LECTURE 7

Political Economy

Public Choice

Political Economy Defined

- Political Economy is the application of economic principles to the analysis of political decision making.
  - ***Self-interest*** – in the marketplace, this often leads to efficiency; different implications in "political market."
  - ***Maximization*** – one goal may be to maximize social welfare.

Direct Democracy

- Several kinds of voting procedures:
  - Unanimity rules
  - Majority voting rules
  - Logrolling
- Problems with all of these rules: Arrow's Impossibility Theorem

Direct Democracy:
Unanimity rules

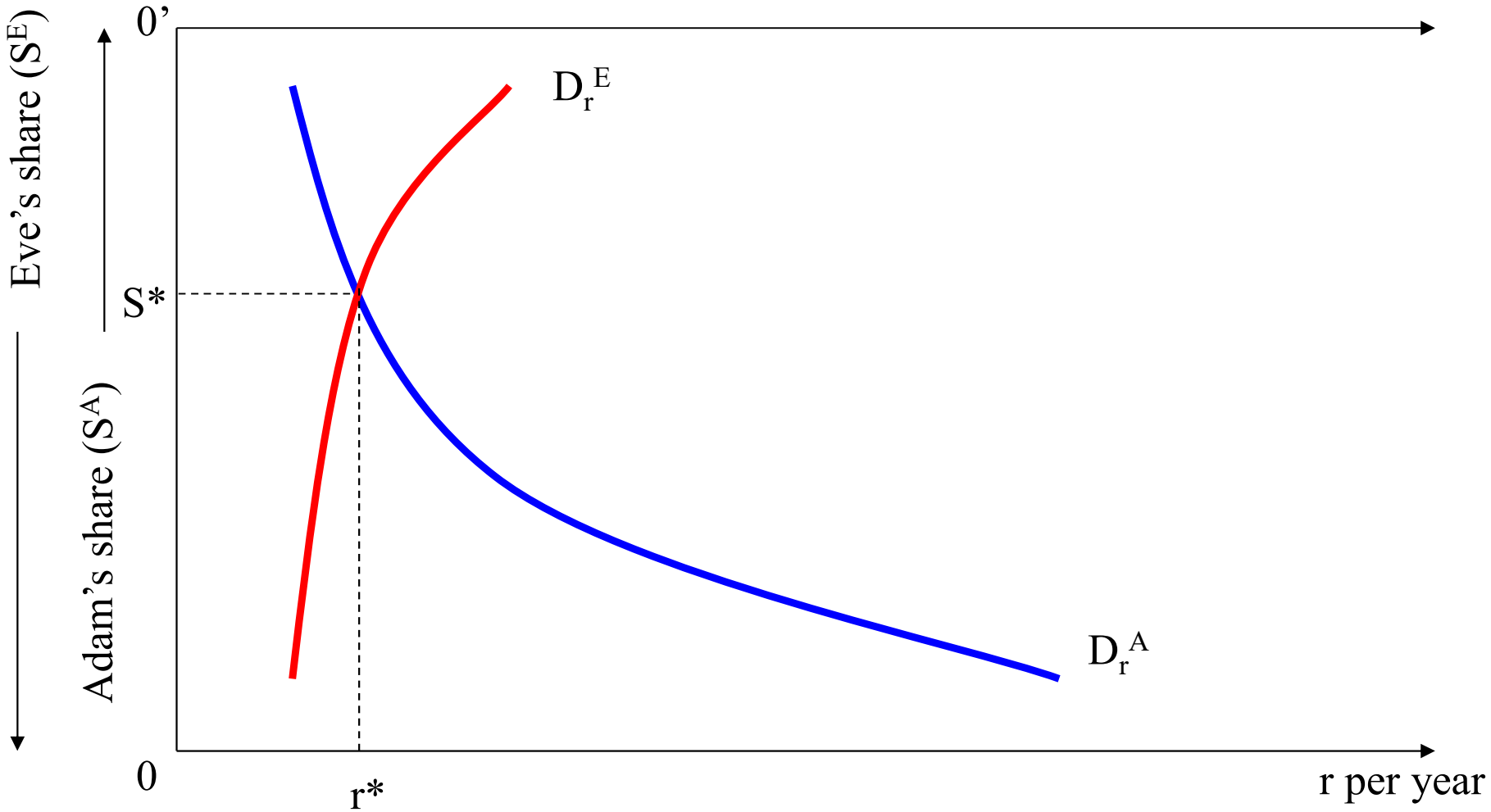
- ***Unanimity rules***: All parties must agree for a policy to be implemented.
  - Example: In principle, society could agree that a public good should be provided rather than not being provided.
- ***Lindahl prices*** designed to elicit unanimous agreement for provision of public good.

