

## Private Provision of Public Goods

What if the good is excludable?

If private sector provides the good, charge for it.

Positive price (essentially) means the allocation is inefficient.

If the right model, the facility exists, letting another person have the service creates zero costs, then exclusion by price is inefficient. Letting them consume makes them better off, no one worse off.

If the public sector provides the good, exclusion still inefficient, but might gather a little revenue at the gate without excluding anyone (no marginal people).

Note: Private goods are always excludable!

Impure public goods that are excludable (fishing lake), some exclusion is efficient, could achieve it by price. If this a natural monopoly, that price may be inefficiently high (still need competition for the price to be right, or some kind of regulation).

## Public Provision of Public Goods

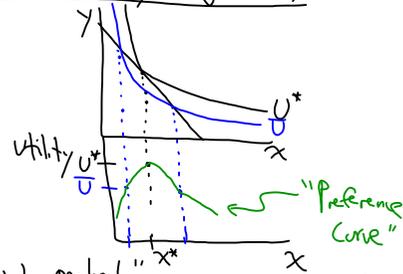
If you start at the voluntary contribution equilibrium, which is inefficient, add government taxing/spending to make up the shortfall in spending. This won't work. Dollar-for-dollar crowding out. To get to the efficient allocation this way, government must "go big." Crowd out everything, then go further.

- a) This is theory, maybe don't get this much crowding out.
- b) If initially some people weren't contributing, then taxing will make everyone pay, and (it turns out) the original contributors won't cut back dollar-for-dollar.  
An important case.

Real government has to answer the questions the market has to answer when it is used:

- how much to provide?
- how to allocate the costs?

Direct Democracy (majority rule)



"Single-peaked"

"Ideal point": The ~~person~~ <sup>person's</sup> ~~ideal point~~ <sup>ideal point</sup>

"Median voter": The person who has the median  $x^*$ , "median ideal point."

Theorem Under the assumption all these exist (single-peaked preference curve, odd # voters), median ideal point defeats any other alternative in a pairwise vote.

"Median voter Theorem."

Prediction about outcome.

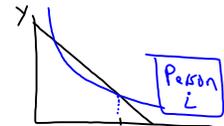
Is it efficient?

Probably not.

At efficient allocation, need  
 $\sum MRS = MRT$ .

Chosen quantity of  $X$  is  $X^{*m}$ .

$MRS_{xy}^i(X^{*m})$ :



$$\sum MRS_{xy}^i(X^{*m}) = MRT_{xy}(X^{*m})$$

is what is needed: necessary for efficiency

What happens depends on budget constraints. Supplier share costs equally, for example.

Median voter:  $\text{Max}_{x,y} U^m(x,y)$   
 s.t.  $P_y y + \frac{P_x}{n} x = M^m$

$$MRS_{xy}^m(X^{*m}) = \frac{1}{n} \frac{P_x}{P_y} \rightarrow \text{what happens}$$

$$\Rightarrow n \cdot MRS_{xy}^m(X^{*m}) = \frac{P_x}{P_y} = MRT_{xy}$$

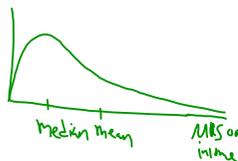
Combine:  $\sum MRS_{xy}^i(X^{*m}) = n \cdot MRS_{xy}^m(X^{*m})$

$$\Rightarrow \frac{\sum MRS_{xy}^i(X^{*m})}{n} = MRS_{xy}^m$$

If efficient  $\Rightarrow$  Average MRS = median MRS.

Low income people, would prefer less public good, wealthy would prefer more (equal cost sharing).

Median MRS  $<$  mean MRS, which is high because high income people want a lot more.  $\frac{MU_x}{MU_y}$  is too high.



# Representative Democracy

(See slides)

⇒ Government failure must be kept in mind along with market failure.

(Most of Gruber is great, required, but very straightforward.)

# REPRESENTATIVE DEMOCRACY: Vote-Maximizing Politicians

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- In reality, voters elect representatives, who are supposed to aggregate their preferences and take them into account when they vote on the appropriate level of public goods.
- If politicians care about maximizing the number of votes they get, they choose the outcome preferred by the median voter.

