Lectures 1-2: Income, capital and growth in the long run: how did rich countries become rich?

(check on line for updated versions)
Roadmap of lectures 1-2

• Introduction: three U-shaped curves
• Basic concepts: output, income, capital
• National accounts: the measurement of growth
• Facts and questions about long-run growth
• How did rich countries become rich?
• A quick roadmap of the literature on comparative development and property regimes: Braudel, Pomeranz, Polanyi, and others
Introduction: three U-shaped curves

• (1) Between-country income inequality 1700-2015: divergence between Western and other countries during 19c & until mid 20c, convergence since 1980-1990 (reduction of inequality)

• (2) Within-country income inequality: in some countries (e.g. US), income inequality rose since 1980 & is now back to levels observed in early 20c : i.e. about 50% of national income for the top 10%

• (3) Capital/income ratio: in Europe & Japan, K/Y is almost back to the level observed in early 20c : i.e. about 500-600% for K/Y; certainly not bad in itself, but raises new issues

• These three evolutions are partly related (world wars, decolonization, end of communism, globalization), but also involve country specific mechanisms: (1) largely due to internal evolutions of emerging countries ; (2) mostly US trend; (3) mostly Europe and Japan (postwar recovery, demography) ; (2) & (3) could well happen together everywhere in the future - or not

• One of the key objectives of this course is to better understand these long-run evolutions: how did rich countries get rich, and how do inequality, capital accumulation & development interact?
Figure 1.3. Global inequality 1700-2012: divergence then convergence?

Per capita GDP in Asia-Africa went from 37% of world average in 1950 to 61% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.
The top decile share in U.S. national income dropped from 45-50% in the 1910s-1920s to less than 35% in the 1950s (this is the fall documented by Kuznets); it then rose from less than 35% in the 1970s to 45-50% in the 2000s-2010s.

Sources and series: see Figure I.1. Income inequality in the United States, 1910-2012.
Figure I.2. The capital/income ratio in Europe, 1870-2010

Aggregate private wealth was worth about 6-7 years of national income in Europe in 1910, between 2 and 3 years in 1950, and between 4 and 6 years in 2010. Sources and series: see piketty.pse.ens.fr/capital21c.
Basic concepts: output, income, capital

- National income $Y = \text{domestic output } Y_d \text{ (NDP)} + \text{net foreign factor income}$

- Domestic output $Y_d \text{ (NDP = Gross domestic product)} = \text{GDP (Gross domestic product)} - \text{capital depreciation}$

- Typically $Y$ and $Y_d = \text{about 85-90\% GDP in rich countries today}$

- I.e. capital depreciation = about 10-15\% GDP (but can be <5\% in agrarian societies: low land depreciation rates as compared to buildings, equipment, computers, etc.)

- Net foreign factor income can be >0 (typically in countries with net foreign asset position > 0), or <0 (typically in countries with net foreign asset position < 0)
• Net foreign asset position (NFA) = gross foreign assets (gross assets owned by the residents of a country in the rest of world) – gross foreign liabilities (debt) (gross assets owned by rest of the world in the country)

• Net foreign capital income = close to 0% of $Y_d$ in most rich countries (between +1-2% & -1-2% $Y_d$): right now, rich countries own approximately as much foreign assets in rest of the world as rest of the world owns in home assets, so that national income ≈ domestic output

• But this has not always been like this (colonial times); and it could change again: Germany and Japan – and China and oil producing countries – are currently accumulating large NFA, while NFA of Africa (or Greece) is v. negative >> see lecture 3

• At the world level, net foreign income flows cancel out, so that national income $Y = \text{domestic output } Y_d$
• National income $Y = Y_d + r \text{ NFA}$

• Private capital (or private wealth) $W = \text{non-financial assets (real estate, family firms,..) + financial assets (equity, bonds, life insurance, deposits, cash, pension funds,..) – financial liabilities (debt) held by private individuals (households) (+non-profit inst.)}$

• Public capital (or public wealth) $W_g = \text{non-fin + fin assets – liabilities held by the government (all levels)}$

• National capital (or national wealth) $W_n = W + W_g$

• National capital $W_n = \text{domestic capital } K + \text{ net foreign assets NFA}$

• Domestic capital $K = \text{agricultural land + housing + other domestic capital (=structures, equipment, patents,.. used by firms & govt)}$

• Note that firms are valued at market prices through equity

• Private wealth/national income ratio $\beta = W/Y$

• National wealth/national income ratio $\beta_n = W_n/Y$

• Domestic capital/output ratio $\beta_k = K/Y_d$

• At the world level, national wealth/national income ratio = domestic capital/output ratio; but at the country level, it can differ
Basic orders of magnitude in rich countries today

National wealth $W_n \approx \text{private wealth } W$ (i.e. public wealth $W_g \approx 0$) (or $<0$.)

National wealth $W_n \approx \text{domestic capital } K$ (i.e. net foreign asset NFA $\approx 0$) (but large gross foreign positions)

National wealth $W_n \approx 500\text{--}600\%$ of national income $Y$
$\approx \text{residential housing } + \text{ other domestic capital } (\approx 50\text{--}50)$ (but with large variations between the poor, the middle and the top)

Typically, in France, UK, Germany, Italy, US, Japan:

Per capita average income $Y \approx 30,000\text{€}$ (= national income/population)
Per capita aver. wealth $W \approx 150,000\text{--}180,000\text{€}$ (=private wealth/pop)

I.e. $\beta = W/Y \approx 500\text{--}600\%$

$Y_K = \text{capital income } = \text{rent, dividend, interest, profits,..}$

$\alpha = Y_K/Y = \text{capital share in national income } \approx 25\text{--}30\%$