Direct Democracy:
Example of Lindahl's procedure

- 2 individuals, Adam & Eve
- Fireworks display (public good, denote as *r*)
- S^A =Adam's share of total cost of fireworks provision
- For any given share, S^A, Adam demands some quantity of fireworks.

Direct Democracy:

Example of Lindahl's procedure



The Lindahl Model

Direct Democracy:
Example of Lindahl's procedure

- The above Figure shows the relationship between each person's tax share & quantity of fireworks demanded.
- Each person demands more fireworks as the share of costs paid falls.
- Shares add up to one: $S^A+S^E=1$
- ***Lindahl prices***: Each person faces a "personalized price" per unit of the public good, which depends on the tax share.

Direct Democracy:
Example of Lindahl's procedure

- Equilibrium: set of Lindahl prices such that each person votes for the same quantity of the public good.
- In the Figure, this occurs at quantity r^*, and each person's share is measured on the x-axis.

Direct Democracy:

Feasibility of Lindahl's procedure

- Could imagine an auctioneer announces initial set of tax schedules, then Adam & Eve vote on quantity of fireworks.
  - If they agree on quantity, stop. Otherwise, continue process with new tax shares.
- Would converge to r^*, which is Pareto efficient.

Direct Democracy:
Feasibility of Lindahl's procedure

- Problems:
- Assumes people vote sincerely
  - Strategic behavior (e.g., misrepresenting one's preferences) may prevent Lindahl equilibrium
- Finding tax shares may take a lot of time.
  - Imagine many parties, not just two.

Direct Democracy:
Majority Voting rules

- ***Majority Voting rules***: one more than half of the votes must favor a measure to gain approval.
- Although the rules are familiar, potential problems with them.

Direct Democracy:
Majority Voting rule example

- 3 people have to choose among 3 levels of missile provision
  - A is small amount of provision
  - B is moderate amount of provision
  - C is large amount of provision
- People are Brad, Jen, and Angelina
- Preferences are shown in Table 6.1 of the book.

Direct Democracy:

Majority Voting rule example

	Voter		
Choice	**Brad**	**Jen**	**Angelina**
First	A	C	B
Second	B	B	C
Third	C	A	A

Direct Democracy:
Majority Voting rule example

- In Table 6.1, the quantity B would win in an election of *B vs. A* (by a vote of 2-1, with Jen and Angelina voting for B).
- B would also win in an election of *B vs. C* (by a vote of 2-1, with Brad and Angelina voting for B).
- Selection of B in this case is independent of the order in which the votes are taken.

Direct Democracy:
Majority Voting rule example

- Now consider the preferences are shown in Table 6.2

Direct Democracy:

Majority Voting rule example

	Voter		
Choice	**Brad**	**Jen**	**Angelina**
First	A	C	B
Second	B	A	C
Third	C	B	A

Direct Democracy:
Majority Voting rule example

- In Table 6.2, imagine a series of paired elections to determine the most preferred level. Elaine's preferences are the only ones that have changed.
  - The quantity A would win in an election of *A vs. B* (by a vote of 2-1, with Brad and Jen voting for A).
  - The quantity B would win in an election of *B vs. C* (by a vote of 2-1, with Brad and Angelina voting for B).
  - The quantity C would win in an election of *A vs. C* (by a vote of 2-1, with Jen and Angelina voting for C).

Direct Democracy:
Majority Voting rule example

- This phenomenon is referred to as **voting paradox**
- Thus, the ultimate outcome depends crucially on the order in which the votes are taken.
- It is clear in this example that whichever quantity was not considered in the first round would ultimately win.
  - If first election is A vs B then A wins. If A vs C, then C wins.
  - If first election is B vs C, then B wins. If Bvs A, then A wins.
- ***Agenda manipulation*** is the process of organizing the order of votes to assure a favorable outcome.

Direct Democracy:
Majority Voting rule example

- Another problem is that paired voting can go on forever without reaching a decision.
  - After A vs B, A wins If C vs A, C wins. If then B vs C, B wins.

- This can go on forever and the phenomenon is called ***cycling***:

Direct Democracy:
Why difficulties with Majority Voting rule?

