**NC-1177 2016 Accomplishments:**

Agricultural and Rural Finance Markets in Transition has had another productive year. Member activities continue to focus on the project’s four objectives. The objectives and activities related to each are provided below.

1. Investigate capital structure, financial performance, and investment strategies of firms producing renewable energy in context of long term climate change. Implications of these findings for agriculture and rural communities will be delineated.

Members from a number of institutions explored important issues in climate change as it relates to agricultural productions. Cornell University evaluated temperature based application methods while risk preferences were studied by colleagues at Kansas State University.

1. Identify financial institutions and services that benefit farmers and rural communities and expand agricultural markets, promote growth and trade in developing countries.

Multiple universities completed studies related to growth and trade of agricultural products in developing countries. The selected publication list highlights many studies by Louisiana State University, Arizona State University and Cornell University on agricultural production in China, India, and the Philippines.

1. Examine the impact of recent fluctuations in capital and commodity markets on the financial performance, credit availability, real estate values, and capital structure of farms, agribusinesses, and lenders in urban and rural communities.

Multiple universities have examined lender relationships and long term financial health of U.S. farms in 2016 due to the changing financial environment for agricultural producers. Studies at Ohio State University, University of Georgia, and Kansas State University have focused on rural credit availability, agricultural mortgage portfolios as well as credit and land availability for beginning farmers.

1. Evaluate the management strategies, capital needs, and policy impacting the financial performance and long-term sustainability of firms in the food and agribusiness sector.

NC-1177 members and researchers investigated the long-term sustainability of agribusiness firms. The various issues examined include trends in land values and cash rents, farm labor, technology adoption, management responses to changing lending environments, and fluctuating net farm incomes due to volatile commodity prices.

The following provides a list of more general accomplishments for 2016. Also included with the annual report is a list of selected publications and presentations from project members in 2016.

Project members have also served in numerous leadership roles within the agricultural economics profession. In 2016, members coordinated abstract reviews for multiple national and regional conferences, served as peer reviewers for scholarly journals and experts for major grant reviews.

**Impacts:**

* Examined the impact of beginning farmer credit availability
* Examined issues related to microfinance in developing countries
* Examined the issues surrounding farm labor markets in organic production
* Estimated the impact of publicly subsidized insurance on agricultural land values
* Examined the determination of agricultural land values as they relate to agricultural production and demographics
* Explored the relationship between energy prices and agricultural commodity prices
* Evaluated debt use by U.S. farm businesses
* Evaluated management strategies for farm financial performance
* Examined the impact of asset purchases on farm profitability and risk preferences
* Studied the determinants of farm exits
* Explored the effects of off-farm employment on financial leverage positions

Journal articles

1. Cao, Ying (Jessica), Calum Turvey , Jiujie Ma, Rong Kong, Guangwen He, Jubo Yan , "Incentive mechanisms, loan decisions and policy rationing: A framed field experiment on rural credit", Agricultural Finance Review, (2016) Vol. 76 Iss: 3, pp.326 – 347
2. DeVuyst, E., D. Doye, K. Raper and D. Lalman. “Proven Strategies to Maximize Profits to Cow-Calf Producers”. Journal of the National Association of County Agricultural Agents. Volume 9, Issue 1, June 2016.
3. Dodson, Charles B., and Bruce L. Ahrendsen. 2016. “Beginning Farmer Credit and the Farm Service Agency’s Role.” *Choices* 31(2): 1-9. Available at: <http://www.choicesmagazine.org/UserFiles/file/cmsarticle_497.pdf>.

1. Dodson, Charles B., and Bruce L. Ahrendsen. 2016. “Structural Change Implies Unique Role for Federal Credit.” *Choices* 31(1): 1-10. Available at: <http://www.choicesmagazine.org/UserFiles/file/cmsarticle_498.pdf>.

1. Doye, D. “Are the Good Times Really Over?” Introduction to Agricultural Finance Theme as Guest Editor. Choices online magazine. First Quarter 2016. <http://www.choicesmagazine.org/choices-magazine/theme-articles/farm-fiance-theme-are-the-good-times-really-over/theme-overview-are-the-good-times-really-over>
2. Dressler, Jonathan B. and Loren W. Tauer (2016) Estimating Expected and Unexpected Losses for Agricultural Mortgage Portfolios. *American Journal of Agricultural Economics* 98(5): 1470–1485.
3. Escalante, C.L., Y.Wu, and X. Li. “Organic Farms’ Seasonal Farm Labor Sourcing Strategies in the Pre-“Arizona” Mode of Immigration Control.”  *Applied Economics Letters, Available online at* [*http://www.tandfonline.com/eprint/Ygebe6E4MXzPRDXhaZbb/ full#.VcObYk13upo*](http://www.tandfonline.com/eprint/Ygebe6E4MXzPRDXhaZbb/%20full#.VcObYk13upo)*;*23,5 (2016): 341-346.
4. Karagiannis N., H. Assa, A. A. Pantelous, and C. G. Turvey, (2016) “Modelling and pricing of catastrophe risk bonds with a temperature-based agricultural application” Quantitative Finance  Vol. 16 , Iss. 12,2016

