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# **Agricultural Finance Markets in Transition**

Proceedings of  
The Annual Meeting of NCT-194

Hosted by the Center for the Study of Rural America,  
Federal Reserve Bank of Kansas City

October 6 - 7, 2003

Edited by  
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## Preface

The meetings of NCT-194 were held in Kansas City, Missouri on October 6-7, 2003. The Center for the Study of Rural America at the Federal Reserve Bank of Kansas City served as the host institution. NCT-194 was formed at the expiration of NC-221 and before the approval of NC-1014. The purpose of the group was to conduct multi-state research on transitioning agricultural finance markets and to develop a proposal for a new multi-state research committee.

This publication contains the agenda and minutes from our meeting as well as the majority of the selected papers that were presented at the meeting. The annual meeting consisted of several sessions of selected research papers that reported on current research efforts as well as sessions designed to facilitate the development of the proposal for our new multi-state research project. I am happy to report that the project has been approved as NC-1014, Agricultural Finance Markets in Transition.

The executive committee consisted of Chair Matthew Diersen, Vice-Chair Brent Gloy, and Secretary Timothy Park. This committee selected the papers for presentation and organized the meetings. The group would like to thank Jason Henderson for his assistance in developing the agenda for the meeting as well as making arrangements to host the group. We would also like to thank invited speakers Mark Drabenstott, Ross Anderson, Gary Mazour, Don Macke, and David McGranahan for sharing their time and thoughts with the group.

Brent Gloy  
Vice-Chair 2002-2003

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## AGENDA

### Monday, October 6, 2003

- 8:00 – 8:15      Opening remarks from Chairman Matthew Diersen
- 8:15 – 9:00      Welcome and presentation on Major Challenges in Rural America, Mark Drabenstott, Vice President and Director, Center for the Study of Rural America, Federal Reserve Bank of Kansas City
- 9:00 – 10:00     Ross Anderson, Vice President of Credit, Agribank and member of FCS President's Commission on Credit Risk: FCS approaches to assess, monitor, and manage credit risk
- 10:00 – 10:20    Break
- 10:20 – 11:20    Approaches to Evaluating Credit Risk
- A. Issues in Credit Risk Assessment in Agricultural Credit Markets, R. Onyeaghala and P. Ellinger
  - B. Credit Risk Models: An Application to Agricultural Lending, A. Katchova and P Barry
  - C. Adapting Credit Risk Models to Agriculture, L. Zech and G. Pederson
- 11:20 – 12:00    A Multi-State Approach to Assessing the Potential of Farm Savings Accounts
- A. Overview of Alternative Farm Savings Account Programs and Multi-state Efforts to Evaluate Alternative Farm Savings Account Programs, B. Gloy, et al.
  - B. Results from Analyses of the Viability of and Benefits from Farm Savings Accounts for New York and Illinois, P. Ellinger, et al.
- 12:00 – 1:00     Lunch
- 1:00 – 1:50      The Intersection of Rural Communities and Finance: Research Needs and Opportunities in Rural America; Don Macke, Co-Director, Center for Rural Entrepreneurship; David McGranahan, Economic Research Service
- 1:50 – 2:50      Rural Economy: Farm Policy and Finance
- A. The Impact of the Conservation Reserve Program on Farm Service and Recreation Establishments and Jobs, P. Sullivan, D. McGranahan, and C. Hallahan
  - B. Rural Small Business Finance: Evidence from the 1998 Survey of Small Business, C. Gustafson
  - C. Credit Counseling and Mortgage Termination by Low-Income Households: Evidence from a Multi-State Counseling Program, V. Hartarska and C. Gonzalez-Vega
- 2:50 – 3:00    Break

3:00 – 4:00 Farm Revenue Risk and Financial Institution Efficiency

- A. Relationships among the Counter-Cyclical Program, Crop Revenue, and Crop Insurance Payments, B. Sherrick, R. Hauser, and G. Schnitkey
- B. Risk Sharing and Incentives under Crop Insurance and External Equity Financing, S. Seo, D. Leatham, and P. Mitchell
- C. Input Efficiency in Commercial Banks: A Normalized Quadratic Input Distance System, T. Marsh, A. Featherstone, and T. Garrett

4:00 – 4:10 Break

4:10 – 4:50 Credit Use and Availability

- A. Analysis of Borrower and Lender Use of Interest Assistance on FSA Guaranteed Farm Loans, B. Ahrendsen, et al.
- B. An Analysis of Market Segmentation in Farm Credit Markets, S. Koenig, C. Dodson, and J. Ryan.

