Electoral Games

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v. 22/05/2012
Electoral Games

- What factors determine the number of political parties and the policies they propose?
- How is the outcome of an election affected by the electoral system and the voters’ preferences among policies?

- We will discuss the Hotelling’s model of electoral competition.
Harold Hotelling

- Harold Hotelling
- September 29, 1895 – December 26, 1973
- A mathematical statistician and an influential economic theorist.
  - Associate Professor of Mathematics at Stanford University (1927 until 1931)
  - A member of the faculty of Columbia University from (1931 until 1946), and
  - A Professor of Mathematical Statistics at the University of North Carolina at Chapel Hill from 1946 until his death.
A very simple game

- players: the candidates
- strategies: a policy which is a simple number (the compression of all policy differences into one dimension is a major abstraction, though political positions are categorized on a left-right axis)
Figure 71.1 The payoff of a voter whose favorite position is \( x^* \), as a function of the winning position, \( x \).

Figure 71.2 The allocation of votes between three candidates, with positions \( x_1, x_2, \) and \( x_3 \).
Hotelling model of electoral competition

- Players: The candidates.
- Actions: Each candidate’s set of actions is the set of positions (numbers)
- Preferences: The payoff of each candidate is
  - $n$, if she wins outright,
  - $k$, if she ties for first place with $n-k$ other candidates, and
  - $0$, if she loses.
• Hotelling: the outcome (median) is “strikingly exemplified”.
• “The competition for votes between the Republican and Democratic parties [in the USA] does not lead to a clear drawing of issues, an adoption of two strongly contrasted positions between which the votes may choose. Instead, each party strives to make its platform as much like the other’s as possible.”
Πηγές/Αναφορές

- Section 3.2/3.3 Electoral Competition, M. Osborne, An Introduction to Game Theory, Oxford University Press, 2004
- Wikipedia entry for Harold Hotelling, accessed 21/05/2012