# Assumptions of the Median Voter Model

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- The median voter model is a powerful tool, but relies on a number of assumptions worth mentioning:
  - Single-dimensional voting: Voters only care about one issue.
  - Only two candidates: With a 3<sup>rd</sup> candidate, there is no stable equilibrium.
  - No ideology or influence: Assumes politicians only care about votes, not ideological positions.
  - No selective voting: All citizens actually vote.
  - No money as a tool of influence.
  - Perfect information along three dimensions: voter knowledge of the issues, politician knowledge of the issues, and politician knowledge of voter preferences.

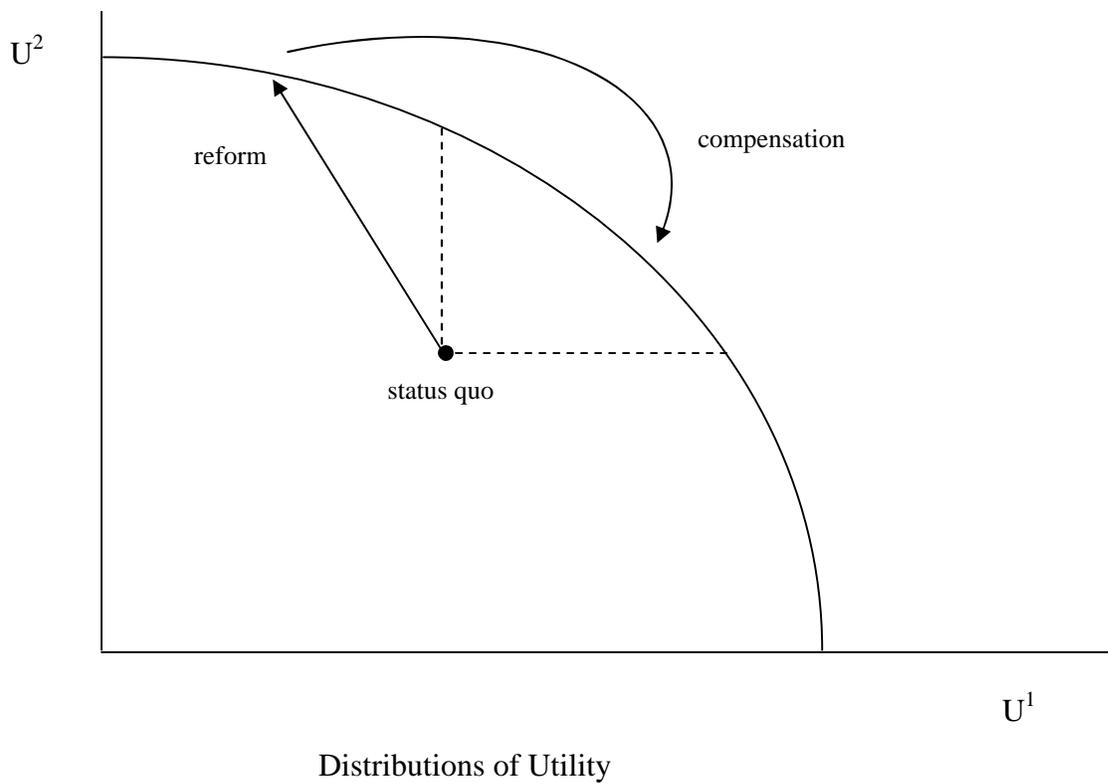
## Stiglitz

Why are so few Pareto improving reforms adopted?

(1) People may expect to get more in the future, so they do not accept what they have now as the benchmark for reform.

(2) Reform may make transparent any subsidies that certain groups receive under the status quo. Transparent subsidies are politically unstable. Government has a commitment problem.

(3) Reform may require compensation (side-payments) to the losers to be Pareto improving. Compensation has the same problem as subsidies: politically unstable.



(4) Elections create shocks that one or both sides may believe will believe will work to their advantage. This creates holdouts.

(5) Positive sum economic policy is set within zero-sum politics.

a. If the other side can take credit, may not want to do it.

b. Exacerbates problems of incomplete information. Opposing side recommends a policy. Do they have information showing that it will help them and hurt me?

c. General culture of zero-sum politics.