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**DEVELOPMENT AND APPLICATION  
OF COOPERATIVE THEORY AND  
MEASUREMENT OF COOPERATIVE PERFORMANCE**

UNIVERSITY OF MISSOURIA  
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**Proceedings of a Symposium  
Presented at the**

**Joint Meeting of the  
American Agricultural Economics Association  
and  
Southern Agricultural Economics Association  
at  
Clemson University  
July 27, 1981**

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ACS Staff Report  
Agricultural Cooperative Service  
U.S. Department of Agriculture

February 1982

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## ABSTRACT

Papers presented on cooperative theory are original approaches based on cooperative objectives. Ladd surveys past theoretical and empirical work in the context of cooperatives' objective functions and synthesizes one that recognizes both the interests of members on the farm and in the cooperative. In so doing, he advocates the use of mathematics to carry out informative institutional economics. In a means-end hierarchy of goals, Ladd argues that a cooperative's highest-level objective is maximization of members' net revenue, or more precisely, maximization of present value of members' net revenue.

Royer presents a model for the short-run production and pricing decisions of cooperative associations. The model is compared graphically to earlier works by Phillips and by Helmberger and Hoos.

VanSickle reviews cooperatives' treatment under the various tax laws and presents a model of the financial structure of cooperative associations. This model essentially adopts that presented by Royer in developing a theory of cooperative financial structure sensitive to the interests of members.

Lang et al. summarize results of comparative performance studies of cooperatives and noncooperative firms. Methodology for the analysis is reviewed and policy implications are discussed. The study finds that cooperatives provide more marketwide and producer services than do noncooperative firms. They also provide farmers with a greater sense of control over their destinies and more market security. Aside from these factors, no dramatic differences in the performance of cooperatives and noncooperative firms are reported.

## FOREWORD

Cooperative leaders, through recommendations of an outside program review committee, have given strong encouragement to the development of a more comprehensive theory of cooperation. As a result, a symposium on cooperative theory and comparative performance measures was organized and held at the 1981 meetings of the American Agricultural Economics Association (AAEA) held at Clemson University. This staff report is a collection of the papers presented at that symposium and is a first step in developing a more comprehensive theory.

Research activity concerning the economic theory of cooperation spans considerable time and has commanded the attention of key scholars in the agricultural economics profession since the early 1920's. Contributions have been clustered in specific time periods with one or more "schools" taking leading roles. In more recent years, work has been expanded to assess the dynamics of cooperative operation, including comparisons of performance with noncooperative firms.

Among the earliest contributors to the economic theory of cooperation was E. G. Nourse, whose competitive yardstick theory has had an indelible impact on policy. Ivan Emelianoff completed his classic work in 1942. Then Frank Robotka and his students at Iowa State College produced a series of articles and publications focusing on refinements. These contributions by Phillips, Aresvik, and others were debated in literature through the 1950's.

Renewed attention was given in the 1960's by the California and Wisconsin schools. Hoos and Helmberger sought to apply recent microeconomic theory of the firm to cooperatives as a special case.

It wasn't until the late 1970's that Iowa State again became active under the leadership of George Ladd and his students Royer and VanSickle. Their most recent contributions, relying heavily on mathematical modeling, comprise the bulk

of material presented in this symposium proceedings.

Research findings that have evaluated cooperative performance compared with noncooperative firms is reported by a group of researchers from Purdue University.

It is hoped this staff report will stimulate further intellectual probings into the development and refinement of a more comprehensive theory of cooperation.

Randall E. Torgerson  
Administrator  
Agricultural Cooperative Service  
February 1982

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