

Problem on the Galor-Zeira Model

The town of Gilbert has six families, the Larsens, the Hansens, the Petersens, the Johansens, the Olsens, and the Rogersens. Each family has one child and each child has one parent. People in Gilbert live for two periods. In the first period of life, they either go to Gilbert High (and ISU) or they bus tables at The Open Flame earning the wage of 2 units of corn. In the second period of life, all those who got an education when young get a job in Des Moines that pays 9 units of corn; the rest continue to work for The Open Flame at the wage of 2 units of corn. It costs 4.8 units of corn to go Gilbert High (and ISU). People in Gilbert may borrow any amount they wish to from their local bank at the interest rate of 10% (i.e., $i = 0.1$) but they get an interest rate of 2% ($r = 0.02$) on their savings account with the bank. The preferences of people in Gilbert are given by

$$U(c, b) = c^{0.5}b^{0.5}$$

where c is consumption in their second period of life, and b is the bequest a parent leaves for their child.

1. Consider a family (parent) with a wealth of W in her second period of life. Compute the optimal amount of bequests she will leave for her child. Use the specific utility function given above.
2. The Larsen child starts off life with an inheritance of 2 units of corn. Will she go to Gilbert High? Explain.
3. The Johansen child starts off life with an inheritance of 4.1 units of corn. Will she go to Gilbert High? Explain.
4. If the cost of going to Gilbert High were to go up to 5 units, would any family send their children to school? Explain.
5. Will the Johansens' *grandchild* go to school? What about *her* child? Explain.
6. The Hansen child starts off life with an inheritance of 3.9 units of corn. Will she go to school? her child? Explain.
7. For your own practice: suppose the cost of going to Gilbert High and ISU fell to 2 units. Will the Hansen child and her child go to school?