Conflict, Evolution, Hegemony, and the Power of the State

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Conflict and Institutions

- there is a wide array of different institutions both across space and time

- people and institutions have generally spread through invasion and conflict – Carthaginians did not emigrate to Rome

- institutional change most often in the aftermath of the disruption caused by warfare and other conflicts (Bowles and some others)

- which institutions are likely to be long-lived when evolution is driven by conflict and competition by groups over resources?

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The Concept of State Power

- ability to prevail in conflict

- armies, but also social infrastructure – police, judges, tax collection

- soft power, bribery

- ability to mobilize resources over a broad area

- U.S. institutions – low taxes, high output

- U.S.S.R. Institutions – high taxes, low output

- both generate substantial state power

Demographic Application: Malthus

y total output, n total population

$y = Af(n)$ with $f(n)/n$ decreasing to zero

subsistence z

Malthus $Af(n)/n = z$ so technological change has no effect on output per capita

Anti Malthus

institutional determination of population

- property requirement for marriage, severe penalties for out of wedlock birth

state power $Af(n) - zn$

- zero at the Malthusian solution $Af(n)/n = z$

- when subsistence farmer have to go to war...

should we worry about population growth in poor areas overwhelming us militarily? did Alexander and Genghis Khan conquer because they outnumbered their opponents?

consider institutions that maximize state power

- if $f(n)$ constant for large enough n then per capita output rises with A

Swords versus Jewelry

state officials (and their clients) choose state power $g \in [0, 1]$, collusive group, moves first

producers choose effort $a \in [0, 1]$, representative individual, move second

institutions described by exclusiveness parameter $\chi \in [0, 1]$, fixed in short run, but subject to evolutionary pressures

ability to tax depend on state power

taxes also depend on institutions

- in democracy many checks and balances (Western nations)
- in autocracy few (North Korea)

tax rate: $\tau \equiv \min\{1, \chi g\}$

Preferences and Equilibrium

producers $c(a)$ cost of effort receive utility

$$u^P = (1 - \tau)a - c(a) + \xi^P g$$

ξ^P measures usefulness of state power in providing public goods

why don't state officials take all the taxes for themselves? Why swords rather than jewelry?

- our answer: they need the swords to collect the taxes to pay for their jewelry – the external use of state power largely incidental

- benchmark assumption: perfect collusion

state officials residual claimants

$u^O = \tau a - g + \xi^O g$; can be negative for simplicity, $\xi^O < 1$

action profile (g, a) an *equilibrium* = Stackelberg equilibrium

Inclusiveness versus Extractiveness

a technical assumption on functional form: properness

Theorem: *In a proper economy there is a unique equilibrium level of state power $g(\chi)$, and it is single peaked in χ; the state power maximizing level of exclusivity $\chi^g \geq \chi^W$ the welfare maximizing level and if the value of public goods $\xi^P + \xi^O$ is not too great then the inequality is strict.*

state power maximization leads to greater exclusiveness than welfare maximization

Theorem: *Compared to welfare maximization, state power maximization implies higher taxes, lower utility for producers, higher utility for state officials and of course lower welfare.*

higher extractiveness in the sense of Acemoglu and Robinson

Competition Between Societies

list of societies $j = 1, \ldots, M$ characterized by institutions and choices χ_j, g_j, a_j

societies compete over an integral number L units of land; constant returns to scale in land

L_{jt} land controlled by society j at time t where $\sum_{j=1}^{M} L_{jt} = L$

society active if it has a positive amount of land

a hegemony at j if $L_j = L$

Social Stability and Learning

internal stability described by an indicator variable $e_j = 1$ if beliefs are in equilibrium, 0 otherwise

for beliefs to be in equilibrium g_j, a_j must be an equilibrium and people must believe that this is not likely to change

if beliefs are not an equilibrium then change is more likely: people will either wish to make different choices (state officials will want to modify g to improve their utility) or dissatisfaction with the status quo may lead to institutional change

