Towards an explanation of inequality in pre-modern societies: the role of colonies, urbanization and high population density

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Groningen, 28 June 2017

Limited knowledge of pre-industrial inequality

- We know much less about pre-industrial (or pre-modern) inequality than about pre-industrial GDP

- Even if significant progress has been made in the past 5-10 years

- Using **social tables/fiscal data:** British 1688-1867, more recently Broadberry et al; US, 1774-1860 by Lindert and Williamson; Spain XIV-XVIII century by Prados de la Escosura; Portugal XVI-XVII century by Reis; Rodriguez Weber, Chile from 1820; Bertola, and Prados de la Escosura, Southern Cone; Merette; Lopez Jerez, Vietnam; Ober for ancient Athens; Scheidel-Friesen for Roman Empire; Hillborn & Bolt for Botswana

- Previous work by van Zanden; recent use of **city-level fiscal data** from Northern Italy & Low Countries (Alfani, Ammannati, Ryckbosch)

- **Wage data** (even if their interpretation and "inclusion" in inequality estimates is fraught with difficulties)

Data used in this paper

- Social tables that cover full "governing units": "countries" or Empires, not cities within the larger "nation-state"

- Although issues of consistency do remain: Athens does not include al territories covered by Athenian rule; India treated as a "governing unit"

- In total, 41 social tables from W. Europe and North America (19), Asia (11), Latin America (5), Eastern Europe (3), Africa (3).

- 28 of these tables previously used in MLW paper

- From Athens (330 BCE) to India (1938)

- Pre-industrial heuristically defined as up to ~1850 for Western Europe and Americas; 1939 for the rest of the world

- End of pre-industrial (or pre-modern) not necessarily measured by the share of agricultural employment, but by sustained decrease in agro employment, conscious policies to industrialize and inclusion in global economy

- By such criteria, all countries were "modern" by the end of World War II

What might drive pre-modern inequality?

- van Zanden: super Kuznets curve and "**classical**" explanation => the increase in the capital share and thus in inter-personal inequality (also by Ryckbosch, more recently by Paul Segal with respect to Mexico, van Bavel in "The invisible hand?")

- [This mechanism is similar to the one introduced by Piketty for the modern era.]

- **Epidemics**: Herlihy, Alfani, Scheidel, Mattea Fochesato & Bowles (inequality-reducing)

