

Asymmetric Information in the Market for Yield and Revenue Insurance Products

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Introduction

Rapid expansion has occurred since 1996 in the number of new federally backed crop insurance products offered to farmers. They include several new revenue insurance products that bring new challenges to evaluating the performance of the multiple-product crop insurance market. In some sense, these new insurance products might be very instrumental in increasing efficiency in the U.S. crop insurance market by meeting the needs of different producers. At issue is whether the introduction of the new products increases or decreases informational asymmetries in crop insurance markets. This study is the first attempt to examine the effects of asymmetric information on U.S. crop insurance markets when a portfolio of yield and revenue insurance products is offered to farmers. We analyze the crop insurance market in Iowa, where multiple yield and revenue insurance products were offered to corn and soybean farmers in 1997.

Farmers choose an insurance product based on expected benefits derived from the product. It is often argued that farmers, who produce under uncertainty, know more about their own expected losses (benefits) than can be discerned by the insurer, as farmers are better informed about their distribution of yields. Such asymmetry of

information can give rise to the problem of adverse selection, with negative consequences for the efficient functioning of the crop insurance market. In the presence of adverse selection the insurance provider fails to accurately assess the risk of loss and, therefore, is unable to set premiums commensurate with risk. Ideally, crop insurance premiums should be set such that they reflect the likelihood of losses. However, such premiums are difficult to establish in the presence of asymmetric information, where insurance firms are unable to accurately distinguish among different risk types. Such asymmetries exist because of differences in inherent farm risks, arising from factors such as the farm's location characteristics and farmers' managerial abilities.

This report analyzes the characteristics of the crop insurance market under asymmetric information and investigates the presence of adverse selection. The specific issues addressed in this report include: (1) assessment of individual farm risk when limited information is available to the insurer on the farm and farmer, (2) analysis of factors that influence farmers' choices of alternative insurance products and coverage levels; (3) investigation of the presence of heterogeneous risk types in the insurance pool and the possibilities of risk type signaling through contract selection; and (4) testing for adverse selection.