

# Electoral Systems

Political Science 225  
North Dakota State University

# Democratic Elections

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- Influence policy

# Electoral Institutions

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An electoral system is the set of laws that regulate electoral competition between candidates and parties



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- Electoral Formula
- Suffrage
- Ballot structure
- District magnitude
- Candidate nomination

# Who Votes?

Universal suffrage?

# Who Votes?

## Universal suffrage?

- Age
- Gender
- Race
- Residency
- Registration
- Criminal record

# Electoral Formula: Broad Classes

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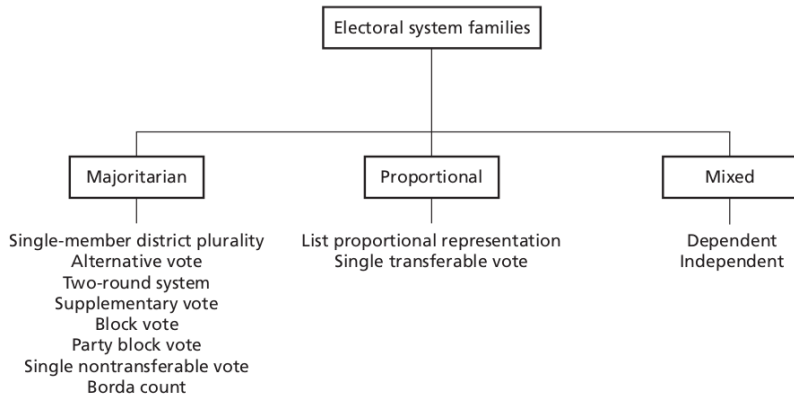
Political scientists tend to categorize electoral systems by formula

# Electoral Formula: Broad Classes

Political scientists tend to categorize electoral systems by formula

- 1 Majoritarian Electoral Systems
- 2 Proportional Electoral Systems
- 3 Mixed Electoral Systems

# Electoral Formula: Broad Classes



# What is a Majoritarian System?



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Most votes wins

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Most votes wins

- Many subtle variations
- Majority misleading—plurality
- Winning party often receives majority of seats

# Majoritarian Systems: SMDP

## Definition

In single member district plurality (SMDP) individuals cast a single vote for a candidate in a single member district. Most votes wins.

- Most common majoritarian system
- Requires plurality of votes, not majority

# SMDP Advantages

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- Simple
- Clear attribution to a single representative
- High levels of service by representatives
- Single party majority governments

# SMDP Disadvantages

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- Disproportional outcomes
- Wasted votes
- Strategic voting
- Favors large parties

# Majoritarian Systems: Alternative Vote

## Definition

The alternative vote is a preferential voting system where voters rank candidates in single member districts.

- A candidate with an absolute majority of first-rank votes wins.
- If no candidate obtains absolute majority, the candidate with the least votes is eliminated.
- Eliminated candidates' votes are distributed to remaining candidates.



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  - Eliminated candidates' votes are distributed to remaining candidates.
- 
- Voters order candidates rather than picking favorites
  - Australia
  - Reduces wasted votes, strategic voting
  - Pushes parties towards center
  - Complicated, can produce peculiar outcomes

# Majoritarian Systems: Alternative Vote

## HOW TO VOTE LIBERAL


A STRONGER ECONOMY  
A STRONGER AUSTRALIA

You will be given a Green and a White ballot paper. When completing your ballot papers DO NOT use ticks or crosses. If you make a mistake, please ask for a new ballot paper.




**JOHN HOWARD**  
PRIME MINISTER

**HOUSE OF REPRESENTATIVES:**  
On the small Green ballot paper, for the House of Representatives, you must **number every** shown.



**HOUSE OF REPRESENTATIVES**  
(Green Ballot Paper)

3	CAMERON, L
<b>1</b>	<b>SOUTHWICK, David</b> (Liberal)
4	BEALE, C
7	DANBY, M
2	JACKEL, G
8	ISHERWOOD, A
5	HORIN, L
6	LEWIS, J



**DAVID SOUTHWICK**  
MELBOURNE PORTS

## AV Example, Shamelessly Stolen from Wikipedia

Imagine that Tennessee is selecting the state capital by vote. People vote based purely based on relative distance. A simplified ballot breakdown might look like this:

Memphis 42% of Voters	Nashville 26% of Voters	Chattanooga 15% of Voters	Knoxville 17% of Voters
1. Memphis	1. Nashville	1. Chattanooga	1. Knoxville
2. Nashville	2. Chattanooga	2. Knoxville	2. Chattanooga
3. Chattanooga	3. Knoxville	3. Nashville	3. Nashville
4. Knoxville	4. Memphis	4. Memphis	4. Memphis

First Choice Votes	1st Round	2nd Round	3rd Round
Memphis	42%	42%	42%
Nashville	26%	26%	
Knoxville	17%	32%	58%
Chattanooga	15%		

# Majoritarian Systems: Two-Round

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Two-round systems elect a candidate or party if they meet a specific vote threshold at the first round. Otherwise, electors hold a second round, generally decided by plurality.

