

CHAPTER IV: ORIGIN MODELS

INTRODUCTION

Knetsch, in line with his general plan for the CORD Study (see Chapter 1), suggested that work done by Cicchetti, Seneca and Davidson (1969) in the United States should form the basis of a procedure for analyzing CORD Study National Survey data collected on the level of people's participation in outdoor activities. However, after some preliminary work, this analysis approach was not used because examination of data indicated that this kind of analysis simply could not be carried out in 1971 because of the need for certain accurate supply information. Instead, a proposal by Hendry (1970) for a "dummy variable analysis" of the National Survey data was pursued, so as to allow the socio—economic variable effects on participation to be calculated, even though some of those variables were nominal. TN 12, "Analysis of Variance* as a Tool for Estimating Participation in Outdoor Recreation Activities" presents the version of the model proposed by Hendry that was eventually used. It goes beyond calculating "effects" of variables by describing procedures for estimating the number of people that a city will generate as participants in a given activity, and indicates how parameters calculated on the basis of behaviour reported in a National Survey can be used to estimate the amount of participation in, for example, hunting in Quebec.

However, when estimates are made using the model proposed, questions arise about the validity of procedures proposed for the use of Analysis of Variance in estimating participation in outdoor activities. Some of these questions relate to three considerations: (1) the effect of supply on participation, (2) the accuracy of estimates made, and (3) the structural deficiencies of models developed. Issues related to supply influences are taken up in the chapter on Supply Analysis. In this chapter there are papers on the accuracy of estimates of participation and structural deficiencies of models. Matters not raised are numerous. For example there has been concern about the accuracy of origin models related to the low magnitude of R^2 found when models are parameterized. This topic and some related concerns are taken up in TN 36 in Chapter VII. Other problems relate to the stability of model coefficients over time. TN 13, in Chapter IX, deals specifically with projections. In it a "context of validity" for the projection procedure described in TN 12 is defined. The TN thus further clarifies methodological issues related to using origin models.

NOTE: In CORDS using analysis of variance, ANOVA, does not refer to running a program that “partitions” variance based on the assumption that data were collected using a designed experiment. In the terminology of 2006, one is referring to using multiple regression to *analyze the variance in a dependent variable based on the values that independent variables happened to take – in the general case based on the “general linear model” presented in Scheffe 1959 pp. 13-22).