Session III: Inequality and Growth

Richard Bluhm

February 21, 2017

Why care?

Does interpersonal distribution matter for growth?

Plenty of anecdotal evidence that something is happening:

- Thomas Piketty's "Capital in the 21st century", the top 1% and the 99% movement.
- Rising income inequality in nearly all OECD countries.

Big political divides:

- Many consider inequality to be good for growth, or least not harmful.
- Others argue the opposite but often seem to lack economic arguments.

Sources of inequality

A country may have a high degree of inequality:

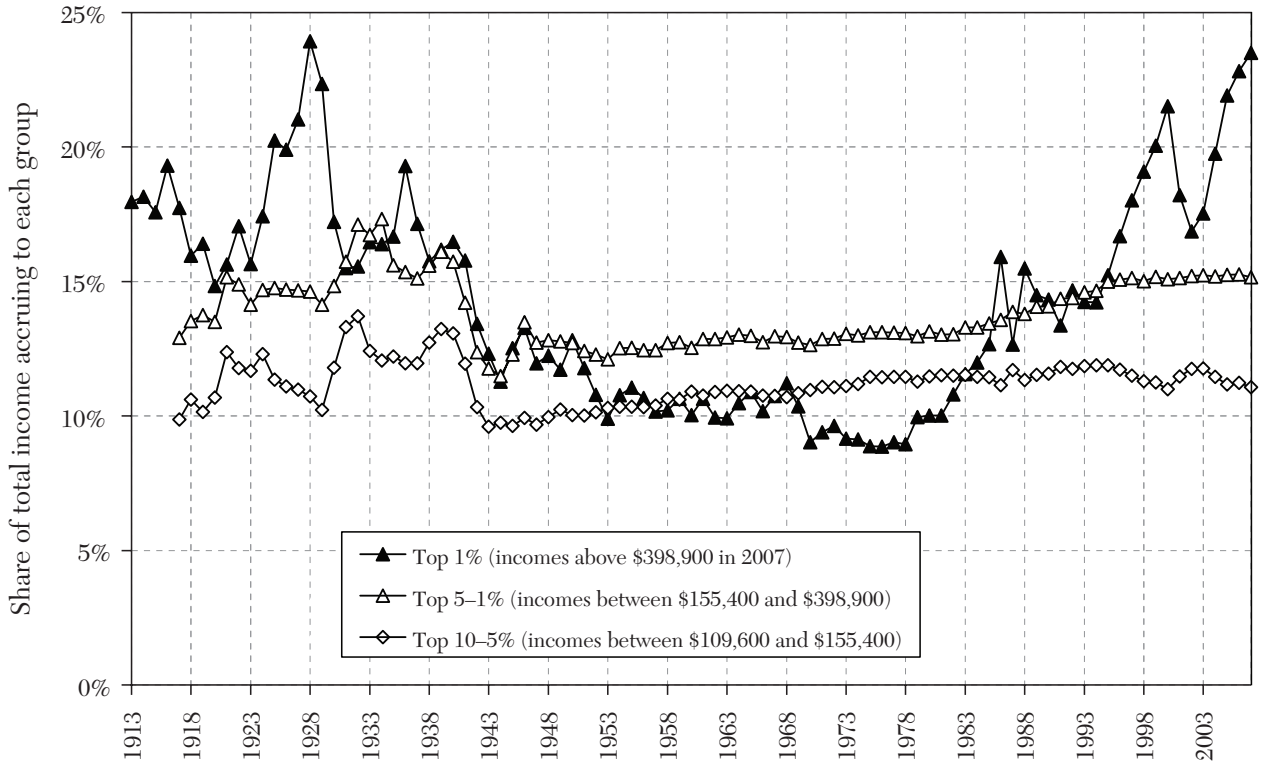
- Because of great disparity in these characteristics across the population.
- Or, because these characteristics generate large effects on the amount of income a person earns.

For example, if human capital is unequally distributed in the population then

- The more unequal the *distribution of human capital*, the more unequal the distribution of incomes.
- The higher the *return to education*, the more unequal the distribution of incomes.

Gini coefficient in the US

Top income share in the US



Recent rises in advanced world

Technological advances:

- Raises the return to education of skilled individuals.

Increases in international trade:

- Raises the return to factors that are abundant locally but scarce globally and reduces return to factors that are scarce locally but abundant globally.

Superstar dynamics:

- People with highest levels of some qualities earn far more than those with only slightly lower levels.

Government *policies* and *political economy* also matters a lot!

Kuznets curve

Two-sector idea. A high and a low productivity sector. Think agriculture and manufacturing. In the beginning most people are employed in the first sector but migrate slowly to the second.

