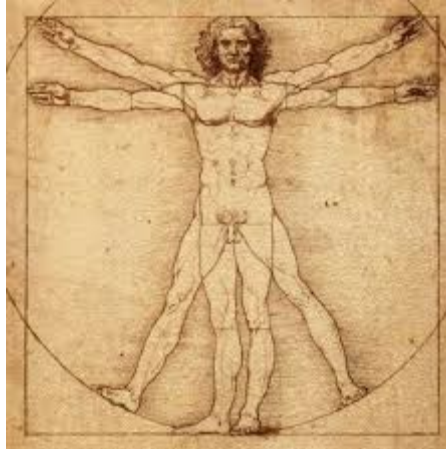


Survival of the Weakest: Why the West Rules

with Salvatore Modica



Introduction

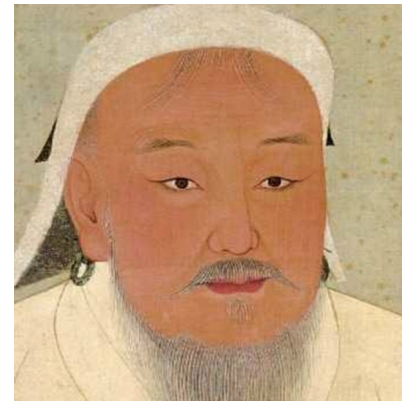
- Why did the industrial revolution take place in the West and not, say, China?
- As many theories as there are authors
- The consensus – if there is one – is on the “Diamond theory” that competition between relatively liberal states in the West led to sustained innovation while hegemony in the East protected vested interests and blocked innovation
- We accept this basic idea, but are led to ask: Why competition in the West and hegemony in the East? Why did not competition in India which also had competing states not lead to sustained innovation?
- Diamond idea: geography of West more rivers/mountains and so forth protected states from each other
- Unfortunately Phil Hoffman looked at a map and it is false

Why the West “Rules”

we contend industrial revolution in the West was due to two events in the far East around 1200 CE

- the invention of the cannon
- the depopulation of Mongolia

the theory also account for the low historical rate of innovation in India



Evolution and Conflict

model of institutions that evolve through conflict based on our earlier research

one of three configurations can emerge

- extractive hegemony
- balance of power between extractive societies
- balance of power between inclusive societies (where innovation is presumed to take place)

extractive societies assumed to have an advantage in head to head confrontations so the latter is “survival of the weakest”

The Setting

societies contend over land/resources

two configurations:

- *balance of power*: each society on its own land
- *hegemony*: one society (the *occupier*) controls all land

Politics

what are the incentives in a society toward hegemony?

societies are made up of groups: *masses* and *elites*

two types of institutions: *inclusive* (w) and *extractive* (s)

inclusive institutions: masses are politically strong

extractive institutions: elites are politically strong

basic distinction in Acemoglu/Robinson's work on the subject

- elites extract "taxes" from the masses
- less able to do so with inclusive institutions
- but inclusive institutions do not protect "foreigners"

Incentives: Who Wants Conquest

masses have little incentive towards conquest

in an inclusive society they have strong incentive to defend against foreign occupation

elites have a lot of incentive towards conquest – they can extract from the conquered territory – might think here of the British Raj in India

elites also have a lot of incentive to defend against foreign occupation – they do not want to be displaced by foreign elites (Brexit?)

Outsiders

outsiders do not make decisions but determine the environment in which conflict takes place

outsiders are societies and people protected by geographical and other barriers from the insiders

but never-the-less interfere

England versus the continent

hypothesis: outsiders are disruptive of hegemony and supportive of a balance of power (see Levine and Modica 2018)

in broad accord with historical facts

Conflict Resolution: Who Wins?

- outsiders favor defense and rebellion
- sensitivity of outcome to defensive effort a critical parameter

if fixed fortifications are important a small number may defend against a great many, but packing a fortress full of defenders is not that helpful

if siege technology is effective - for example cannons can knock down defensive walls – then defensive effort matters because walls cannot protect the few against the many

Formal Model

game theoretic equilibrium giving rise to a Markov process

assumption: conflict (in the sense of out-and-out war to the knife) is rare

gives rise to an “ergodic distribution” of outcomes

studied using the method of “circuits”

Semi-Inclusive Institutions

semi-inclusive institutions (elites extract nearly as much as with extractive institutions) lead to extractive hegemony

if we think of Olson's theory of deteriorating institutions (gradually increasing extraction) eventually a threshold will be passed and we will collapse to extractive hegemony, a kind of version of Hayek's road to serfdom

however the evidence is pretty strongly against this as we've seen nothing of the sort

