EE441: Economics of Public Expenditure

PUBLIC CHOICE(1)*

ECONOMIC ANALYSIS OF POLITICAL MARKET

- POLITICIANS
- VOTERS
- SELF-INTEREST GROUPS
- BUREAUCRACY

•Rosen, Harvey and Ted Gayer, Public Finance, 9th Edition, McGraw Hill, 2010.

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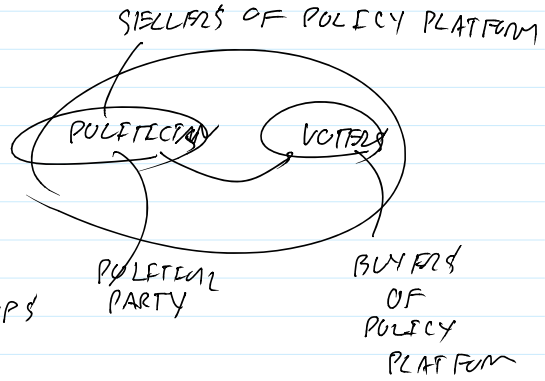


Table 6.1

Table 6.1 **Voter preferences that lead to an equilibrium**

	Voter		
Choice	*Cosmo*	*Elaine*	*George*
First	A S	C L	B M
Second	B M	B M	C L
Third	C L	A S	A S

E, G C

A vs. B: B wins (2:1)
B vs. C: B wins (2:1)
B vs. C: B wins (2:1)
B vs. A: B wins (2:1)
A vs. C: C wins (2:1)
C vs. B: B wins (2:1)

REGARDLESS OF HOW VOTING IS ARRANGED B IS THE "CLEAR WINNER"!

ALL VOTERS, THEIR PREFERENCES ARE "CONSISTENT"

I.E., IF $X \succ Y$ AND $Y \succ Z$, THEN $X \succ Z$. (TRANSITIVE)

ELAINE TABLE 6.1

C
B
A

Table 6.2

Table 6.2 **Voter preferences that lead to cycling**

	Voter		
Choice	*Cosmo*	*Elaine*	*George*
First	A	C - LARGE	B
Second	B	A - SMALL	C
Third	C	B - MODERATE	A

A vs B : A wins (2:1)
A vs C : C wins (2:1) — AGENDA (1)

B vs C : B wins (2:1)
B vs A : A wins (2:1) — AGENDA (2)

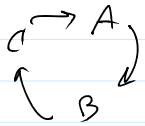
A vs C : C wins (2:1)
C vs B : B wins (2:1) — AGENDA (3)

(1) HERE, MVR LEADS TO INCONSISTENT OUTCOMES EVEN THOUGH EACH VOTER'S PREFERENCES ARE CONSISTENT!
WE CALL THIS SITUATION AS "VOTING PARADOX"

(2) AGENDA MANIPULATION ARISES.
(PROCESS OF ORGANIZING THE ORDER IN WHICH VOTES ARE TAKEN TO ENSURE A FAVORABLE OUTCOME.

(3) VOTING CYCLING MAY ARISE:
VOTING PROCEDURE CAN GO ON AND ON FOREVER AND YOU STILL CANNOT FIND A CLEAR WINNER.

EX: A vs. B : A wins
A vs C : C wins
C vs B : B wins



Direct Democracy: Why Difficulties with Majority Voting Rule?

- A ***peak*** in an individual's preferences is a point at which all neighboring points are lower.
  - ***Single-peaked preferences***:

    UTILITY FALLS CONSISTENTLY WHEN MOVING AWAY FROM HIS OR HER MOST PREFERRED OUTCOME.
  - ***Double-peaked preferences***:

    IF VOTER MOVES AWAY FROM HIS OR HER MOST PREFERRED OUTCOME, UTILITY GOES DOWN BUT THEN GOES UP AGAIN

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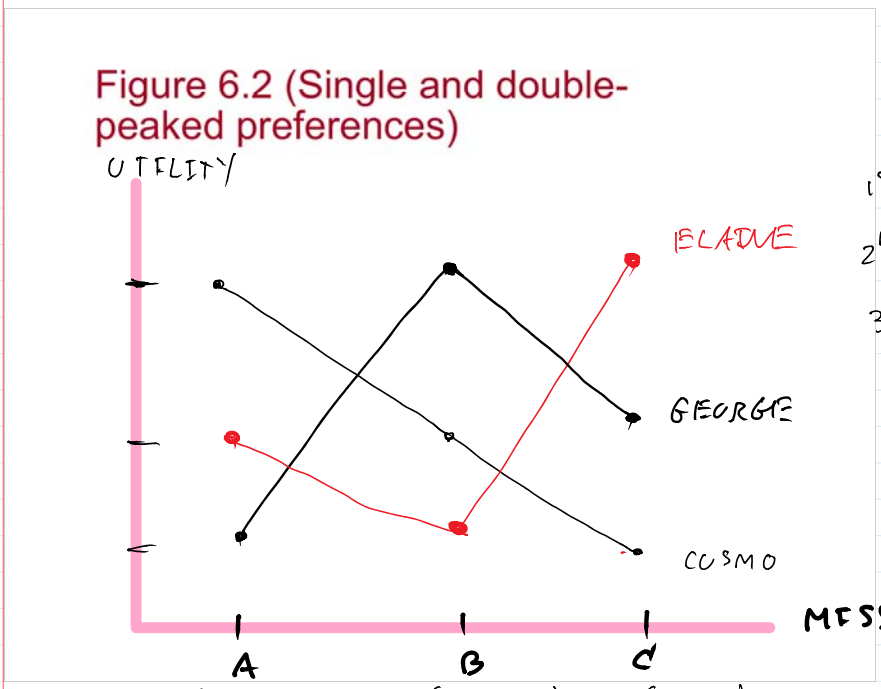