1. Katchova, A.L. and M.C. Ahearn. “Growth Rates in Land Ownership and Leasing: Implications for Young and Beginning Farmers.” *Applied Economic Perspectives and Policy* 38,2 (2016):334-350.
2. Khanal, A.R., Ashok K. Mishra, and W. Keithly. “Heterogeneity in Food Demand among Rural Indian Households: The Role of Demographics.” *Canadian Journal of Agricultural Economics,* Vol. 64(3), 2016: 517-544.
3. Khanal, A.R., and Ashok K. Mishra. “Financial Performance of Small Farm Business Households: The Role of Internet.” *China Agricultural Economics Review*, Vol. 8(4), 2016: 553-571.
4. Koirala, K.H., Ashok K. Mishra, and S. Mohanty. “Impact of Land Ownership on Productivity and Efficiency of Rice Farmers: The Case of the Philippines.” *Land Use Policy*, Vol. 50, 2016: 371-78.

1. Kropp, J.D., G.J. Power. 2016. “Asset Fixity and backward-bending investment demand functions.” *Research in International Business and Finance* 38:151-160.
2. Kuethe, T. 2016. “The risk and return of farm real estate and the “bad data problem.” *Agricultural Finance Review* 76(1): 140-150.
3. Li, X. and C.L. Escalante. “Determinants of Financial and Temporal Endurance of Commercial Banks during the Late 2000s Recession:  A Split Population Duration Analysis of Bank Failures.”  *Journal of Applied Finance and Banking, 6,4 (2016):*

1. Mishra, Ashok K., Kumar, A., P. K. Joshi, and A. D’Souza. “Impact of Contracts in High Yielding Varieties Seed Production on Profits and Yield: The Case of Nepal.” *Food Policy* Vol. 62 (July), 2016: 110-121.
2. Mishra, Ashok K., and H.S. El-Osta. “Determinants of Decisions to Enter the U.S. Farming Sector.” *Journal of Agricultural and Applied Economics*, Vol. 48(1), 2016:73-98.

1. Mishra, Ashok K., and J. M. Gillespie. “Hiring Preferences for Non-Immigrant Labor: The Case of the Seafood Professing Industry.” *Marine Resource Economics*, Vol. 31(1), 2016: 83-99.
2. Norton, M. Gert-Jan van Sprundel, Calum G. Turvey, and Miranda P.M. Meuwissen (2016) Applying weather index insurance to agricultural pest and disease risks. International Journal of Pest Management  Vol. 62 , Iss. 3.
3. Paulson, N.D., G.D. Schnitkey, J. Coppess, and C. Zulaf. 2016. “An overview of the decisions and changes made in the 2014 Farm Bill.” *Journal of the ASFMRA:* 181-194.
4. Sukcharoen, Kunlapath and David J. Leatham “Mean-Variance Mean-Expected Shortfall Models: An Application to Wheat Variety Selection.” *Journal of Agricultural and Applied Economics*, 48(No.2, May 2016):148:172.
5. Sukcharoen, Kunlapath, and David J. Leatham.  “Dependence and Extreme Correlation among US Industry Sectors.”  *Studies in Economics and Finance*, 33(No. 1, 2016):26-49.

1. Turvey, C.G and P. Wongsasutthikul (2016) An Autoregressive Approach to Modelling Commodity Prices as a Quasi-Fractional Brownian Motion. Agricultural Finance Review, 76(1): In Press.

1. Wolf, C.A., M.W. Stephenson, W.A. Knoblauch, and A.M. Novakovic. 2016. “Dairy farm financial performance: firm, year, and size effects.” *Agricultural Finance Review*: 76(4): 532-543.
2. Wu, Y., C.L. Escalante, and X. Li. “Business Maturity and Technical Efficiency:  Evidence from Chinese and Indian Microfinance Institutions”.” *Enterprise Development and Microfinance.*27,2 (2016):97-114.
3. Yeager, E.A. and M.R. Langemeier. 2016. “Economic Efficiency Adjusted for Risk Preferences.” *Applied Economics* DOI: 10.1080/00036846.2016.1223819.

