Income Tax

replace Assumption *III* with :

ASSUMPTION III' : The public sector in jurisdiction J is financed by a proportional income tax at the rate t^J. The local government is required to balance its budget, so that the tax rate t^J must satisfy the budget constraint

$$t^J \bar{y}^J = \theta g^J \tag{1}$$

where $\bar{y}^J$ is the average income in jurisdiction J.

total taxes paid by a person of income y^i, should she decide to live in jurisdiction J are $T^{iJ} \equiv t^J y^i$

$$T^{iJ} \equiv \theta \frac{y^i}{\bar{y}^J} g^J \tag{2}$$

"tax–price" of public output

p_g^{iJ} : the "price" of the local public output that a person would pay in jurisdiction J, if her income were y^i

$$p_g^{iJ} \equiv T^{iJ}/g^J = \theta \frac{y^i}{\bar{y}^J} \tag{3}$$

[aside : in a **given** jurisdiction J, do rich people want more, or less, public output?

quantity preferred by a person of income y^i is

$$g^D(p_g^{iJ}, y^i)$$

rich people have higher y^i, but also (from eq. (3)) face a higher tax–price

so g^* could go up or down with y^i, depending on whether income elasticity is bigger than price elasticity]

Where to Locate?

if average income $\bar{y}^J$ in jurisdiction J were the same as person i's income (this would be true if everyone in the jurisdiction had the same income y^i) then

$$p_g^{iJ} = \theta$$

some other jurisdiction K, with $g^K > g^J = g^*(y^i)$
but $\bar{y}^K > \bar{y}^J = y^i$ so that

$$p_g^{iK} < p_g^{iJ}$$

J or *K*? (see fig. 4)

The Implications of Mobility

Equation (3) $\rightarrow$ for **any** person, regardless of her income, the unit price p^{iJ} she faces for the public sector will be lower, the richer is jurisdiction J
if distortions in the quantity g^J are not too big, then everyone wants to move to the richest jurisdiction

existing residents of J?
Every time someone of income $y^i < \bar{y}^J$ moves into jurisdiction J, the average income $\bar{y}^J$ falls. And when the $\bar{y}^J$ falls t^J increases.

incentives to keep out lower–income immigrants

Property Taxation

τ^J : property tax rate in jurisdiction J

tax collections per person : $\tau^J \bar{h}^J$

where $\bar{h}^J$ is the average property value in jurisdiction J.

$$\tau^J \bar{h}^J = \theta g^J \tag{4}$$

$$T^{iJ} = \frac{h^{iJ}}{\bar{h}^J} \theta g^J \tag{5}$$

$$p_g^{iJ} = \frac{h^{iJ}}{\bar{h}^J} \theta \tag{6}$$

two complications

1. the size of house a person chooses to buy is a choice she makes. The term h^{iJ} in expression (6) is the value of the house person i would choose to buy, if she moved to jurisdiction J. (Still true that, other things equal, h^{iJ} increases with y^i.)

The demand for housing also depends on the price of housing. So the presence of the property tax tends to decrease housing consumption : the price of housing includes the property taxes one has to pay, and this higher price leads to a lower demand.

2. the price of housing depends not just on the property tax in the jurisdiction. Jurisdictions have limited areas. Jurisdictions which are attractive will have expensive houses, since demand for housing is higher there.