Multi party systems

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Representative democracy

- Problem of voter representation over one dimension:
- How to distribute the seats within the assembly?

a) Unimodal preferences

b) Bimodal preferences
Electoral rules: Plurality voting system

- Single winner voting system («winner takes it all»)
  - First-past-the-post,
  - Two-round systems

- Voting districts: winner in a constituency wins the seat in the assembly

- Larger voting districts: Several candidates get elected according to their share of votes

- Possible two-round systems, runoff election also for members of the executive (e.g. Presidential in France)
Plurality voting system

- Minority parties evenly distributed over the country do not win seats
- Risk of strategic voting
- Duverger’s First Hypothesis:

  *The plurality rule has the tendency to produce two-party systems.*

- Duverger’s Second Hypothesis:

  *The number of major parties increases with the average size of an electoral district.*
Duverger’s first Hypothesis: Evidence

- Effective number of parties based on votes (ENV)
- Effective number of parties based on seats (ENS)

\[
ENV = \frac{1}{\sum_{p=1}^{n} \left( \frac{V_p}{V} \right)^2}
\]

\[
ENS = \frac{1}{\sum_{p=1}^{n} \left( \frac{S_p}{S} \right)^2}
\]
Duverger’s Second Hypothesis: Evidence

- A strategic voter wanting to have a chance to affect the outcome will choose between the two marginal candidates.
- If M candidates are chosen from the district, the marginal seat is between candidates ranked at M and M+1.
- Evidence from Taagepera and Shugart, 1989:

<table>
<thead>
<tr>
<th>M</th>
<th>Mean ENS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
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<tr>
<td>2 ≤ 5</td>
<td>2.12</td>
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<tr>
<td>6 ≤ 10</td>
<td>3.34</td>
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<tr>
<td>11 ≤ 15</td>
<td>3.98</td>
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<tr>
<td>&gt;15</td>
<td>4.09</td>
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</table>
Voter Representation in Plurality voting system

Notes: The dashed gray density line describes the distribution of voter ideal points; the dotted (solid) black density line describes the distribution of senator ideal points in the 109th (110th) Congress, whereas the dotted (solid) gray density line shows this distribution for representatives in the 109th (110th) Congress. Senate and House medians are denoted “S” and “H,” respectively, with a Congress number appended. The ideal point of President George W. Bush is denoted with “Bush.”

Bafumi and Herron (2010)
Electoral Rules: Proportional representation

- Attempted reproduction of distribution of voter preferences into a representative body
- E.g. a party receiving 15% of votes receives 15% of seats in parliament
- Risk of fragmentation in assembly
- Fragmentation reduced by minimum thresholds (e.g. 5% barrier) or limiting the amount of seats at stake (m seats, representatives with the m largest percentages)
- In most cases: Necessity for coalition formation
Proportional Representation

votes

Party A 9%  Party B 26%  Party C 14.1%  Party D 30%  Party E 14.9%  Party F 5%

Political dimension
Coalition formation

Neumann/Morgenstern (1953):

- **Minimal winning coalition** looses absolute majority with the removal of one member (e.g. ABC or CDE)
- **Minimum winning coalition (MW)** contains the smallest number of seats of all minimal winning coalitions (BD)

⇒ Office-seeking models: Political actors only have the objective to hold a position in government.

⇒ *weighted majority game* with payoffs being either 1 or 0.

⇒ As the payoffs are not increased by adding new members to the coalition, winning coalitions with members non necessary to win give smaller portions of payoffs to its members than smaller coalitions
Ideological boundaries to coalition formation

- Ideological constraints alter the coalition game.
- In addition to holding office, actors are motivated by cooperating with politicians closest to the own ideological stance.

**MCW- Hypothesis (Axelrod (1970)):**

- **Minimal-connected-winning coalition (MCW):** minimal winning coalition of adjacent parties
Table 1. Frequency of European governments by type: 1945–1987

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<tr>
<th></th>
<th>A</th>
<th>G</th>
<th>B</th>
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<td>32</td>
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Further Issues to discuss

- Logrolling and horse-trading
- Circular elections
- Evolution of new parties and political innovation
- Coalition under the threat of a referendum
- ...

September, 3rd 2009
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