



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

QUANTIFYING LONG RUN AGRICULTURAL RISKS AND EVALUATING
FARMER RESPONSES TO RISK

Proceedings of a Seminar sponsored by
Southern Regional project S-~~180~~232
"Quantifying Long Run Agricultural Risks and Evaluating
Farmer Responses to Risk"
Sanibel Island, Florida
April 9 - 12, 1989

Agricultural Economics Department
Texas A&M University
College Station, Texas

July 1989

Equilibrium Land Prices Under Risk: Discussion

by
Peter J. Barry

The authors of "Equilibrium Land Prices Under Risk" have conducted an interesting and innovative theoretical exercise in order to gain further insights about equilibrium analysis under risk at the firm level in light of changes in equilibrium conditions at the industry level. This linkage between micro and aggregate effects certainly is important to consider, and the attempt to cast it in the context of the characteristics of agriculture is welcome. As best I can tell, with admittedly casual scrutiny, the technical aspects of the analysis are sound. A major benefit of this type of development is that it provides a basic framework for building aggregate models under risk, a needed development for understanding the micro effects of public policy.

Another benefit of these types of exercises is that it makes us think about the use of such a framework to gain meaningful insight on issues of practical importance. Perhaps, then, a productive discussion could emerge along the following three lines: (1) the robustness of the results, (2) the policy implications and (3) the implications for this regional project.

In terms of the robustness of the analysis, several questions might arise. In particular, why is the focus on land prices important, and how do the results stand up when the simple assumptions underlying the analysis are relaxed? Clearly, the authors have focused on land prices and land is the dominant asset in the agricultural sector; however, for those many farmers who rely heavily on leasing land, the costs and stability of controlling versus owning land are important contributions to their well being. At the end of the paper, it became clear that wealth effects were important in the analysis and land was considered a major source of wealth, but establishing and rationalizing this motivation earlier might be helpful.

Other key assumptions in the analysis, with important empirical implications, appear as follows:

(1) Constant returns to scale at the firm level and increasing costs at the industry level, presumably reflecting a type of pecuniary diseconomy which then feeds back to the firm level; of course, some observers have argued that

Peter J. Barry is a professor, Department of Agricultural Economics, University of Illinois.

agriculture has been a declining cost industry rather than an increasing cost industry when the effects of technological change are considered.

(2) A single output so that correlation relationships among multiple outputs are not important.

(3) Price variation as the single source of business risk.

(4) No treatment of financial structure or financial risk, despite the heavy reliance on credit use and leasing in agriculture.

(5) A highly efficient land market in which land prices respond quickly to new information rather than showing distributed responses over time.

(6) A risk response only in terms of output levels without enterprise diversification, marketing methods, holding reserves, and so on.

Moreover, it appears that one of the modelling approaches considered in the paper cannot escape the need for information about the risk attitudes of decision makers (or perhaps the distribution of risk attitudes), and the other approach--the capital asset pricing model approach--still must consider how much of the risk is important (i.e., the level of systematic risk), how it is priced (i.e., the risk premium), and how valid the application of the CAPM is to an industry that lacks well developed markets for trading equity claims on farmland.

My guess is that the authors indeed can find ways to show how their analysis stands up under points of empirical detail like these, or they can demonstrate that the points of detail do not change the fundamental qualitative characteristics of their results--but some efforts to enrich the context of the exercise along these lines might be helpful.

The second line of discussion could further develop the policy implications of this type of analysis. In fact, the paper might well be framed around some interesting policy issue in order to make the substance of the analysis more tangible. As matters stand now, readers are given a hint in the last two sentences of the paper that policy applications are important, but nothing more is done.

A third line of development could consider what can be learned from this exercise for accomplishing the two objectives of this project. Clearly, the aggregate-micro linkages are important for accomplishing objective 2, and any further insight along these lines would be helpful.

