Wars and States: China’s Long March towards Unity, 750 BC – 1911 AD

research in progress

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Notable Quotes:

– Charles Tilly: War make states, States make wars.

– 罗贯中 (Luo Guangzhong) Chinese Author of the *The Romance of Three Kingdoms*: 合久必分，分久必合 （Fragmentation will follow a long unification and unification will follow a long fragmentation）

– Fairbank and MacFarquhar: “a billion or so Europeans in Europe and the Americas live divided into some fifty separate and sovereign states, while more than a billion Chinese live in only one state.”
The Benefits and Burden of Size and Unity

• The historical legacy of Chinese imperial institutions:
  – the world’s largest common market unified by a (nearly) single (written) language.
  – a unusually high degree of ethnic homogeneity for her size

• The costs of governance in larger political units (or the onus of unity).

• What led to China’s unity and what sustained it?

• And what are the implications for long-run trajectory and short-run growth?
Motivation: Why study state formation and structures

- Unitary state versus inter-state competition;
- The impact of warfare and origin of modern states;
- States and provision of public goods;
- States as institution: property rights, contract enforcement, public finance and private financial market;
- Structures within nation-state or union of states: federalism, common market, common wealth...
  - European Union, US Federalism, One country two systems in China and etc.
State Formation and Great Divergence Debate

• Most scholars noted the importance of different state structure as explaining China-Europe divergence;

• But most have taken China’s unitary state structure as given rather than to be explained;

• Our presentation is about the origin of this particular Chinese political structure and its possible implications for long-run economic growth.
Existing Explanations on Chinese Unity

• Some common existing explanations:
  – Geographic unity of China (Diamond: the rivers flows in the right direction);
  – Irrigation and Oriental Despotism (Wittfogel);
  – Cereals, Agriculture, Property Rights and States (Mayshar et al 2015):
    – Clash of Civilizations between Agrarian and Nomadic Regimes? (Ko et al, Li and Lin);

• But more questions: China was not always unified.
  – This raises the bigger question of why fragmentation disappear (or occur less frequently) over time in China.
  – More importantly, why did a single state establish monopoly in China?
I. Stylized facts: Unified China and Divided Europe (Ko, Koyama and Sng)

Figure 1: The number of sovereign states in China and Europe, 1-1800. Sources: Nussli (2011); Wei (2011).

Source: Ko et al., (2014)
Superior Chinese imperial unity in global perspective: Number of political entities with a capital city (Bosker, Buringh & van Zanden 2008)
War and States or Clash Civilizations
The Confrontation between Agrarian and Nomadic regimes
(mirror empires)
The share of Han Chinese at county level in 1990 (Li and Lin 2014: Why China became Chinese) (the darker, the higher the share)
The geographic distribution of Chinese language (Li and Lin)
Clash of Civilizations or Integration of Civilizations

I. China was unified as often by non-Han as by Han-Chinese.
II. All unifications (except Ming China and later Republic China) originated from the north.

Table 1. Imperial unifications in China from the Shang era to the present.