- **Wars**: Ambiguous effect

- **Kuznets waves** (my "Global inequality"): non-economic factors drive the waves (unlike in the modern era)
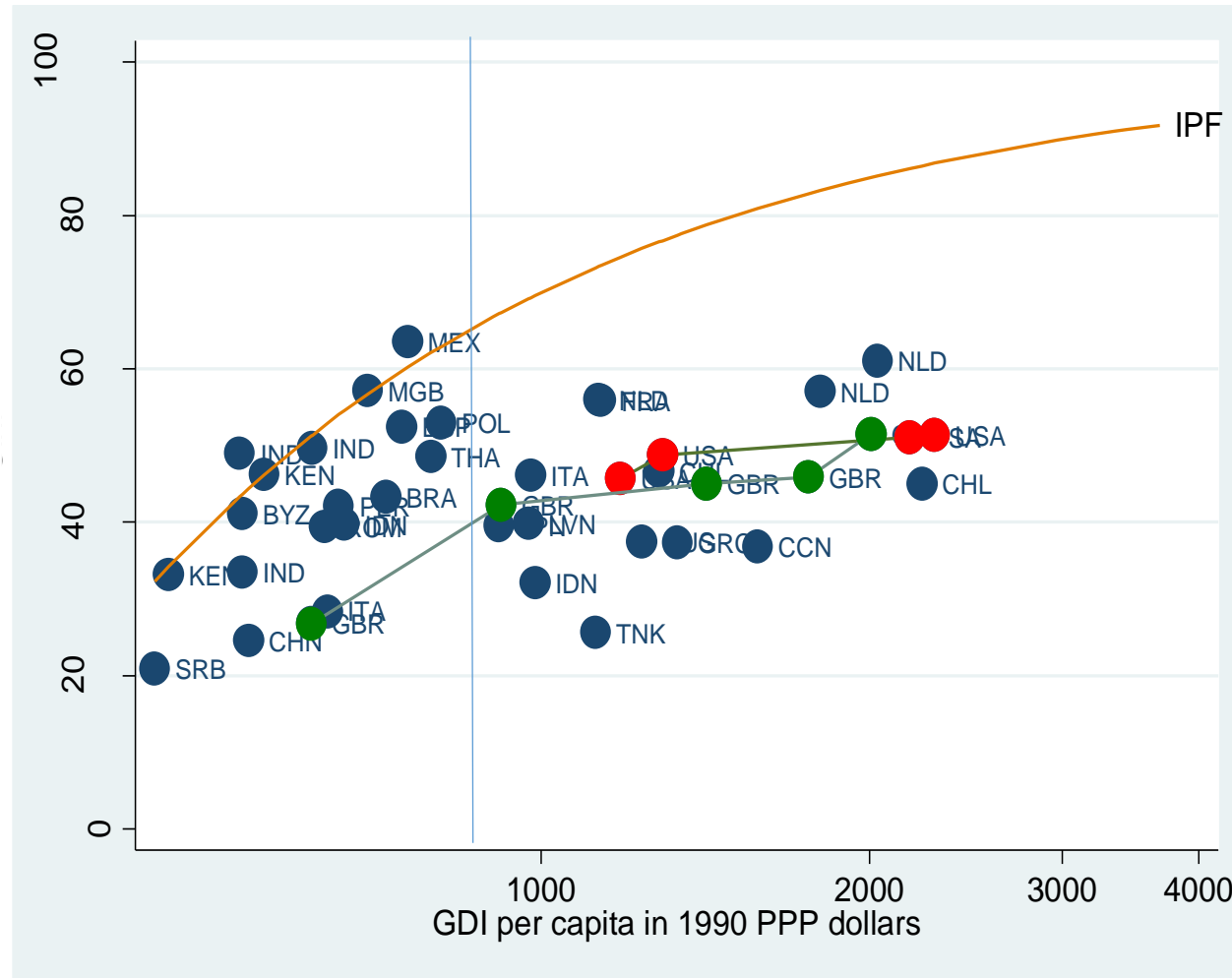
The data and correlations