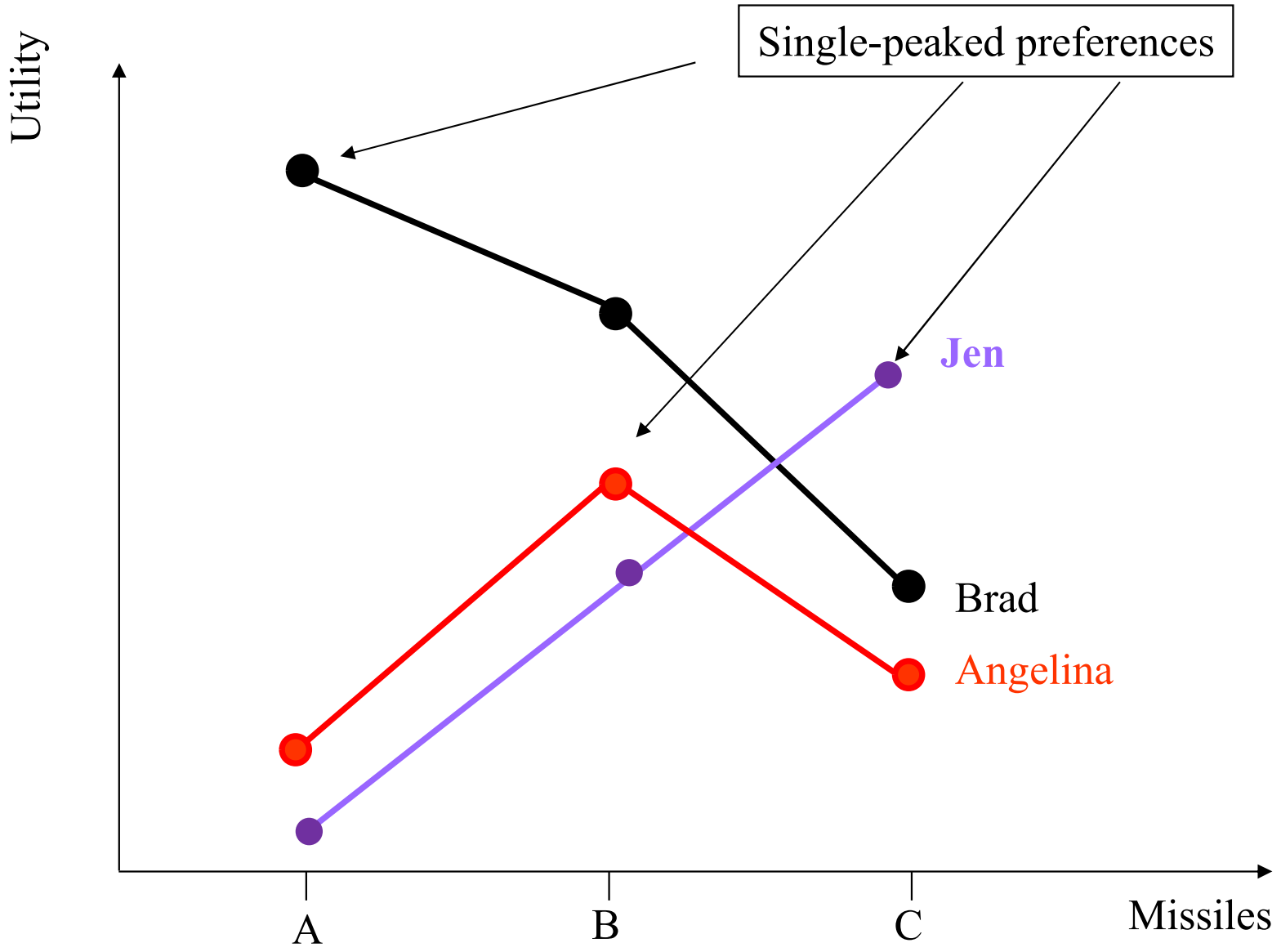
- A ***peak*** in an individual's preferences are a point at which all neighboring points are lower.
  - ***Single peaked preferences***: utility falls as person moves away from most preferred outcome in any & all directions.
  - ***Double peaked preferences***: utility initially falls as person moves away from most preferred outcome, but then rises.

Direct Democracy:
Why difficulties with Majority Voting rule?

- In Figure 6.2, Jen has double-peaked preferences as quantity increases.
- This means he prefers either very large or very small missile expenditures to a quantity in the middle.

