Foreign Threat and Economic Growth
Political Coase Theorem vs. Northian Political Constraints

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Theoretical interest
(Divergence and regime irrelevance)
- The endogenous policy, exogenous politics model (i.e., the political economy model) often fails to explain each country's growth performance.
- Growth divergence (autocracies)
- Regime irrelevance (democracies vs. autocracies)

Political Coase Theorem

Outline

1. Motivation
2. Theory
3. Empirics
4. Conclusion

Empirical interest (Causality problem)

- Politics (e.g., political stability), policy, growth are jointly-determined variables.
  
  Political stability \(\Rightarrow\) High growth
  High growth \(\Rightarrow\) Political stability

Searching for better instrument variables in growth regressions

Deep, deep, deep determinants
(Ultimately exogenous)

Geopolitics
Endogenous politics
Politics
Endogenous policy
(Political economy)
Policy
Endogenous growth
Growth

Political Coase Theorem

- Coase Theorem
  Irrelevance of who has property rights
- Political Coase Theorem
  Irrelevance of who has political powers
  If democracies are efficient,
  autocracies are (more) efficient.
  “Firm owners do not wish to kill the goose that laid the golden eggs.”
Failure of Political Coase Theorem

- Failure of Coase Theorem
  - Transaction costs
- Failure of Political Coase Theorem
  - Political transaction costs (Incomplete contract)
    “Northian political constraints”
  Endogenous politics

Political constraints in Autocracies

- Development ⇒ Ruling elite
  Pro: Encompassing interest ↑ (M. Olson)
  Con: Masses’ ability to contest power ↑ (D. North)
- Foreign threat ⇒ Ruling elite
  Pro: Masses’ will to contest power ↓
    (“Common enemy” effect)
  Constraint tightness=(Ability) × (Will)↓
  ⇒ More cooperation ⇒ More development

Economics of autocracies

What happens when non-representative governments choose public policies? vs. Max [Social welfare]

Social divide  “Privileged” vs. “Unprivileged”

1. Max [The “privileged” welfare]
2. The “unprivileged” are not passive
   (Resistance to the existing order)
Strategic interaction of two active players
The “privileged” maximize their welfare
  subject to the reaction function of the “unprivileged”

Northian constraints

Prior research

Theoretical

- Acemoglu and Robinson, Chaudhry and Gernar (2006)
  Development ⇒ Ruling elite
  Pro: Encompassing interest
    “National power”
  Con: Masses’ ability to contest power
  Development triggered by foreign threat is destabilizing.
  --- Tsarist Russia (finally overthrown by socialist revolution)
  --- More stable Asian autocracies such as Meiji Japan

Threats motivate development: Examples

- Russia: The Crimean War  Alexander II
- Turkey: The decline of the Ottoman Empire  Kemal Atatürk
- Japan: The Meiji Restoration  The Meiji Emperor
- Taiwan: Communism Threat  Chiang Kai Shek
- Korea: Communism Threat  Park Chung Hee
- Bhutan: China-India  (GNH)  King Wangchuck
Prior research

Empirical
  - Internal conflict in a Domestic country on the Domestic growth
    - Negative
  - Internal conflict in Foreign countries on the Domestic growth
    - Negative spillover
- Our paper
  - External conflict among Foreign countries on the Domestic growth
    - Positive spillover

The (geo)political economy model

1. Ruling elite, Masses
   (Class Society)
2. Monopolization of Political Power
   (Non-representative Regime)
3. Conflicts: Domestic and External
   (Revolution) - (Invasion)

Ruling elite (Government)

Production

Infrastructure and education

Taxation

Labor

Masses

Revolution

Foreign invasion

Y = AGL

L = θ

1 - θ

Masses

Ruling elite (Government)

G = πw

r*Y

Y = AGL

L = θ

Masses

No foreign threat

No revolution

Elite \rightarrow G = πw

Masses \rightarrow L = 1

Y = A(GL) L

(1 - r*) Y

Revolution

Elite \rightarrow G = πw

Masses \rightarrow L = θ

Y = AGLθ

1 - P(G)

0

P(G) = π

0

Y

1 - P(G)

0

Masses

No revolution

Investment policy

Taxation policy

Fail

Revolution

Succeed

No foreign threat

{(r*, AGL, (1 - r*), AGL, 0)}
Inefficiency of Revolution

\[ Y = AG \rightarrow Y = AG\theta \]

Taxation policy

Scope for "Coasian Bargaining"

(Strategic moderation of taxation aiming at suppressing revolution)

\[ (1-\tau^*)AG \geq \pi AG\theta \]

\[ \Rightarrow \tau^* = 1-\pi\theta \] (Northian constraint)

