Models of Legislative Bargaining

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May 2012
Legislative bargaining: a brief historical introduction

- General equilibrium: simple model of markets based only on
  - consumers’ preferences
  - firms’ technology

- Can we do the same for democratic decision procedures?
- Can we make predictions on voting outcome based solely on
  - voters’ preferences
  - set of feasible policies
Social choice theory (SCT) can be viewed as general equilibrium for democratic environments

- Inherent properties of majoritarian decision making
- Mapping: voters’ preferences → majoritarian outcome

What do we learn from SCT?

- Under stringent conditions (single-peakedness or single crossing): median voter is pivotal
- Generally, majority rule is cyclical (Condorcet), and SCT predictions are
  - vacuous: no majority rule equilibrium (Plott 67)
  - useless: any policy can be outcome (chaos theorem, McKelvey’s 79).
Not much can be predicted from voting rule alone
⇒ the details of the voting procedure matters!

Literature spitted into different branches:
- Electoral competition
- **Legislative bargaining**
- Voting in committee (jury, international fora)
- Voting in firms (shareholders’ meeting)
Modelling legislative bargaining: procedures and strategies
Legislative decision making: formal rules

- Legislative decision process is **sequential**: sequence of proposals and binary choices
  - *voting rule* (e.g., majority rule) determines the decision at binary nodes
- Sequence of proposals is called the **agenda**
  - agenda setting rules
  - recognition rule for the proposer (agenda setter)
- Rules that determine the outcome: *voting procedure*
  - How are proposals pitted against each other?
  - What is the *default*?
Common voting procedure (Rasch, Legislative Studies Quarterly 00)

- Sequence of proposals (agenda): \((x_1, x_2, ..., x_T) \in X^T\)
- Amendment procedure:
  - Round 1: vote on \(x_1\) versus \(x_2\), the winner \(x_2^*\) added to the agenda: \((x_2^*, x_3, ..., x_T)\)
  - Round \(t > 1\): vote on last winner \(x_t^*\) versus next alternative \(x_{t+1}\), winner added to the agenda: \((x_{t+1}^*, x_{t+2}, ..., x_T)\)
  - \(x_T^*\) is the final outcome

- Successive procedure (Baron and Ferejohn 89 and all its followers):
  - Round 1: vote on \(x_1\) versus \(x_2\). If \(x_1\) wins, it is the final outcome. Otherwise, deleted from agenda: \((x_2, ..., x_T)\).
  - Round \(t > 1\): vote on \(x_t\) versus \(x_{t+1}\). If \(x_t\) wins, it is the final outcome. Otherwise, deleted from agenda: \((x_{t+1}, ..., x_T)\).

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1 Miller 77, 80, Banks 85, Baron 96, Kalandrakis 04, 07, Berheim et al. 06, Anesi 10, Diermeier and Fong 11
Voting procedure: an illustration

- $X = \{a, b, c\}$ with majority preferences:
  \[ a \succ_M b \succ_M c \succ_M a. \]

- Agenda $(a, b, c)$ with amendment procedure:
  - Round 1: $a$ wins against $b \rightarrow$ agenda $(a, c)$
  - Round 2: $a$ loses against $c$ so $c$ is the outcome

- Agenda $(a, b, c)$ with successive procedure:
  - Round 1: $a$ wins against $b$, so $a$ is the outcome

- Agenda $(b, c, a)$ with amendment procedure lead to outcome $b$

- Conclusion: both the agenda and the voting procedure matter!
Voting strategies

- **Finite horizon models:**
  - Sincere voting: legislators vote naively for the alternative that they prefer at each decision node
  - **Sophisticated voting** (Farquharson 69): legislators foresee subgame equilibrium for each branch of game tree, and vote for the subgame equilibrium they prefer (refinement of subgame perfection)

