

EXERCISE 3: PUBLIC SERVICES AND COMMUNITY CHOICE

There are two communities, of equal size, but different incomes (y). Community one has $y=40000$, community two has $y=20000$. Residents of each have the common utility function and budget constraint:

$$u=xG ; y=x+2G$$

The variable x is private expenditure, G is public services (per capita), which are assumed to cost twice that of private goods (hence the 2 in the budget constraint).

Each town pays for its public services with a flat rate income tax on its residents.

1. Calculate the town's (optimal) choice of G and x .
2. Determine the income tax rate in each town.
3. What utility level do the residents of each town wind up at?
4. Now calculate what the residents of each town are willing to pay (a lump sum "rent" or change in after-tax income) to live in the other town. Explain your answer.