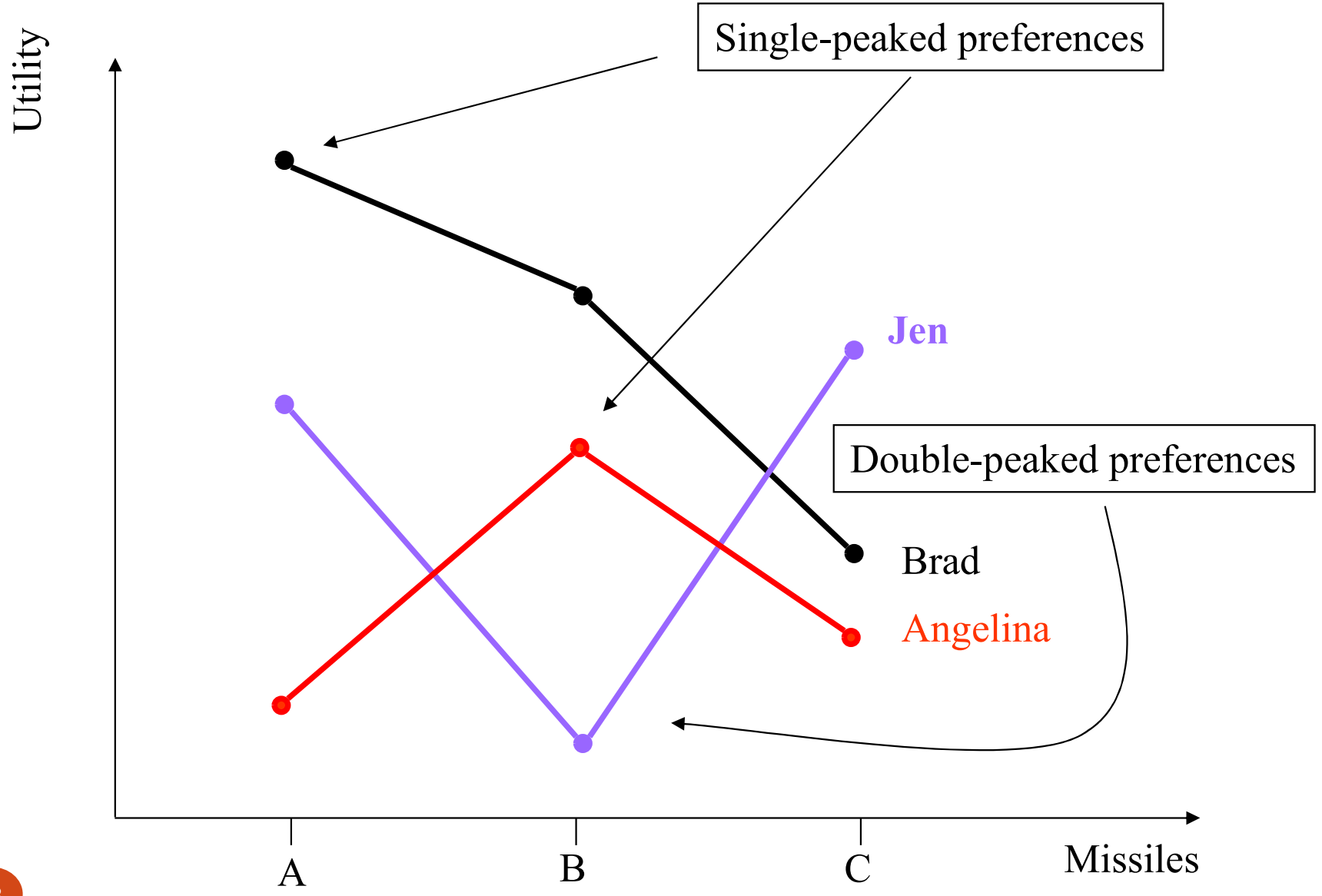
Direct Democracy:

Why difficulties with Majority Voting rule?



Direct Democracy:

Why difficulties with Majority Voting rule?



Direct Democracy:
Why difficulties with Majority Voting rule?

- How plausible are double-peaked preferences?
  - It depends on the context.
  - Missiles: not very plausible
  - Public park: more plausible, ***good for which there are private substitutes*.**
  - Goods which cannot be ordered on a single dimension like "size." The use of a vacant building, for example.

Direct Democracy: Majority Voting rules

- Return to case when alternatives can be ranked on a characteristic, like size or quantity.
- The *median voter* is the voter whose preferences lie in the middle of the set of all voter's preferences.
  - Half of voters want more of the good, and half want less.

Direct Democracy: Majority Voting rules

- The ***median voter theorem*** states that as long as all preferences are single-peaked, the outcome of majority voting reflects the preferences of the median voter.

Direct Democracy:
Median voter theorem illustrated

- Consider the 5 voters in Table 6.3, each with single-peaked preferences.
- Each voter's individually preferred expenditure (suppose for a party) is given in the table.

