Econ 675 Assignment 6

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Contents

1 Section 1: Binary choice model

1.1 Part 1

Here are the results of my model

1.2 Part 6

Let

$$m_1 = -\frac{1}{\sigma_w^2}\rho(x_{2i} - (\theta_3 + \theta_4 x_{1i} + \theta_5 z_i))$$

and

$$v_1 = 1 - \frac{\rho^2}{\sigma_w^2}$$

$$L(\theta) = \sum_{i=0}^{n} y_i Log(\Phi_{m_1,v_1}(\theta_0+\theta_1 x_{1i}+\theta_2 x_{2i}))+(1-y_i)log(\Phi_{m_1,v_1}(\theta_0+\theta 1 x_{1i}+\theta_2 x_{2i}))+log(\phi_{0,\sigma_w^2}(x_{2i}-\theta_3-\theta_4 x_{1i}-\theta_5 z_i))$$

2 Question 2

2.1 Part 1

$$s_j = P(\mu_{ij} \geq \mu ij' \quad \forall \quad j' = 0, ..., J | \boldsymbol{\beta}, \alpha) = \frac{exp(\boldsymbol{x}_{jt}\boldsymbol{\beta} - \alpha p_{jct} + \xi_{jct})}{1 - \sum_{j'} exp(\boldsymbol{x}_{j't}\boldsymbol{\beta} - \alpha p_{j'ct} + \xi_{j'ct})}$$

2.2 part 2

$$\delta_j = log(s_j) - \lambda log(s_0)$$

3 Appendix

3.1 R Code

3.2 STATA Code