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- Majority-runoff systems
- Majority-plurality systems

### First Round

Candidate	Party	Vote share (%)
J. Paul Bacquet	Socialist Party	42.8
Pierre Pascallon	Union for a Presidential Majority	38.1
Christophe Picard	National Republican Movement	0.9
M. Germaine Wilwertz	National Front	6.3
Marie Savre	Workers' Struggle	1.3
Laura Artusi	Communist Party	2.8
Rémi Aufrere	Republican Pole	1.3
J. Paul Russier	Green Party	2.8
Nicolas Bagel	Rally for Independence from Europe	0.0
Bernard Bouzon	Hunting, Fishing, Nature, and Tradition Party	1.4
Patrick Goyeau	Communist Revolutionary League (100% Left)	2.4

### Second Round

J. Paul Bacquet	Socialist Party	56.1
Pierre Pascallon	Union for a Presidential Majority	43.9

# Majoritarian Systems: SNTV

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- Reasonably proportional outcomes
- Intra-party competition
- Small bases (need  $\frac{1}{n+1}$  of the votes, plus one)
- Vote buying, clientilism
- Favors incumbents, organized parties
- Japan, Afghanistan



# Proportional Systems

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## Definition

Proportional Representation (PR) is a quota- or divisor-based electoral system used in multimember districts

- Electoral formula is proportional
- Generates proportional outcomes (vote-seat shares)

# Proportionality

# Proportionality

- A PR system's primary goal is to maximize proportionality
- Ideally, seat and vote shares should match
- PR systems still vary tremendously in their proportionality
- Majoritarian systems can yield proportional outcomes

# Why PR? Strengths

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- Accurate translation of votes into seats
- Empowers minorities and small parties
- Less strategic voting
- Individuals vote their authentic preferences
- Higher turnout?

# Why Not PR? Weaknesses

# Why Not PR? Weaknesses

- Minority representation with no compromises?
- Loss of clarity of responsibility:
  - Loss of connection between representatives
  - Coalition governments—identifiability
- Small parties → Less stable governments
- Are small parties desirable? (extremists)



# List PR

# List PR

Most common PR system, by far

## Definition

In list PR each party presents a list of candidates for each district. Parties receive seats for those candidates in proportion to their share of votes

List PR systems differ in a myriad of important ways and in ways that change outcomes

# Quotas and Divisors

Mathematical formulas to figure out how many votes are required for each seat. They help determine how proportional the system is (math that turns votes-seats)

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  - Imperiali
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  - Sainte-Lagu
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Don't waste your time memorizing these!

# Quotas

$$Q(n) = \frac{V_d}{M_d + n}$$

- $V_d$  is total number of valid votes in district
- $M_d$  is the total number of seats available in district
- $n$  is modifier (Hare = 0, Hagenbach-Bischoff = 1, etc)
- So, Hare quota is  $\frac{V_d}{M_d}$ , for example

# Quotas

**TABLE 13.8**

**Hare Quota with Largest Remainders**

	Party A	Party B	Party C	Party D	Party E	Party F	Total
Votes	47,000	16,000	15,800	12,000	6,100	3,100	100,000
Seats							10
Quota							10,000
Votes/quota	4.7	1.6	1.58	1.2	0.61	0.31	
Automatic seats	4	1	1	1	0	0	7
Remainder	0.7	0.6	0.58	0.2	0.61	0.31	
Remainder seats	1	1	0	0	1	0	3
Total seats	5	2	1	1	1	0	10



# Divisors

**TABLE 13.10** Translating Votes into Seats Using the d'Hondt System

	Party A	Party B	Party C	Party D	Party E	Party F	Total
Votes	47,000	16,000	15,800	12,000	6,100	3,100	100,000
Seats							10
Votes/1	47,000 (1)	16,000 (3)	15,800 (4)	12,000 (6)	6,100	3,100	
Votes/2	23,500 (2)	8,000 (9)	7,900 (10)	6,000	3,050	1,550	
Votes/3	15,666 (5)	5,333	5,266	4,000	2,033	1,033	
Votes/4	11,750 (7)	4,000	3,950	3,000	1,525	775	
Votes/5	9,400 (8)	3,200	3,160	2,400	1,220	620	
Total seats	5	2	2	1	0	0	10

Note: The numbers in parentheses indicate the order in which the ten seats in the district are allocated among the parties.