Direct Democracy:
Median voter theorem illustrated

Voter	Expenditure
Donald	€5
Daisy	100
Huey	150
Dewey	160
Louie	700

Direct Democracy:
Median voter theorem illustrated

- A movement from €0 to €5 would be by all five voters.
- A movement from €0 to €100 would be approved by Daisy, Huey, Dewey, and Louie.
- A movement from €100 to €150 would be approved by Huey, Dewey, and Louie.
- Any increase above €150 would be blocked by a majority of voters.
- Hence the majority votes for €150, which is the preferred amount of the median voter, Huey.

Direct Democracy: Logrolling

- ***Logrolling*** systems allow people to trade votes, and hence register how strongly they feel about various issues.
  - Vote trading is controversial, but may lead to more efficient provision of public goods.

Direct Democracy: Logrolling Example

- Consider the benefits from 3 different projects for 3 people.
- Negative values mean a net loss.
- The total benefit is positive
- If each project is voted on separately, none is adopted, even if each yields positive net benefits.
- With vote trading all projects can be adopted.

Direct Democracy: Logrolling Example

Voter				
Project	**Melanie**	**Rhett**	**Scarlet**	Total Net Benefits
Hospital	200	-50	-55	95
Library	-40	150	-30	80
Pool	-120	-60	400	220

Direct Democracy: Logrolling Example

- Table 6.4 shows the net benefit for each project is *positive*, but under a simple majority rule scheme, none get approved.
  - Net benefit is *negative* for two of the voters in each case (but small), and *positive* for one.
- By trading votes, possible to get all 3 approved, and society gains welfare.

Direct Democracy: Logrolling Example

- Logrolling could lead to inefficient outcomes, however.
- Vary the benefits for all 3 projects, so that the *net benefit* of each is now negative in Table 6.5.
- Here vote trading can lead to inefficient passage.

Direct Democracy: Logrolling Example

Voter				
Project	**Melanie**	**Rhett**	**Scarlet**	Total Net Benefits
Hospital	200	-110	-105	-15
Library	-40	150	-120	-10
Pool	-270	-140	400	-10

Direct Democracy: Logrolling Example

- In the second example, a majority of votes form a coalition to vote for projects that serve their interests, but whose costs are borne mainly by the minority of voters.

Direct Democracy: Problems

- Can *any* ethically acceptable method for translating individual preferences into collective preferences be free of difficulties discussed so far?

Direct Democracy: Problems

- Criteria for decision making rule
  1. Rule can produce a decision whatever the configuration of voters preferences (e.g., double-peaked, etc.)
  2. Rule can rank all possible outcomes
  3. Rule must be responsive to individual preferences.

     If every individual prefers A to B, then society prefers A to B.

Direct Democracy: Problems

- Criteria for decision making rule
  4. Rule must be consistent (e.g., transitivity)
  5. Rule must be able to rank two policies independent of irrelevant alternatives. (independence of irrelevant alternatives)
  6. No dictatorship. Social preferences must not reflect preferences of only one individual.

Direct Democracy: Problems

- ***Arrow's Impossibility Theorem*** states that it is impossible to find a decision rule that satisfies all of these criteria.
- These 6 criteria, taken together, seem reasonable.
- But theorem casts doubt on the ability of democracies to function.

Direct Democracy: Problems

- If any one of the 6 criteria are dropped, it is possible to find a collective decision making rule.
- It is sometimes possible, but not guaranteed, to find a decision making rule.
  - E.g., if everyone has same preferences.
- Theorem casts doubt on the use of social welfare functions.

