Discussion of

Cereals, Appropriability and Hierarchy

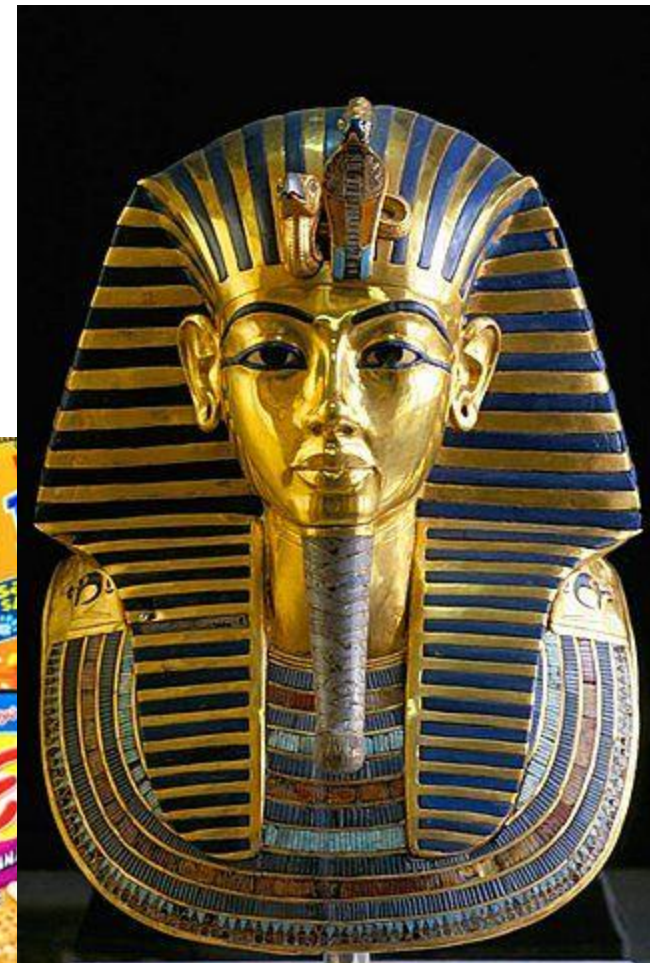Joram Mayshar, Omer Moav, Zvika Neeman,
Luigi Pascali

by Sascha O. Becker

THE UNIVERSITY OF
WARWICK

CAGE
Competitive Advantage
in the Global Economy

Summary

- Cereals are good
- Not just for breakfast
- But also for power

Very important topic:

- Origin of states and hierarchies:
  - So far much anecdotal evidence
  - Too little hard evidence

- Neolithic Revolution (transition to agriculture):
  - Standard story: increased productivity
  - Here: appropriability

- Impressive (and convincing) empirical work

Comments (I): Basic definitions

❑ Make Table A.1 more user-friendly to those blissfully ignorant on agriculture

Table A.1: Major staple crops produced in the world and in Sub-Sahara Africa in 1961 and 2013

	Energy Content (Kcal/100g)*	World 1961			Sub-Sahara 1961		Nigeria 2013
		Average Caloric Yield (mil Kcal/ha)**	Total Energy Produced (10^{12} kcal)**		Average Caloric Yield (mil Kcal/ha)**	Total Energy Produced (10^{12} kcal)**	Total Energy Produced (10^{12} kcal)**
Rice	365	6.82	787		4.51	11	17
Maize	365	7.09	748		3.66	53	38
Wheat	327	3.56	727		2.25	6	
Barley	354	4.70	256		2.81	3	
Oats	389	5.04	193		4.52	1	
Rye	338	3.92	119		0.60	0	
Sorghum	329	2.93	135		2.46	28	22
Millet	378	2.24	97		2.17	24	19
Potatoes	77	9.41	208		5.14	1	1
Cassava	160	11.85	114		9.10	50	85
Sweet Potatoes	88	6.47	86		4.55	3	3
Yams	118	8.54	10		8.65	9	5
Total of above			3480			188	190
Population***			3083			223	174

* http://ndb.nal.usda.gov/ndb/, accessed Feb 2015. Rice: white, long-grain, regular, raw unenriched; maize: corn grain, yellow; wheat: hard red winter; Barley: hulled; oats; rye: grain; sorghum: grain; millet: raw; potatoes: flesh and skin, raw; cassava: raw; sweet potatoes: raw unprepared; Yams: raw; soybeans: green, raw; Bananas and plantain: raw. ** calculated on the basis of first column and FAO 1961 data on area and production in the world, in Africa and in northern Africa, and 2013 data for Nigeria. http://faostat3.fao.org/download/Q/*/E, accessed Feb 2015 *** http://faostat3.fao.org/download/O/*/E, accessed Feb 2015.

Legumes include peas, beans, lentils, peanuts.
"To the extent that these are not easily appropriable, we would lump them with tubers." ???

Put sub-headers:
Cereals (the first 8?)
Which of the bottom four are tubers? Which are roots?

You write: "We also ignore other important food plants such as fruits, vegetables and legumes, and also the role of livestock"

What's the difference between vegetables, legumes, roots and tubers? Give examples!

The exact definition of "vegetable" may vary simply because of the many parts of a plant consumed as food worldwide – roots, tubers, bulbs, corms, stems, leaf stems, leaf sheaths, leaves, buds, flowers, fruits, and seeds.

