

PACKAGE ID - 000557IPCAT00 MURDAM1.0

KWIC TITLE - Minority Utility Rate Design Assessment Model

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LIMITATION CODE -UNL **AUDIENCE CODE** - UNL

COMPLETION DATE - 01/20/1993 **PUBLICATION DATE** - 01/20/1993

DESCRIPTION - Econometric model simulates consumer demand response to various user-supplied, two-part tariff electricity rate designs and assesses their economic welfare impact on black, hispanic, poor and majority households.

PACKAGE CONTENTS - Media Directory; User's Guide; Media Includes Executable Module, Batch File Used for Installation, Self Extracting Archive;

SOURCE CODE INCLUDED? - No

MEDIA QUANTITY - 1 5.25 Diskette

METHOD OF SOLUTION - The program incorporates discrete-choice appliance share models for electric cooking, space and water heating, and air-conditioning and a budget-constrained, two-stage conditional demand model. The models were estimated with data obtained from the Energy Information Administration's Residential Energy Consumption Surveys. The program runs the estimated models against a database containing relevant climatic, housing, and demographic information for 1606 sample households and the user-supplied input values for a two-part electricity tariff and the utility's marginal production cost. The program generates the resulting electricity demand and expenditures and calculates the Hicksian compensating variation from the base case as the measure of welfare gain or loss for each household induced by the user supplied rate design. The results are displayed as cumulative distributions of compensating variation for the individual households by population group.

COMPUTER - IBM PC/AT

OPERATING SYSTEMS - MS-DOS 3.3 or later

PROGRAMMING LANGUAGES - FoxPro

SOFTWARE LIMITATIONS - The database is currently limited to Midwest households. Program requires Borlands Quattro Pro 1.0 or later installed on the C: drive in the QPRO subdirectory to view the graphics. This software is not included with the package.

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SOFTWARE LIMITATIONS - (CONT)

SOURCE CODE AVAILABLE (Y/N) - N

UNIQUE FEATURES - Provides a means to assess the differential economic impact on minority and poor households of various electric utility rate design proposals using a method that takes into account the consumer demand response to changing prices and the utility's marginal cost of production.

RELATED SOFTWARE - A run-time version of FoxPro 2.0 is supplied with the program as is a Quattro Pro spreadsheet template for graphing the cumulative distributions of outcomes generated by MURDAM.

OTHER PROG/OPER SYS INFO - The proprietary spreadsheet program Quattro Pro Version 1.0 required to drive the templates is not included with the MURDAM package.

HARDWARE REQS - A 1.2MB or 1.44 MB floppy drive is needed to install MURDAM. A minimum system for operating the program is an 80286 CPU with 640K RAM, hard disk with at least 2 MB free space, and EGA color graphics monitor. Much better is an 80386 or 80486 CPU, with clock speed of at least 25 MHz, 1 MB LIM 4.0 expanded memory, VGA monitor, and laser printer (for printing graphics output).

TIME REQUIREMENTS - 5 minutes per run for an 80286 CPU; 20 seconds per run for an 80486/50MHz CPU.

REFERENCES - D.A. Poyer and J.G. Butler, User's Guide for Minority Utility Rate Design Assessment Model (MURDAM), January 1993.

ABSTRACT STATUS - Submitted January 1993. ESTSC released AS-IS February 1993.

SUBJECT CLASS CODE - MN

KEYWORDS -

COMPUTER PROGRAM DOCUMENTATION
M CODES
COMPUTERIZED SIMULATION
DATA ANALYSIS
DATA BASE MANAGEMENT
ECONOMIC ANALYSIS
ELECTRIC UTILITIES
ENERGY ANALYSIS
ENERGY CONSUMPTION
ENERGY DEMAND
ENERGY MODELS
ENERGY POLICY
FORECASTING
MARGINAL-COST PRICING
PERSONAL COMPUTERS

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REGRESSION ANALYSIS
REGIONAL ANALYSIS
RESIDENTIAL SECTOR
STATISTICAL MODELS
SUPPLY AND DEMAND
MINORITY GROUPS
RATE STRUCTURE
SOCIAL IMPACT
SOCIO-ECONOMIC FACTORS

EDB SUBJECT CATEGORIES -
990200 290200 296000

SPONSOR - DOE/MI

PACKAGE TYPE - AS - IS