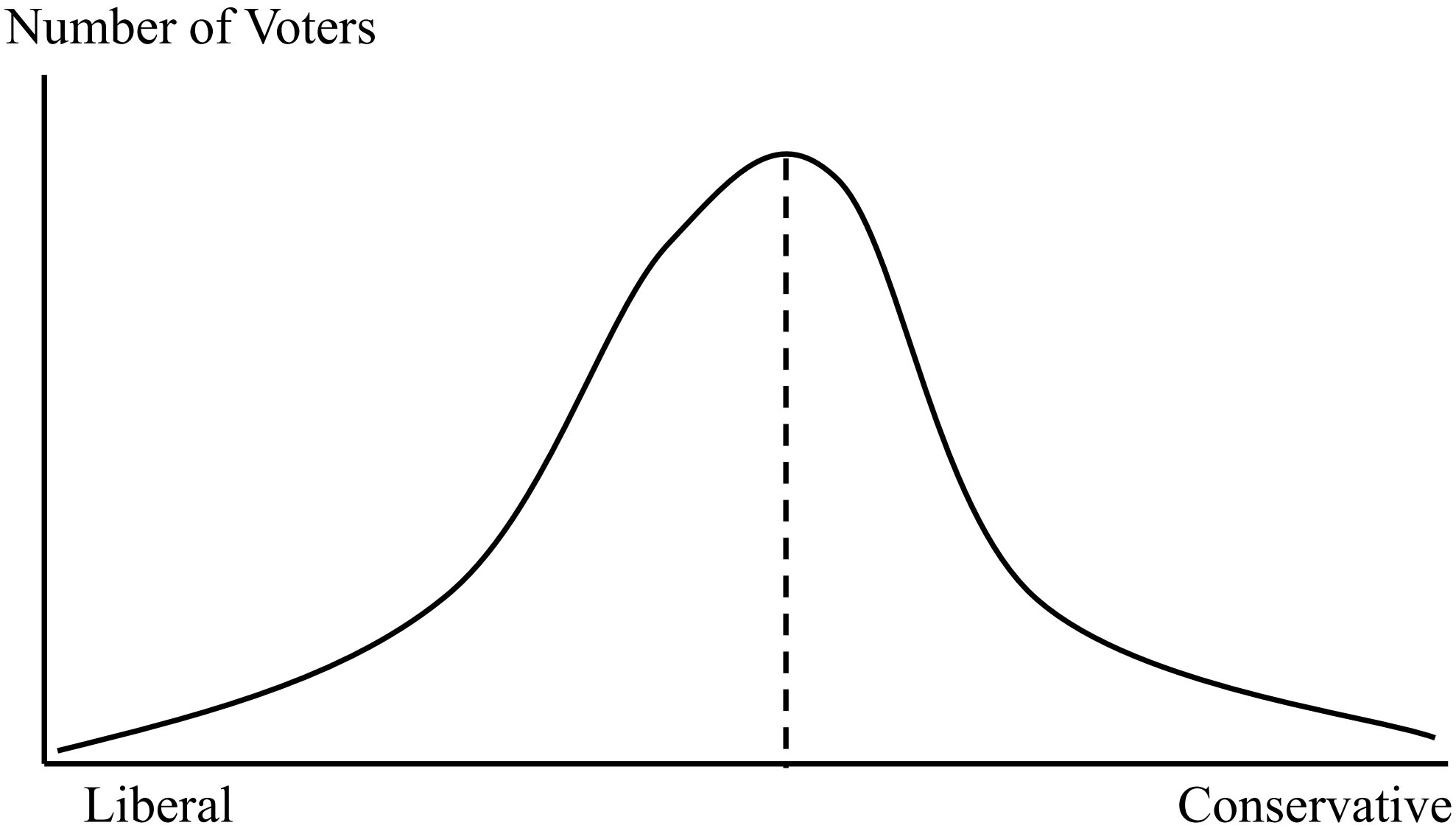
Representative Democracy

- In reality, government doesn't simply aggregate people's preferences; rather the governing is done by politicians, judges, bureaucrats, and so on.
- These players have their own objective functions.

Representative Democracy: Politicians

- Elected Politicians: If voters have single peaked preferences, the vote-maximizing politician adopts the preferred program of the *median voter*.
- See Figure 6.3.
  - Candidates move to middle of spectrum, because voters support candidate with view closest to own, and only one wins.

Representative Democracy: Politicians



Representative Democracy: Politicians

- Implications:
  - 2 party systems tend to be “stable” in the sense that both stake out positions near the “center.”
  - Replacement of direct referenda (e.g., direct democracy) by a representative system has no effect on outcome. Both mirror the preferences of median voter.

