Labor Economics

Hung-Kai Huang

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1. What is the title of the second paper listed on the NBER weekly working paper series that you most recently received?

Helicopter Drops and Liquidity Traps. By Manuel Amador and Javier Bianchi #31046

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4.1.1

$$E(w_0|I) = \mu_0 + E\left(\epsilon_0 | \frac{\nu}{\sigma_\nu} > z\right) \tag{1}$$

$$= \mu_0 + \sigma_0 E\left(\frac{\epsilon_0}{\sigma_0} | \frac{\nu}{\sigma_\nu} > z\right) \tag{2}$$

We know that,

$$E(\epsilon_0|\nu) = \frac{\sigma_{0\nu}}{\sigma_\nu^2}\nu$$

Apply it to (2), we get,

$$E\left(\frac{\epsilon_0}{\sigma_0} | \frac{\nu}{\sigma_\nu}\right) = \frac{\sigma_{0\nu}}{\sigma_\nu^2} \cdot \frac{1}{\sigma^{-2}} \cdot \frac{1}{\sigma_0\sigma_\nu} \cdot \frac{\nu}{\sigma_\nu}$$
$$= \frac{\sigma_{0\nu}}{\sigma_0\sigma_\nu} \frac{\nu}{\sigma_v}$$
$$= \rho_{0\nu} \frac{\nu}{\sigma_\nu}$$

Rewrite (2),

$$E(w_0|I) = \mu_0 + \sigma_0 E\left(\frac{\epsilon_0}{\sigma_0} | \frac{\nu}{\sigma_\nu} > z\right)$$
$$= \mu_0 + \rho_{0\nu}\sigma_0 E\left(\frac{\nu}{\sigma_\nu} | \frac{\nu}{\sigma_\nu} > z\right)$$
$$= \mu_0 + \rho_{0\nu}\left(\frac{\phi(z)}{1 - \Phi(z)}\right)$$

Similarly, we can write,

$$E(w_1|I) = \mu_1 + E\left(\epsilon_1 \Big| \frac{\nu}{\sigma_\nu} > z\right)$$

$$= \mu_1 + \rho_{1\nu}\sigma_1 \left(\frac{\phi(z)}{\Phi(-z)}\right)$$

Rearrange equations,

$$E(w_0|I) = \mu_0 + \rho_{0\nu}\left(\frac{\phi(z)}{1 - \Phi(z)}\right)$$

$$= \mu_0 + \frac{\sigma_0\sigma_1}{\sigma_\nu}\left(\rho - \frac{\sigma_0}{\sigma_1}\right)\left(\frac{\phi(z)}{\Phi(-z)}\right)$$

$$E(w_1|I) = \mu_1 + \rho_{1\nu}\sigma_1\left(\frac{\phi(z)}{\Phi(-z)}\right)$$

$$= \mu_0 + \frac{\sigma_0\sigma_1}{\sigma_\nu}\left(\frac{\sigma_0}{\sigma_1} - \rho\right)\left(\frac{\phi(z)}{\Phi(-z)}\right)$$

4.1.2

No, this will suggest that people leave the upper tail of the source job income distribution for the lower tail of the other job income distribution, which violate income maximization.

$$\rho > \max\left(\frac{\sigma_1}{\sigma_0}, \frac{\sigma_0}{\sigma_1}\right)$$

which imply that $\rho > 1$, which is not feasible.

Github Results

The remaining problems' results have been pushed to the github
https://github.com/Willkczy/ECON-WillHuang.git