First everyone is poor, then half and half, then almost everyone is "rich". As a result, inequality is low, rises intermittently and then falls again.

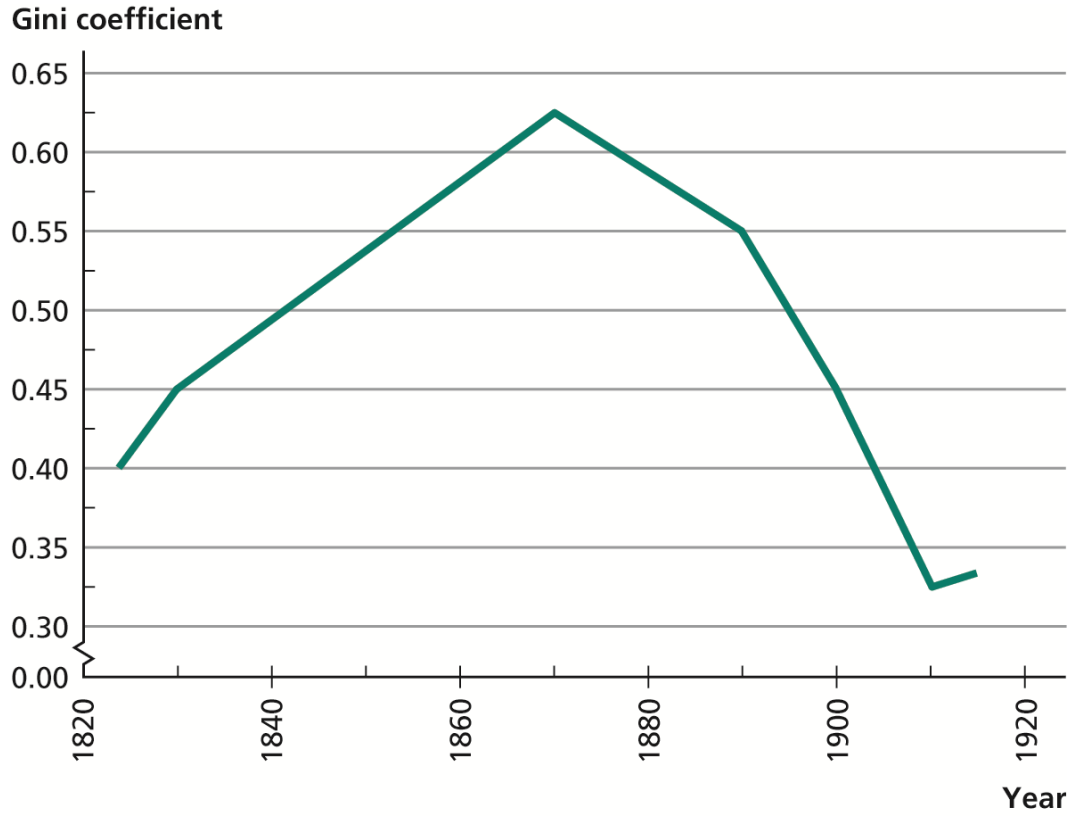
The dual economy creates transitory inequality. Inequality is an endogenous and transitory outcome, thus not really important for the development process.

Kuznets' hypothesized relationship only focuses on within country inequality, not on the cross-sectional between country distribution.