- **Infinite horizon**
  - Subgame perfection (Epple and Riordan 87, BF 89, Dixit et al. 00, Jehiel and Gomez 2005)
  - Stationarity + stage undomination (almost all models, see Baron and Kalai 93)

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\(^2\)Schepsle 79, Weingast 79, McKelvey 79
Agenda setting (i)

- Agenda:
  - Exogenous (Miller 80, Banks 85)
  - Endogenous (Romer and Rosenthal 78, Banks and Gasmi 87, BF 89 and their followers): agenda is the strategic choice of the agenda setter

- The agenda setter (proposer)
  - Recognition rule:
    - Probabilistic (BF 89) versus Deterministic (Bernheim et al. 06, Chatterjee et al. 93)
    - Exogenous (almost all models) versus endogenous (Chatterjee et al. 93, Yildirim 07, 10, Querou and Soubeyran 12)

- Allocation of proposal power:
  - Monopolistic proposer (Romer and Rosenthal 78, McKelvey 79, Diermeier and Fong 11)
  - Neutral recognition rule (BF 89, Baron 1996, Kalandrakis 04, 07)
  - Nonmonopolistic and nonneutral (Eraslan 02, Bernheim et al. 06, Anesi 10)
Agenda setting (ii)

- Proposal power:
  - Restricted (Schepsle 79) versus unrestricted proposal power

- Amendment:
  - Closed rule: proposal can be turned down, but cannot be amended. (Romer and Rosenthal 79)
  - Open rule: proposal can be amended (Gilligan and Krebhiel 87, BF 89)

- Timing:
  - “Real time” (e.g., BF 89, Bernheim et al. 06) versus “advance” agenda setting (e.g., Miller 80, Banks 85)
  - Finite (Miller 1980, Banks 1985, Bernheim et al. 06) versus infinite horizon (e.g., BF 89, Diermeier and Fong 2011)
Information structure

- Information of the proposer
  - Division of labor: informational role of committees (Gilligan and Krebhiel 87)
- Information on the proposer
  - Deterministic (Bernheim et al 2006, Anesi 10, Diermeier and Fong 2011) versus random (all the rest) proposer
Policies and payoff

- **Policy space:**
  - Finite (Miller 80, Banks 85, Bernheim et al. 06, Anesi 10, Diermeier and Fong 11) versus infinite (e.g., BF 89, Kalandrakis 04, 07)
  - General interest policies (spatial model, Baron 93, 96, Banks and Duggan 00) versus distributive policies (pork barrel)

- **Payoffs:**
  - Final payoffs (Miller 80, Banks 85, Bernheim et al. 06)
  - Flow payoffs (BF 89, Baron 96, Kalandrakis 04, 07, Anesi 10, Diermeier and Fong 11)
    - impatient players $\delta < 1$ (BF 89, Baron 96, Kalandrakis 04, 07)
    - patient $\delta \to 1$ players (Anesi 10, Diermeier and Fong 11)
The starting point: Baron and Ferejohn APSR 1989
Model: multilateral, majoritarian version of Rubinstein 82

- $N$ legislators, infinite horizon, divide a dollar: $X = \Delta^N$
- In each period $t$:
  1. A proposer $p^t \in N$ is drawn randomly
     - probabilistic proposer, neutral recognition rule
  2. the proposer $p^t$ proposes a division of the pie $x^t \in \Delta^N$
     - endogenous agenda, real time agenda setting
  3. All legislators vote on the proposal $x^t$.
     - voting rule = majority rule
  4. If majority approval, $x^t$ is the final allocation. Otherwise, legislators receive $(0, \ldots, 0)$ in period $t$
     - voting procedure = successive procedure
     - Flow payoff with impatient players
     - exogenous status quo $(0, \ldots, 0)$
An example:

- 3 legislators must divide $10
- Suppose equilibrium is efficient (no delay)
- Symmetry $\implies$ value of the game is $\left(\frac{10}{3}, \frac{10}{3}, \frac{10}{3}\right)$
- Best strategy for first proposer (say 1):
  - expropriate one legislator, say 2
  - and propose her continuation value $\delta \frac{10}{3}$ to the other legislator
  - immediately accepted by 1 and 3

