Institutional Choice of Electoral Management Bodies (EMBs)

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Outline

- Research Question
- EITM Framework
- Data and Measurement
- Empirical Findings
- Conclusions
Research Question

* What factors explain the variation of EMBs? When and how do they matter?

* What are the relevant aspects of EMBs?
  - ACE Network provides three-fold taxonomy of EMB (governmental, mixed, independent) ... does it capture the main political dynamics over EMB?
- **Independent**: EMB are institutionally independent, autonomous from the executive branch of government and has and manages its own budget (142)

- **Mixed**: a dual structure that has a policy, monitoring, or supervisory EMB that is independent of the executive branch of government ... and an implementation EMB located within a government (25)

- **Governmental**: elections organized and managed by the executive branch of government (45)
* Confusion of “freedom from” and “freedom to” (Schedler 2003)

* Approach: two types of autonomy
  1) **Administrative**: autonomy vis-à-vis Executive
  2) **Legislative**: autonomy vis-à-vis Legislature
EITM Framework

* **Step 1:** Identify a theoretical concept of human behavior of interest and relate it to a statistical concept.

* **Step 2:** Develop behavioral (formal) and statistical analogues.

* **Step 3:** Unite the theoretical and statistical analogues in testable theory.
Step 1: concepts

* **Theoretical concept:**
  decision making (by political parties)

* **Statistical Concept:**
  discrete choice
  a) Choice of “EMB model” (3 categories)
  b) Delegation of authority (dichotomous action)
Step 2: analogues

* Behavioral (formal) concept: decision theory
  - Parties choose institutions of EMBs to maximize their expected utilities [utility maximization]
  - Two choices – administrative and legislative autonomy

* Statistical concept: discrete choice modeling
  - EMB model (3-fold): ordered or multinomial logit
  - Delegation (binary): logit
Uni-dimensional competition between two parties (left and right, \(0 = x_L < x_L^* < x_R^* < 1 = x_R\))

Probabilities of winning \(\pi(\mu)\) under equilibrium may vary.

Supporting assumptions:

- Parties are uncertain with the preference of the median
- Parties are both office- and policy-seeking, and the “weights” might be different
**Institutions:** Legislature, Executive, EMB

- Legislature has **two choices:** whether to give legislative and administrative autonomy to EMB
- Legislature and EMB jointly choose the electoral rule, and Executive and EMB jointly administer the election.
- Left party wins the majority in Legislature with the probability of $\pi(\mu)$. 

*(step 2) setup (cont.)*
The “median” voter under existing electoral rule is closer to party $R$ than the theoretical ideal “median.”

Preference of EMB:
- **Administrative stage**: fair implementation of election, however biased the rule is (no executive fraud)
- **Rule-making stage**: Realization of theoretical ideal.
\[ \mu : \text{median voter given the electoral rule} \]

\[ \pi(\cdot) : \text{probability of winning given the “median”} \]

\[ \omega : \text{difficulty of fraud} \]

\[ \alpha : \text{electoral uncertainty} \]

\[ k : \text{cost of social unrest} \]

\[ \tau : \text{“bias” of the electoral rule (gap btw } \mu \text{ and } x_m^* \text{)} \]
Expected utility of party $L$ may be written as:

$$U_L(\mu|\text{nonauto}_{adm}) = \pi(\mu) \left[ \pi \left( \mu - \frac{1}{4\omega} \right) (-|x_L^*|) + \left( 1 - \pi \left( \mu - \frac{1}{4\omega} \right) \right) (-|x_R^*|) \right]$$

$$+ (1 - \pi(\mu)) \left[ \pi \left( \mu + \frac{1}{4\omega} \right) (-|x_L^*|) - \left( 1 - \pi \left( \mu + \frac{1}{4\omega} \right) \right) (-|x_R^*|) \right]$$

$$- \frac{k}{4\omega^2}$$

$$U_L(\mu|\text{auto}_{adm}) = \pi(\mu)(-|x_L^*|) + (1 - \pi(\mu))(-|x_R^*|)$$

(step 2) administrative autonomy
(step 2) admin. autonomy (cont.)

* Taking the difference ...

\[
U_L(\mu|\text{auto}_{adm}) - U_L(\mu|\text{nonauto}_{adm}) = -\frac{D}{4\omega a}\pi(\mu) + \frac{D}{8\omega a} + \frac{k}{4\omega^2}
\]

Where \( D \equiv x^*_R - x^*_L \).