# Quotas and Divisors

**TABLE 13.11**

## **The Proportionality of Proportional Electoral System Formulas**

Formula

Hare LR

Droop LR

Sainte-Lagüe

Imperiali LR

Modified Sainte-Lagüe

d'Hondt

Imperiali HA

Proportionality



# District Magnitude

- All PR takes place in multimember districts
- District size is key in list PR
- Small magnitude reduces proportionality
- Reduced proportionality often increases large party powers
- On the other hand, large districts reduce connection between constituents and representatives
- Spain ( 3-7); many small districts. Netherlands (150); one large 150 seat district

# Electoral Thresholds

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- Electoral thresholds can be either
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- Electoral thresholds can be either
  - Natural (Due to the math of the system)
  - Formal (by rule)
- Low thresholds often lead to high party fragmentation (many small parties) and instability
- High thresholds (often by rule) lead to a reduction in proportionality and wasted votes

# Closed Party Lists

Candidates chosen by parties, in order chosen by parties. Voters vote for parties, not candidates



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Candidates chosen by parties, in order chosen by parties. Voters vote for parties, not candidates

- Gives parties tremendous power over their members—high discipline
- Safe vs. marginal seats
- Over time, parties move promising candidates up and bad candidates down

[illegible]

# Open Party Lists

Voters can vote for the party or they can vote for specific candidates from the party on the list

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Voters can vote for the party or they can vote for specific candidates from the party on the list

- Individuals on list with highest personal total + party total go into legislature first
- Forces individuals to cultivate a personal vote
- Takes power away from parties
- Generates internal conflict within parties

# Open List PR

Nordlands amt 2. kreds	
<b>Folketingsvalget 1990</b>	
<b>A. Socialdemokratiet</b>	
Ole Stenød	
Martin Gierup	
Holger Grønvold	
Ise Hansen	
Anne Jensen	
Frank Jensen	
J. Riegaard Knudsen	
Bjarne Laurtsen	
Kaj Poulsen	
<b>B. Det Radikale Venstre</b>	
Lars Schönberg-Hemme	
Bent Bundgaard	
Marianne Jelved	
Bent Jørgensen	
Hans Larsen-Ledet	
Asel B. Mortensen	
Lars Lammert Nielsen	
Ole Nielsen	
Preben Pedersen	
<b>C. Det Konservative Folkeparti</b>	
Karsten Frederiksen	
Niels Ahlmann-Olsen	
H. R. Clausen	
Susanne Kogsbøll	
Jørgen Lund	
Alan Rygaard	
Gerda Thymann Pedersen	
Per Søberg	
Søren Thilag	
<b>D. Centrum-Demokraterne</b>	
Peter Dueft	
Griegers Folke Gregersen	
Bodil Melgaard Høknelsen	
Anton Jeppsen	
Tove Kattrup	
Hartvig Kjeldgaard	
Bent V. Villadsen	
<b>E. Danmarks Retsforbund</b>	
Knud Christensen	
Asse Bak-Nielsen	
Jørgen Dyrsk	
Karen Hansen	
Ebbe Pedersen	
Ole Thøgersen	
Sigvard Thomsen	

# Free List

Voters have multiple votes and can vote for any party or candidates with them

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- Split voting potential
- Increases personal vote incentives even more

# Mixed Electoral Systems

Mixed electoral systems are systems where individuals elect representatives through two systems, majoritarian and proportional



# Mixed Electoral Systems

Mixed electoral systems are systems where individuals elect representatives through two systems, majoritarian and proportional

- Often have more than one **electoral tier**
- Attempt to combine advantages of majoritarian and proportional systems
- There are a variety of such systems, but we can classify them as independent or dependent
- Both create legislatures with two different types of legislators

# Independent

The different electoral systems (majoritarian and PR) are implemented independently

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The different electoral systems (majoritarian and PR) are implemented independently

- Legislatures will have a certain number of both majoritarian and PR seats
- Often at different tiers, often aggregating tiers
- These elections are normal and do not depend on one another
- Intended to give individuals both representatives who are connected to voters (personal vote) and a proportional outcome

# Dependent

In a dependent mixed system, the application of the proportional system is dependent on the majoritarian results

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In a dependent mixed system, the application of the proportional system is dependent on the majoritarian results

- Proportional results try to “fix” disproportional results in the majoritarian seats
- To do this, individuals often vote for party and candidates simultaneously
- Parties who lost a large amount of majoritarian seats but received much of the vote are compensated using proportional seats

# What Does the World Use?

**TABLE 12.17** Electoral Systems by Geographic Region, 2004

	Sub-Saharan Africa	North Africa and Middle East	Asia	Oceania	Latin America	Caribbean and North America	Eastern Europe	Western Europe	Total
No. of countries using electoral system									
SMDP	14	2	6	5	0	13	0	1	41
BV	1	3	2	1	0	0	0	0	7
PBV	1	0	0	0	0	0	0	0	1
AV	0	0	0	3	0	0	0	0	3
TRS	7	3	3	1	1	1	4	1	21
SNTV	0	1	0	1	0	0	1	0	3
BC	0	0	0	1	0	0	0	0	1
List PR	13	5	3	0	14	2	12	16	65
STV	0	0	0	0	0	0	0	2	2
Dependent	3	0	0	1	3	0	2	2	11
Independent	5	1	6	0	1	0	8	1	22
Total	44	15	20	13	19	16	27	23	177
No. of countries using electoral system family									
Majoritarian	26	11	12	9	1	14	5	2	80
Proportional	12	3	0	5	14	2	12	18	66
Mixed	6	6	1	1	4	0	10	3	31
Total	44	20	13	15	19	16	27	23	177