<table>
<thead>
<tr>
<th>Unification</th>
<th>Period</th>
<th>Ethnicity</th>
<th>From</th>
<th>Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shang</td>
<td>1766–1122 BCE</td>
<td>??</td>
<td>North central (Huang He)</td>
<td>Anyang (Huang He)</td>
</tr>
<tr>
<td>W. Zhou</td>
<td>1122–771 BCE</td>
<td>Frontier Han</td>
<td>North-west (Wei River Valley)</td>
<td>Loyang (Huang He)</td>
</tr>
<tr>
<td>Qin</td>
<td>221–206 BCE</td>
<td>Frontier Han</td>
<td>North-west (Wei River Valley)</td>
<td>Xianyang (Wei)</td>
</tr>
<tr>
<td>Han</td>
<td>202 BCE–220 CE</td>
<td>Han</td>
<td>North-west (confluence of Wei and Huang)</td>
<td>Chang’an (Wei)</td>
</tr>
<tr>
<td>W. Jin</td>
<td>280–316</td>
<td>Han</td>
<td>North central (Huang He)</td>
<td>Loyang (Huang He)</td>
</tr>
<tr>
<td>N. Wei</td>
<td>386–534</td>
<td>To-ba (Mongolian)</td>
<td>North-west</td>
<td>Loyang (Huang He)</td>
</tr>
<tr>
<td>Sui</td>
<td>581–618</td>
<td>Han</td>
<td>North-west (Wei River Valley)</td>
<td>Chang’an (Wei)</td>
</tr>
<tr>
<td>Tang</td>
<td>618–907</td>
<td>Han (ruling family of Turkic descent)</td>
<td>North-west (Wei River Valley)</td>
<td>Chang’an (Wei)</td>
</tr>
<tr>
<td>Liao (partial)</td>
<td>907–1125</td>
<td>Kitan (Altaic?)</td>
<td>North-east (S. Manchuria)</td>
<td>Beijing</td>
</tr>
<tr>
<td>N. Song (partial)</td>
<td>960–1127</td>
<td>Han</td>
<td>North central (lower Huang He around Kaifeng)</td>
<td>Kaifeng (Huang He)</td>
</tr>
<tr>
<td>Jin (partial)</td>
<td>1115–1234</td>
<td>Jurchen (Tungus)</td>
<td>North-east (Manchuria)</td>
<td>Beijing</td>
</tr>
<tr>
<td>Yuan</td>
<td>1206–1368</td>
<td>Mongol</td>
<td>North-west (Mongolia)</td>
<td>Beijing</td>
</tr>
<tr>
<td>Ming</td>
<td>1368–1644</td>
<td>Han</td>
<td>East (Nanjing area)</td>
<td>Beijing</td>
</tr>
<tr>
<td>Qing</td>
<td>1644–1911</td>
<td>Manchu (Tungus)</td>
<td>North-east (Manchuria)</td>
<td>Beijing</td>
</tr>
<tr>
<td>Communist</td>
<td>1949–</td>
<td>Han</td>
<td>North-west (Long March to Wei River Valley; unification from there)</td>
<td>Beijing</td>
</tr>
</tbody>
</table>

Qing China (1644-1911): The Grand Synthesis of Agrarian-Nomadic Regimes (Ming territory underlined)
II. China’s long march towards Unity: a Statistical Profile

• Our contribution:
  – We construct two millennia data sets based on standardized definition of territories and regimes;
  – We provide warfare time series differentiated by types and location.
  – We offer a much more comprehensive examination on the relationship between warfare and state formation in China;
  – New insights on changing nature of warfare and state formation
  – Our contribution also emphasizes internal institutional, cultural and infrastructural developments in critical turning points such as Tang-Song transformation
Expansion of Chinese empire eastward
Defining Political regimes by capital:
Imperial capitals (number of regimes): note the eastward drift of capitals
Duration of Imperial capitals: note the importance of Beijing and the northward drift of capitals
The Eastward drift of Imperial Capitals of Agrarian Regimes
The northward drift of Imperial Capitals of Agrarian Regimes
Westward drift of nomadic capitals
No trend in latitude for nomadic capitals
Three Phases of Unification and Fragmentation (66 nomadic regimes and 89 agrarian regimes)
Defining Types of Warfare

• One of the Longest warfare in human history:
  – Over 1000 warfare incidences from 750 BC to 1911 AD
    over 4000 miles from east to west.

• External wars: between regimes inside and outside
  and Great Wall;

• Civil Wars: within the Great Wall;

• (Peasant) Rebellions: within the Great Wall by rebels
  prior to establishing official capitals.
Warfare series by types in time series
(note the peculiar sudden surge and disappearance of peasant rebellions)
|                  | Uni one  
(221 BC – 220 AD) | Frag. two  
(220-581) | Uni. Two  
(581-907) | Frag. Three  
(907-1271) | Uni. Three  
(1271-1911) |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>External</td>
<td>199</td>
<td>147</td>
<td>142</td>
<td>229</td>
<td>488</td>
</tr>
<tr>
<td></td>
<td>(62.7)</td>
<td>(53.6)</td>
<td>(55.5)</td>
<td>(69.4)</td>
<td>(48.2)</td>
</tr>
<tr>
<td>Civil</td>
<td>52</td>
<td>78</td>
<td>46</td>
<td>33</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td>(16.4)</td>
<td>(28.5)</td>
<td>(18.0)</td>
<td>(10.0)</td>
<td>(13)</td>
</tr>
<tr>
<td>Rebellion</td>
<td>66</td>
<td>49</td>
<td>68</td>
<td>68</td>
<td>393</td>
</tr>
<tr>
<td></td>
<td>(20.8)</td>
<td>(17.9)</td>
<td>(26.6)</td>
<td>(20.6)</td>
<td>(38.8)</td>
</tr>
<tr>
<td>Total</td>
<td>317</td>
<td>274</td>
<td>256</td>
<td>330</td>
<td>1013</td>
</tr>
</tbody>
</table>
1. The Constancy of Agrarian-Nomadic Warfare;
2. The transition from (state based) Civil War to Peasant Uprisings
3. the peculiar case of Qing 1644/1911.
Geographic Distribution of External Warfare
the clustering of warfare in the transition zone
## Summary Statistics

