# Decentralization

voters/movers : identical preferences $u(c, g)$

now **not** the "*Persson and Tabellini*" quasi–linear form $u = c + H(g)$

artificial problem : people could buy **both** $c$ and $g$ on private markets, at a price of \$1 per unit for $c$, and at a price of $p_g$ dollars per unit for $g$

solving consumer's problem $\rightarrow$ "demand function" $g^D(p_g, y^i)$ for $g$ as function of the good's price, and the consumer's income

assumption : the publicly provided good $g$ is a **normal good**

**ASSUMPTION** *I* : $\frac{\partial g^D}{\partial y^i} > 0$

This assumption does **not** hold for the “Persson–Tabellini” quasi–linear preferences $u = c + H(g)$

# Public Production

$\theta$ : **unit cost** of the public good

**ASSUMPTION** // The cost per person of the public sector does not vary with the population of the jurisdiction.

Assumption // : no **economies of scale in population** in the public sector

so cost per person of public output level $g^J$ in jurisdiction $J$ is $\theta g^J$

# Local Governments

**many** local governments

local public sector financed by a **head tax**

**ASSUMPTION** *///* : The public sector in jurisdiction $J$ is financed by a head tax $T^J$, so that each resident of the jurisdiction pays the same total tax bill $T^J$.

budget constraint for jurisdiction $J$ :

$$T^J = \theta g \tag{1}$$

no reference to average income $\bar{y}^J$ in the jurisdiction

# Voting

since $u(c, g)$ has "usual" convexity, people have single–peaked preferences

$$c^i = y^i - T^J \tag{2}$$

if person $i$ lives in jurisdiction $J$, so

$$c^i = y^i - \theta g^J \tag{3}$$

Person $i$'s most preferred quantity $g^*(y^i)$ of the public good maximizes her utility $u(y^i - \theta g^J, g^J)$, so

$$g^*(y^i) = g^D(\theta, y^i) \tag{4}$$

# local choice

If the local public sector is chosen by direct vote in each jurisdiction, the quantity chosen in jurisdiction $J$ will be the quantity preferred by the voter of median income :

$$g^J = g^D(\theta, y^{mJ}) \tag{5}$$

where $y^{mJ}$ is the median income in jurisdiction $J$

# Mobility

new feature : voters are **mobile** between jurisdictions. pause

used in a (1956) paper by Charles Tiebout $\rightarrow$ “Tiebout models”

where would a person want to move, if she was free to move?

her most–preferred level of public output — given that the public sector must be financed by a head tax — is $g^*(y^i)$

she sees a bunch of jurisdictions, each with its own $g^J$

# Sorting

A jurisdiction with a high median income will be providing a higher level of public output, and poorer jurisdictions will be providing lower levels of public output.

person $i$ wants to find jurisdiction $J$ in which the median income $y^{mJ}$ equals her own income $y^i$

**ASSUMPTION** *IV* : Mobility is costless.

# Equilibrium

equilibrium :an allocation of people to jurisdictions, and a choice of $g^J$ for each jurisdiction, such that : ($i$) nobody wants to move to another jurisdiction ; ($ii$) nobody in any jurisdiction wants to change the level of public expenditure in that jurisdiction.

**RESULT** : Under assumptions *I*–*IV*, if there are enough different jurisdictions, then in equilibrium each jurisdiction will contain a single income class. Everyone in jurisdiction $J$ will have the same income $y^i$, and the local public sector in jurisdiction $J$ will provide a level $g^*(y^i)$ of the public output. People of some other income class $y^k \neq y^i$ will live in some other jurisdiction $M$ ($M \neq J$), in which $g^M = g^*(y^k)$.

this equilibrium is **efficient** — every person gets the level of public output she wants, given that she has to pay taxes of $\theta g$ if she gets a public output level of $g$
(even though there is no freedom of choice **within** a jurisdiction)

"voting with your feet" : here if you can vote with your feet, you don't need to vote at the ballot box