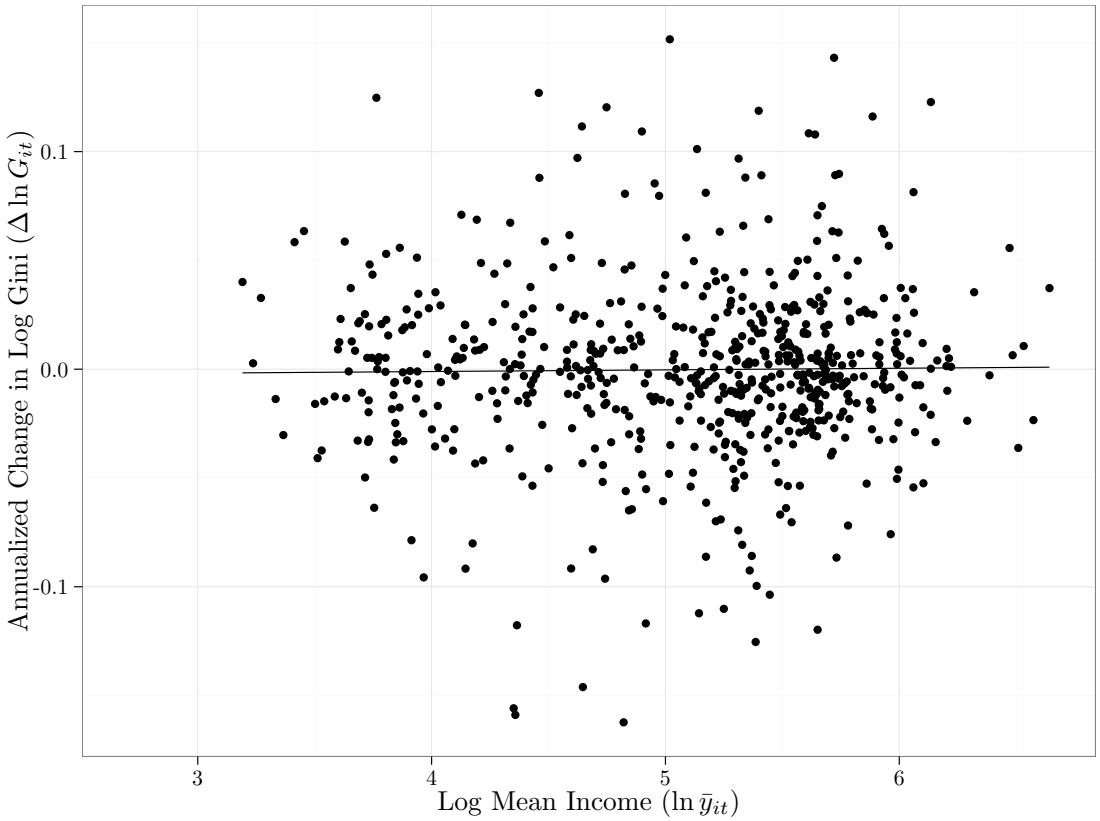
Kuznets (1955)

	Proportion of Number in Sector A to Total Number						
	0.8 (1)	0.7 (2)	0.6 (3)	0.5 (4)	0.4 (5)	0.3 (6)	0.2 (7)
I. Per Capita Income of Sector A = 50; of Sector B = 100							
1. Per capita income of total population	60	65	70	75	80	85	90
Distribution (E) for Both Sectors							
2. Share of 1st quintile	10.5	9.9	9.6	9.3	9.4	9.8	10.2
3. Share of 5th quintile	34.2	35.8	35.7	34.7	33.2	31.9	30.4
4. Range (3-2)	23.7	25.9	26.1	25.3	23.9	22.1	20.2
Distribution (U) for Both Sectors							
5. Share of 1st quintile	3.8	3.8	3.7	3.7	3.8	3.8	3.9
6. Share of 5th quintile	40.7	41.9	42.9	42.7	41.5	40.2	38.7
7. Range (6-5)	36.8	38.1	39.1	39.0	37.8	36.4	34.8
Distribution (E) for Sector A, (U) for Sector B							
8. Share of 1st quintile	9.3	8.3	7.4	6.7	6.0	5.4	4.9
9. Share of 5th quintile	37.7	41.0	42.9	42.7	41.5	40.2	38.7
10. Range (9-8)	28.3	32.7	35.4	36.0	35.5	34.8	33.8

England and Wales, 1823-1915

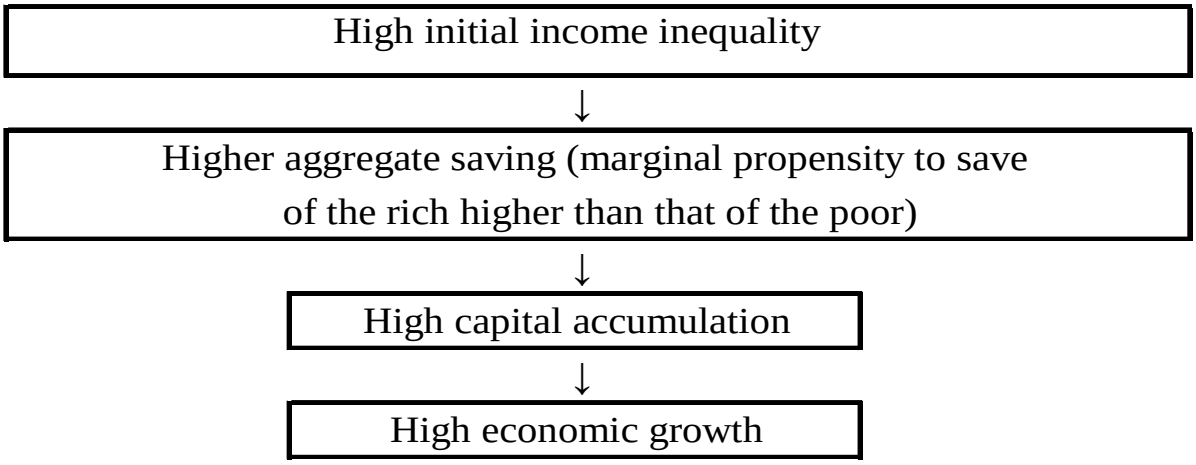


Within country inequality



Classic approach to inequality and growth

Keynes (1920), Kaldor (1956), Bourguignon (1981)