**Tuesday, October 7<sup>th</sup>**

8:00 – 8:30 Business meeting and comments for administrative adviser

8:30 – 9:15 Break into groups to develop work plans and projects for each of the four proposed objectives:

- A. Determine the effects of changes in international competitive balance and federal and state policies affecting agriculture on the financial and economic performance of farms, agribusinesses and rural financial markets
- B. Determine the effects of market, policy, and structural change in the agricultural and financial market sectors on the financial soundness, safety, and management of financial institutions that supply financial capital to agriculture
- C. Evaluate the management strategies, capital needs, and financial performance required for the long-term sustainability of firms in the food and agribusiness sector
- D. Final objective (currently under development and will likely include examining issues related to rural community development and finance)

9:15 – 10:00 Reports from groups on specific project ideas. Allow time for members to agree to participate in objectives whose breakout groups they did not attend.

10:00 – 10:15 Break

10:15 – 11:15 Financial Structure and Financial Management

- A. The DuPont Profitability Analysis Model: An E-Learning Application and Evaluation, J. Melvin and M. Boehlje, C. Dobbins, A. Gray
- B. Sustainable Growth Trends in U.S. Agriculture, C. Turvey and C. Escalante
- C. Off-farm Income and Demand for Farm Capital Investment, C. Lagerkvist, H. Andersson, M. Campos, and K. Olson

11:15 – 12:00 Topics in Agricultural Finance

- A. Evaluating USDA Forecasts of Farm Assets, T. Covey and K. Erickson
- B. How Large is the Competitive Edge that U.S.-Based Futures Provide to U.S. Farmers? S. Lence

## MINUTES

### Minutes of NCT-194 [NC221]

Agricultural Finance Markets In Transition

Covering: October 2002 – September 2003

Annual Meeting: October 6-7, 2003

#### **Administrative Advisor:**

Dr. Eric Hoiberg  
Iowa State University  
Agriculture Administration  
Ames, IA 50011

#### **Chair:**

Dr. Matthew Diersen  
South Dakota State University  
Department of Economics  
Brookings, SD 57007

#### **Vice-Chair:**

Dr. Brent Gloy  
Cornell University  
Department of Applied Economics  
and Management  
Ithaca, N.Y. 14853

#### **Secretary:**

Dr. Timothy Park  
University of Georgia  
Department of Agricultural & Applied Economics  
Athens, GA 30605

#### **Participants:**

Peter Barry (University of Illinois), Ted Covey (Economic Research Service), Matt Diersen (South Dakota State University), Wayne Diveley (Federal Reserve Bank of Kansas City), Mark Drabenstott (Center for the Study of Rural America), Paul Ellinger (University of Illinois), Allen Featherstone (Kansas State University), Walter Gardiner (Farm Credit Administration), Brent Gloy (Cornell University), Cole Gustafson (North Dakota State University), Valentina Hartarska (Auburn University), Jason Henderson (Center for the Study of Rural America), Eric Hoiberg (Iowa State University), Larry Janssen (South Dakota State University), Ani Katchova (University of Illinois), Juno Kim (Texas A&M University), Steve Koenig (Economic Research Service), Eddy L. LaDue (Cornell University), Carl Lagerkvist (Swedish University of Agricultural Sciences), Sergio Lence (Iowa State University), Zech Lyubov (University of Minnesota), David McGranahan (Economic Research Service), Don Macke (RUPRI), Tom Marsh (Kansas State University), Charles Moss (University of Florida), Raphael Onyeaghala (Southwest Minnesota State University), Timothy Park (University of Georgia), Glenn Pederson (University of Minnesota), Jill Phillips (University of Illinois), Lindon Robison (Michigan State University), Sangtaek Seo (Texas A&M University), Bruce Sherrick (University of Illinois), Patrick Sullivan (Economic Research Service), Chris Taggart (Federal Reserve Bank of Kansas City), Calum G. Turvey (Rutgers University), Stanton Ullerich (Buena Vista University), Christine Wilson (Purdue University).