Ability (\(\pi\)) vs. Will (\(\theta\))

Four states of conflicts

(No revolution, No invasion)

(Revolution, No invasion)

(No revolution, Invasion)

(Revolution, Invasion)

Prob. of invasion: \(\eta\)

Investment policy

\[ \pi \uparrow \Rightarrow \text{Trade-off} \]

\[ \tau^* \text{ (Encompassing power)} \downarrow \]

\[ Y \text{ (Encompassing interest)} \uparrow \]

Max

\[ \tau^* Y = (1-\pi\theta)A\pi\psi \]

\[ \Rightarrow \pi = 1/2\theta, \tau^* = 1/2 \]

Growth

\[ Y/Y_1 = A\pi\beta \quad \tau^* = A\beta/4\theta \]

No revolution

\[ \begin{array}{c}
\text{Elite} \quad G = \pi w \\
\text{Masses} \quad L = \phi \\
\end{array} \]

\[ Y = AG\phi \]

\[ \begin{array}{c}
1-Q \\
0 \\
\end{array} \]

Revolution

\[ \begin{array}{c}
\text{Elite} \quad G = \pi w \\
\text{Masses} \quad L = \theta\phi \\
\end{array} \]

\[ Y = AG\theta\phi \]

\[ \begin{array}{c}
q \\
1-q \\
0 \\
0 \\
\end{array} \]

Taxation policy

"Coasian Bargaining": \(\theta < 1, Q > q\)

\[ (\eta q Q + 1-\eta) (1-\tau^*)AG \geq (\eta q Q + 1-\eta) \pi AG\theta \]

\[ \Rightarrow \tau^* = 1-\pi\theta\psi \] (More relaxed constraint)

\[ \psi = (\eta q Q + 1-\eta) / (\eta q Q + 1-\eta) < 1, \partial\psi/\partial\eta < 0 \]

"Common enemy" effect

Ability (\(\pi\)) \uparrow vs. Will (\(\theta\)) \downarrow

Investment policy

Max

\[ (\eta q Q + 1-\eta)\tau^* Y \Rightarrow \pi = 1/2\theta\psi, \tau^* = 1/2 \]

Growth

\[ Y/Y_1 = A\beta/4\theta\psi \quad \psi < 1, \partial\psi/\partial\eta < 0 \]
More threat (Geopolitics)

→ More relaxed constraint (Politics)

→ More efficient policy (Policy)

→ Higher growth (Economy)

Empirics

Cross-country growth regressions

Countries: autocracies and democracies
(1960-90) (54) + (30) = (84)
excluding socialist countries

Two (geo)political instability variables

Threat

$\text{TFI}_i = \log \sum_j \frac{\text{Number of international conflicts Country } j \text{ engaged in}}{\text{Distance from Country } i \text{ to Country } j}$

Outbreak

$\text{WAR}_i = \log(\text{Number of domestic and international conflicts of Country } i)$

Table 1: Growth and Threats of Foreign Invasion

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Per capita GDP Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial GDP per capita</td>
<td>-0.004 (-2.953)</td>
</tr>
<tr>
<td>Initial schooling years</td>
<td>0.000 (1.421)</td>
</tr>
<tr>
<td>Population</td>
<td>0.000 (1.421)</td>
</tr>
<tr>
<td>Investment</td>
<td>0.000 (1.421)</td>
</tr>
<tr>
<td>Openness</td>
<td>0.000 (1.421)</td>
</tr>
<tr>
<td>Autocracy</td>
<td>0.000 (1.421)</td>
</tr>
<tr>
<td>Threat</td>
<td>0.015 (6.331)</td>
</tr>
<tr>
<td>WAR</td>
<td>-0.003 (-2.450)</td>
</tr>
</tbody>
</table>

Adjusted R-squared 0.419 0.505 0.502
Numbers of Observations 84 82 82

Table 2: Growth, Factor Accumulation, and Threats of Foreign Invasion

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<thead>
<tr>
<th>Dependent Variable</th>
<th>Per capita GDP Growth</th>
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<tr>
<td>Initial GDP per capita</td>
<td>-0.002 (-1.057)</td>
</tr>
<tr>
<td>Initial schooling years</td>
<td>0.007 (3.421)</td>
</tr>
<tr>
<td>Growth in physical capital</td>
<td>0.410 (6.660)</td>
</tr>
<tr>
<td>Change in schooling years</td>
<td>0.117 (2.934)</td>
</tr>
<tr>
<td>Growth in TFP</td>
<td>1.147 (11.56)</td>
</tr>
<tr>
<td>Threat</td>
<td>0.007 (3.012)</td>
</tr>
<tr>
<td>WAR</td>
<td>-0.002 (-2.520)</td>
</tr>
</tbody>
</table>