Accumulation of physical and human capital

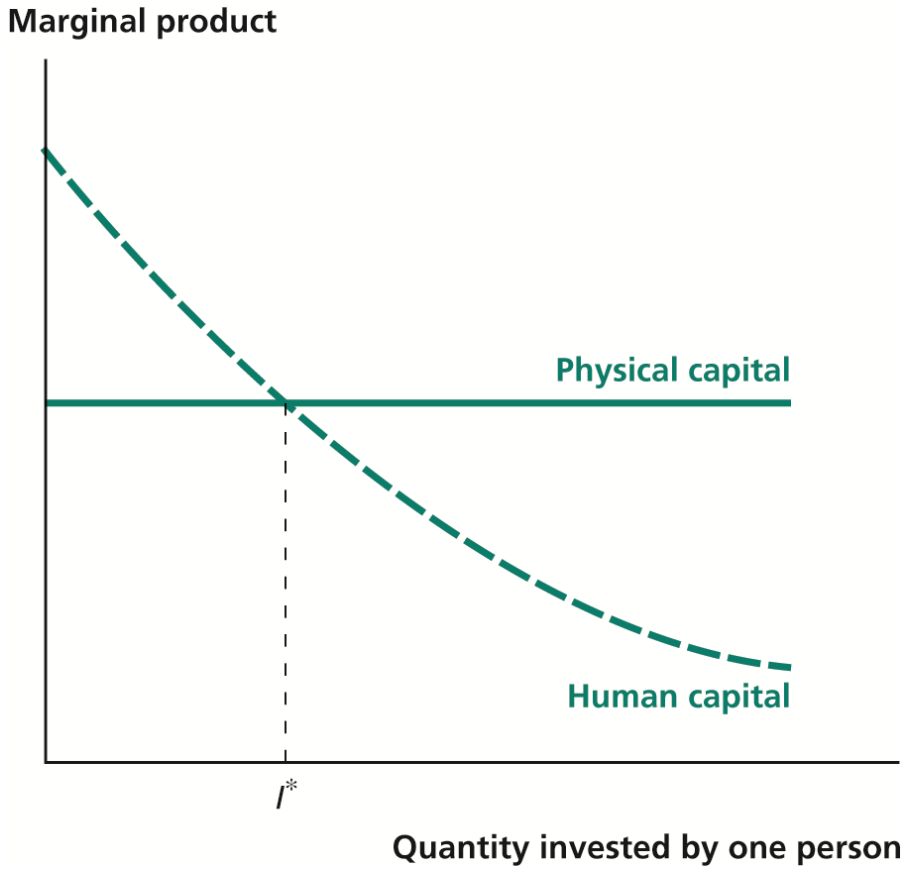
Physical capital:

- Inequality can affect growth through savings rates, which rise with income. Total saving is sum of all saving in the economy.
- More unequal is income, the higher the fraction earned by high-income people, and the higher is total saving.
- With international capital flows this becomes irrelevant.

Human capital:

- Opportunities any one person has for investing in human capital are limited to the amount they can invest in themselves. Marginal product of human capital declines.
- More unequal distribution of income leads to less accumulation of human capital.

Marginal products



Implications

Accumulation of Human Capital:

- Most people do all of their investing in human capital and own no physical capital.
- Wealthy people hold most of their wealth in physical capital.
- Implies more equal distribution of human than physical capital:
  - Gini coefficient for physical capital in the U.S. is 0.78.
  - Gini coefficient for years of education in the U.S. is 0.14.

Redistribute a dollar from rich to poor:

- Accumulation of human capital rises while accumulation of physical capital falls.
- Total output rises as the returns to human capital are higher for the poor individual than the returns to more physical capital for the rich individual.

Unified approach I

Relative returns to physical and human capital underwent dramatic change during the course of history. Formalized in Oded Galor's Unified Growth Theory.

