The Optimal Length of Political Terms

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Research question(s)

- ► How *frequently* should there be elections? On what does the *optimal* length of a political term (executive office, lower and upper chamber, judiciary, etc) depend?
- ► Institutional/Constitutional design is important in democracy. Can we improve upon the current design?
- ► *Polarization* is commonplace in contemporary politics. What is the effect of polarization in elections and policies (and on the optimal term length)?
- ► We focus on policies that are *costly* to change
- ► Term length $\neq$ term limit

Concerns in the US Constitutional Convention

- ▶ The Federalist Papers No. 52

  "*As it is essential to liberty that the government in general should have a common interest with the people, so it is particularly essential that the branch of it under consideration should have an immediate dependence on, and an intimate sympathy with, the people. Frequent elections are unquestionably the only policy by which this dependence and sympathy can be effectually secured. But what particular degree of frequency may be absolutely necessary for the purpose, does not appear to be susceptible of any precise calculation, and must depend on a variety of circumstances with which it may be connected.*"

US Constitution

- *The executive Power shall be vested in a President of the United States of America. He shall hold his Office during the Term of* **four** *Years [...]* [U.S. Constitution, Art. II, Sec. 2]

- *The Senate of the United States shall be composed of two Senators from each State, chosen by the Legislature thereof, for* **six** *years.* [U.S. Constitution, Art. I, Sec. 3]

- Members of the House of Representatives serve **two-year** terms and are considered for reelection every even year.

- There is **lifetime tenure** for the Supreme Court

- (*No person shall be elected to the office of the President more than twice [...]* [U.S. Constitution, Amendment XXIII])

State legislatures

- Regarding state legislatures in the US.
    - Lower house: 2-year term (44 states) and 4-year term (5 states).
    - Upper house: 2-year term (12 states) and 4-year term (37 states).

The world (dal Bo and Rossi, 2011)

TABLE 1
Duration of terms in selected legislatures

Term duration (years)	Countries and states in the U.S.
2	U.S. House of Representatives U.S. states: Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, Ohio, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming
3	Australia, Bhutan, El Salvador, Mexico, Nauru, New Zealand, and Philippines
4	Albania, Andorra, Angola, Armenia, Argentina, Austria, Belgium, Bosnia and Herzegovina, Brazil, Bulgaria, Chad, Chile, Colombia, Costa Rica, Croatia, Denmark, Dominican Republic, Germany, Ghana, Greece, Guatemala, Haiti, Honduras, Hungary, Iran, Iraq, Japan, Jordan, Kazakhstan, Kiribati, Lebanon, Liechtenstein, Lithuania, Macedonia, Madagascar, Mauritius, Moldova, Mongolia, Montenegro, Netherlands, Nigeria, Poland, Portugal, Romania, Russia, Slovakia, Solomon Islands, South Korea, Spain, Syria, Tuvalu, and Vanuatu US states: Alabama, Louisiana, Maryland, Mississippi, Nebraska, and North Dakota
5	Afghanistan, Antigua and Barbuda, Azerbaijan, Bahamas, Bangladesh, Barbados, Benin, Bolivia, Botswana, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Central African Republic, China, Comoros, Cuba, Cyprus, Czech Republic, Democratic Republic of the Congo, Djibouti, Dominica, Egypt, Ethiopia, Fiji, France, Gabon, Gambia, Grenada, Guinea, Guyana, India, IvoryCoast, Jamaica, Kyrgyzstan, Laos, Lesotho, Luxembourg, Malawi, Malaysia, Mali, Malta, Mauritania, Monaco, Morocco, Mozambique, Namibia, Nicaragua, Niger, North Korea, Pakistan, Panama, Papua New Guinea, Paraguay, Peru, Republic of the Congo, Saint Lucia, Samoa, San Marino, Senegal, Seychelles, Sierra Leone, Singapore, South Africa, Suriname, Tajikistan, Tanzania, Togo, Tunisia, Turkey, United Kingdom, Uruguay, Uzbekistan, Vietnam, Zambia, and Zimbabwe
6	Liberia, Sri Lanka, Sudan, and Yemen

Note: When the legislature consists of a lower and an upper house, we consider the lower house. *Source:* Online portals of each country or state legislature.