Comments (II): Terminology

- Appropriable:
  - = Confiscable [also used in paper]
  - = Expropriable [also used in paper]
  - ~ Taxable [also used in paper]

  - Based on:
  - Storability?
  - Seasonality?

- Forager = hunter-gatherer

Comments (III): Model vs reality

- In the model, it is fine to just consider anarchy vs hierachy, but …
- … in the real world: how about (isolated) "communes"?
- Imagine a small village that works as a collective where everyone takes turns in protecting the village against intruders, but with a flat (or inexistent) hierarchy?

- How about dictatorship with labor coercion? Let slaves grow cereals!

- What is the role of distance and "reach"?
- Local hierarchies vs regional hierarchies vs empires?
- Murdock (1967): "Jurisdictional Hierarchy **beyond the Local Community**."
- Murdock X-section analysis vs country-level panel: link to local vs regional vs "national"

- Role of transparency: Mayshar, Moav and Neeman (2017 APSR)
- => which role does transparency play in this paper?

Comments (IV): X-section vs panel

❑ Section "4.2.2 Cereals and hierarchy runs" over 9 pages:

❑ Make Colombian Exchange a stand-alone subsection

❑ "we exploit a different country-level panel dataset"

  ▪ Say (again) that it's Borcan/Olsson/Putterman (2017)

❑ Can you first use Borcan/Olsson/Putterman (2017) data <u>only on the post-1500 period</u>, i.e. use them as a cross-section to show results are the same as in the Murdock (1967) data?

❑ Then move on to panel analysis with pre/post Colombian exchange

❑ Do you consider your evidence as falsifying or as complementing Acemoglu, Johnson and Robinson (2002) who question the role of geography in accounting for current income disparities?
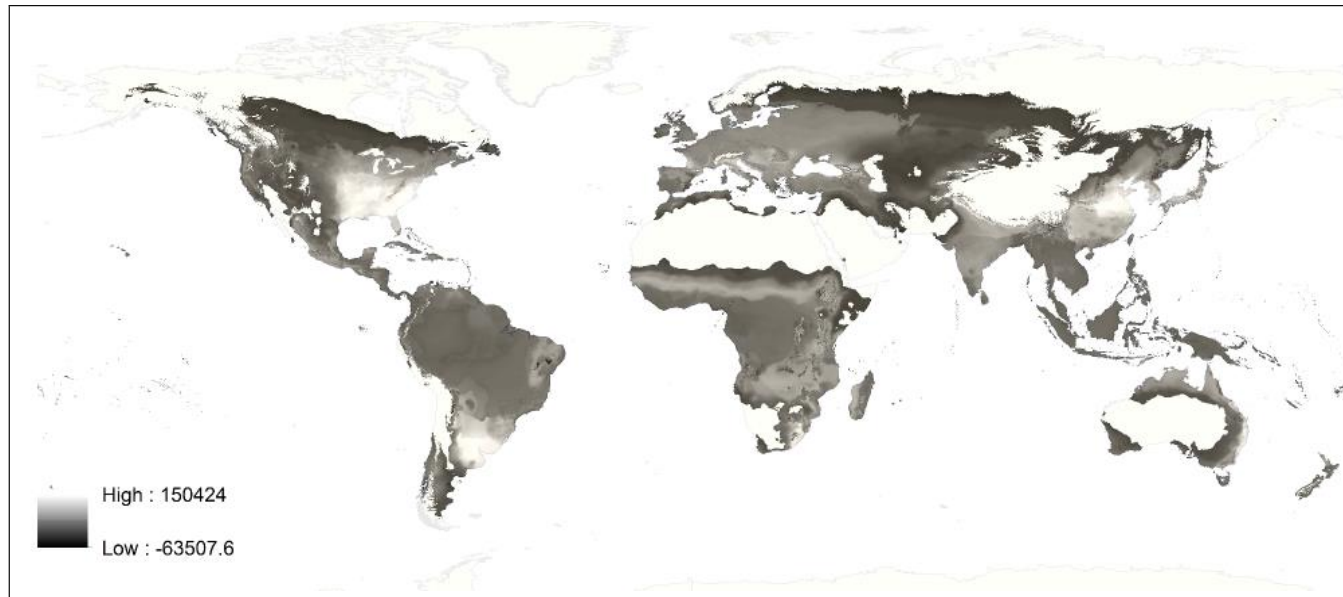
Comments (V): Miscellaneous

❑ How do you deal with potatoes? You say "*potatoes - a tuber crop that is in fact similar in its relevant properties*" => cereal or tuber?

❑ Add time line graph to illustrate transition from hunter-gatherers, summarizing the material from Section 2?

❑ "Weber's definition": Max Weber? In which source?

❑ Give narrative on Figure 1 in text or figure note.

❑ "*In combining agricultural productivity data with data from a cross section of societies and a panel of countries, we follow a similar strategy that is employed by a growing recent literature, including: Alesina et al. (2013), Fenske (2013), Galor and Ozak (2014), and Nunn and Qian (2011).*"

  ▪ Which strategy …?

❑ Why do you need data on population density for 1995 from GAEZ if you also have HYDE population density at the raster level between 1500 and 2000?

Comments (VI): Miscellaneous II

❑ Consider potential yields based on agro-climatic conditions under rain-fed low-input agriculture

Figure 4: Difference in potential yields (calories per hectare) of cereals versus roots and tubers.

"Cereal grains are the highest yielding crops in approximately 99 percent of the raster points in the sample"