Adv. Microeconometrics Computer Assignment

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11/19/2020

1 - Size distortions

Simulate data from the following model:

$$Y = X\beta + \varepsilon$$
$$X = Z\Pi + V$$

where: * Y and X are $n \times 1$ vectors which contain the endogenous variables; * Z is a $n \times k$ matrix of instruments; * ε and V are $n \times 1$ vectors that contain disturbances.

The different rows of $\left(\varepsilon \vdots V \right)$, are independently normally distributed, i.e.,

$$\begin{pmatrix} \varepsilon_i \\ V_i \end{pmatrix} \sim \mathcal{N}(0, \Sigma), \qquad \Sigma = \begin{pmatrix} 1 & \vdots & \rho \\ \rho & & 1 \end{pmatrix}$$