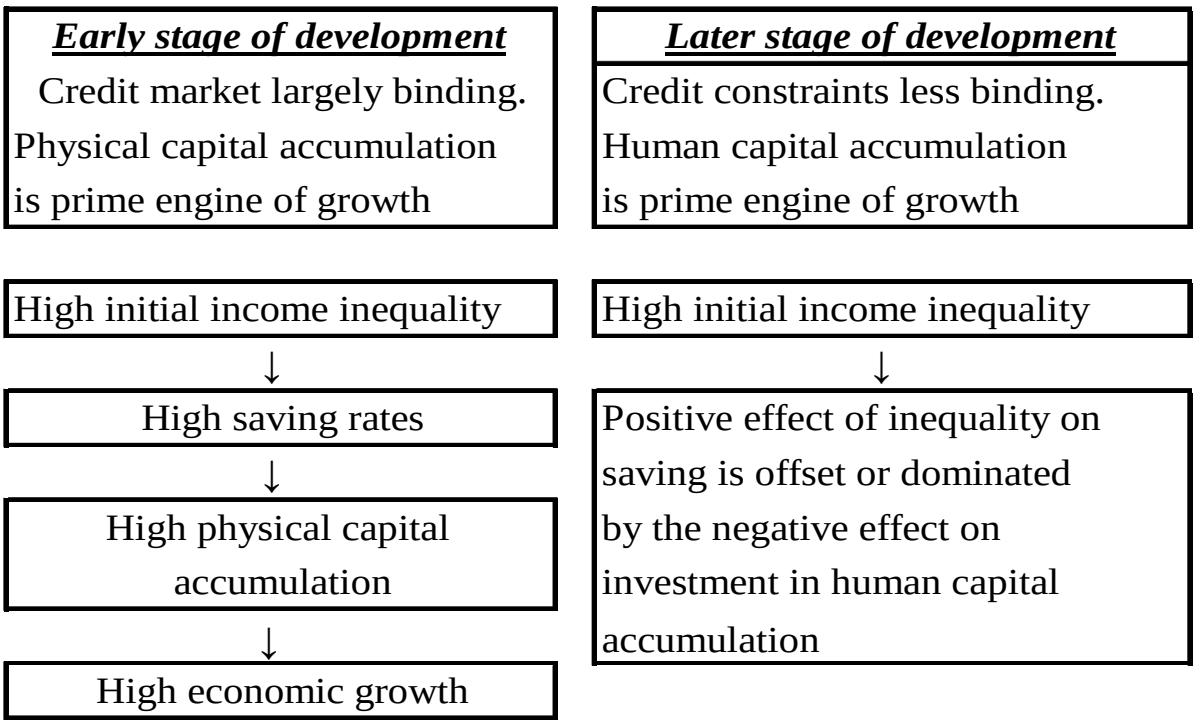
Pre-industrialization:

- As long as the capitalists (not land owners) saved and invested, inequality was good; more capital, more production.
- A dramatic switch: capital abounds, production needs inventors and smart workers.

Post-industrialization:

- Human capital matters more than physical capital.
- International capital markets supplement domestic savings.
- More inequality means less human capital, reduces growth.

Unified approach II



Poor median voters I

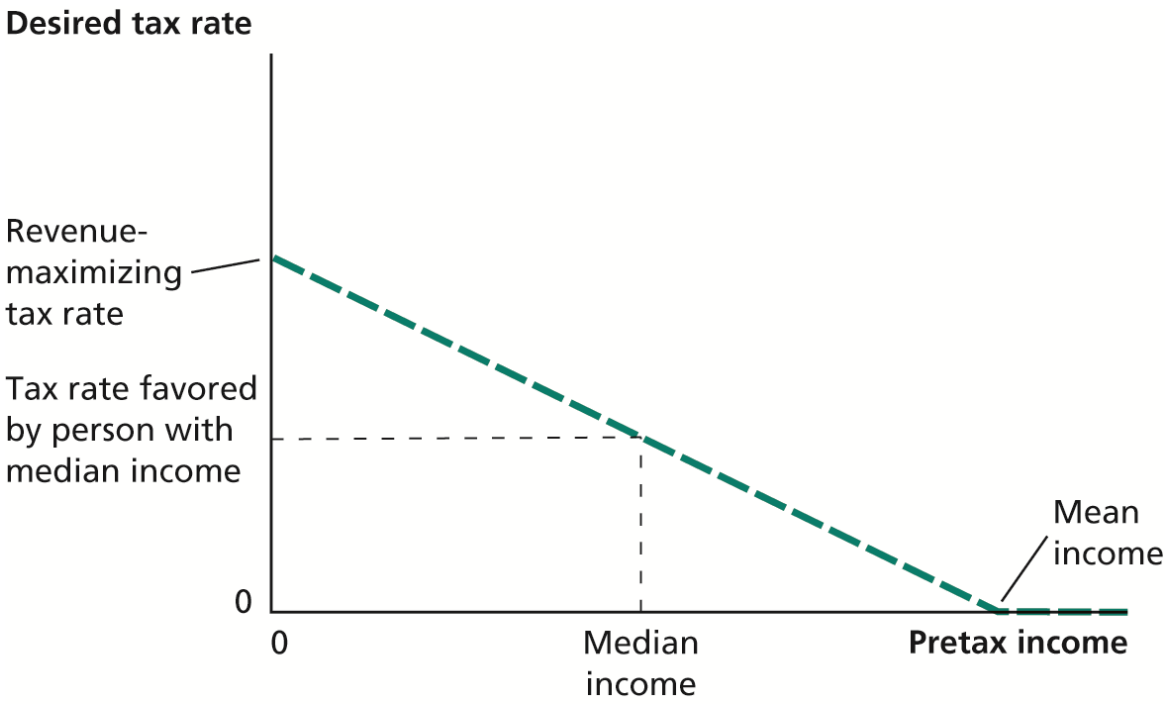
Inequality, redistribution, and efficiency (Alesina and Rodrik, 1994)

