Application of an Economic Model for Evaluating Government Program Costs for Rice

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Alternative Government rice programs are important to rice producers, rice consumers, rice related industries, and Government (taxpayers). Supporting the rice producer's income above that determined by a "free market" requires an income transfer from another segment of society. The "best method" of support could depend upon the "best source" of income to transfer to the rice farm sector. The direct payment plan transfers income from the taxpayer, the two-price plan draws additional support from the domestic rice consumer, and the current program (an adaptation of a two-price plan) obtains the additional income for transfer from both.

PRICE support and allotment programs have continuously influenced domestic price levels for rice since 1954. The effects of these programs on individual rice farmers, on the economy of the rice-producing areas, on the consumers of rice, and on the cost to the Federal Treasury continue to concern farmers, program administrators, legislators, and the general public. Price support policies for rice are subject to many conflicting and interacting forces. The development of a desirable price support program involves knowledge of complex economic and institutional factors, particularly the interrelationships of factors affecting supply and demand in both domestic and foreign markets.

To evaluate such programs, an economic analysis is essential for examining the probable costs of a given program or of alternative types of programs. The purpose of this report is to present an application of an analytical econometric model of estimated supply and demand relationships for rice that permits (1) the estimation of domestic and export quantity-price relationships for rice and (2) the estimation of the effects of assumed changes in Government programs for rice on (a) the cost to the U. S. Treasury and (b) the cost to consumers of rice. An additional objective is to appraise the effects of assumed changes in Government programs for rice on the returns to a representative Texas rice farm.

The Economic Model

The supply-demand model of the U. S. rice market structure with no Government programs is illustrated in Figure 1. The sum of the demand schedules at the farm level for the domestic outlets, food, industry, seed, and carry-

over, is plotted as line D_dD_d. The farm level demand for U. S. rice in the world market is represented by the line D_wD_w. The sum of the domestic and export demand is represented by the line D_tTD_t. This demand schedule represents the total world export demand with exports from other countries at some predetermined level. Supply of rice without allotments is represented by the line SS. Equilibrium with no Government programs in both the domestic and export market would be at the price P_1. At this price the quantity Q_2 would be utilized domestically. The quantity Q_1 minus Q_2, or Q_3, would be exported.

If acreage allotments were imposed on producers, as they currently are, the supply curve
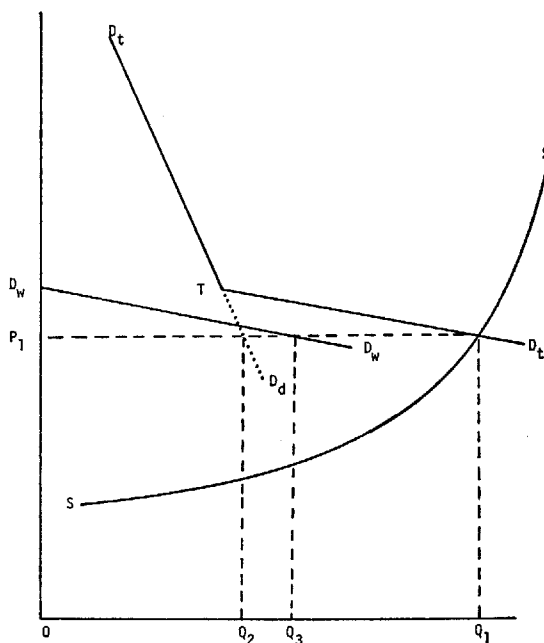

Figure 1. Supply and demand for U.S. rice with no Government programs.

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