

Discrete Choice Models (DCM): An Object-Oriented Package for Ox

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Abstract

DCM v2 (Discrete Choice Models) is a package, written in Ox, for estimating a class of discrete choice models. DCM represents an important development for both the OxMetric and, more generally, microeconomic computing environment in making available a broad range of discrete choice models, including standard binary response models, with notable extensions including conditional mixed logit, mixed probit, multinomial probit, and random coefficient ordered choice models. Developed as a derived class of `ModelBase`, users may access the functions within DCM by either writing Ox programs which create and use an object of the DCM class, or use the program in an interactive fashion.

Notable developments in v2 include a contraction mapping that facilitates the estimation of highly disaggregate models over a choice set with thousands of choices. In addition a new member function utilises an inversion such that endogeneity of attributes is cast within a linear model.

We demonstrate the capabilities of DCM by using a number of applications from the discrete choice literature. This document will serve as a manual for DCM.

JEL Classification: C20; C25; C87; D00.

Key Words: Discrete Choice Models, mixed logit, multinomial probit, ordered probit, Ox.