Outcome of the game:

$$\left(10 - \delta \frac{10}{3}, 0, \delta \frac{10}{3}\right).$$
General results:

- Stationary, stage undominated equilibria exist (Banks and Duggan 00)
- Equilibrium outcome is unique (Eraslan 02)
- Interesting predictions:
  - size of the winning coalition: Proposer gives their continuation value to a bare majority of legislators (closed rule) and 0 to all other legislators
  - proposal power: Proposer gets disproportionate share of the pie, with impatience
  - efficiency: no delay (closed rule)
An application: pork barrel politics (Baron AJPS 1991)

- Same bargaining model as BF 89
- Different policy space:
  - Approval of a project with concentrated benefits and dispersed costs
  - Benefits $B$ freely allocated among $N$ districts
  - Cost $T$ divided equally among all districts (general taxation)

- Equilibrium (with a closed rule):
  - Some inefficient projects ($B < T$) are funded

- Conclusion: majoritarian incentives to collective costs and concentrate benefits lead to inefficiencies
Legislative decision procedures: The devil is in the details
Bernheim et al. Ecta 2006
The power of the last word
Model:

- $N$ legislators, finite policy space $X$, finite bargaining horizon $T$.
- A sequence of proposer $(p^1, \ldots, p^T) \in N^T$.
  - Deterministic, but non monopolistic proposer
- Each period $t$ starts with a default policy $d^t \in X$ (exogenous initial default $d^1$):
  1. Legislator $p^t \in N$ proposes a policy $x^t \in X$.
     - Endogenous agenda, real time agenda setting
  2. All legislators vote on the proposal $x^t$.
     - Voting rule = majority rule
  3. If majority approval, $x^t$ becomes the new default: $d^{t+1} = x^t$.
     Otherwise, default stays the same: $d^{t+1} = d^t$. Go to period $t + 1$.
     - Voting procedure = amendment procedure
     - Final payoff: last default $d^{T+1}$ is the outcome
An illustrative example:

- 3 legislators divide $10 (no decimal), $p^T = 1$, $p^{T-1} = 2$
- in period $T$, given $d^T$, legislator 1 proposes

\[ x^T = \begin{cases} 
(10 - d_2^T, d_2^T, 0) & \text{if } d_2^T \leq d_3^T, \\
(10 - d_3^T, 0, d_3^T) & \text{if } d_2^T > d_3^T.
\end{cases} \]

- In period $T - 1$, given $d^{T-1}$,
  - legislator 2 proposes $x^{T-1}$ with $x_2^{T-1} \leq x_3^{T-1}$, and $x_2^{T-1}$ as large as possible, so $x_2^{T-1} = x_3^{T-1}$.
  - Legislator 1 approval requires $x_2^{T-1} \leq \min \left( d_2^{T-1}, d_3^{T-1} \right)$, so

\[ x^T = \left( 10 - \min \left( d_2^{T-1}, d_3^{T-1} \right), \min \left( d_2^{T-1}, d_3^{T-1} \right), 0 \right). \]

- If $p^t = 1$ for some $t < T - 1$, then she can propose $x^t = (10, 0, 0)$, legislator 3 accepts
Main result: the power of the last word

Under mild conditions (sufficiently many different proposers):

- The bargaining game is Condorcet consistent

- But when no Condorcet exists, the last proposer $p^T$ has (almost) dictatorial power!
Application: pork barrel projects

- **Policy space:**
  - One pork barrel project $\Pi_n$ for each legislator $n \in N$ : $\Pi_n$ has benefits only for district $n$, paid by general taxation
  - Collective decision: which projects $\Pi_1, \ldots, \Pi_N$ should be funded?