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>External</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the Transition Zone</td>
<td>580</td>
<td>33.5%</td>
</tr>
<tr>
<td>Within 50km</td>
<td>809</td>
<td>46.7%</td>
</tr>
<tr>
<td>Within 100km</td>
<td>1016</td>
<td>58.7%</td>
</tr>
<tr>
<td><strong>Civil</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the Transition Zone</td>
<td>58</td>
<td>13.5%</td>
</tr>
<tr>
<td>Within 50km</td>
<td>114</td>
<td>26.5%</td>
</tr>
<tr>
<td>Within 100km</td>
<td>174</td>
<td>40.4%</td>
</tr>
<tr>
<td><strong>Rebellions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In the Transition Zone</td>
<td>69</td>
<td>12.4%</td>
</tr>
<tr>
<td>Within 50km</td>
<td>140</td>
<td>25.1%</td>
</tr>
<tr>
<td>Within 100km</td>
<td>189</td>
<td>33.9%</td>
</tr>
</tbody>
</table>
External Warfare latitudes

256/441  213/361  269/326  540/364  648/641

Unification  Disunion  Unification  Disunion  Unification

-221  -57  107  271  435  599  763  927  1091  1255  1419  1583  1747  1911
External Warfare longitudes

Unification: 256/441
Disunion: 213/361
Unification: 269/326
Disunion: 540/364
Unification: 648/641
# External Warfare

<table>
<thead>
<tr>
<th></th>
<th>Frag. one</th>
<th>Uni. one</th>
<th>Frag. two</th>
<th>Uni. two</th>
<th>Frag. three</th>
<th>Uni. Three</th>
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<tbody>
<tr>
<td><strong>Spring and Autumn</strong></td>
<td>春秋战国</td>
<td>秦汉</td>
<td>三国魏晋南北朝</td>
<td>隋唐</td>
<td>五代十国宋辽金夏</td>
<td>元明清</td>
</tr>
<tr>
<td><strong>Longitude</strong></td>
<td>112.62</td>
<td>104.26</td>
<td>110.56</td>
<td>104.59</td>
<td>111.49</td>
<td>110.96</td>
</tr>
<tr>
<td><strong>(Stdev.)</strong></td>
<td>(3.26)</td>
<td>(11.58)</td>
<td>(7.67)</td>
<td>(14.33)</td>
<td>(5.09)</td>
<td>(10.96)</td>
</tr>
<tr>
<td><strong>Latitude</strong></td>
<td>35.21</td>
<td>38.03</td>
<td>35.78</td>
<td>37.96</td>
<td>35.48</td>
<td>36.53</td>
</tr>
<tr>
<td><strong>(Stdev.)</strong></td>
<td>(2.49)</td>
<td>(4.53)</td>
<td>(4.02)</td>
<td>(7.94)</td>
<td>(4.21)</td>
<td>(7.42)</td>
</tr>
</tbody>
</table>
Wars and States in Chinese history: a summary

• Warfare and number and size of states;

• Resource mobilization of agrarian regimes: reaching towards east and south but capitals moving northward and eastward;

• Conversion of civil wars into peasant rebellions: implications on state capacity.
III. Ideology and internal Institutions: a Narrative

• Fairbank:
  – the disorder of the Warring States period (403-221 B.C.) led Chinese political philosophers such as Confucius to enshrine peace and order as central ideals, thus transforming unity into an overriding political goal;
  – Once achieved, unity was preserved by the invention of bureaucratic government.

• Geography not entirely endogenous: the N-S grand canal is man-made. So is the Great Wall.

• Geography and ethnic diversity as insufficient explanations for the failure of Europeans to revive the Roman empire.
The Confucius-Legalist synthesis and the Tang-Song Transformation

• Strategies of unifying China: the legalist model of Qin (221-206 BC)
  – Militarization: the rise of peasant (farmer) soldier.
  – Military meritocracy in place of hereditary nobility.
  – Household and land registration (the rise of agrarianism).
  – Direct Taxation (Poll and Land tax)
  – Harsh and strict discipline and standardized penal codes.

