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Agricultural Supply Functions

Estimating Techniques and Interpretation

- A compilation of essays on the problems, research techniques, and results of investigations dealing with agricultural supply functions in agricultural production.
- Dedicated to the proposition that progress is made by discussing hypotheses, theories, techniques, and illustrations of their use even though some are still in their formative stages.
- Published for use by students, researchers, teachers, and administrators who are daily confronted by problems in this important area.

Agricultural Supply Functions

—ESTIMATING TECHNIQUES and INTERPRETATION

Assembled and published
under the sponsorship of the

**NORTH CENTRAL FARM MANAGEMENT
RESEARCH COMMITTEE**

5561
H394
1979

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Iowa State University Press, *Ames*, Iowa, U.S.A.

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Library of Congress Catalog Card No.: 61-11698

Preface

THE MAJOR PROBLEMS of agriculture revolve around supply functions and relationships. This is especially true in highly developed economies, where commodity supply tends to grow faster than consumer demand. Evidently, too, elasticity of the short-run supply function is very low. Under these circumstances, and even though the structure of agriculture constantly changes in response to this supply-demand environment, commodity prices remain low, with low rewards going to resources used in farming. In less developed nations, the problem of agriculture is still supply or producer response, but mostly in terms of the slow rate of shift in supply and its low elasticity in relation to the real price of foods.

In the current decade of U.S. farming, basic questions of policy revolve around the supply function and its elasticity. The rate at which agriculture can adjust to the current complex of economic growth, under programs ranging from market freedom to public management, depends on supply elasticity and change. But more than the supply function for agricultural commodities is involved. The supply function for commodities is inseparably woven with the demand function for resources and the functional relationships of resource returns.

Improved knowledge of agricultural supply is necessary for effective policy formulation. Public policy of the past operated under the implicit assumption of certain supply relationships and magnitudes. Unfortunately, time has not always proved these assumptions to be correct, and empirical and factual knowledge is urgently needed on supply relationships for both agricultural commodities and resources.

Greater knowledge of supply is needed not only for improved policy formulation but also for better guidance and decision making of individual farmers. Knowledge is needed of the potential future supply structure under rapidly changing technology and factor prices. With this knowledge, communicated to farmers by the extension service, farm families can use their individual resources more wisely. Improved supply information can also aid greatly in annual outlook work. Finally, this information is needed for appraisal of problems and potentialities in interregional competition and area development.

Farm management and production economics specialists have long directed attention to analysis of the decision-making processes of

farmers, the nature of production functions, and the structure of resource returns and prices. These are the very basis of commodity supply functions. We need to build upon this basic and well-developed foundation by relating commodity supply functions to production functions, decision processes, factor supply relationships, and technological change. Current interest for doing so is great, and prospects are for an expanded output in this area of research. Such research has not been lacking in the past, but it has not been of sufficient scale and coverage. With the prospects that this void will be filled shortly, the next problem is appropriate techniques for supply prediction.

Empirical prediction for supply is a difficult task. The supply structure changes continually, and techniques readily applicable to demand are complex and not suitable for application to supply. However, numerous empirical techniques and theories now need to be examined in terms of their promise in estimation. The conference represented by the chapters in this volume was organized accordingly. The Conference Committee hopes that the publication of the conference proceedings will both encourage greater research in supply analysis and lead to the improvement of theory and techniques.

This conference was organized by a subcommittee of the North Central Farm Management Research Committee in cooperation with the Farm Foundation. The Committee wishes to express its appreciation to the Farm Foundation for its financial support for the conference and for publication of the proceedings. It also expresses appreciation to the Agricultural Experiment Station Directors and the U.S. Department of Agriculture for the participation of their staff members.

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Earl O. Heady, Chairman
C. B. Baker
Howard G. Diesslin
Earl W. Kehrberg
Sydney D. Staniforth

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