- In the last round, the last proposer
  - will exclude at least $\frac{N-1}{2}$ project (needs only a majority approval)
  - will include only those necessary to get majority approval (cheapest minimal coalition)

- In previous rounds, the legislators of these $\frac{N-1}{2}$ excluded districts and the last proposer prefer to exclude all other projects (lower taxes) \implies only the project of the last proposer is funded!
Diermeier and Fong QJE 2011

Legislative bargaining with reconsideration
Model:

- \( N \) legislators, finite policy space \( X \), infinite bargaining horizon
- Legislator 1 is the proposer in all periods (monopolistic proposer)
- Each period \( t \) starts with default policy \( d^t \in X \) (\( d^1 \) exogenous)
  1. Legislator 1 may propose a policy \( x^t \in X \).
     - Endogenous agenda, real time agenda setting
  2. All legislators vote on \( x^t \).
     - Voting rule = majority rule
  3. If majority approval, \( x^t \) becomes new default: \( d^{t+1} = x^t \).
     Otherwise, default stays the same: \( d^{t+1} = d^t \).
     - Voting procedure = amendment procedure
     - Flow payoffs with patient players \( \delta \to 1 \)
An example:

- 3 players must divide $10, initial default $d^1 = (3, 3, 4)$
- Without reconsideration ($T = 1$), $x^1 = (7, 3, 0)$ approved by 1 and 2 (Romer and Rosenthal 1978)
- With reconsideration ($T > 1$):
  - If in $t = 1$, $x^1 = (7, 3, 0)$ approved by legislator 2, then in $t = 2$, proposer reconsiders $x^1$ and propose $x^2 = (10, 0, 0)$, approved by 1 and 3.
  - So $(7 - x_3, 3, x_3)$ approved by legislator 2 in $t = 1$ only if $x_3 \geq 3$ $\implies$ the best the proposer can do is $x^1 = (4, 3, 3)$, no further reconsideration.
General results:

Stationary Nash equilibria exist (in pure strategies), and equilibrium distribution of benefits is more equal than ...

- ... without reconsideration (Romer and Rosenthal 78):
  - If legislator 2 is expropriated today, legislator 3 will be expropriated in the next period
  - With reconsideration, legislators protect each other to avoid being expropriated in the next period

- .... with a non monopolistic proposer (Kalandrakis 04, 07, Bernheim et al. 06):
  - If legislator 2 is expropriated and legislator 3 is next proposer, she gets the full surplus
  - With non monopolistic proposer, legislators expropriate each other in case they become next proposer
Dynamic Models of Legislative Bargaining
What do you mean by dynamic?

- Almost all aforementioned models of legislative bargaining are sequential but not dynamic!
  - Legislature adjourns once a decision is taken

- Diermeier and Fong 11, Baron 96, Kalandrakis 04, 07, Anesi 10 have more than one policy period, but underlying environment is static (preferences do not evolve over time)
Dynamic linkage

- Adding dynamics is interesting only if there is a dynamic linkage across bargaining periods

- Dynamic linkages in legislative bargaining:
  - direct policy linkage: current fiscal policy affect future public debt (Battaglini and Coate 07, 08...)
  - indirect policy linkage: current policy affect private investment decisions, which affect future preferences
  - endogenous status quo: current policy determines next status quo (Riboni and Ruge Murcia 08, Diermeier and Fong 09, Duggan and Kalandrakis 11, Dziuda and Loeper 11)
Dziuda and Loeper 2011
Dynamic voting with endogenous status quo
Preview of the results

- We build a tractable model which isolates the effect the endogenous status quo.