Adjusted R-squared 0.682 0.465 0.812 0.890
Numbers of Observations 84 84 78 78

Foreign threat ↑

Other factors

Economic growth ↑

* Irrelevance of regimes (Coase theorem)
Table 3: Factor Accumulation and Threats of Foreign Invasion

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Growth in physical capital</th>
<th>Change in schooling years</th>
<th>Growth in TFP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial GDP per capita</td>
<td>0.012 (1.945)</td>
<td>0.009 (1.580)</td>
<td>-0.004 (2.077)</td>
</tr>
<tr>
<td>Initial schooling years</td>
<td>0.015 (4.249)</td>
<td>0.007 (1.226)</td>
<td>0.009 (5.160)</td>
</tr>
<tr>
<td>TFI</td>
<td>-0.004 (-0.989)</td>
<td>-0.003 (-0.743)</td>
<td>-0.004 (-0.989)</td>
</tr>
<tr>
<td>WAR</td>
<td>0.009 (3.598)</td>
<td>0.008 (3.598)</td>
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</tbody>
</table>

Numbers of Observations: 84 84 78

Table 4: Government Expenditures and Threats of Foreign Invasion

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Government spending on education</th>
<th>Government spending on investment</th>
<th>Government spending on consumption</th>
<th>Total Government spending</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita GDP growth</td>
<td>0.016 (1.639)</td>
<td>0.125 (1.639)</td>
<td>-0.621 (-4.539)</td>
<td>-0.027 (-0.303)</td>
</tr>
<tr>
<td>Growth in physical capital</td>
<td>0.019 (3.824)</td>
<td>-0.002 (-0.896)</td>
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<td>Change in schooling years</td>
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<td>Growth in TFP</td>
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<td>0.276 (2.204)</td>
<td>0.084 (0.873)</td>
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<td>WAR</td>
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<td>WAR</td>
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Adjusted R-squared: 0.255 0.042 0.353 0.014
Numbers of Observations: 83 80 83 83

Table 5: Political Regime - Autocracy

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<tr>
<th>Dependent Variable</th>
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<th>WAR</th>
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<th>Numbers of Observations</th>
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</table>

Adjusted R-squared: 0.255 0.042 0.353 0.014
Numbers of Observations: 83 80 83 83

Table 6: Political Regime - Democracy

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>TFI</th>
<th>WAR</th>
<th>Adjusted R-squared</th>
<th>Numbers of Observations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita GDP growth</td>
<td>0.008 (2.432)</td>
<td>-0.002 (-2.735)</td>
<td>0.636 30</td>
<td></td>
</tr>
<tr>
<td>Growth in physical capital</td>
<td>0.011 (2.696)</td>
<td>-0.002 (-1.652)</td>
<td>0.343 30</td>
<td></td>
</tr>
<tr>
<td>Change in schooling years</td>
<td>0.007 (0.609)</td>
<td>-0.002 (-0.612)</td>
<td>0.065 30</td>
<td></td>
</tr>
<tr>
<td>Growth in TFP</td>
<td>0.005 (1.985)</td>
<td>-0.001 (-1.598)</td>
<td>0.288 28</td>
<td></td>
</tr>
<tr>
<td>WAR</td>
<td>0.127 (0.977)</td>
<td>-0.047 (-0.983)</td>
<td>0.226 30</td>
<td></td>
</tr>
<tr>
<td>Autocracy</td>
<td>0.261 (1.580)</td>
<td>-0.052 (-0.907)</td>
<td>0.016 29</td>
<td></td>
</tr>
<tr>
<td>TFI</td>
<td>0.190 (0.751)</td>
<td>-0.137 (-1.218)</td>
<td>0.317 30</td>
<td></td>
</tr>
<tr>
<td>WAR</td>
<td>0.216 (1.449)</td>
<td>0.055 (1.152)</td>
<td>0.199 30</td>
<td></td>
</tr>
</tbody>
</table>

Adjusted R-squared: 0.008 0.002 0.636 0.636
Numbers of Observations: 83 80 83 83

Endogenous Policy

Physical ↑ Human ↑ TFP ↑

Irrelevance of regimes (Coase theorem)
Conclusion (Theoretical prediction=Empirical evidence)

“A country's growth is not an economic event isolated from political events in the rest of the globe.”
Geopolitics has significant and systematic 
(theoretically interpretable) effects on growth:
· Foreign threat increases government “investment”, decreases its 
  “consumption”, enhances factor accumulations, and promotes growth.
· This result is particularly true in autocracies, although neither growth 
  rates nor policies are systematically different between autocracies and 
  democracies.

Political Coase Theorem / Northian Political Constraints