1. Yeager, E.A. and M.R. Langemeier. (forthcoming 2016). “Risk Adjusted Cost Efficiency Indices.” *International Journal of Agricultural Management.*

1. Zhang, Yuehua, Xi Zhu, and Calum G. Turvey (2016) On the Impact of Agricultural Livestock Microinsurance on Death-Loss, Production and Vaccine Use: Observations from a Quasi-Natural Experiment in China. The Geneva Papers, 2016, 00, (1–19). In Press
2. Zhang, Wendong, and Zachariah Beek. 2016. [Trends and Determinants of U.S. Farmland Values since 1910: Evidence from the Iowa Land Value Survey](http://www2.econ.iastate.edu/faculty/zhang/publications/peer-reviewed-articles/zhang_beek_farmpolicy_land_values_1910_2015.pdf). Farm Policy Journal, 13(2)

Outreach Articles

1. Hart, Chad and Wendong Zhang. 2016. [Crude Oil Prices and US Crop Exports: Exploring the Secondary Links between the Energy and Ag Markets](http://www2.econ.iastate.edu/faculty/zhang/publications/outreach-articles/hart-zhang-2016-oil-prices-and-US-crop-exports.pdf). *Agricultural Policy Review*, Center for Agricultural and Rural Development. Iowa State University. Spring 2016.
2. Zhang, Wendong and Mike Duffy. 2016. [Comparing the Stock Market and Iowa Land Values: A Question of Timing](http://www2.econ.iastate.edu/faculty/zhang/publications/outreach-articles/zhang-duffy-2016-comparing-stock-market-and-iowa-land-values.pdf). *Ag Decision Maker Newsletter*, Iowa State University Extension and Outreach. April 2016.
3. Zhang, Wendong. 2016. [How Tight is the Iowa Farmland Supply?](http://www2.econ.iastate.edu/faculty/zhang/publications/outreach-articles/zhang-2016-agdm-how-tight-is-iowa-farmland-supply.pdf), *Ag Decision Maker Newsletter*, Iowa State University Extension and Outreach, October 2016

Presentations

1. Ahrendsen, Bruce L. 2016. “U.S. Farm Structure and Finance” Invited lecture, International MBA in Agribusiness, Warsaw University of Life Sciences, Warsaw, Poland, June 2.

1. Ahrendsen, Bruce L., Bruce L. Dixon, Charles B. Dodson, Diana Danforth, and Nicole McMinn. 2016. “ARMS Respondent Errors: A Case of Farm Service Agency Loans.” In *AgEcon Search, Research in Agricultural and Applied Economics*, published May 25 at: [purl.umn.edu/235908](http://purl.umn.edu/235908): 26 pp. Selected paper presented at the Agricultural and Applied Economics Association annual meeting, Boston, Massachusetts, July 31-August 2.
2. Chaudhry, M.I., A.L. Katchova, and M.J. Miranda.  “Examining the Pricing Mechanics in the Poultry Value Chain – Empirical Evidence from Pakistan.” Selected Paper, Agricultural and Applied Economics Association Meeting, Boston, MA, 31 July - 2 August 2016.
3. Countryman, A.M., A. Bonanno, J.C. Hadrich. 2016. “A COOL Repeal: Potential Outcomes of U.S. Mandatory Country of Origin Labeling Requirements on Dairy and Beef Sectors.” Selected paper presented at the 2016 Agricultural and Applied Economics Association annual meetings, Boston, MA.
4. Dinterman, R., A.L. Katchova, and J.M. Harris. “Financial Stress and Farm Bankruptcies in U.S. Agriculture.” Selected Paper, NC1177 Agricultural Finance Research Group, 3-4 October 2016, Denver, CO.
5. Featherstone, A.M. and E.A. Yeager. “Maintaining Working Capital and Restructuring Debt.”  Presented at the Agricultural Agent Update, Ness County Fairgrounds, Ness City, KS, November 16, 2016.

1. Featherstone, A.M. and E.A. Yeager. “Maintaining Working Capital and Restructuring Debt.”  Presented at the Agricultural Agent Update, Lyon County Fairgrounds, Emporia, KS, November 15, 2016.
2. Harris, J. M., and Ashok. K. Mishra. “U.S. Farm Transition and the Process of Transferring Land Ownership.” Selected Paper presented at the 2016 Agricultural & Applied Economics Association (AAEA) Annual Meetings, Boston, MA, July 31-Aug. 2, 2016.
3. Janzen, J.P. and K.B. Fuller. “The Price of Farmland: Does Organic Certification Matter?,” NC-1177 Annual Meeting, Denver, CO, October 4, 2016.
4. Janzen, J.P. and M.K. Adjemian. “Estimating the Location of World Wheat Price Discovery,” AAEA Annual Meeting, Boston, MA, August 2, 2016.
5. Joo, H., and Ashok. K. Mishra. “Impact of Off-Farm Labor Supply and Government Subsidy on Korean Farmland Value.” Selected Paper presented at the 2016 Agricultural & Applied Economics Association (AAEA) Annual Meetings, Boston, MA, July 31-Aug. 2, 2016.
6. Katchova, A.L., R. Dinterman, and J.M. Harris. “Financial Stress and Farm Bankruptcies in U.S. Agriculture.” Invited Presentation, Ag Conference, Federal Reserve Bank of Chicago, 29 November 2016, Chicago, IL.
7. Katchova, A.L., I. Demko, and S. Vogel. “Direct-to-Consumer Marketing by U.S. Farmers.” Selected Paper, Structural Changes in Agriculture EAAE Seminar, Rennes, France, 27-28 October 2016.
8. Katchova, A.L. and M.C. Ahearn. “Farm Entry and Exit from U.S. Agriculture.” Selected Paper, IFAMA Symposium, Aarhus, Denmark, June 2016.