- We show:
  
  a) endogenous status quo generates behavior resembling partisanship
     → exacerbates players’ conflict of interests
  
  b) endogenous status quo decreases the responsiveness of policies to the environment
     → can lead to complete gridlock
  
  c) the institution of the endogenous status quo is generally inefficient:
     → mitigated by sunset provisions and concentrating decision rights
The Basic Model
The Game

- Two players $i$ and $j$
- Infinite horizon
- In each period $t$, one of two alternatives $y^t \in \{L, R\}$ is adopted
- Utility of player $k \in \{i, j\}$ in period $t$ from alternative $y^t$ is

$$U^t_k (y) = \begin{cases} -\theta^t_k & \text{if } y^t = L \\ \theta^t_k & \text{if } y^t = R \end{cases}$$

- $\theta^t = (\theta^t_i, \theta^t_j)_{t=1..T}$ follows a Markov process
The Leading Example

- For all $t \geq 1$,

$$\theta^t_i = \bar{\theta}_i + \varepsilon^t$$
$$\theta^t_j = \bar{\theta}_j + \varepsilon^t$$

- $\varepsilon^t$ is the common shock, $\bar{\varepsilon} = 0$
  - i.i.d. over time
  - p.d.f. $f$

- $\bar{\theta}_k$ is the ideology of player $k \in \{i, j\}$
  - by convention, $\bar{\theta}_i > \bar{\theta}_j$
Timing

- $q^t$: status quo at the beginning of period $t$

- Solution concept: stage undominated Markov equilibrium (Baron and Kalai 93)
The Equilibrium
The equilibrium: characterization

Proposition (1)

- Equilibria are in cutoff strategies:
  player $k \in \{i, j\}$ votes for $R$ if $\theta^t_k > c_k$ and for $L$ if $\theta^t_k < c_k$

- Equilibrium cutoffs $c$ are the fixed points of $H$ where

$$H_k (c) = \delta \int_{c_i - \bar{\theta}_i}^{c_j - \bar{\theta}_j} (c_k - \theta_k (\epsilon)) f (\epsilon) d\epsilon$$

- For all equilibrium cutoffs, $c_i < 0 < c_j$
Voting bias

- $c_k$ can be viewed as the **voting bias** of player $k$
  - when $c_k \neq 0$, player $k$ votes against his preferences to secure a favorable status quo
  - direction of the bias of player $k$ depends only on her relative ideological position ($\bar{\theta}_i \geq \bar{\theta}_j$)

**Remark**

*With an exogenous status quo, equilibrium voting thresholds are $(0,0)$*
*With an endogenous status quo, $c = (0,0)$ is an equilibrium only when $\bar{\theta}_i = \bar{\theta}_j$*
Partisanship and disagreement

- With an endogenous status quo, players disagree in $t$ iff $\theta_i^t$ and $\theta_j^t$ are on opposite side of $c_i$ and $c_j$, i.e., when
  \[ \varepsilon^t \in [c_i - \bar{\theta}_i, c_j - \bar{\theta}_j] , \]
- With an exogenous status quo, players disagree in $t$ iff
  \[ \varepsilon^t \in [-\bar{\theta}_i, -\bar{\theta}_j] . \]

Proposition (2)

The endogeneity of the status quo exacerbates ideological differences

→ increases probability of disagreement ⇒ status quo inertia
→ decreases responsiveness to shocks

- We call $|c_k|$ the partisanship of player $k$
Determinants of partisanship

Proposition (3)

At the least (most) partisan equilibrium

a) Partisanship increases with patience: if $\delta < \delta'$,

$$c_i (\delta') < c_i (\delta) < 0 < c_j (\delta) < c_j (\delta')$$

b) Partisanship increases with preference polarization: if $\bar{\theta}'_j < \bar{\theta}_j < 0 < \bar{\theta}_i < \bar{\theta}'_i$,

$$c_i (\bar{\theta}') < c_i (\bar{\theta}) < 0 < c_j (\bar{\theta}) < c_j (\bar{\theta}')$$

$\Rightarrow$ Policy responsiveness decreases with patience and preference polarization
Polarization and gridlock:

**Proposition (4)**

There exists $M_i, M_j$ such that if $\bar{\theta}_i \geq M_i$ and $\bar{\theta}_j \leq M_j$,

$$\lim_{\delta \to 1} c_i (\delta) \to -\infty,$$

$$\lim_{\delta \to 1} c_j (\delta) \to +\infty$$

$\Rightarrow$ Endogenous status quo leads to complete gridlock

**Remark**

*Gridlock occurs for modest degrees of polarization:*

- If $\varepsilon \sim N(0, \sigma_\varepsilon)$, $\bar{\theta}_i = -\bar{\theta}_j = 0.35\sigma_\varepsilon$ is enough
Welfare Analysis
Mitigating the effect of the endogenous status quo

(i) Exogenous status quo: designating $q = R$ or $L$ as a fixed status quo in every period

(ii) Concentrating decision rights
Exogenous versus endogenous status quo

**Proposition (5)**

There exists $q \in \{L, R\}$ such that fixing the status quo at $q$ is socially better than having an endogenous status quo

**Bottom line:** support for institutions that sever the link between today’s decision and tomorrow’s status quo

**Exogenous status quo:** not the norm in legislative bargaining, but is quite common (discretionary spending or farm bills in the US)
Sunset provisions:

- An automatic sunset provision is strategically equivalent to an exogenous default

Sunset provisions are usually advocated for:
- legislative oversight of executive agencies (e.g. U.S. State Sunset Laws)
- ex-post evaluation of policies with uncertain effects (e.g. R&D subsidies)

The paper provides a new, strategic rationale for automatic sunset provisions:
- sunset provisions unbundle today’s policy and tomorrow’s status quo
  ⇒ softens the conflict of interests between legislators
  ⇒ increase responsiveness of policies to the environment
Concentrating Decision Rights

In the 2-player game, the only way to concentrate decision power is dictatorship.

**Proposition**

*Dictatorship of i or j socially dominates the endogenous status quo*

More surprisingly, both players may prefer to give up their veto power.
N players and voting rules
**N player and supermajority rule**

- As in the 2 player game:
  
  - Preferences of player \( k \in \{1..N\} \) in period \( t \):
    
    \[
    \theta_k (\varepsilon^t) = \bar{\theta}_k + \varepsilon^t
    \]

  - \( \bar{\theta}_1 > .. > \bar{\theta}_N \) are the ideologies of the voters
  - \( \varepsilon^t \) is the common shock, i.i.d. over time, p.d.f. \( f \), and \( \bar{\varepsilon} = 0 \)

- To change the status quo, at least \( M \) players must vote for the other alternative, \( (N/2 < M \leq N) \)
The equilibrium

Proposition (6)

- Equilibria are in cutoff strategies
- When \( M > \frac{N+1}{2} \)
  - for all equilibria, \( c_1 < \ldots < c_N \) and \( c_M < 0 < c_{N-M+1} \)
  - the \( M^{th} \) most rightist and \( M^{th} \) most leftist players are always pivotal
  - the equilibrium cutoffs \( c \) are the fixed points of \( H \) where

\[
H_k (c_1, \ldots, c_N) = \delta \int_{c_{N-M+1} - \tilde{\theta}_{N-M+1}}^{c_M - \tilde{\theta}_M} (c_k - \theta_k (\varepsilon)) f (\varepsilon) \, d\varepsilon
\]

- When \( M = \frac{N+1}{2} \) (majority rule), \( c_1 = \ldots = c_N = 0 \).
**Partisanship and supermajority:**

**Proposition (7)**

As the supermajority $M$ increases, the disagreement region

$$\varepsilon^t \in \left[ c^t_{N-M+1}(M) - \bar{\theta}_{N-M+1}, c^t_M(M) - \bar{\theta}_M \right],$$

increases via

- the preference polarization of pivotal players: $\bar{\theta}_M \downarrow, \bar{\theta}_{N-M+1} \uparrow$
- but also via their partisanship: $c^t_M(M) \uparrow, c^t_{N-M+1}(M) \downarrow$