The world (ConstitutionMaking.org Option Reports, 2009)

Figure 1. Percent of Constitutions that Provide for a 4 - year Term Length for the Head of State by Year (N= 570)

Data from the Comparative Constitutions Project - www.comparativeconstitutionsproject.org
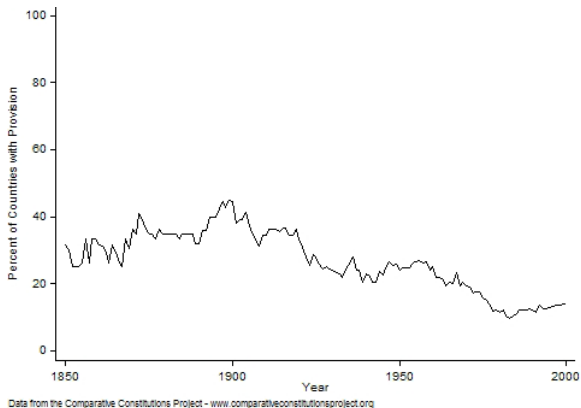
The world (ConstitutionMaking.org Option Reports, 2009)

Figure 2. Percent of Constitutions that Provide for a 5 - year Term Length for the Head of State by Year (N= 570)
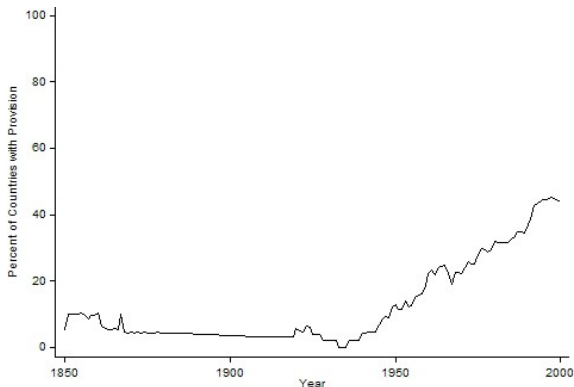
Data from the Comparative Constitutions Project – www.comparativeconstitutionsproject.org

A model for investigating term length

- ► We focus on two dimensions: a common-value component (valence) and a private-value component (ideology)
- ► We assume
  - ► ideological polarization (in a salient issue),
  - ► policy changes are costly
  - ► politicians cannot commit to policies (neither can voters)
  - ► median voter fluctuates
  - ► no asymmetry of information (neither adverse selection nor moral hazard)
- ► Two trade-offs:
  - ► costly changes vs. low valence
  - ► costly changes vs. adapting preference
- ► Other trade-offs: shirking vs. pandering, learning vs. insulation/aristocracy

Costs of change

- ▶ Large policy changes are associated with costs:
    - – Original investments become obsolete (nuclear phase-out)
    - – Expenditures to smooth transition
    - – Resources to engineer transition
    - – Information, communication and lobbying costs
    - – Psychological costs (aversion to change or to uncertainty)
    - – Checks and Balances (in the political process)

- ▶ Examples of costly policy changes:
    - – Health care reform ("Obamacare")
    - – Brexit
    - – Independence of Catalonia

- ▶ Costs due to policy shift are **"costs of change".**

Costs of Change: Relation to the literature

- Costly changes:
  - Glazer et al. (1998)
  - Gersbach and Tejada (2018), Gersbach, Muller and Tejada (2019)
  - Gersbach, Jackson, Muller and Tejada (2019), Eraslan and Piazza (2019)

Political terms: Relation to the literature

- ▶ Term length: Schultz (2008), dal Bo and Rossi (2011)
- ▶ Term limits: Smart and Sturm (2013), Duggan (2014), ...
- ▶ Judiciary vs Executive: Maskin and Tirole (2004)

Further relation to the literature

- ▶ Dynamic election models
  - ▶ Manipulation for future gains: Persson and Svensson (1989), Alesina and Tabellini (1990), Bouton, Lizzeri and Persico (2016)
  - ▶ Policy persistence and alternation: Forand (2014) and Nunnari and Zápal (2014)
  - ▶ Legislative bargaining with endogenous status quo: Baron (1996), Zápal (2016)
  - ▶ Dynamic links: Bowen, Chen and Eraslan (2014), Chen and Eraslan (2017), Dziuda and Loeper (2016), Callander and Raiha (2017), Buisseret and Bernhardt (2017)