#### Annual Meeting Minutes

October 6-7, 2003

The 2003 Annual Meeting of NCT-194 [NC221] was held October 6 and 7 in Kansas City, Missouri at the headquarters of the Federal Reserve Bank of Kansas City. The meeting was called to order at 8:00 A.M. on October 6 by Vice-Chairman Brent Gloy. The first two items were presentations by experts in rural and regional economic development trends from the Center for the Study of Rural America and a financial analyst from Farm Credit Services. A joint presentation on major challenges facing rural America by Mark Drabenstott, Vice President and Director and Jason Henderson, both of the Center for the Study of Rural America, Federal Reserve Bank of Kansas City initiated the sessions. Mark Drabenstott discussed strategies for the new economy which revolve around an emphasis on reinventing regions by building regional partnerships, identifying a unique competitive niche, and enriching a region's supply of equity capital. Jason Henderson highlighted how the economic transformation of rural

America is influenced by the role of technology and the demand for recreation amenities and the emerging importance of service based industries as an economic cornerstone for these communities. Rural communities are beginning to capture high-skill service industries and high-wage jobs by building on the quality of recreational and lifestyle amenities these areas possess and by upgrading the skill level of local businesses and the labor force.

Gary Mazour, Vice President of Credit for Farm Credit Services of America delivered a presentation on credit risk management focusing on the disclosure of information for assessing credit quality. Special emphasis was placed on emerging issues in the risk rating system and criteria for developing tools to assist in growing and managing the total loan portfolio. Ongoing research and scenario development on how to develop uniform methods to assess risk within and among institutions in the farm credit system were highlighted. A primary objective is to establish a risk rating model that complies with the guidelines in the Basel II and to establish definitions and objective criteria that are highly predictive over the business cycle.

The participants spent the rest of the morning and afternoon in 6 sessions of selected papers. The papers presented in these sessions addressed the objectives of NCT-194 [NC221] and were the products of the work of NC-221 members along with invited participants from government research groups and regional planning and development centers. A total of 15 papers were presented in the sessions. Nearly all of the papers were the product of several multi-state, multi-institution collaborations. An interactive presentation featured a cross disciplinary discussion between rural sociology perspectives and business entrepreneur viewpoints on the role of finance and capital in retaining and growing rural entrepreneurs and stimulating rural community growth.

The papers were grouped into sessions according to subject matter and involved participants in the project along with invited experts from research centers, rural sociologists from the Economic Research Service, and advanced graduate students. The first session addressed the general area of competing approaches to evaluating credit risk. The research presented during the second selected paper session examined multi-state approaches that assess the viability of farm savings accounts. In the third session, two discussants outlined disciplinary approaches for defining and addressing the research needs for identifying and stimulating entrepreneurial opportunities in rural areas. The specific topics covered by these papers included:

**Issues in Credit Risk Assessment in Agricultural Credit Markets**

Credit Risk Models: An Application to Agricultural Lending  
Adapting Credit Risk Models to Agriculture

**A Multi-State Approach to Assessing the Potential of Farm Savings Accounts**

Multi-state Efforts to Evaluate Alternative Farm Savings Account Programs  
Analyses of the Viability of and Benefits from Farm Savings Accounts: New York and Illinois

**The Intersection of Rural Communities and Finance: Research Needs and Opportunities**

Discussants: Don Macke, Co-Director, Center for Rural Entrepreneurship  
David McGranahan, Economic Research Service

**Rural Economy: Farm Policy and Finance**

The Impact of the Conservation Reserve Program on Farm Service and Recreation Establishments and Jobs  
Rural Small Business Finance: Evidence from the 1998 Survey of Small Business  
Credit Counseling and Mortgage Termination by Low-Income Households



## **Farm Revenue Risk and Financial Institution Efficiency**

Relationships among the Counter-Cyclical Program, Crop Revenue, and Crop Insurance Payments

Risk Sharing and Incentives under Crop Insurance and External Equity Financing

Input Efficiency in Commercial Banks: A Normalized Quadratic Input Distance System

## **Credit Use and Availability**

Analysis of Borrower and Lender Use of Interest Assistance on FSA Guaranteed Farm Loans

An Analysis of Market Segmentation in Farm Credit Markets

On the second day of meeting the project adviser Dr. Eric Hoiberg reviewed the process that must be followed to revise the project for reauthorization and the reporting guidelines for completing the current project. Members were informed that the new NIMSS system must be used to submit the new proposal. Dr. Hoiberg also told that group that a proposal must include a statement of issues, justification, and objectives. In addition, a successful proposal should include a discussion of the methods, milestones, outreach, organization, and governance. Dr. Hoiberg encouraged the group to consider how they might broaden the scope or focus of the project and suggested incorporating alternative disciplinary approaches in specific objectives of the project. Participants reviewed progress during the past year in integrating multidisciplinary perspectives into the project and outlined goals for additional outreach efforts.

