Notes

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Data Generation The individual's wage in the last period is given by

$$ln(w_{i,A}) = f_1 + f_2(x_{i,A}) + e_{i,A}.$$

Note, this does not include measurement error. For each individual the observed wage is

$$ln(w_{i,A}) = f_1 + f_2(x_{i,A}) + e_{i,A} + v_{i,A}.$$

Calculation of Terminal Period Values If it the final period of an individual's life, for a given wage $w_{i,A}$ and experience level $x_{i,a}$, the individual's value function is

$$V(w_{i,A}, v_{i,A}) = max\{\gamma_1 + (1+\gamma_2)y_i, w_{i,A} + y_i\}.$$

Consequently, the individual chooses to work if $w_{i,A} + y_i \geq \gamma_1 + (1+\gamma_2)y_i$.

Calculation of Non-terminal Period Values If it is not the final period of an individual's life, their value function when choosing not to work is

$$V_a^0(x_{i,a}) = \gamma_1 + (1+\gamma_2)y_i + \left(\frac{1}{1+\delta}\right) V_{a+1}(x_{i,a}),$$

and their value function when choosing to work is

$$V_a^1(x_{i,a}) = w_{i,a}(x_{i,a}) + y_i + \left(\frac{1}{1+\delta}\right) V_{a+1}(x_{i,a}+1).$$

Thus, their value function at time a with experience $x_{i,a}$ is

$$V_a(x_{i,a}) = max\{V_a^0(x_{i,a}), V_a^1(x_{i,a})\},$$

and the individual chooses to work if $V_a^1(x_{i,a}) > V_a^0(x_{i,a})$.

Summary Stats

- Individual lives for A periods
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