Outline of the rest of the presentation

- ▶ Description of the (basic) model

- ▶ The case with no costs

- ▶ Equilibrium analysis of the general case

- ▶ Optimal length of a political term

- ▶ Extensions & Robustness

- ▶ Conclusion

Model: General set-up

1. Discrete time: $t = 1, 2, \ldots$

2. Two political parties: $K \in \{R, L\}$

3. One representative voter m

4. Election at the beginning of each period:
   Two candidates, $k \in K$ and $-k \in -K$
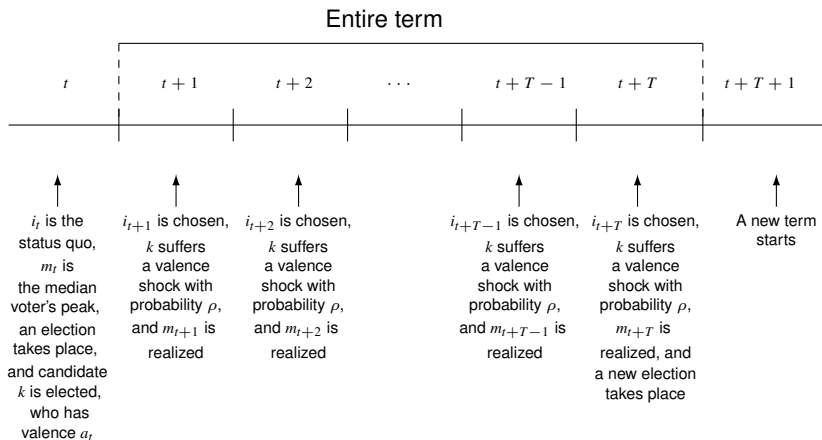
Model: Agents' characteristics and tasks

- ▶ Politician k has *valence* a_{kt} in period t:

  - In his first period t in office, $a_{kt} = 0$
  - At the end of each period t: With prob. $\rho \in [0, 1]$, incumbent experiences a negative *shock* that reduces his/her ability by $A > 0$ (for the average voter) and by $(1 + \chi) \cdot A$ (for the current median voter).

- ▶ In each period t in office, incumbent k chooses $i_{kt} \in \mathbb{R}$ (No commitment)

Model: Agents' characteristics and tasks

- Ideal policies in $\mathbb{R}$:
  - $\mu_R = \mu$ and $\mu_L = -\mu$,
    with $\mu > 0$ the level of *polarization*
  - $\mu_m = m_t$,
    where m_t is drawn according to some random process
    $F_t(\cdot|m_{t-1})$
  - F_t uniform in $[-\beta, \beta]$ with prob. $1 - \eta$ and m_{t-1} with prob. η,
    for all $t \geq 1$.

Note: Two random processes (downward drift + noise)

Entire term

| t | $t+1$ | $t+2$ | $\cdots$ | $t+T-1$ | $t+T$ | $t+T+1$ |

i_t is the status quo, m_t is the median voter's peak, an election takes place, and candidate k is elected, who has valence a_t

i_{t+1} is chosen, k suffers a valence shock with probability ρ, and m_{t+1} is realized

i_{t+2} is chosen, k suffers a valence shock with probability ρ, and m_{t+2} is realized

i_{t+T-1} is chosen, k suffers a valence shock with probability ρ, and m_{t+T-1} is realized

i_{t+T} is chosen, k suffers a valence shock with probability ρ, m_{t+T} is realized, and a new election takes place

A new term starts

Model: Stage utilities

$\Rightarrow$ Stage utility in period $t \in \{1, 2, \ldots\}$:

$$U_i(i_{t-1}, i_t, a_t) = a_t - (i_t - \mu_i)^2 - c \cdot |i_{t-1} - i_t|$$

$$U_K(i_{t-1}, i_t, a_t, b) = a_t - (i_t - \mu_K)^2 - c \cdot |i_{t-1} - i_t| + b \cdot \mathbb{1}_K(t)$$

