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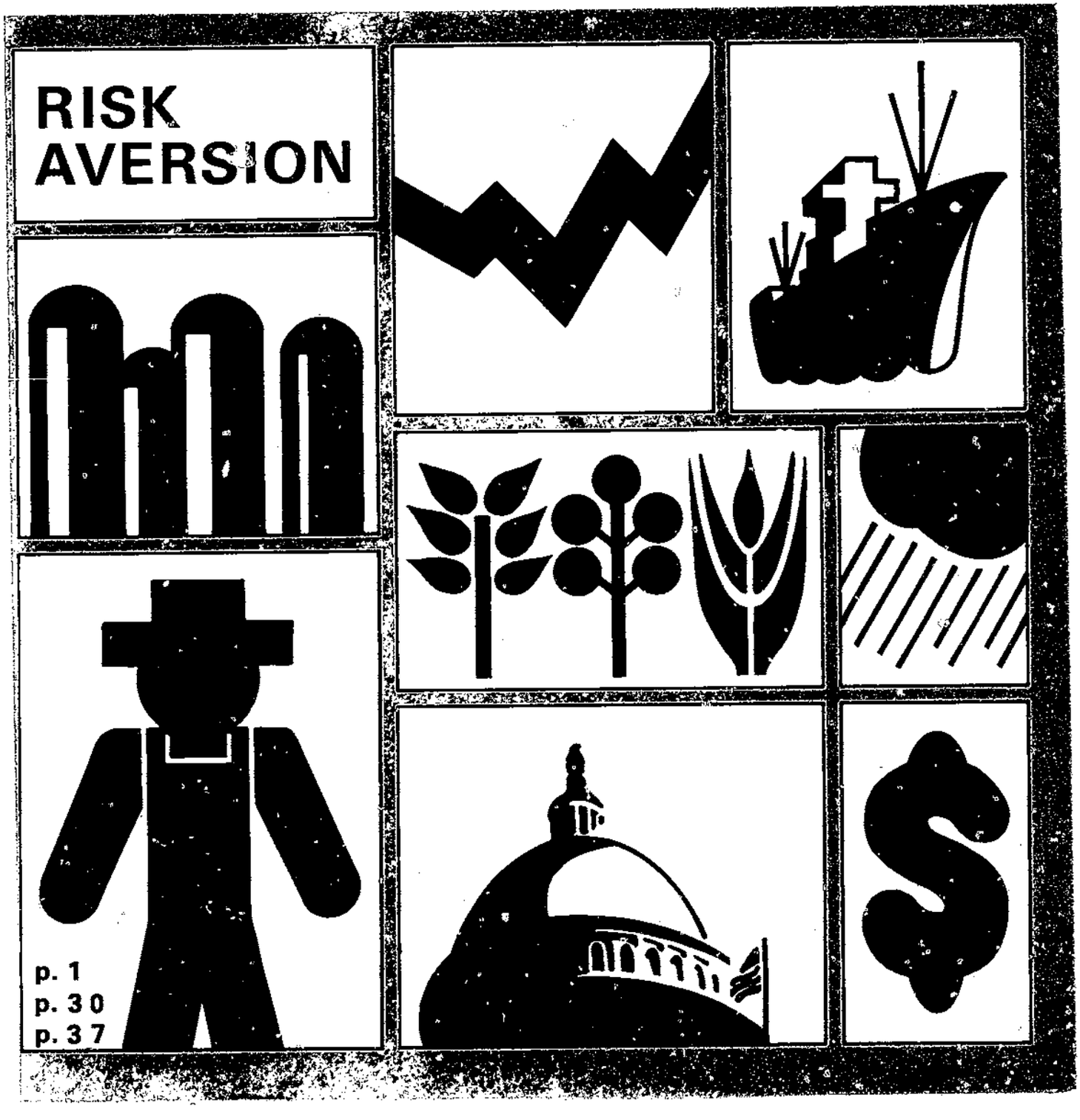

Agricultural Economics Research

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Economists work on two kinds of problems. First, there are the social problems for the sake of which economic analysis is undertaken. Second, before the ultimate social problems can be dealt with, a number of intermediate, professional problems must be conquered. This issue contains examples of USDA economists' concerns for each of the two kinds of problems. Let us take the social concerns first.

