. Chicago, IL, August 2017.

Malaga, J. "Performance and Challenges for US Free Trade Agreements with Latin America". Session organizer and presenter. Annual Meetings of the Agricultural and Applied Economics Association. Chicago, IL, August 2017.

Martin, Adam. "Reading by Example" (Panel Presentation) at the Association of Private Enterprise Education Annual Meeting, Lahaina, HI, April 2017.

Martin, Adam. "Voice, Exit and Non-Domination." Presented at the Association of Private Enterprise Education Annual Meeting, Lahaina, HI, April 2017.

Martin, Adam. "Spillovers from Voice and Exit." Presented at the Public Choice Society Annual Meeting, New Orleans, Louisiana, March 2-4, 2017.

Martin, Adam. "Spillovers from Voice and Exit." Southern Economic Association Annual Meeting, Mobile, Alabama, February 4-7, 2017.

Mitchell, D., A. Cantu, C. West, D. Rudnick. 2017. "Effects of Irrigation Technology and Management on WUE and Crop Yield: A Meta-Analysis". Presentation at the 2017 Universities Council on Water Resources (UCOWR) Annual Meeting, Ft. Collins, Colorado, June 13-15.

Mohammed, Rezgar, Olga Murova, and Benaissa Chidmi. "Demand for Yogurt in the Trend of Manufacturer Brand and Organic Information." Southern Agricultural Economics Association, 2017 Annual Meeting, Mobile, Alabama, February 4-7, 2017.

Murova, O. (Presenter & Author), Bacho, A. (Author Only), Southern Association of Agricultural Scientists, Mobile, Alabama, "Analysis of financial characteristics of corn-based ethanol enterprises in the United States," Regional, peer-reviewed/refereed, published in proceedings, February 7, 2017.

Pavlik, Jamie. "Does the Effect Corruption has on Income Inequality Depend on the Informal Sector?" Presented at the Public Choice Society, New Orleans, LA, March 2017.

Pavlik, Jamie. "Is the Devil in the Shadow? An Analysis of the Direct and Indirect Effects of Institutions on Income." Presented at the Association of Private Enterprise Education, Lahaina, HI, April 2017.

Pavlik, Jamie. "Does it Pay to Live in the Battleground? The Effect of Divide the Dollar Politics on Income." Presented at the Western Economic Association International, San Diego, CA, June 2017.

Pavlik, Jamie. "Corruption and Well-Being", Texas Tech University, Free Market Institute, The Economic Way of Thinking – A Seminar for High School Aged Students. Invited speaker. 2017.

Pavlik, Jamie. "The World After Brexit and Trump." Austrian Economics Center, Panelist, in Nicosia, Cyprus; Athens, Greece; Larisa, Greece; Thessaloniki, Greece; and Komotini, Greece, 2017.

Rahman, Shaikh M. "The Levelized Costs of Electricity Generation by CDM Power Projects." Invited paper presented at the 2014 Conference of the Association for Economic and Development Studies on Bangladesh (AEDSB), Dhaka, Bangladesh. December 21, 2016.

Rahman, Shaikh M. "An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximate Almost Ideal Demand System (LA-AIDS)." Selected paper presented at the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association, Mobile, Alabama. February 5, 2017.

Rahman, Shaikh M. "Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System." Selected paper presented at the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association, Mobile, Alabama. February 5, 2017.

Rahman, Shaikh M. "The Impact of Highway Noise Barrier Walls on Housing Prices in the Neighborhood." Selected paper presented at the 49<sup>th</sup> Annual Conference of the Southern Agricultural Economic Association, Mobile, Alabama. February 6, 2017.

Rahman, Shaikh M. "International Trade and the GATT/WTO: Has Membership Benefitted Africa?" Selected paper presented at the 2017 Annual Conference on Economic Development in Africa, organized by the Centre for the Study of African Economies (CSAE), Oxford. March 20, 2017.

Rono, P. Kibet, Shaikh M. Rahman, and Benaissa Chidmi. "An Analysis of Demand for Roots and Tubers in Kenya using the Linear Approximation Almost Ideal Demand System." Southern Agricultural Economics Association, 2017 Annual Meeting, February 4-7, 2017, Mobile, Alabama.

Rudnick, D., S. Irmak, C. Ray, J. Schneekloth, M. Schipanski, I. Kisekka, J. Aguilar, D. Mitchell, C. West, T. Marek, and D. Porter. "Deficit Irrigation Management of Corn in the High Plains: A Review". Presented at the 29<sup>th</sup> Annual Central Plains Irrigation Conference, Burlington, Colorado, February 21-22, 2017.

Shibia, Mumina, Shaikh M. Rahman, and Benaissa Chidmi. "Consumer Demand for Meat in Kenya: An Examination of the Linear Approximate Almost Ideal Demand System." Presented at the Southern Agricultural Economics Association, 2017 Annual Meeting, Mobile, Alabama, February 4-7, 2017.



Siami-Namini, S. and D. Hudson. "U.S. Monetary Policy and Commodity Price Fluctuations." Paper presented to the Southern Economics Association Annual Meetings, Washington, DC, November 19-22, 2016.

Siami-Namini, S. and D. Hudson. "Volatility Spillover between Oil Prices, U.S. Dollar Exchange Rates and International Agricultural Commodities Prices." Paper Presented to the 2017 Southern Agricultural Economics Association Annual Meetings, Mobile, AL, February 2017.

Siami-Namini, S., D. Hudson, and A. Trindade. "Commodity Price Volatility and U.S. Monetary Policy: The Overshooting Hypothesis of Agricultural Commodity Prices." Selected Poster Presentation, American Agricultural Economics Association Annual Meeting, Chicago, IL, August 2017.