Gini coefficient and level of GDP per capita in pre-modern societies
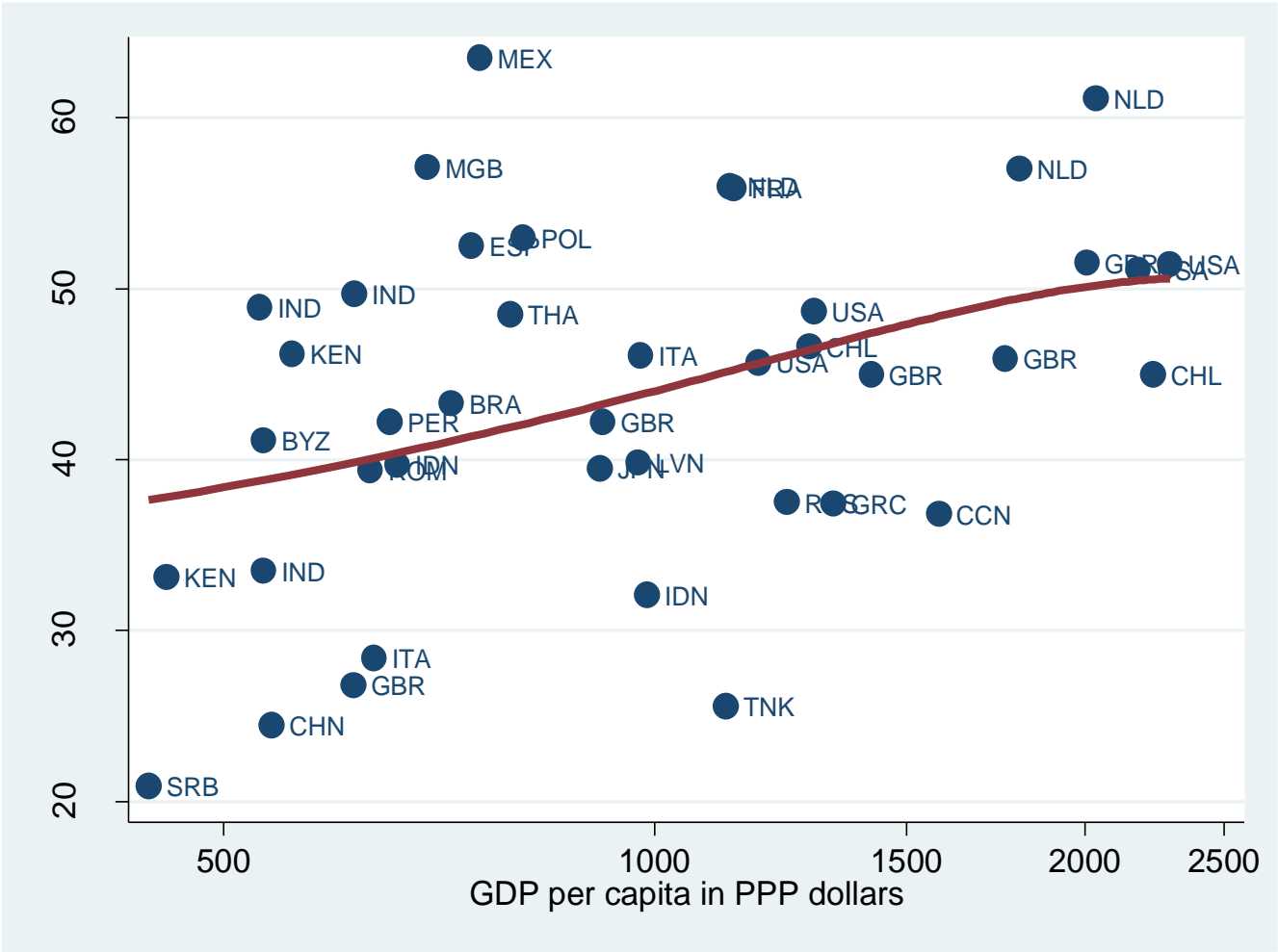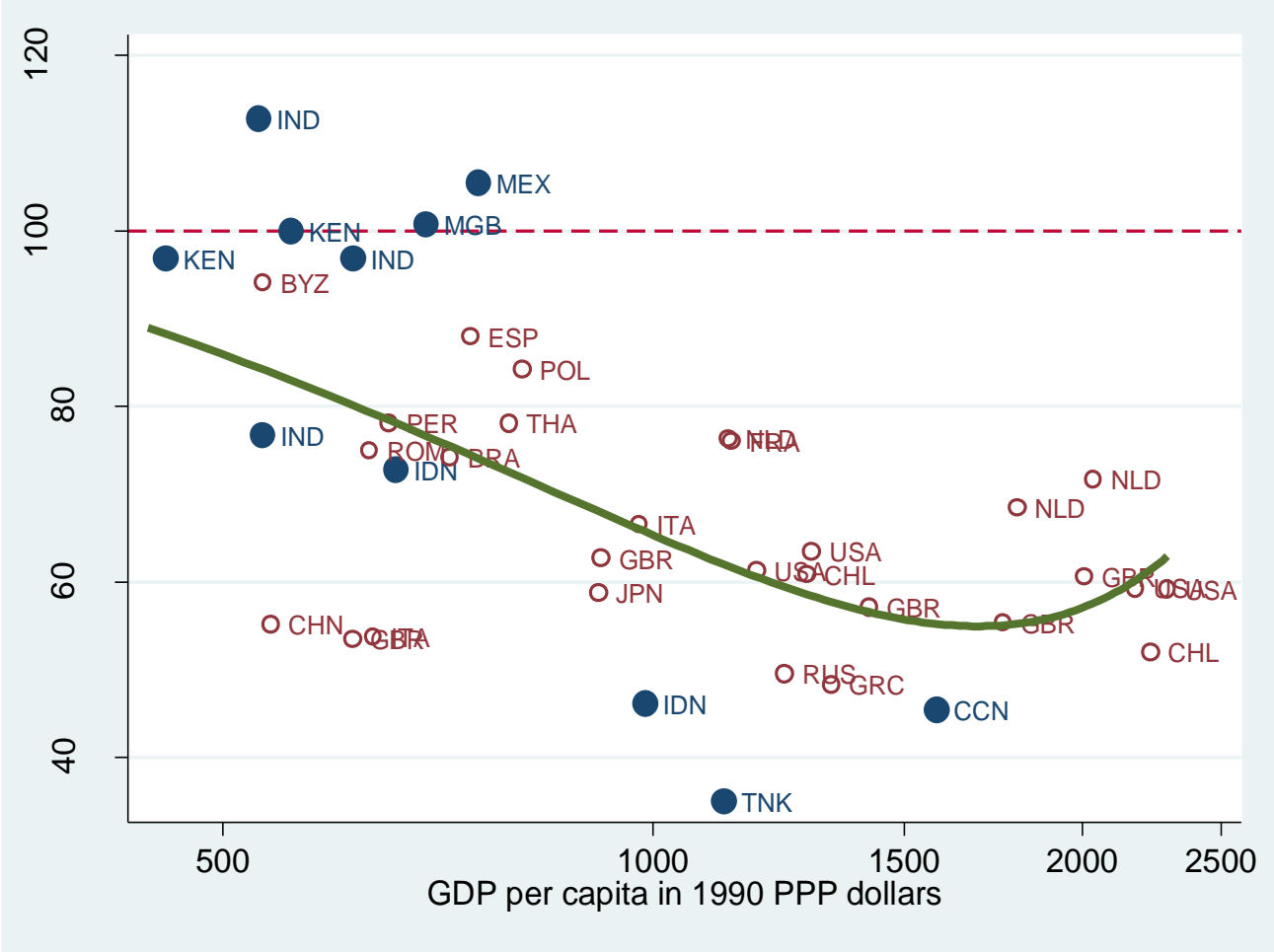