- $b \gg 0$ are office-rents (for the party and/or the politician)

Equilibrium concept

A *(Markov) equilibrium* is a triple $(\sigma_m, \sigma_L, \sigma_R)$ such that:

(i) for all $t \in \mathbb{N}$,

$$\sigma_K(t/T, i_{t-1}, a_{t-1}, m_{t-1}) \in \underset{i_t \in \mathbb{R}}{\operatorname{argmax}} \, \mathbb{E}\left[V_K(i_{t-1}, i_t, a_t)\right.$$
$$\left. + \, \theta \cdot V_K(i_t, \sigma_{K'}((t+1)/T, i_t, a_t, m_t), a_{t+1})\right],$$

(ii) if $t/T = 0$,

$$\sigma_m(K, i_{t-1}, a_t, m_t) = K \Leftrightarrow \mathbb{E}$$
$$\left[U_{m_t}\left(i_{t-1}, \sigma_K((t+1)/T, i_{t-1}, a_t, m_t), a_{t+1}\right)\right]$$
$$\geq \mathbb{E}\left[U_{m_t}\left(i_{t-1}, \sigma_{-K}((t+1)/T, i_{t-1}, 0, m_t), a_{t+1}\right)\right],$$

Agents care about the current period & look one period ahead.

Technical assumptions

- Polarization:

$$0 \le c < \frac{2\mu}{1 + \theta}$$

- Initial moderation:

$$|i_0| < \mu - \frac{c}{2} \cdot (1 + \theta)$$

The case with no costs

Theorem

Assume $c = 0$. Then, in the unique equilibrium of $\mathcal{G}$,

(i) office-holders choose their peak in any period,

(ii) incumbent $k \in K$ re-elected in t iff

$$m_t \geq \frac{A \cdot z_t}{4\mu} \quad \text{(if } K = R)$$

if $K = R$, and if and only if

$$m_t \leq -\frac{A \cdot z_t}{4\mu} \quad \text{(if } K = L) \, ,$$

where z_t is the number of valence shocks experienced by the incumbent up to period t.

The case with no costs

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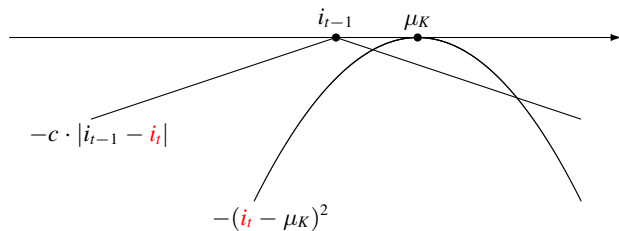$$m_t \leq -\frac{A \cdot z_t}{4\mu} \quad \text{(if } K = R\text{)},$$

where z_t is the number of valence shocks experienced by the incumbent up to period t.

Equilibrium behavior with no costs

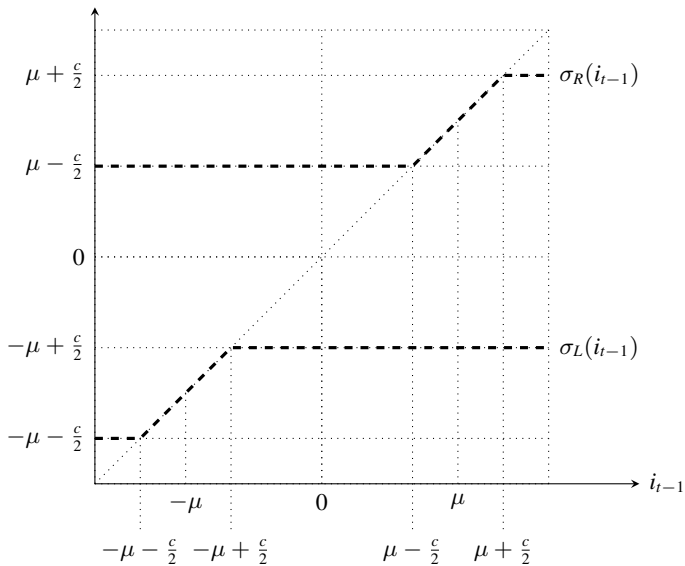- Policies are polarized & re-election trade-off between m's biased ideology and ability.
- $T = 1$ is optimal for a voter with permanent peak at 0.

