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Outstanding Master's Thesis for 1989

Willingness to Pay for Groundwater Protection in Dover, New Hampshire: A Contingent-Valuation Approach

**University of New Hampshire
Advisor: Bruce Lindsay**

The contingent-valuation technique was administered through a mail questionnaire sent to 600 randomly selected Dover households during the summer of 1988. The goal of this experiment was to determine the willingness to pay (WTP) for a hypothetical groundwater protection plan in the community. With a 60% response rate, the technique of numerical integration (over a logistic WTP equation) was utilized. The median WTP value for groundwater protection among Dover residents was estimated to be \$40 per house-

hold. Therefore, the community as a whole is willing to pay at least \$100,000 annually in extra property taxes for such a community groundwater protection plan.

The assessed land values of respondents as well as their incomes were shown to positively influence their WTP values, while their ages had a negative influence on WTP. A variety of other socioeconomic variables were shown to have no influence on an individual's WTP for groundwater protection.

Master's Thesis Award of Merit

Government Intervention and Welfare The Philippine Sugar Case

**Rutgers University Advisor:
Rigoberto A. Lopez**

The purpose of this thesis was to examine the nature and welfare consequences of government intervention using the Philippine sugar market as a case study. To this end, a political-economic model and allocative efficiency measures were developed to assess the nature, degree, and direction of income distribution resulting from sugar pricing decisions.

The theoretical framework involved modeling government intervention as a hierarchical decision-making process focusing exclusively on pricing policies. The government authorities at the sectorial level were assumed to behave as if they maximized a utility function whose arguments were consumer and producer surpluses, the government treasury position resulting from their policy choices, and the variables defining the macroeconomic environment. The allocative efficiency pricing rules were developed under the Kaldor-Hicks compensation scheme.

The empirical procedures involved estimating a simultaneous equation model consisting of sugar demand, sugar supply, and the government consumer and producer sugar pricing equations via Three-Stage

Least Squares, and used 1962-83 annual data. In general, the empirical results indicated that the exogenous variables embodied in the welfare of producers and consumers, the government treasury position, and the macroeconomic variables were all important factors in setting sugar prices. The allocative efficiency results suggested that the Philippine government appears to follow a policy of sugar price stabilization, although this resulted in efficiency dead-weight losses. The simulations of increasing the U.S. sugar quota to the Philippines indicated that the bulk of the increased export rents would be captured by the government treasury with little direct benefit to sugar producers and consumers.

The Philippine government continues to intervene in the sugar market for reasons other than promoting allocative efficiency. The new agenda of President Aquino's government to expand agricultural employment and exports continues to be incompatible with allocative efficiency since the latter implies that both producers and consumers would face the generally lower and unstable world sugar prices.