1. Katchova, A.L. “Dynamics in Farm Profitability: Factors Influencing the Decline in Farm Income.” Congressional Briefing, Senate Committee on Agriculture, Nutrition, and Forestry, 11 February 2016.
2. Khanal, A., and Ashok. K. Mishra. “Are All Farms Better-off Growing Organic? An Unconditional Quantile Regression Approach.” Selected Paper presented at the 2016 Agricultural & Applied Economics Association (AAEA) Annual Meetings, Boston, MA, July 31-Aug. 2, 2016.
3. Luo, T. and C.L. Escalante. “Health Care Service Access and Constrained Choices of U.S. Farm Workers.” July 2016. Selected Poster, 2016 Annual Meeting of Agricultural and Applied Economics Association, Boston, MA.
4. Mishra, A. K., and J. M. Harris. “Survival Strategies for Small Farms in the United States.” Selected Paper presented at the 2016 Agricultural & Applied Economics Association (AAEA) Annual Meetings, Boston, MA, July 31-Aug. 2, 2016.
5. Moss, C. B., Ashok. K. Mishra, and M. Bampasidou. “Modeling Debt Choice in Agriculture: The Effect of Endogenous Asset Values.” Selected Paper presented at the 2016 Agricultural & Applied Economics Association (AAEA) Annual Meetings, Boston, MA, July 31-Aug. 2, 2016.
6. Nehring, R.F., A.L. Katchova, C. Hallahan, M. Harris, K.W. Erickson.  “Urban Influence on Costs of Production in Selected Regions: A Frontier Approach.” Selected Paper, Agricultural and Applied Economics Association Meeting, Boston, MA, 31 July - 2 August 2016.
7. O’Brien, C. and E.A. Yeager. 2016. “Reductions in Working Capital and Resulting Burn Rates for Producers.” Presentation at the Risk and Profit Conference, Department of Agricultural Economics, Kansas State University, Manhattan, KS.
8. Osinubi, A., C.L. Escalante, C. Dodson, and C. E. Taylor. “The Lending Minority Report on Federal Farm Loan Terms for African American Female Borrowers”, July 2016. Selected Conference Paper, International Symposium on Economics and Social Sciences, Kyoto, Japan.
9. Rusiana, H. and C.L. Escalante. ”Factors Affecting Either the Voluntary Exit or Forced Eviction of Borrowers from Microfinance Loan Networks.”  July 2016. Selected Poster, 2016 Annual Meeting of Agricultural and Applied Economics Association, Boston, MA.
10. Rusiana, H., B. Brewer, C.L. Escalante, and C. Dodson.  “Transition Probability Approach in the Evaluation of Relative Financial Strength and Endurance of Farm Service Borrowers under Recessionary Conditions. February, 2016. Selected Paper Session, SAEA 2016 Annual Meeting, San Antonio, TX.
11. Stutzman, S., L.M. Pena-Levano, T.G. Baker, and C.L. Escalante. “Short and Long-run Dynamics of Inflation and Commodity Prices.” July 2016. Selected Paper, 2016 Annual Meeting of Agricultural and Applied Economics Association, Boston, MA.
12. Song, M. and C.L. Escalante.  “Maintaining Business Viability through the Financial and Natural Adversities of the Late 2000s:  Evidence from U.S. Southeastern and Midwestern Farms”, June 2016. Selected Conference Paper, International Food and Agribusiness Management Association Annual Conference, Aarhus, Denmark.
13. Yen, M.-F., and A.L. Katchova. “The Effect of Capital Constraints on the Growth of Agricultural Cooperatives.” Selected Paper, NCERA210 Agricultural Cooperatives Research Group, 1 November 2016, Minneapolis, MN.

1. Zhao, Yuying, Bruce L. Ahrendsen, Bruce L. Dixon, and Diana Danforth. 2016. “Financial Characteristics of Arkansas Farms, 2002-2013.” In *AgEcon Search, Research in Agricultural and Applied Economics*, published May 25 at: [purl.umn.edu/236256](http://purl.umn.edu/236256): 2 pp. Selected poster presented at the Agricultural and Applied Economics Association annual meeting, Boston, Massachusetts, July 31-August 2.