Representative Democracy: Politicians

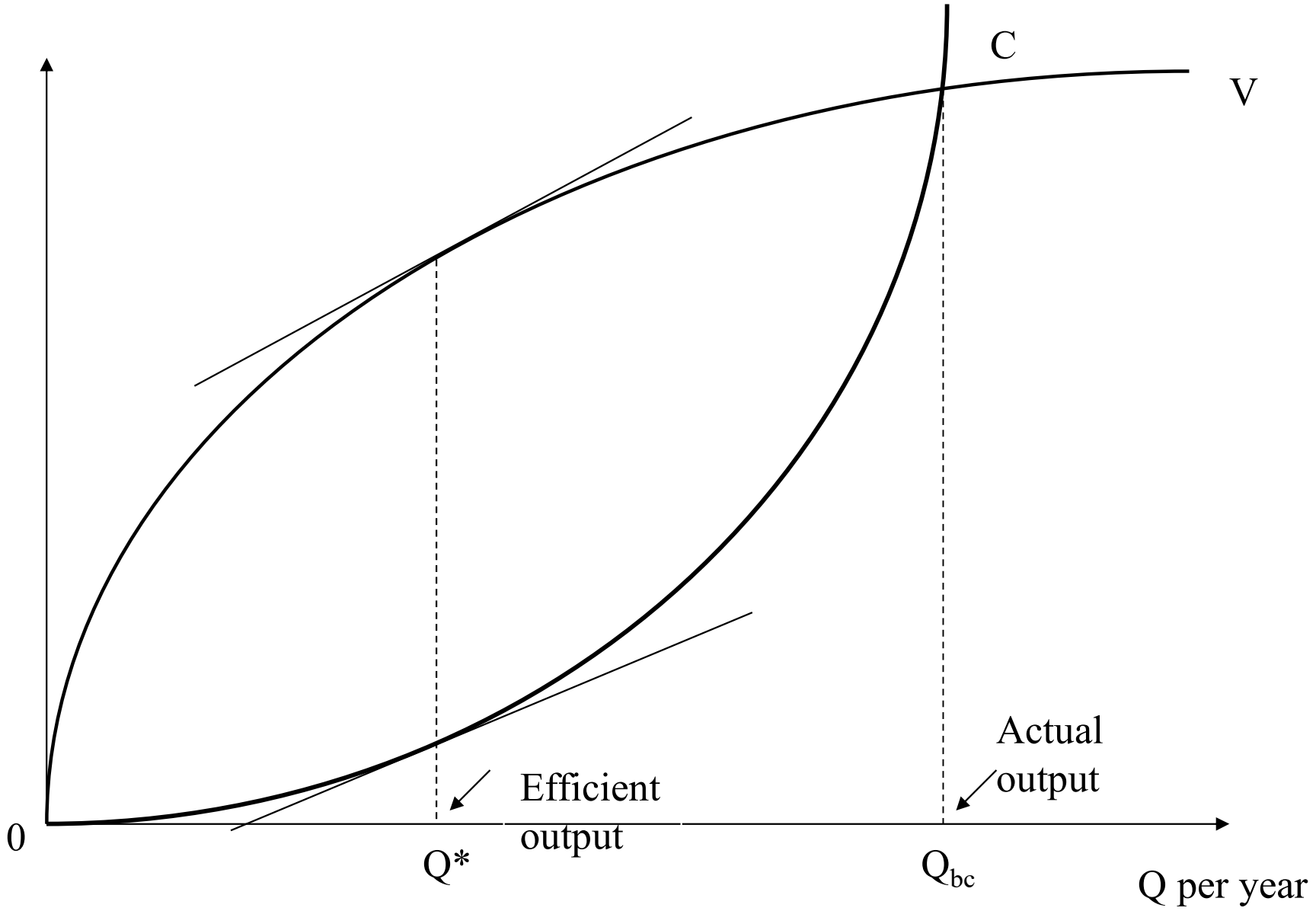
- Real-life complications
  - Ideology matters: politicians care about more than just winning elections.
  - Personality: voters care about more than just issues.
  - Leadership: politicians do not simply respond to voter's preferences.
  - Voter participation: may be affected by relative difference in candidates

Representative Democracy:
Public employees/bureaucrats

- Bureaucrats: government employees.
- Naïve to assume that a bureaucrat's only aim is to interpret and passively fulfill the wishes of the electorate and its representatives.
- Niskanen (1971) argues that bureaucrats tend to focus on maximizing perquisites of public office, public reputation, power, etc., because opportunities for monetary gains are minimal.

Representative Democracy:

Public employees/bureaucrats



Representative Democracy:
Public employees/bureaucrats

- In previous figure, bureaucrat doesn't choose the efficient amount for the project, Q^*, where MB=MC, but rather chooses a larger project, Q_{bc}, where TB=TC.
- Project doesn’t suffer losses, but is inefficient.

Representative Democracy:
Public employees/bureaucrats

- Bureaucrats have incentive to promote activities that increase the sponsor's perceptions of the project's benefits.
  - Analogous to shifting the *V* curve upward.
- Bureaucrats have *informational advantage*, to present the alternatives as "take Q_{bc} or none at all."