- Taxation with lump sum redistribution, works like a progressive tax.
- There is an efficiency loss from taxation, so the transfer is only $T = (\tau - C(\tau))\bar{y}$.
- People below mean income will favor redistribution.

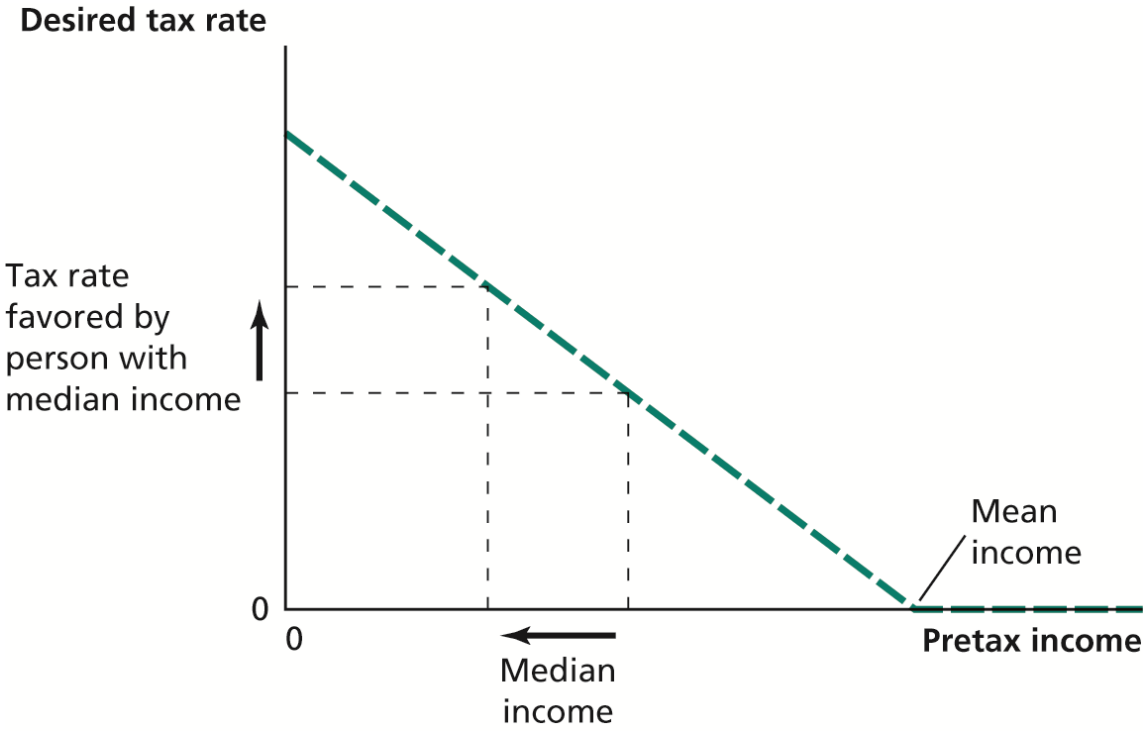
Median voter theorem for majoritarian politics

- Median income is below mean income, so median voter will favor redistribution.
- Rise in inequality will lead to more redistribution, higher taxation, and lower efficiency.
- Lower efficiency implies lower growth.