Disruption versus Conquest

disruption is not the same as conquest and conflict is not the same as war

- Caesar conquered Gaul in the sense it became part of Rome

- U.S. disrupted Iraq in the sense it fell into anarchy

- Ukraine became disrupted not because of invasion but because of competing financial deals offered by Russia and the EU

Markovian Dynamics

state variable $L_t = (L_{1t}, L_{2t}, ..., L_{Mt})$ [note use of word "state"]

transition probabilities determined by conflict resolution function and land gain function

at most one unit of land changes each period: $|L_{jt+1} - L_{jt}| \leq 1$

loss of a unit of land by a society is called *disruption*

Conflict Resolution Parameters

chance of disruption depends on state power, land holdings, internal stability, the strength of outside forces g_0 and the ease of overcoming overwhelming odds ϵ

Nature of the Parameters

- L_{jt} endogenous, g_{jt}, e_{jt} characteristics of institutions subject to evolutionary selection

- ϵ, g_0 exogenous

- we think of ϵ as small and relatively constant over time and space

Resistance

conflict between opponents of "similar size" may easily lead one or the other to lose land: Alsace-Lorraine in 1871, 1918 shifting from France to Germany and back

conflict against overwhelming odds different

on December 2, 1913 when the shoemaker Karl Blank laughed at German soldiers he was beaten and paralyzed, and indeed more substantial protests of up to 3,000 people had no consequence for German control over Alsace-Lorraine

ϵ is a measure of Karl Blank's chances of success

specifically, we deal with probabilities of the form $p\epsilon^r$ where r is called the *resistance;* higher resistance means less likely to be disrupted

zero resistance means appreciable chance of disruption

Conflict Resolution

resistance of society j to disruption

$$r_j(e_j, g_j, L_j, g_{-j}, L_{-j}, g_0)$$

unstable societies:

$e_j = 0$ then $r_j(e_j, g_j, L_j, g_{-j}, L_{-j}, g_0)$ is zero

- meaning: if beliefs are not in equilibrium then there is no resistance
- this is a strong force towards equilibrium

Conflict and Stable Societies

$e_j = 1$ then $r_j(e_j, g_j, L_j, g_{-j}, L_{-j}, g_0)$ then

- monotonicity
- divided opponents less threatening than unified opponents
- an appreciable chance of losing land to a superior opponent:
  lowest resistance (weakest) active society has zero resistance
- symmetry: names of societies do not matter
- characteristics of inactive societies do not matter

Land Gain Resistance

What happens when land is lost?

- may join an active society

- or may adopt new institutions and/or actions by "joining" an inactive society

resistance of society k gaining the land lost by society j

$$\lambda_{jk}(e_j, g_j, L_j, e_k, g_k, L_k, e_{-j-k}, g_{-j-k}, L_{-j-k})$$

- active societies have zero resistance to gaining land

- some society has zero resistance to gaining land

- symmetry: names of societies do not matter

- characteristics of inactive societies do not matter

Strength of Outside Forces

what forces are "outside" of L?

protected by asymmetric geographical barriers – they can get at you, but you can't get at them

depends on geography and technology

- English channel not a barrier given English and Roman technology in Julius Caeser's time

- post 1500 period naval technology and standing navies favored strongly the short coastline of England over the long coastline of continental Europe

Strength of Insiders and Outsiders

resistance of hegemony to outsiders $r_j(1, g_j, L, g_{-j}, 0, g_0)$;

outsiders are disruptive: resistance is decreasing in g_0

assume existence of a strictly increasing safety threshold $g^*(g_0)$: for bigger g_j there is resistance; for smaller g_j no resistance

strong outsiders: Battle of Yorktown 1781

> 8,000 French and 11,000 U.S. soldiers with the support of a French naval fleet defeat British forces

low state power: June 14, 1846

> thirty three people took over the Mexican garrison of Sonoma and declared the California Republic; it was annexed by the U.S. 26 days later; there were roughly 500 U.S. soldiers in the general vicinity of California

Ergodic Distribution

What is the greatest state power generated by an equilibrium?