• The rise of impersonal bureaucracy and the formalization and opening-up of the civil service examination system.
  • The use of Civil Service Examination;
  • The construction of Grand Canal
  • The Unification of written characters.
  • Early invention and adoption of papers and printing.
The Chinese Model of Autocracy

• The invention of the title “Emperor” （皇帝） versus “King” （王）

• The emergence of Three main actors
  – The emperor: The symbol of the sovereign but with self-interest covers himself and Imperial Household.
  – The Bureaucrats/Gentry: agents of the emperors for tax collection and administration.
  – The masses: independent units of production and consumption subject to taxation by the State collected by the bureaucracy.

• The monopoly of rule under a single ruler (天下一家):
  – In the ideal state: no feudalism, no intermediate aristocracy, no autonomous religious groups or administrative units.
The Rise of a Giant, Single and Unitary China (大一统)

• One Family under the Heaven (天下一家)

• Internal integration:
  – Hierarchical dominance over local autonomy or power sharing;
  – The legitimacy of Nomenklatura (personnel appointment from the top)

• International order: a tributary system and the elimination of inter-state competition.

• Unity and Stability as the overriding goal and ideology.
The expansion of counties (Junxian) across Chinese dynasties (Chen and Ma, Li and Lin)
Econometrics: War and states in Chinese history

- **Dependent variables:**
  - Size of nations (agrarian regimes) 《中国历代地图集》（谭其骧，1996）
  - Number of agrarian regimes (1820 Qing map)

- **Explanatory variables:** External Warfares

- **Control variables:** Civil Wars, Rebellions, Climate, Natural Disasters
War and State Formation: a comprehensive profile
ARDL Model

- We assume that the dynamics relationship between war and size of nations is as following:

\[ y_t = \beta_0 + \sum_{i=1}^{p} \beta_{1,i} y_{t-i} + \sum_{i=0}^{q} \beta_{2,i} w_{t-i} + \sum_{i=0}^{j} \beta_{3,i} W_{t-i} + X_t' \gamma + \epsilon_t \]

\( y \): size of nations
\( w \): sino-nomadic wars
\( W \): sino-sino wars and agrarian internal wars
\( X \): high temperature, locust plague, heavy floods, heavy draughts
Error correcting transformation

\[
\Delta y_t^{p-1} = \sum_{i=1}^{q-1} \theta_{1i} \Delta y_{t-i} + \sum_{i=1}^{q-1} \theta_{2i} \Delta w_{t-i} + \sum_{i=1}^{J-1} \theta_{3,i} \Delta W_{t-i} + \delta \times ECT_{t-1} + X' \gamma_2 + \epsilon_t
\]
## Summary Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>s.d.</th>
<th>Source</th>
</tr>
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<tbody>
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<td><strong>Dependent variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$y_1$ Size of nation</td>
<td>214</td>
<td>506.728</td>
<td>520.63</td>
<td>E</td>
</tr>
<tr>
<td>$y_3$ Agrarian regimes</td>
<td>214</td>
<td>0.963</td>
<td>0.442</td>
<td>A,B</td>
</tr>
<tr>
<td><strong>Explanatory variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$w_1$ Agrarian-nomadic wars</td>
<td>214</td>
<td>0.463</td>
<td>0.491</td>
<td>C</td>
</tr>
<tr>
<td>$w_2$ Civil wars</td>
<td>214</td>
<td>0.139</td>
<td>0.265</td>
<td>C</td>
</tr>
<tr>
<td>$w_3$ Peasant uprisings</td>
<td>214</td>
<td>0.321</td>
<td>0.828</td>
<td>C</td>
</tr>
<tr>
<td><strong>Exogenous variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$x_1$ Share of years with records of extremely high temperature in Loess Plateau</td>
<td>214</td>
<td>0.178</td>
<td>0.383</td>
<td>D</td>
</tr>
<tr>
<td>$x_2$ Share of years with records of extremely serious locust plague</td>
<td>214</td>
<td>0.127</td>
<td>0.333</td>
<td>D</td>
</tr>
<tr>
<td>$x_3$ Share of years with records of extremely heavy floods</td>
<td>214</td>
<td>0.145</td>
<td>0.353</td>
<td>D</td>
</tr>
<tr>
<td>$x_4$ Share of years with records of extremely heavy draughts</td>
<td>214</td>
<td>0.154</td>
<td>0.362</td>
<td>D</td>
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</tbody>
</table>
## Estimation Results