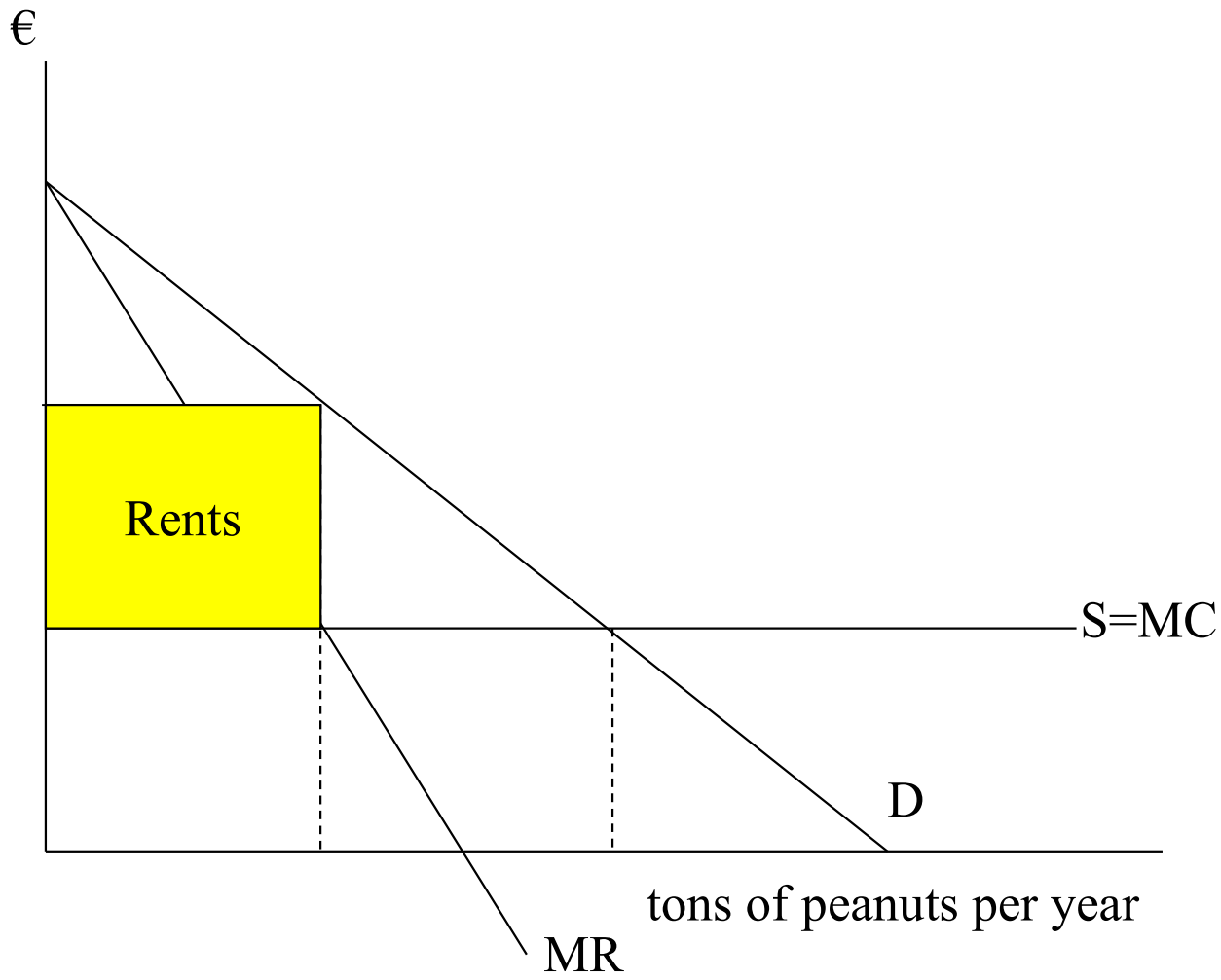
Representative Democracy:
Special Interests

- Special interest groups can form coalitions and exercise a disproportionate amount of power if they vote in blocks or make campaign contributions.
- Groups form based on many factors, including capital vs. labor, rich vs. poor, industries, regions, and demographics.

Representative Democracy:
Special Interests

- ***Rent-seeking*** is using the government to obtain higher than normal returns ("rents").
- One example, illustrated in Figure 6.5, is the peanut industry lobbying the government to impose peanut quotas. This enforces a cartel-like arrangement.

Representative Democracy:
Special Interests



Representative Democracy:
Special Interests

- In Figure 6.5, the competitive output would be at Q_c.
- The peanut industry could try to form an illegal ***cartel*** to restrict output to Q_{cartel}, but each firm has an individual incentive to cheat.
- If producers can lobby for quotas, they can enforce this output level.

Representative Democracy:
Special Interests

- Standard deadweight loss from reduced output is equal to triangle *cde*.
- To the extent that the economic rents, *abcd*, are spent on socially wasteful lobbying (*rather than being a transfer to producers*), this is also considered deadweight loss.

Recap of Political Economy

- Political Economy definition
- Direct Democracy
- Representative Democracy
- Government Growth