$$g_{\max} \equiv \max_{j|e_j=1} g_j$$

strong outsiders: $g_{\max} < g^*(g_0)$ *all states are likely*

weak outsiders: $g_{\max} > g^*(g_0)$ *most weight is on hegemonies, stronger hegemonies are much more likely than weaker ones*

Some Facts About Hegemony

- China: 2,234 years from 221 BCE – hegemony 72% of time, five interregna

- Egypt: 1,617 years from 2686 BCE - hegemony 87% of time, two interregna

- Persia: 1,201 years from 550 BCE - hegemony 84% of time, two interregna

- Roman Empire: 422 years from 27 BCE

- Eastern Roman Empire: 429 years from 395 CE

- Caliphate: 444 years from 814 CE

- Ottoman Empire: 304 years from 1517 CE

Remark: in 0 CE 90% of world population in Eurasia/North Africa

Exceptions

- India

- continental Europe post Roman Empire

evolutionary theory: more outside influence, less hegemony

- Europe: Scandinavia 5%, England 8%

- India: Central Asia 5%

- China: Mongolia less than 0.5%

Transitions Between Hegemonies

time between hegemonies is short and regions should differ in the duration of hegemony but not so much in the time between hegemonies

average time to hegemony from end of previous hegemony

- China (220 CE to present): 153 years

- Egypt (2160 BCE to 1069 BCE): 102 years

- Persia (550 BCE to 651 CE): 145 years

- Western Europe (295 CE to present): 366 years

- India (320 CE to present): 209 years

Failed Revolutions

a hegemony will lose and regain land many times before it falls, and many of these losses will last longer than the fall itself

true in China during the period during which we have good data during the century prior to the fall of the Ching hegemony in 1911

many failed attempts at revolution, most notably

- Boxer rebellion in 1899

- Dungan revolt in 1862 – lasted 15 years and involved loss of control in a number of provinces

in each case hegemony was restored

the successful revolution in 1911 took less than a year

Zealots and Instability

What is the greatest state power generated by any actions?

$g_{\text{zealot}} \equiv \max_j g_j;$

j that achieves the max called *zealots*

assume $g_{\text{zealot}} > g_{\max}$

- zealots by definition do not satisfy incentive constraints
- the "ethos of the warrior/revolutionary"
- Atila the Hun, Ghengis Khan, Alexander the Great, Lenin/Stalin, Sun Yat Sen, Muslim brotherhood and so forth
- could be deviant preferences

essential point is that while they are strong, zealots are not stable – they do not form societies that last

Nature of the Fall

The fall will be brutally fast, land will be lost but not regained, and the fall will be driven by powerful zealots

Ching hegemony established in 1644 CE (and institutions that lasted since 605 CE) swept permanently away in 1911 in well less than a year, and less time even than the fall of the very short lived hegemonies established by Napoleon or Hitler

Revolts and invasions against strong hegemonies are generally either repressed and or unchecked

groups that overcame strong hegemonies (where we have data)

- Sun Yat Sen's revolutionaries; Mongolian groups that overcame other Chinese dynasties; Huns led by Attila

All have been willing to sacrifice material comfort for the cause (institutional change or conquest). This idealism rarely lasted even a generation.

Which Hegemony?

After the fall, there is no tendency to reach any particular type of hegemony, weak or strong

short lived hegemonies

- Alexander – weak institutions

- Napolean – strong outside forces

- Hitler – strong outside forces

- Soviet Union – weak institutions and strong outside forces

long lived hegemonies where zealots initiated a hegemony

- various Mongol invaders of China – adopted Chinese institutions

the theory says following the fall anything can happen: and it does

Warring States and the Rise of Hegemony

Following the fall of a hegemony there will be a warring states period with that will last significantly longer than the rise or fall of a hegemony; the rise will be very fast with land gained by the new hegemon, but not lost

- fall of Ching took less than a year

- after the Communists reached critical mass their defeat of the Nationalists was without important setback and took less than three years

- the chaotic period of warlordism and warring states in between lasted 35 years

Conclusion

The theory says that if we start from the observation that institutions tend to evolve through conflict between societies, rather than, say, through peaceful competition for resources, then other things should also be true

it seems to be the case