Poor median voters II



Poor median voters III



Sociopolitical unrest

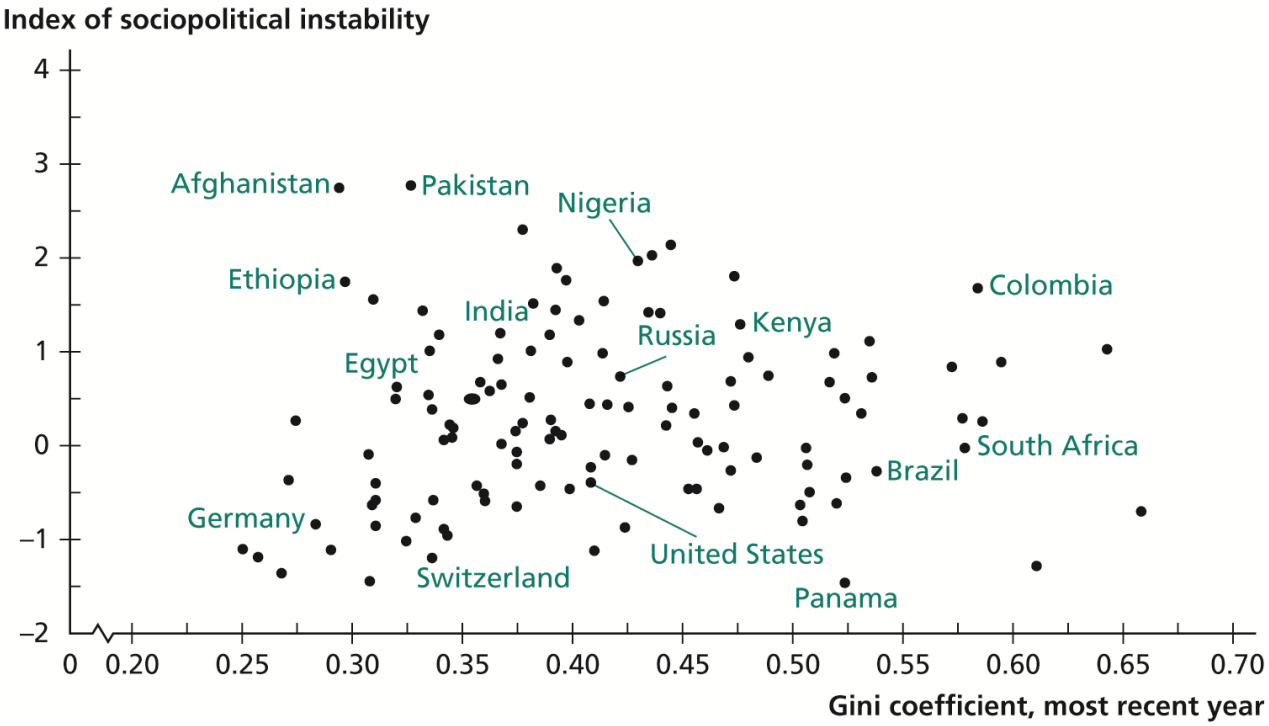
May not have simple majority voting giving rise to more redistribution. Instead have more pressure for redistribution:

- Unstable political situations may hinder growth.
- Crime may directly hinder growth and cause resources to be spent on prevention.
- Both work through decreased foreign and domestic investment.

Poor groups may take various measures outside the political system (riots, protests, strikes, coups, etc.). Allows the poor to be excluded from the political process.

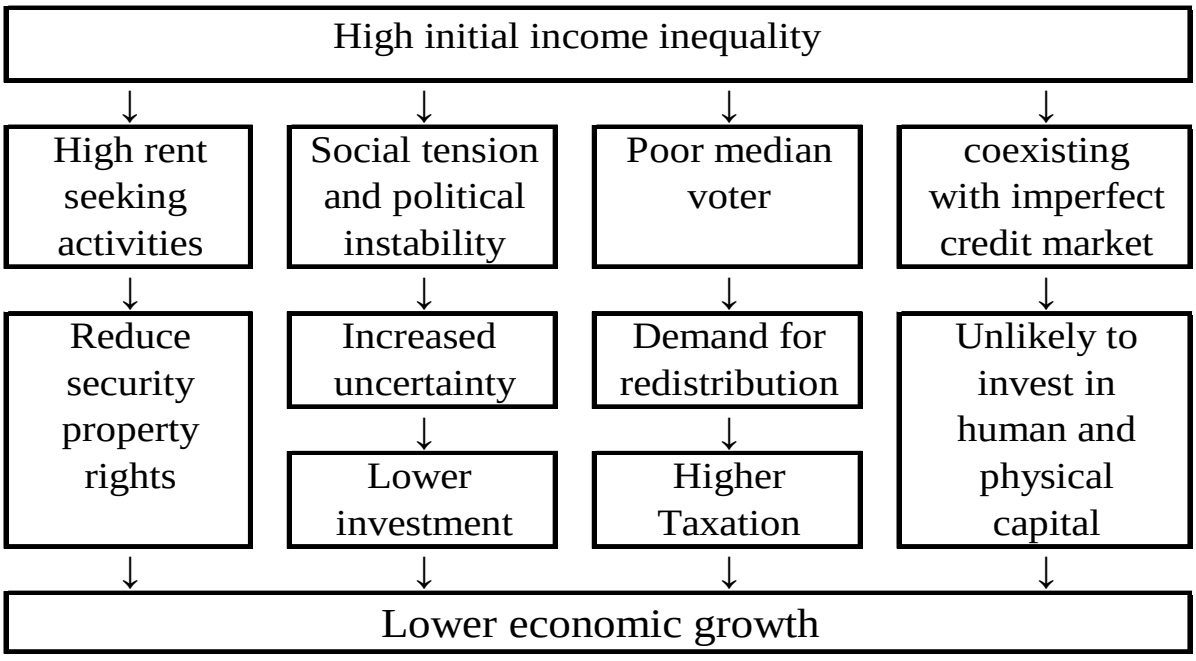
Problems with the theory: the higher inequality, the more the incentives to revolt, but also more power of the rich to repress.