	COSMO	ELAINE	GEORGE
1ST	A	C	B
2ND	B	A	C
3RD	C	B	A

- COSMO HAS A SINGLE-PEAKED PREFERENCE.
- GEORGE HAS A SINGLE-PEAKED PREFERENCE.
- ELAINE HAS A DOUBLE-PEAKED PREFERENCE

MVR DELIVERS IN CONSISTENT OUTCOMES AS AT LEAST ONE VOTER HAS DOUBLE-PEAKED PREFERENCE.

Q: IN REALITY, IS DOUBLE-PEAKED PREFERENCE IRRATIONAL?

A: CONSIDER ELAINE.

1ST	C	(LARGE)
2ND	A	(SMALL)
3RD	B	(MEDIUM)

SUPPOSE THE PUBLIC GOOD IN THIS CONSIDERATION IS PUBLIC PARK < LARGE, MEDIUM, SMALL

SUPPOSE THAT SHE HAS PRIVATE SUBSTITUTES.

MOREOVER, HER TAX SHARE IS LINKED W/ THE SIZE OF THE PARK. POSITIVELY

THEREFORE, IF PRIVATE SUBSTITUTES ARE AVAILABLE TO PUBLICLY PROVIDED PUBLIC GOOD, PREFERENCES LIKE ABOVE CAN EASILY EMERGE.

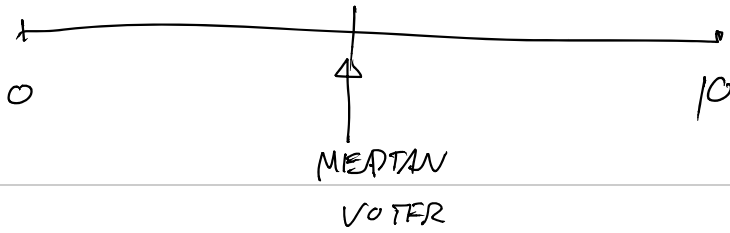
OTHER CONSIDERATION: WHEN ISSUES CANNOT BE RANKED ALONG A SINGLE DIMENSION, MULTI PEAKED PREFERENCES MIGHT OCCUR

SINGLE DIMENSION
↓
SMALL
MEDIUM
LARGE

A COMMON AREA
↓
- FITNESS ROOM
- NEW B.E. OFFICE
- STUDENTS' LOUNGE.

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 voters' preferences.
  - Half of voters want more of the good, and half want less.



SIZE OF DEFENSE EXPENDITURE AS % OF TOTAL GOVT EXPENDITURE

25

Table 6.3

Table 6.3 **Preferred level of party expenditure**

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

MOVING FROM 0 → 5 : ALL AGREE W/ THIS MOVE.

MOVING FROM 5 → 100 : DAISY, HUEY, DEWEY, LOUIE VOTE FOR 100.
ONLY DONALD VOTES FOR 5
100 WILL WIN WITH 4 : 1.

MOVING FROM 100 → 150 : HUEY, DEWEY, LOUIE VOTE FOR 150
DONALD, DAISY VOTE FOR 100 = DONALD & DAISY VOTE AGAINST 150
150 WINS WITH 3 : 2

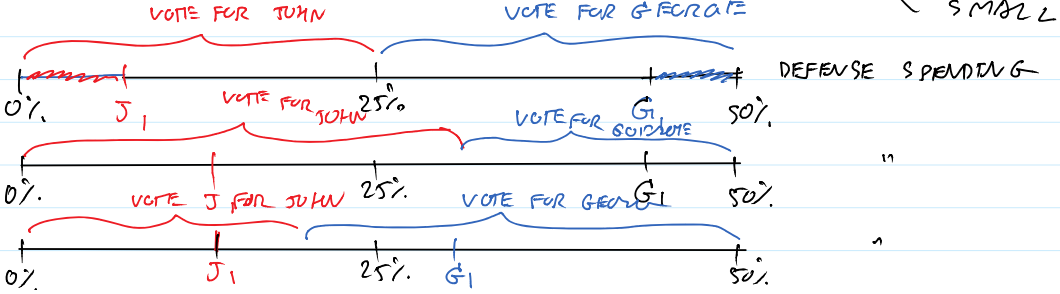
MOVING FROM 150 → 160 : DEWEY, LOUIE VOTES FOR 160.
DONALD, DAISY, HUEY VOTES FOR 150
150 WINS (3 : 2)