$\Rightarrow$ As $M$ increases, more disagreement because:

- more voters have to agree
- voters become more partisan
Welfare and Supermajority

In the $N$-player game, concentrating decision power can be done by decreasing supermajority $M$

Proposition (8)

*If the distribution of preferences is not too skewed ($\sum_k \bar{\theta}_k \simeq \bar{\theta} \frac{N+1}{2}$), welfare is decreasing in supermajority $M$*

- More generally, more checks and balances generates more partisanship and lower welfare
CONCLUSION
To take home

Despite its pervasiveness, the endogenous status quo

- exacerbates the conflict of interests between players
- can lead to a complete gridlock
- is inefficient

The detrimental effect of the endogenous status quo can be mitigated by

- Sunset provisions
- Concentrating decision rights
Open questions and future research

- Why is the endogenous status quo so common in practice?
  - what should the law revert to after a provision has expired?
- Strategic sunset provisions
- More than 2 alternatives
  - Omnibus bills: combining expiring (pork) and lasting (entitlements) policies
  - Allow for policy compromise
- Policy affect future state of the economy (e.g. monetary policy over the business cycle)
- Policy uncertainty
Thank you
The power of repeal is not an equivalent [to mandatory expiration]. It might indeed be if [...] the will of the majority could always be obtained fairly and without impediment. But this is true of no form. [...] Various checks are opposed to every legislative proposition. [...] and other impediments arise so as to prove to every practical man that a law of limited duration is much more manageable than one which needs a repeal.
The equilibrium

- Stage undominated strategy: player $k$ votes for $R$ when

\[
\theta_k + \delta V_k (R) > -\theta_k + \delta V_k (L)
\]

\[
\iff \theta_k > \frac{\delta}{2} [V_k (L) - V_k (R)]
\]

and for $L$ when

\[
\theta_k < \frac{\delta}{2} [V_k (L) - V_k (R)]
\]

- Player $k$ uses voting cutoff

\[
c_k = \frac{\delta}{2} [V_k (L) - V_k (R)]
\]

- $c_k$ is player $k$’s preference over the next status quo
The equilibrium (continued)

- Player $k$ uses voting cutoff $c_k = \frac{\delta}{2} [V_k(L) - V_k(R)]$
- Players’ vote:

\[
\begin{align*}
\text{i’s vote} & & \text{L} & & \text{R} & & \text{R} \\
\text{j’s vote} & & \text{L} & & \text{L} & & \text{R}
\end{align*}
\]

\[
\begin{align*}
\text{Status quo matters only in case of disagreement in next period:} \\
V_k(L) - V_k(R) &= \int_{c_i-\bar{\theta}_i}^{c_j-\bar{\theta}_j} [(-\theta_k + \delta V_k(L)) - (\theta_k + \delta V_k(R))] f(\varepsilon) \, d\varepsilon \\
\Rightarrow c_k &= \delta \int_{c_i-\bar{\theta}_i}^{c_j-\bar{\theta}_j} [c_k - \theta_k(\varepsilon)] f(\varepsilon) \, d\varepsilon
\end{align*}
\]
Example

$$ \varepsilon \sim N(0, 1) \text{ and } \bar{\theta}_i = -\bar{\theta}_j = 0.35 $$

$$ \varepsilon \sim N(0, 1) \text{ and } \bar{\theta}_i = -\bar{\theta}_j = 0.4 $$
Strategic interaction

- Players’ partisanship are strategic complements: more partisanship $\Rightarrow$ more disagreement $\Rightarrow$ status quo is more important $\Rightarrow$ more partisanship
  - Partisanship feeds on itself
  - Equilibrium multiplicity

- Players’ partisanship have negative spillovers: $U_k (c_k, c_{k'})$ is decreasing in $|c_{k'}|$
  - Equilibria are Pareto ranked
  - The least (most) partisan equilibrium is the Pareto best (worse)