* Both parties prefer autonomous parties when ...

\[
\frac{1}{2} - \frac{ak}{\omega D} < \pi(\mu) < \frac{1}{2} + \frac{ak}{\omega D}
\]

\[
\Leftrightarrow \left| \frac{1}{2} - \pi(\mu) \right| < \frac{ak}{\omega D}
\]
\[ \left| \frac{1}{2} - \pi(\mu) \right| < \frac{a k}{\omega D} \]

- **\( \pi \)** (probability of winning): *more* competitive, *more* likely to adopt autonomous EMB. [delegation theory!]
- **\( a \)** (electoral uncertainty): *more* uncertain, *more* likely to adopt autonomous EMB.
- **\( k \)** (social unrest): *more* social unrest caused by fraud, *more* likely to adopt autonomous EMB.
- **\( \omega \)** (difficulty of fraud): *more* difficult, *LESS* likely to adopt autonomous EMB.
- **\( D \)** (ideological divergence): *more* ideologically polarized, *less* likely to adopt autonomous EMB.
(step 2) adm. autonomy (cont.)

* Impact of presidentialism?
  
  Horizontal: $\pi$
  
  Vertical: probability of divided government ($s$).
  
  The figures shows that presidential system is more likely to delegate administrative autonomy to EMBs than parliamentary systems.
\( \varphi = \pi \cdot (1 - s) + (1 - \pi) \cdot s = \pi + s - 2\pi s \)

[\( \varphi \) denotes the probability of occupying Executive]

- Plugging it into the inequality gives the parabolas.

\( s = \pi (1 - \varphi) + (1 - \pi) \varphi = -2\pi^2 + 2\pi \)

[s denotes the probability of divided government]

- Represents the situation in which Executive and Legislature are selected by random draw.
Long-term equilibrium?

\[
\begin{pmatrix}
P(L) \\
P(R)
\end{pmatrix} =
\begin{pmatrix}
P(L|L) & P(L|R) \\
P(R|L) & P(R|R)
\end{pmatrix}
\begin{pmatrix}
P(L) \\
P(R)
\end{pmatrix}
\]

\[
= \begin{pmatrix}
\pi \left( \mu - \frac{1}{4\omega} \right) & \pi \left( \mu + \frac{1}{4\omega} \right) \\
1 - \pi \left( \mu - \frac{1}{4\omega} \right) & 1 - \pi \left( \mu + \frac{1}{4\omega} \right)
\end{pmatrix}
\begin{pmatrix}
P(L) \\
P(R)
\end{pmatrix}
\]

\[P(L) + P(R) = 1.\]

Solving this, we obtain:

\[
P(L) = \pi(\mu) + \frac{1}{8\omega a} \left(2\pi(\mu) - 1\right)
\]
(step 2) rule autonomy (cont.)

\[ U_L(\mu|\text{nonauto}_\text{leg}) \]
\[ = P(L)(-|x_L^*|) + (1 - P(L))(-|x_R^*|) - \frac{k}{4\omega^2} \]

\[ U_L(\mu|\text{auto}_\text{leg}) \]
\[ = \pi(x_m^*)(-|x_L^*|) + (1 - \pi(x_m^*))( -|x_R^*|) - \delta \]
[we set \( \delta = 0 \) here.]

\* Taking the difference, we obtain:
\[ U_L(\mu|\text{auto}_\text{leg}) - U_L(\mu|\text{nonauto}_\text{leg}) \]
\[ = -\frac{D}{4\omega a} \pi(\mu) + \frac{D(4\tau\omega + 1)}{8\omega a} + \frac{k}{4\omega^2} \]
Thus, Left party prefers autonomous EMB when:

$$\pi(\mu) < \frac{1}{2} + \frac{ak + 2\tau \omega^2 D}{\omega D}$$

Both parties prefer autonomous EMB when:

$$\frac{1}{2} + 2\tau \omega - \frac{ak}{\omega D} < \pi(\mu) < \frac{1}{2} + 2\tau \omega + \frac{ak}{\omega D}$$

$$\Leftrightarrow \omega \left| \frac{1}{2} - \pi(\mu) + 2\tau \omega \right| < \frac{ak}{D}$$
\[ \omega \left| \frac{1}{2} - \pi(\mu) + 2\tau\omega \right| < \frac{ak}{D} \]

* \( \omega \) (difficulty of manipulation): more difficult, LESS likely to adopt autonomous EMB. However, the impact is larger on average if \( \pi(\mu) < \frac{1}{2} \). [whiteboard!]

* \( \tau \) (deviation from the ideal): does not affect the likelihood of autonomous EMB, but changes the impact of \( \omega \).

* \( \pi(\mu) \) (probability that Left wins): the “vertex” becomes larger compared to administrative autonomy.
Impact of presidentialism?

Since the control of Executive is irrelevant for rule-making, there would exist no difference between presidential and parliamentary systems regarding rule-making autonomy.
Possible design ... ???

e.g. 2 players, competing for sth. victory at time t affects the future possibility of winning. When do they agree to rule out “cheating”? ... ???
Step 3: unification

* EMB model (ACE Network)
  - 3 categories (government, mixed, independent)
  - Multinomial logistic regression is more appropriate than ordered logistic regression.
  - We generally expect the pattern of administrative autonomy, but relevant factors would differ by pair.