Equilibrium behavior with costs

▶ We now consider costs of change.

Myopic parties ($\theta = 0$) – no elections

The figure shows a horizontal axis with points labelled i_{t-1} and μ_K. A line labelled $-c \cdot |i_{t-1} - i_t|$ and a parabola labelled $-(i_t - \mu_K)^2$ are drawn.

Myopic parties ($\theta = 0$) – no elections

Equilibrium behavior with costs

Theorem

Assume $c > 0$. Then, in the unique equilibrium,

(i) $k \in R$ *chooses* Δ *and* $k \in L$ *chooses* $-\Delta$,

(ii) *incumbent* $k \in K$ *re-elected in* t *iff*

$$m_t \geq -\frac{c}{2} + \frac{A \cdot z_t}{4\Delta} \quad \text{(if } K = R\text{)}$$

or

$$m_t \leq \frac{c}{2} - \frac{A \cdot z_t}{4\Delta} \quad \text{(if } K = L\text{)},$$

where z_t *is the number of valence shocks suffered and*

$$\Delta = \mu - \frac{c}{2} \cdot (1 + \theta).$$

Equilibrium behavior with costs

Theorem
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where z_t is the number of valence shocks suffered and

$$\Delta = \mu - \frac{c}{2} \cdot (1 + \theta).$$

Equilibrium behavior with costs: comments

- Forces at work:
    - costs of change $\rightarrow$ incumbency advantage
        - now (first period)
        - tomorrow (later on)
    - re-election concerns $\sim$ incumbency advantage
    - costs of change & valence and preference shocks

Optimal term length: More structure

- Parametrized stochastic process:

$$m_t = \begin{cases} m_{t-1} & \text{with probability } \eta, \\ x & \text{with probability } 1 - \eta, \end{cases}$$

  where $x \sim U[-\beta, \beta]$.

- Large shocks:

$$(1 + \chi) \cdot A > 4\Delta \cdot \left(\beta + \frac{c}{2}\right).$$

Optimal term length: Two notions of welfare

- Ex ante welfare:

$$W^1(T) = \mathbb{E}_T\left[-\sum_{t \geq 1} \delta^{t-1} \cdot i_t^2\right]$$

$$+ \mathbb{E}_T\left[-\sum_{t \geq 1} \delta^{t-1} \cdot c \cdot |i_t - i_{t-1}|\right]$$

$$+ \mathbb{E}_T\left[\sum_{t \geq 1} \delta^{t-1} \cdot a_t\right].$$

Optimal term length: Two notions of welfare

- Interim welfare:

$$
W^2(T) = \mathbb{E}_T \left[-\sum_{t \geq 1} \delta^{t-1} \cdot (i_t - m_t)^2 \right]
$$

$$
+ \mathbb{E}_T \left[-\sum_{t \geq 1} \delta^{t-1} \cdot c \cdot |i_t - i_{t-1}| \right]
$$

$$
+ \mathbb{E}_T \left[\sum_{t \geq 1} \delta^{t-1} \cdot a_t \right].
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Optimal term length: Two notions of welfare

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$$+ \mathbb{E}_T \left[\sum_{t \geq 1} \delta^{t-1} \cdot a_t \right].$$

Optimal term length: Characterization of ex ante welfare

Proposition

Ex ante optimal term length T^* exists, is finite, and maximizes

$$
\begin{aligned}
M(T) := \frac{\delta^T}{1 - \delta^T} \cdot \Bigg[& T \cdot \frac{A}{2c \cdot \left(\mu - \frac{c}{2} \cdot (1 + \theta) \right)} \cdot \frac{\rho}{1 - \delta} \\
& - (1 - (1 - \rho)^T) \cdot \frac{1 + \delta^T \eta^T (1 - (1 - \rho)^T)}{1 - \delta^T \eta^T (1 - (1 - \rho)^T)} \\
& - (1 - \rho)^T \cdot \frac{1}{2\beta} \cdot \max\left\{ 0, \beta - \frac{c}{2} \right\} \cdot \frac{1 - \delta^T \eta^T (1 - 2(1 - \rho)^T)}{1 - \delta^T \eta^T (1 - (1 - \rho)^T)} \Bigg].
\end{aligned}
$$