The participants adjourned to small group sessions to develop work plans and projects to align with each of the four proposed objectives. The objectives are directed at the following areas of emphasis:

- (1) determine the effects of changes in international competitive balance and federal and state policies affecting agriculture on the financial and economic performance of farms, agribusinesses and rural financial markets
- (2) determine the effects of market, policy, and structural change in the agricultural and financial market sectors on the financial soundness, safety, and management of financial institutions that supply financial capital to agriculture
- (3) evaluate the management strategies, capital needs, and financial performance required for the long-term sustainability of firms in the food and agribusiness sector
- (4) develop linkages between emerging issues in rural finance and development and the role of social capital and rural entrepreneurship. The plan is to develop a diverse cross state research initiative to measure the impact of social capital on the economic development and performance of agricultural and rural communities.

Participants discussed current and ongoing research and presentation outlets related to the project. Charles Moss circulated for review a copy of the recently published book **Government Policy and Farmland Markets** (Iowa State Press, 2003) which incorporated research from project participants on a range of topic related to farmland values, government policies, capital markets and the role of urbanization, environmental quality, and rural amenities in farmland markets. The book is a timely and comprehensive look at farmland values oriented to a broad audience of government policy makers, lenders, agricultural economists, and decision makers in agribusiness.

Lindon Robison reported on emerging interdisciplinary contacts with other disciplines which can provide new perspectives for the analysis of rural finance issues. In the summer of 2003, eight past presidents of the American Agricultural Economic Association (AAEA) and the Rural Sociological Society (RSS) met in a mini-summit to discuss how to best benefit from the joint meetings of their respective associations. They agreed and supported the idea of using the social capital paradigm to bridge across the two disciplines and proposed papers for the Montreal joint meetings between the AAEA, RSS, and the

Canadian Agricultural Economics Association (CAES) to illustrate this bridge. Principal paper sessions from the meetings included cross disciplinary presentations on social capital and a symposium on the productive areas of common ground between agricultural economists and rural sociologists. The project recognized the value of interdisciplinary approaches and is working to incorporate the implications of social capital into the revised project.

A principal paper session proposal will be prepared for the summer meetings of the American Agricultural Economics Association in Denver, Colorado. The session proposal will follow up on the ideas developed from these meetings on issues in agri-finance and social capital and would include three papers and one discussant. The first paper proposes to use multi-state data to examine if social capital developed by low-income borrowers through their church associations improves repayment of loans provided through partnerships with community church leaders. The second paper will examine if social capital can explain the lower rate of rural bank consolidations than their urban counterparts. Finally, the third paper assesses whether lower rates of return on farmland can be explained by attachment values. Contacts with the newly formed Institutional and Behavioral Economics section will be initiated to secure their endorsement of the proposed principal paper session and to develop expanded linkages for future project work.

The papers for the second day were grouped into two sessions. These sessions presented the work of 7 authors and include collaborative work on off-farm income with a visiting professor from the Swedish University of Agricultural Sciences. The first session addressed issues in financial structure and financial management. The second set of papers examined current issues in agricultural finance.

#### **Financial Structure and Financial Management**

Sustainable Growth Trends in U.S. Agriculture

Off-farm Income and Demand for Farm Capital Investment

#### **Topics in Agricultural Finance**

Evaluating USDA Forecasts of Farm Assets

How Large is the Competitive Edge that U.S.-Based Futures Provide to U.S. Farmers?

#### **Date and Location of Next Year's Meeting**

The current chair will appoint a committee to determine a suitable location for the 2004 meeting and consult with the committee in identifying a set of locations for the meeting. Tentative plans are that the meeting will be held on October 4-5, 2004.

#### **Current and Future Officers**

The nomination committee plans to present nominations to the group for a new chairman, vice-chairman, and secretary with elections to be held in early 2004.

Submitted by:

Timothy Park  
NC-221 Secretary