Inequality rises with mean income

Observed Gini coefficients against the Inequality Possibility Frontier in pre-modern societies

Inequality rises with mean income but less than the maximum feasible inequality, so IER declines

Inequality extraction ratio and level of GDP per capita in pre-modern societies

IER very high for most colonies and decreases with mean income

Correlates of pre-industrial inequality

	Gini	Inequality extraction ratio
GDP per capita (1990 PPP)	174.9 (0.08)	-45.2 (0.77)
GDP per capita squared	-12.3 (0.09)	1.4 (0.90)
Urbanization rate (in %)	0.39* (0.04)	0.63* (0.03)
Population density (per km^2)	-0.07* (0.03)	-0.12* (0.02)
Colony (dummy)	6.1 (0.11)	14.7* (0.02)
R^2	0.30	0.57
N	41	41

What matters for inequality extraction?

- At low levels of income ($\alpha < 3$) much greater variability (and relevance) of IER than of Gini

- The positive association of IER with colonialism and urbanization is both reasonable and argued before

- More difficult to explain the negative association with population density

- If only endowments (without regard of institutions) mattered, we would expect a positive association; lower land/labor ratio => lower relative wage => greater inequality

- But, as in Domar, greater abundance of land or expansion of the frontier may lead (the second serfdom; Lithuania; Latin America) to suppression of labor and concentration of land ownership => greater inequality

- Or parcelization of land holdings with majority at low level of income but relatively equal (and relatively low IER)

Two other possible mechanisms

- Less extractive economies (brought into existence for whatever reason) allow for wages above subsistence and an increase in population => thus creating the association between low extraction and high population density

- Or, high population density through its implicit threat to the ruler leads to lower extraction by the elite. Exactly the opposite mechanism.

- Or our sample size is small and/or possibly biased and additional work is needed to tease out the relationship

Conclusions

- Insignificant role of **GDP per capita** for both pre-modern inequality and inequality extraction (a point already noted before)

- GDP pc (low and stagnant) is not a proxy of structural transformation as in the modern era (and note that this is why, since Kuznets, that we do use GDP pc)

- **Colonies** are not necessarily more unequal but they are much more extractive (about 1 st deviation)

- **Urbanization** is associated with greater inequality and inequality extraction

- High **population density** associated with lower inequality extraction

- The last finding points to the crucial role of **institutions** (esp. before full commodification of factor markets)

- [Speculative: Does power of institutions to affect distribution decrease with commodification?]

What can we conclude (given the meagre evidence we have) and what should we do?

- Highlights the importance of the mediating role of institutions

- Between factor endowments and their rewards are...institutions

- Also, highlights the situation where the "fictitious commodities" of land, credit and labor power are not fully legally free and commodified

- Useful differentiation between a market economy and textbook capitalism (where factor markets operate under the conditions of legal freedom and protection of property rights and free competition or monopoly)

- Need for more comparative historical data on politics (oligarchy, autocracy, despotism), institutions, type of slavery (horizontal, vertical), size of the military => most of these variables are known and can be codified (as contemporary variables are) to be used in empirical analysis