Inclusive Institutions

- strong fortifications: either extractive hegemony or extractive balance of power
- weak fortifications: either extractive hegemony or inclusive balance of power
- strong outsiders: balance of power
- weak outsiders: hegemony

roughly speaking for innovation we need both strong outsiders and weak fortifications

Survival of the Weakest

a head to head contest between an extractive and an inclusive society
the extractive society prevails

hence inclusive balance of power = “survival of the weakest”

Home Field Advantage

the strong perform well on foreign ground, the weak do not: the fact that the strong do well both at home and away while the weak only do well at home is well known to sports fans

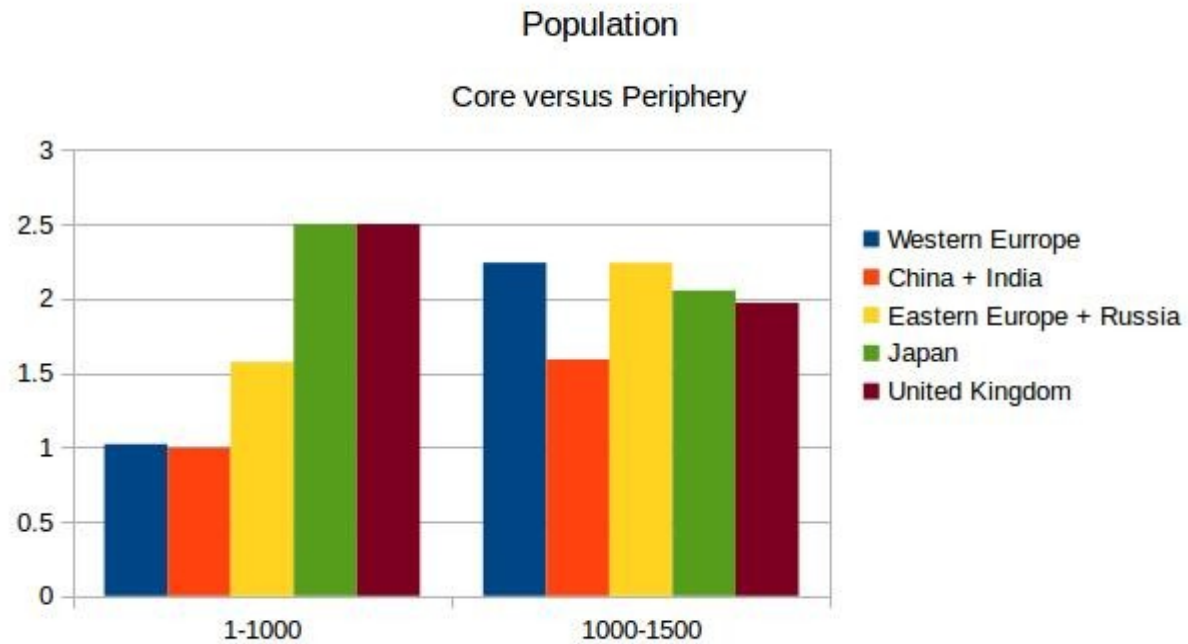
History

Europe, China and India (where everyone lived) in the Common Era

- population
- Mongolian diaspora (1200 CE)
- warfare



Population: Early Globalization





A Brief History of Siege Warfare

brick city walls as early as 2500 BCE

remained dominant until the invention of gunpowder

impact of cannon on fortification well documented

arrives in Europe around 1200 CE

arrives in India around 1500 CE

but use of gunpowder bombs in China beginning around 800 CE

gradually eroded the effectiveness of fortifications culminating with the invention of the cannon



Europe

extractive hegemony (Rome through 330 CE)

extractive balance of power (early Medieval to about 1300 CE)

inclusive balance of power (Renaissance) [only period with substantial innovation]



China

to about 900 CE: both extractive hegemonies and extractive balance of power

900 CE – 1300 CE: Song era – inclusive balance of power

1300 CE to 1911 CE – extractive hegemony

Song era China looks much like Renaissance Europe both in terms of competing states, political institutions, arts, commerce and innovation

canal locks, paddle boats, windmills, various measurement devices, improvements in the use of power, improvements in ships and navigation - and in addition to crossbows, most notably the invention of gunpowder together with land mines, bombs, flamethrowers and of course cannons

India

too soon and too late

- outsiders arrived too soon for extractive hegemony
- cannons arrived too late for inclusive balance of power

India had an extractive balance of power through most of its history

remarkably little innovation: it is famous for advances in art, architecture, mathematics and astronomy - but not in the more practical arts

always strong outsiders

- population of Central Asia very large compared to Mongolian
- nobody ever invaded central asia successfully from India
- the other way around was common