A conflict exists between delivering increasing quantities of food at lower prices to the lower income and hungry people of the world, and maintaining adequate incomes to producers. The farm bill signed by President Carter in September 1977 expresses society's concern with this problem. In the first article, Penn and Boehm discuss some of the provisions of the new farm bill and the implications for needed research by agricultural economists.

Diseases and pests continue to limit plant and animal production. Society's concerns for this problem are expressed in part through USDA programs and activities administered by the Animal and Plant Health Inspection Service. Emerson and Plato evaluate the costs and benefits of one of these programs dealing with witchweed, a semiparasitic plant that reduces grain and sorghum yields. The research methods used in their evaluation incorporate the economists' ideas of consumers' surplus, a concept discussed in the October 1977 issue of this Journal.

Urbanites' food costs may rise simply as a result of urbanization, according to a regression analysis by Morris. He shows that increasing population density exerts upward pressure on farmland values, thereby increasing the costs of agricultural production.

Firms making long-term contracts to purchase raw materials, such as tomatoes, and to sell final products, such as tomato paste, face a problem of portfolio management. An analysis of this problem for the Farmers Cooperative Service led USDA economists to the intermediate problem of assessing the preference patterns of plant managers and farmers. In their analysis, Buccola and French rejected the easy-to-use quadratic form of the utility function. They did so because it implies that a manager's willingness to gamble decreases as his earnings increase, although there is an empirical possibility that the manager's willingness to gamble increases as earnings increase. Buccola and French explain how they achieved a compromise by using an exponential function with constant risk aversion. It can be fit to data with relative ease and it has certain desirable features when incorporated as one in a system of equations used in analysis of longrun pricing contract behavior.

Lin and Chang further pursue the intermediate problem of how to deal with risk aversion and to select an appropriate form of the utility function. They propose a form which allows for increasing, constant, or decreasing risk aversion depending on the sign of a parameter in the equation. They offer empirical evidence supporting the hypothesis that risk aversion decreases as income increases.

Economists are faced with an intermediate problem of how to portray the degree of uncertainty in their economic forecasts. Their longstanding answer has tended to be to overlook this problem and simply present the single-valued, central tendency. Recent efforts have turned to an alternative futures concept; the user of the economic information is presented with a subjectively determined high option and low option in addition to the central tendency which is called the most likely option. Tiegen and Bell add a new, useful feature by showing how the variances estimated in fitting a system of simultaneous equations can be used to place confidence intervals around point estimates. Their method allows the economist to estimate, for example, the probability that the price of corn will fall within a specified range. They show how confidence increases as time passes and more information becomes available. Tiegen and Bell, of course, do not address the problem of uncertainty about the level of exogenous variables; in the current version, they assume that we know these variables for certain.

Clark Edwards

CONTENTS

In Earlier Issues

"Within the confines of the political division of the United States known as Minnesota are headwaters leading to the Gulf of St. Lawrence, to Hudson Bay, and to the Gulf of Mexico. With such a continental location, the economy of any commonwealth having even average natural resources is predestined to contribute greatly to the well-being of regions far beyond its borders. Historical and economic analyses of the development of commonwealths thus located have many ramifications and have far more than local significance.

"In successive stages, the fur industry, lumbering, wheat and flour, and "contented" cows have been basic to the economy of Minnesota. Each has resulted from the utilization of natural resources, and each has contributed not only to the development of the State but to that of far-away regions as well.

Everett E. Edwards
Vol. II, No. 1, Jan. 1950

The Secretary of Agriculture has determined that the publication of this periodical is necessary in the transaction of the public business required by law of this Department. Use of funds for printing this periodical has been approved by the Director, Office of Management and Budget, through February 28, 1980.