* Delegation
  - We expect the pattern of rule-making autonomy.
Data and Measurement

* Dependent variables
  - EMB models (ACE network)
    - Governmental, Mixed, Independent (3-fold)
    - Cross-sectional data of countries
  - Delegation (ACE network)
    - whether a country delegate an authority of delimiting constituency boundary to EMB or the boundary commission (binary)
Data and Measurement (cont.)

* Key Independent variables
  - Long-term probability that a left party win ($\pi(\mu)$)
    - Constructed from DPI2012 dataset (Beck et al. 2001)
    - The ratio that the largest governmental party is either left or center during 1973-2010
  - Separation of powers
    - Re-categorized from DD2010 dataset (Cheibub et al. 2010) into 3 categories (non-democracy, parliamentary, presidential)
    - variable from DPI2012 is also used for comparison.
  - Difficulty of manipulation ($\omega$): pc GDP (log) as a proxy
## Summary Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>MEAN</th>
<th>SD</th>
<th>MIN</th>
<th>MAX</th>
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<tbody>
<tr>
<td><strong>Left Ratio</strong></td>
<td>176</td>
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<td><strong>GDP per capita (log)</strong></td>
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<td>8.63</td>
<td>1.55</td>
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<td>0.46</td>
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<tr>
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<th>Total</th>
<th>Parliamentary</th>
<th>Presidential</th>
<th>Dictatorship</th>
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<td></td>
<td>192</td>
<td>80</td>
<td>38</td>
<td>74</td>
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## Empirical Results (1)

* EMB model

<table>
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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
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<td>BETA</td>
<td>RSE</td>
<td>p</td>
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<td>0.002</td>
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<td></td>
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</tr>
<tr>
<td>Presidential</td>
<td>-1.60</td>
<td>0.95</td>
<td>0.094</td>
<td>*</td>
<td>-2.78</td>
<td>1.15</td>
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<tr>
<td>Dictatorship</td>
<td>-3.77</td>
<td>1.19</td>
<td>0.001</td>
<td>***</td>
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<td>Left-ratio</td>
<td></td>
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<tr>
<td>(Left-ratio)^2</td>
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<td>4.17</td>
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<td>4.78</td>
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<tr>
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<td>0.709</td>
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<td>0.85</td>
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<td>0.60</td>
<td>0.163</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Left-ratio</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(Left-ratio)^2</td>
<td>12.26</td>
<td>3.06</td>
<td>&lt;0.001</td>
<td>***</td>
<td>8.06</td>
<td>3.47</td>
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<tr>
<td>Cons.</td>
<td>12.56</td>
<td>2.60</td>
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<td>21.26</td>
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<td>Chi^2</td>
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### Empirical Results (2)

* **Delegation (boundary)**

<table>
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<tr>
<th></th>
<th>(1)</th>
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<th>(3)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>BETA</td>
<td>RSE</td>
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<tr>
<td>GDP per capita (log)</td>
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<td>0.244</td>
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<td>Regime (base: parl)</td>
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<tr>
<td>Presidential</td>
<td>0.31</td>
<td>0.61</td>
<td>0.615</td>
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<tr>
<td>Dictatorship</td>
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<td>0.491</td>
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<td>Left-ratio</td>
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<tr>
<td>(Left-ratio)^2</td>
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<tr>
<td>Cons.</td>
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## Empirical Results (3)

* Delegation (cont.)

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<th>Left-ratio &lt; 0.4</th>
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<th>Left-ratio &gt; 0.4</th>
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<td>BETA</td>
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<td>GDP per capita (log)</td>
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<tr>
<td>Presidential</td>
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<tr>
<td>Dictatorship</td>
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<td>Left-ratio</td>
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<td>Cons.</td>
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<td>0.1136</td>
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Findings generally consistent with predictions, with some surprise.

* For EMB model, it generally follows the predictions for administrative autonomy, but we also find evidence of confusion.
* Separation of powers only matters for EMB model [but opposite sign!!], not for boundary delegation.
* Probability that Left wins matters in both regressions, but the vertex of the quadratic curve is consistently larger in the case of boundary delegation.
* Left-ratio matters even after the regime (democracy) is controlled.
* For delegation, impact of GDP is weaker in high $\pi$. 
Conclusions

* Theoretical implications

- Bringing “partisanship” back into the delegation theory
- Integrating two literatures: democracy assistance and American politics
- Distinction between administrative and legislative autonomy
- Reconsideration of data-collecting strategy
Conclusions (cont.)

* Normative implications

* Future research
  * Impact of presidentialism? Need more theory
  * Variables suggested by theory? Need more data
  * Temporal variation? Short-term strategy?
Thank You!!!