An Econometric Estimation of Compliance Behavior in the Massachusetts Inshore Lobster Fishery

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This study presents empirical measures of compliance behavior in the Massachusetts inshore lobster fishery. The theoretical model employed assumes that violation rates are a function of probabilities of detection and conviction (as determined by enforcement inputs), levels of economic gains to be realized from violation, and factors which proxy fishermen's commitment to the fishery. The estimated models are expanded to include such factors as self-enforcement and regional differences within the fishery. Estimation techniques employed are Two Stage Least Squares, Tobit, and Probit Least Squares.

The study concludes that reasonable estimates of the empirical relationships determining compliance can be obtained through a largely economic model. Recommendations include building psychological and ethical factors into the model in order to capture the effects of non-economic behavior.

Master's Thesis Award of Merit

Conjoint Analysis of Consumer Preferences for Narrow-Leaved Evergreens

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Given the wide selection of nursery plant products available, the retail nursery manager faces a complex task in stock planning. Climate, financial resources, acreage, and labor availability may impose basic constraints, but selection of specific types, sizes, and numbers of plants depends on the retailer's knowledge of his market.

The wide variety of nursery products in even a single category of plants, may make it useful to consider consumer preferences for landscaping plants in terms of general characteristics rather than specific plants. This approach: 1) allows comparison between plants of the same species which may differ in purchase size or price; 2) allows comparison between plants of different genera, species or cultivars; 3) indicates tradeoffs which a consumer makes among different plant characteristics; and 4) allows hypothetical as well as actual plants to be evaluated.

This study examined preferences of Rhode Island and southern Massachusetts nursery customers for narrow-leaved evergreens. It also examined differences in preference related to demographic characteristics and purchase behavior.

The method used to obtain preference data was conjoint analysis, which measures the relative impact of each factor on judgements related to multi-factor options. The model was designed to estimate homeowner preferences regarding purchase size, growth rate, pest resistibility, color, price, and mature size.

The results indicate three factors as statistically significant for the aggregated group of nursery customers: resistance to insects and disease, purchase size, and fast growth rate. Low resistibility had the greatest effect upon preference and was negative, as expected. The most preferred purchase size was two to three feet. A fast growth rate negatively affected preferences.

The results also indicate differences in preference linked to certain customer-related factors, including age, income, size of property, and recent tree and shrub expenditures. Older homeowners appear to be less concerned with maintenance and more concerned with the finished appearance of landscaping than are younger homeowners. Price is a significant factor for those with household income less than $40,000; an unexpected result was their preference for moderate rather than low prices.

Low pest resistibility was an important consideration for homeowners with property larger than one-fifth acre. The results showed that the larger the property, the greater was the concern evidenced. Similarly, the negative effect of low resistibility increased with higher expenditures on trees and shrubs.

Master's Thesis Award of Merit

A Study of Ex Ante and Ex Post Entry Behavior of the Top Twenty Supermarket Chains: 1972–1981

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This study analyzes the factors which influence the *ex ante* entry decision by top supermarket chains and the factors which influence the *ex post* success of entry, once it has occurred. The study employs logit analysis to model the *ex ante* decision. The unit of observation is the Standard Metropolitan Statistical Area (SMSA) and the dependent variable is a binary variable, set to unity if entry occurred during the study period. This study is unique in that it attempts to operationalize Bain's queue of potential entrants for use as an explanatory variable. A number of structural variables are also used as explanatory variables.

Tobit analysis is used to model the *ex post* success. The data used in this section is a subset of the first, consisting only of those SMSAs which were entered during the study period, and the dependent variable is the market share gained by the entrant five years after entry.

We find from the *ex ante* portion of this study that the structure of a market clearly influences the rate of entry in grocery retailing. The more impor-tant structural and strategic variables influencing the likelihood of entry include: the presence of nearby potential competitors, market growth, markets with a larger proportion of grocery sales made by small food stores, and markets without a domi-nant firm.

The *ex post* results present an interesting con-trast to the *ex ante* results. The impact on share growth of many of the factors found to influence the likelihood of entry is muted. While these variables have an impact on a firm's decision to enter a par-ticular market, once entry has occurred they don't govern the success of entry, as measured by market share gain. This, and the negative relationship be-tween share gain and entering firm ROE, calls into question the use of market share as the proper measure of successful entry. More profitable firms appear to gain a smaller market share than their less profitable rivals, suggesting that some firms may be attempting to maximize profitability while others may be maximizing company sales.