

Econ 7218 Problem Set 2

Kai-Hsiang, Yu
r11323035

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Question.1

The data is from Ciliberto and Tamer (2009), which contains 2,742 markets and 6 firms. The first model we use ordered probit with no observed heterogeneity to estimate:

$$\pi_i(N) = X_i\beta - \delta \ln(N) + u_{i0} \quad (1)$$

and the second model we use MSM to estimate:

$$\pi_{ik}(N) = X_i\beta - \delta \ln(N) + Z_{ik}\alpha + \sigma u_{ik} + \rho u_{i0} \quad (2)$$

where X includes a constant, population and distance, and Z includes market presence and cost.

Table 1: The Coefficients of Two Models

	(1)	(2)
Constant	0.9833 (0.0468)	1.3119
Dist	0.4726 (0.0330)	1.5857
Population	0.0681 (0.0109)	0.2347
Market Presence	-	2.0269
Cost	-	-0.08269
δ	1.9209 (0.0290)	4.7622
ρ	-	0.1265

The coefficient of *Distance* is positive in two models, it is not consistent with our expectation. However, δ is positive in two models, which is consistent

with Berry's paper. That means when more firms enter the market, the profit of each firm will decrease.