<table>
<thead>
<tr>
<th></th>
<th>Panel A: Long-run coefficients</th>
<th>Panel B: Short-run coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Size of Nation</td>
<td>Agrarian Regimes</td>
</tr>
<tr>
<td>Dependent variable: $Y_i$</td>
<td>Agrarian-nomadic wars</td>
<td>Agrarian-nomadic wars</td>
</tr>
<tr>
<td>Agrarian-nomadic wars</td>
<td>596.6**</td>
<td>-0.602**</td>
</tr>
<tr>
<td></td>
<td>(293.1)</td>
<td>(0.283)</td>
</tr>
<tr>
<td>Civil wars</td>
<td>762.6</td>
<td>0.630</td>
</tr>
<tr>
<td></td>
<td>(509.8)</td>
<td>(0.434)</td>
</tr>
<tr>
<td>Peasant uprisings</td>
<td>391.1</td>
<td>-0.123</td>
</tr>
<tr>
<td></td>
<td>(240.6)</td>
<td>(0.214)</td>
</tr>
<tr>
<td>Dependent variable: Δ$Y_{it}$</td>
<td>L.ECT$_i$</td>
<td>-0.110***</td>
</tr>
<tr>
<td>L.ECT$_i$</td>
<td></td>
<td>-0.112***</td>
</tr>
<tr>
<td></td>
<td>(0.0311)</td>
<td>(0.0295)</td>
</tr>
<tr>
<td>LD. Yi</td>
<td>-0.0508</td>
<td>0.189***</td>
</tr>
<tr>
<td></td>
<td>(0.0680)</td>
<td>(0.0661)</td>
</tr>
<tr>
<td>L2D. Yi</td>
<td>0.114*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.0677)</td>
<td></td>
</tr>
</tbody>
</table>
VAR: confirms warfare “causing” size of nations and number of agrarian regimes

\[
\begin{bmatrix}
y_t \\
w_{1,t} \\
w_{2,t} \\
w_{3,t}
\end{bmatrix}
= 
\begin{bmatrix}
\beta_{11} \\
\beta_{21} \\
\beta_{31} \\
\beta_{41}
\end{bmatrix}
+ \sum_{i=1}^{p} 
\begin{pmatrix}
a_{11}^{t-i} & a_{12}^{t-i} & a_{13}^{t-i} & a_{14}^{t-i} \\
a_{21}^{t-i} & a_{22}^{t-i} & a_{23}^{t-i} & a_{24}^{t-i} \\
a_{31}^{t-i} & a_{32}^{t-i} & a_{33}^{t-i} & a_{34}^{t-i} \\
a_{41}^{t-i} & a_{42}^{t-i} & a_{43}^{t-i} & a_{44}^{t-i}
\end{pmatrix}
\begin{bmatrix}
y_{t-i} \\
w_{1,t-i} \\
w_{2,t-i} \\
w_{3,t-i}
\end{bmatrix}
+ 
\begin{pmatrix}
b_{11}^{t} & b_{12}^{t} & b_{13}^{t} & b_{14}^{t} \\
b_{21}^{t} & b_{22}^{t} & b_{23}^{t} & b_{24}^{t} \\
b_{31}^{t} & b_{32}^{t} & b_{33}^{t} & b_{34}^{t} \\
b_{41}^{t} & b_{42}^{t} & b_{43}^{t} & b_{44}^{t}
\end{pmatrix}
\begin{bmatrix}
x_{1,t} \\
x_{2,t} \\
x_{3,t} \\
x_{4,t}
\end{bmatrix}
+ 
\begin{bmatrix}
\epsilon_{1,t} \\
\epsilon_{2,t} \\
\epsilon_{3,t} \\
\epsilon_{4,t}
\end{bmatrix}
\]
Robustness checks

• What really held China together: military, geography, political or cultural?

• The limits of econometric analysis:
  – Case studies of Counties (direct rule) versus autonomous local rule;
Lessons

• How states structures impacted long-term economic performance, private property rights and public finance;

• State structure and Great Divergence:
  – economic or cultural regions are not nation-states;
  – State structure is a long term process of ideological and institutional change;
  – Hence a long term view on explaining great divergence
Thank you