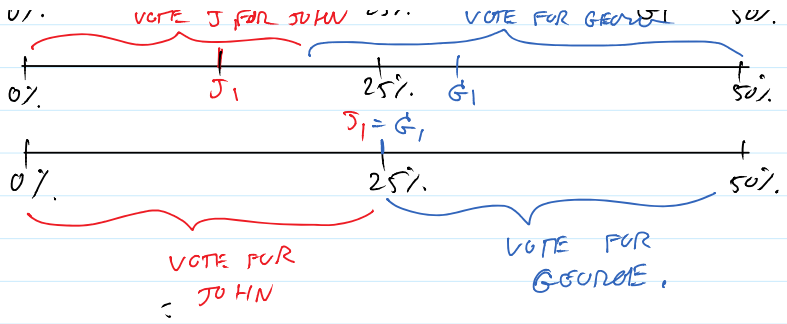
NOTICE THAT OUTCOME OF VOTING
REFLECTS THE PREFERENCE OF MEDIAN VOTER. (HUEY)

IN POLITICAL GAME :

(EX) . 2 POLITICIANS : JOHN VS. GEORGE

. ISSUE : DEFENSE SPENDING POLICY (LARGE / SMALL





THEREFORE, BOTH POLITICIANS SUPPORT THE OUTCOME PREFERRED BY THE MEDIAN VOTER AND GET THE SAME NUMBER OF VOTES.

POLITICIANS / POLITICAL ADVISORS DO NOT NEED TO KNOW THE ENTIRE DISTRIBUTION OF PREFERENCES TO PREDICT VOTE OUTCOMES IN THIS MODEL. ALL THEY NEED TO UNDERSTAND IS THE PREFERENCES OF THE MEDIAN VOTER!

NOTE THAT IN MVT, OUTCOME IS DETERMINED BY THE RANKING OF VOTERS', NOT BY THE INTENSITY OF THEIR PREFERENCES'.

EX. IMAGINE THAT MEMBERS OF A COMMUNITY WANT TO BUILD A MONUMENT FOR YOU AS YOU CONTRIBUTE A GREAT DEAL IN DEVELOPING THE COMMUNITY

$N = 1001$ VOTERS

COST OF BUILDING THIS MONUMENT = 40,040 BAHT WHICH EACH MEMBER MUST CONTRIBUTE 40 BAHT. WE ARE GOING TO VOTE FOR THIS PROJECT

SUPPOSE FURTHER THAT (500) VOTERS ACKNOWLEDGE YOUR CONTRIBUTION AND WILLING TO PAY 100 BAHT EACH TO FINANCE THIS PROJECT

OTHER 501 VOTERS DO NOT WANT TO HAVE THIS PROJECT BEING IMPLEMENTED AND DON'T WANT TO PAY.

SOCIAL MARGINAL BENEFIT OF THIS MONUMENT $= 500 \times 100 + 501 \times 0$

$= 50000$ BAHT

THIS MONUMENT = 50,000 DALIT

> SOCIAL MARGINAL COST = 40,040

EVEN THOUGH, IT IS SOCIALLY EFFICIENT TO BUILD THIS MONUMENT, BUT IT DOES NOT GET IMPLEMENTED SINCE THE MEDIAN VOTER DOES NOT WANT TO HAVE THE MONUMENT.

THEREFORE SOCIALLY INEFFICIENT OUTCOME ARISES BECAUSE MVT DOES NOT REFLECT "INTENSITY OF PREFERENCES"

Table 6.4

Table 6.4 **Logrolling can improve welfare**

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

① VIA MVR, ALL PROJECTS WILL NOT GET IMPLEMENTED EVEN THOUGH TOTAL NET BENEFITS ARE POSITIVE.

② W/ LOGROLLING, MELANIE TALKS W/ RHETT ...
WHEN BOTH H AND L GET BUILT,
MELANIE GETS 200 − 40 = 160 ☺
RHETT GETS 150 − 50 = 100 ☺
THEREFORE, LOGROLLING CAN IMPROVE THEIR WELFARE.

OTHER POSSIBILITIES: MELANIE TALKS W/ SCARLETTE.
SO, HOSPITAL & POOL GET BUILT.
MELANIE GETS = 200 − 120 = 80 ☺
SCARLET GETS = 400 − 55 = 345 ☺

WHEN RHETT AND SCARLET DO VOTE TRADING,
RHETT GETS = 150 − 60 = 90 ☺
SCARLET GETS = 400 − 30 = 370 ☺

Table 6.5

Table 6.5 **Logrolling can also lower welfare**

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

- ALL PROJECTS SHOULD NOT GET IMPLEMENTED AS TOTAL NET BENEFITS ARE NEGATIVE.
- W/ VOTE TRADING, BAD PROJECTS MAY GET IMPLEMENTED!

EX: MELANIE & RHETT

BOTH PROJECTS GET IMPLEMENTED.

MELANIE GETS = 200 − 40 = 160

RHETT GETS = 150 − 110 = 40

SCARLET GETS = −105 − 120 = −225!

AT THE EXPENSE OF OTHER VOTERS (HERE, SCARLET)