Wang, C. "The Economic Models of Renewable and Nonrenewable Resources." Invited Lectures, Huazhong Agriculture University, Wuhan, China, December 12-16, 2016..

Wang, C., Z. Tang, and Z. Nan. "The Tibetan Gold Rush and its Impacts on the Tibetan Pastoral Society." Invited Lecture, Huazhong Agriculture University, Wuhan, China, December 17, 2016.

Wang, C., Z. Tang, and Z. Nan. "The Tibetan Gold Rush and its Impacts on the Tibetan Pastoral Society." Invited Lecture, Chongqing University of Science and Technology, Chongqing, China, December 20, 2016.

Wang, C., Z. Tang, and Z. Nan. "The Tibetan Gold Rush and its Impacts on the Tibetan Pastoral Society." Invited Lecture, Lanzhou University, Lanzhou, China.

Wang, C. "The Externality Problems in Pollution Control." Invited Lectures, June 27, 2016. Northeastern University, Shenyang, China, December 28, 2016.

Zhao, X., and S. Devadoss, "Endogenous Cartel Formation with Free Market Entry and Firm Heterogeneity," Presented at the Allied Social Science Associations, Chicago, January 2017.



**Appendix E**

RESEARCH ADVISORY  
COMMITTEE AGENDA

2016/17



## **Agenda for AAEC Research Advisory Committee Meeting November 14, 2016**

- 8:00 a.m. Convene in AAEC Conference Room (Ag. Sci. 302)
- 8:15-8:45 Study Abroad and International Programs  
Dr. Carlos Carpio and Dr. Jaime Malaga
- 8:45-9:15 International Center for Agricultural Competitiveness  
Dr. Darren Hudson
- 9:15-9:30 Break
- 9:30-10:00 Free Market Institute  
Drs. Eduardo Segarra, Adam Martin and Jamie Bolonga Pavlik
- 10:00-10:30 Water Economics Research Update & TAWC activities  
Drs. Donna Mitchell McCallister and Ryan Williams
- 10:30- 11:15 Meet with students, research staff working on research projects (Ag. Sci. 302)
- 11:15-11:30 Break
- 11:00-12:00 Brief Review of Past Year's Activities  
Dr. Phillip Johnson
- Noon Lunch, Student Union, Lubbock Room, Advisory Committee, PI's, Dean's Office, Mark Wallace – NRM (invited), Eric Bernard– LA (invited), Michael Orth – AFS (invited), Scott Burris – AEC (invited), and Eric Hequet – PSS (invited)
- 1:15 p.m. Reconvene in AAEC Conference Room (Ag. Sci. 302). Executive committee meeting - AAEC Research Advisory Committee (excluding department and college representatives).
- 2:00 p.m. Recommendations, etc., provided to the department; faculty encouraged to attend.
- 2:30 p.m. Adjourn



**Appendix F**

THORNTON INSTITUTE ACTIVITIES

2016/17





FORTY-FORTH ANNUAL  
BANKERS AGRICULTURAL CREDIT CONFERENCE  
INTERNATIONAL CULTURAL CENTER  
TEXAS TECH UNIVERSITY  
LUBBOCK, TEXAS

NOVEMBER 4, 2016

- 7:30 - 8:30 a.m.     **Registration**
- 8:00 - 8:05         **General Session**  
Presiding: Mr. Chuck Senter  
President  
Bankers Agricultural Credit Conference
- 8:05 - 9:00         **Legal and Regulatory Update**  
Mr. John Heasley  
General Counsel  
Texas Bankers Association  
Austin
- 9:00 - 9:30         **Agricultural Outlook for Cotton 2017**  
Dr. Darren Hudson  
Combest Chair of Agricultural Competitiveness  
Director of the International Center for Agricultural Competitiveness  
Department of Agricultural and Applied Economics  
Texas Tech University  
Lubbock
- 9:30 - 10:00       **Agricultural Outlook for Cattle 2017**  
Mr. Ross Wilson  
President and CEO  
Texas Cattle Feeders Association  
Amarillo
- 10:00 - 10:30      **Break**
- 10:30 - 11:30      **Economic Outlook**  
Dr. Jeff Mercer  
Senior Associate Dean  
I. Wylie and Elizabeth Briscoe Chair in Finance  
Director, Institute for Banking and Financial Studies – Finance  
Rawls College of Business  
Texas Tech University  
Lubbock

11:30

**Lunch**

Hall of Nations

Luncheon Speaker

Mr. Jodey Arrington  
Candidate for Texas District 19  
U.S. House of Representatives  
Lubbock

Presentation of the 2016 Distinguished Banking Service Award

1:30 - 2:30

**Is Winter Coming?**

Dr. Phillip Johnson  
Charles C. Thompson Chair of Agricultural Finance  
Director of the Thornton Agricultural Finance Institute  
Department of Agricultural and Applied Economics  
Texas Tech University  
Lubbock

2:30 - 3:00

**Agricultural Outlook for Grains 2017**

Dr. Mark Welch  
Associate Professor and Extension Economist  
Texas A&M AgriLife Extension  
College Station

3:00

**Adjourn**

BANKERS AGRICULTURAL CREDIT CONFERENCE  
OFFICERS AND DIRECTORS  
2016

**President:**

**Mr. Chuck Senter**

Area President  
First Bank and Trust  
Tahoka

**Directors:**

**Mr. Chad Currington**

Senior Vice President  
City Bank  
Lubbock

**Mr. Clint Cryer**

Senior Vice President  
Ag Lending Manager  
PlainsCapital Bank  
Lubbock

**Mr. Rick Boyd**

Executive Vice President  
Regional Manager  
First United Bank  
Lubbock

**Mr. Brady Yeary**

President - Perryton  
FirstBank Southwest  
Perryton

**Mr. Tim Cooper**

President  
First State Bank  
Spearman