Optimal term length: Characterization of ex ante welfare

Let

$$H_I(T) := \frac{\delta^T}{1 - \delta^T} \cdot T \cdot \frac{A}{2c \cdot \left(\mu - \frac{c}{2} \cdot (1 + \theta)\right)} \cdot \frac{\rho}{1 - \delta},$$

$$H_{II}(T) := -\frac{\delta^T}{1 - \delta^T} \cdot \frac{1 + \delta^T \eta^T (1 - (1 - \rho)^T)}{1 - \delta^T \eta^T (1 - (1 - \rho)^T)},$$

$$H_{III}(T) := -\frac{\delta^T}{1 - \delta^T} \cdot \frac{1}{2\beta} \cdot \max\left\{0, \beta - \frac{c}{2}\right\} \cdot \frac{1 - \delta^T \eta^T (1 - 2(1 - \rho)^T)}{1 - \delta^T \eta^T (1 - (1 - \rho)^T)}.$$

Then,

$$M(T) = H_I(T) + (1 - (1 - \rho)^T) \cdot H_{II}(T) + (1 - \rho)^T \cdot H_{III}(T).$$

Optimal term length: Characterization of ex ante welfare

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Then,

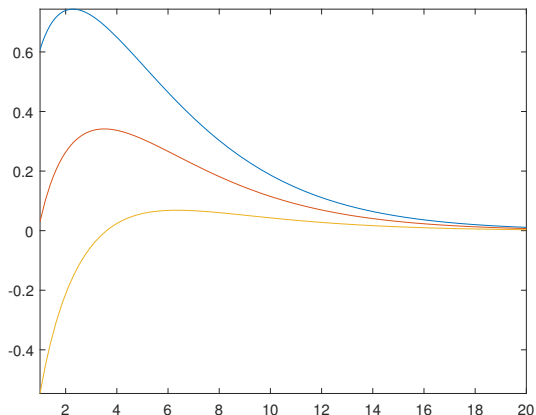$$M(T) = H_I(T) + (1 - (1 - \rho)^T) \cdot H_{II}(T) + (1 - \rho)^T \cdot H_{III}(T).$$

Figure 1: Function $M(T)$ for $\delta = 0.7$, $\mu = 0.4$, $c = 0.35$, $\theta = 0.8$, $\rho = 0.45$, $\beta = 0.2$, $\eta = 0.1$, $\chi = 6$, and $A = 0.01$ (orange line), $A = 0.02$ (red line) and $A = 0.03$ (blue line).

Optimal term length: Comparative statics (I)

Corollary

The ex ante optimal term length T^*

- *decreases $\iff A$ increases,*
- *decreases $\iff \rho$ increases,*
- *decreases $\iff \theta$ increases.*

Optimal term length: Comparative statics (II)

Corollary

The ex ante optimal term length T^*

- *increases $\iff \mu$ increases,*
- *increases $\iff \beta$ increases,*
- *increases $\iff 1 - \eta$ increases,*
- *increases $\iff \chi$ increases.*

Corollary

The ex ante optimal term length T^*

- *increases $\iff c$ increases (if $2\beta < c < \frac{\mu}{1+\theta}$),*
- *decreases $\iff c$ increases (if $\frac{\mu}{1+\theta} < c < 2\beta$).*

Total costs given by the following quadratic function on c:

$$c \cdot \left(\frac{2\mu}{1+\theta} - c \right).$$

To Tie Their Own Hands: A Rationale

- ▶ Endogenizing
  - ▶ valence,
  - ▶ median voter's peak.
- ▶ Inefficient provision of public goods.

Extensions

- learning-by-doing,
- campaign spending,
- pandering,
- accountability,
- party entry at the median voter's peak,
- several policy dimensions,
- early elections,
- varying costs of change.

Conclusion

- We have identified new trade-offs for the optimal determination of political terms.
- Our (simple) model replicates observed policies and it enables comparative statics $\rightarrow$ different lengths should be observed & testable hypotheses.
- A potential workhorse model.