Unrest and inequality



New Political Economy

Persson and Tabellini (1991); Alesina and Perotti (1993);
Alesina and Rodrik (1994); Keefer and Knack (2000)



Evidence

Empirical evidence on overall effect:

- Difficult to answer as depends on stage of growth or degree of international capital mobility.
- Inverted U's in some countries, but not all, and the shape may be cause by different things (taxation, democratization, etc.)

Can draw conclusions for specific channels:

- Countries with more inequality have lower accumulation of human capital (education) and higher fertility.
- Sociopolitical instability is higher in countries with more inequality but this link is not very robust.
- Taxes are lower in countries with greater inequality – counter to the theoretical prediction.

Economic mobility and growth

Mobility can influence growth by:

- Allowing fuller utilization of society's talents.
- Limiting pressure for income redistribution.

Mobility is determined by:

- Access to education, which is probably the most important, along with public health policies and access to medical care.
- Nature of institutions and government – allowing new ideas or blocking them.
- Nature of marriages – assortative mating, less likely in societies with less inequality. Makes 10 points diff in US.
- Degree of racial and ethnic discrimination.

Historical inequalities

Can also use historical evidence on growth to understand the effect of inequality.

For example, the gap between Latin America and U.S.-Canada:

- Inequality from colonial era persists.
- Political institutions capture this – i.e., rule of law, voting.
- Public education lags far behind – U.S. and Canada reach 80% by 1870, rest of Americas takes 75 more years.
- Failure to invest in human capital and construct institutions good for growth, and the instability from conflict over income distribution, led to poor growth performance.

Links historical inequality and political institutions with current outcomes.

The Engerman and Sokoloff hypothesis

	GDP per capita relative to the U.S.			
	1700	*1800*	*1900*	*1997*
Argentina	-	102%	52%	35%
Barbados	150%	-	-	51%
Brazil	-	50%	10%	22%
Chile	-	46%	38%	42%
Cuba	167%	112%	-	-
Mexico	89%	50%	35%	28%
Peru	-	41%	20%	15%
Canada	-	-	67%	76%
United States (1985$)	$550	$807	$3,859	$20,230

- A puzzle: why do relative positions change around 1900?
- Factor endowments (climate, soil, population density) defined a region's attractiveness and suitable commodities, but also defined the emerging institutional structures

The mechanism

South America: factor endowments → sugar and mining → slavery → small European elites → institutions of inequality.

North America: factor endowments → small farming → less slavery → homogeneous population → institutions of equality.

Southern colonies were initially very productive as long as production was resource and exploitation based. *Extractive institutions*.

Northern colonies were creating institutions of equality providing the basis for modern economic growth. From the 19th century onwards, the North outperforms the South.

Six particular institutional spheres: *suffrage*, *schooling*, *land policy*, *taxation*, *patents*, and *banking*.

Two supporting quotes

You know that these two nations are at war about a few acres of snow somewhere around Canada, and that they are spending on this beautiful war more than all Canada is worth. (Voltaire in 1758)

The Sugar Islands, that seat of the most horrible and deliberate slavery, yield no real profit, but only have their use indirectly and for no very praiseworthy object - namely, that of furnishing men to be trained as sailors for the men-of-war and thereby contributing to the carrying on of war in Europe. (Kant in 1795)

Summary

Classics thought inequality is good for growth due to high marginal propensity to consume of the poor. International capital and rising importance of human capital turn this upside down.

Unified growth theory makes these two stories compatible. The classics were right early on, but wrong in the modern growth regime.

New political economy added many channels through with inequality could harm growth (inefficiencies, investments, etc.). The evidence on these remains fragile.

Historical inequalities persist. Institutions of inequality in Latin America during colonization are chiefly responsible for high inequality on the continent today.

Back to our framework