I.e. average rate of return $r = \alpha/\beta = 4\text{--}5\%$

Basic accounting law: $\alpha = r \times \beta \rightarrow \text{Lecture 3}$ on dynamics of $\beta$ and $\alpha$
National accounts: the measurement of growth

• Maddison 2008 database = the most extensive compilation of historical national accounts (The World Economy... 2001, appendix)

• See this excel file for a combination of Maddison series and official UN population series and WB GDP series for recent decades; see also Capital…, chap.1-2, & on-line appendix tables for chapter 1)

• On the history of national accounts, see R. Stone, “The accounts of society”, Nobel lecture 1984, and A. Vanoli, Une histoire de la comptabilité nationale, 2002

• Since the 1930s-40s and until recently (≈ btw 1929 and 2008), national accounts were mostly about flows of output, income and consumption/invt, and not about stock of capital, assets & liabilities

• Maddison: no data on capital stock (only GDP and population)

• See lecture 3 on the history of measurement of capital and wealth; recent return to stock measurement (back to 18c-19c and to an earlier tradition of national accounts)
Facts & questions about long-run growth

• **Fact 1: Convergence**
  - Convergence between poor and rich countries now seems well under way; but not over yet (?)

• **Fact 2: Global growth slowdown in 21c**
  - Productivity growth is always slow for countries at the world technological frontier; once global catch-up process is over, growth might be low everywhere (?)
  - Population growth seems to be $\rightarrow 0$ (or $<0$) (?)
Fact 1. Convergence

• Between 1900 and 1980, Europe + America ≈ 70-80% world GDP
• In 2013: down to about 50% (as in 1860)
• At some point during 21c: down to 20-30%, i.e. to the share of Europe + America in world population = convergence in per capita output and income
• But will convergence be over in 2030, 2060 or 2090? Nobody knows. Probably closer to 2040 in East Asia, and closer to 2090 in South Asia and Africa.
• Convergence occured mostly through domestic investment (not so much through foreign investment: emerging countries are not owned by rich countries... except Africa)
• Economic openness had a critical impact on development via free trade (specialization effect) and via diffusion of technology and know-how; but maybe not so much via free capital flows
Figure 1.1. The distribution of world output 1700-2012

Europe's GDP made 47% of world GDP in 1913, down to 25% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.
Figure 1.2. The distribution of world population 1700-2012

Europe's population made 26% of world population in 1913, down to 10% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.
Per capita GDP in Asia-Africa went from 37% of world average in 1950 to 61% in 2012.
Sources and series: see piketty.pse.ens.fr/capital21c.
Figure S1.3. Global inequality 0-2012: divergence then convergence?

Per capita GDP in Asia-Africa went from 37% of world average in 1950 to 61% in 2012.
Sources and series: see piketty.pse.ens.fr/capital21c.
Figure S1.2. The distribution of world population 0-2012

Europe's population made 26% of world population in 1913, down to 10% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.
Figure S1.1. The distribution of world output, 0-2012

Europe's GDP made 47% of world GDP in 1913, down to 25% in 2012.

Sources and series: see piketty.pse.ens.fr/capital21c.
• Basic orders of magnitude to remember:
  • World GDP 2016 = about 80 trillions €
    (i.e. 80 000 billions €)
  • World population = about 7 billions
  • Per capital GDP = about 11 000€
  • Per capital income = about 900€/month
  • Rich countries = about 2000-3000€/month
  • Poor countries = about 200-300€/month
• More inequality in income than in output, and in market exchange rates than in PPP
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>7,050 100%</td>
<td>71,200 100%</td>
<td>10,100 €</td>
<td>760 €</td>
</tr>
<tr>
<td>Europe</td>
<td>740 10%</td>
<td>17,800 25%</td>
<td>24,000 €</td>
<td>1,800 €</td>
</tr>
<tr>
<td>incl. European Union</td>
<td>540 8%</td>
<td>14,700 21%</td>
<td>27,300 €</td>
<td>2,040 €</td>
</tr>
<tr>
<td>incl. Russia/Ukraine</td>
<td>200 3%</td>
<td>3,100 4%</td>
<td>15,400 €</td>
<td>1,150 €</td>
</tr>
<tr>
<td>America</td>
<td>950 13%</td>
<td>20,600 29%</td>
<td>21,500 €</td>
<td>1,620 €</td>
</tr>
<tr>
<td>incl. United States/Canada</td>
<td>350 5%</td>
<td>14,300 20%</td>
<td>40,700 €</td>
<td>3,050 €</td>
</tr>
<tr>
<td>incl. Latin America</td>
<td>600 9%</td>
<td>6,300 9%</td>
<td>10,400 €</td>
<td>780 €</td>
</tr>
<tr>
<td>Africa</td>
<td>1,070 15%</td>
<td>2,800 4%</td>
<td>2,600 €</td>
<td>200 €</td>
</tr>
<tr>
<td>incl. North Africa</td>
<td>170 2%</td>
<td>1,000 1%</td>
<td>5,700 €</td>
<td>430 €</td>
</tr>
<tr>
<td>incl. Subsaharan Africa</td>
<td>900 13%</td>
<td>1,800 3%</td>
<td>2,000 €</td>
<td>150 €</td>
</tr>
<tr>
<td>Asia</td>
<td>4,290 61%</td>
<td>30,000 42%</td>
<td>7,000 €</td>
<td>520 €</td>
</tr>
<tr>
<td>incl. China</td>
<td>1,350 19%</td>
<td>10,400 15%</td>
<td>7,700 €</td>
<td>580 €</td>
</tr>
<tr>
<td>incl. India</td>
<td>1,260 18%</td>
<td>4,000 6%</td>
<td>3,200 €</td>
<td>240 €</td>
</tr>
<tr>
<td>incl. Japan</td>
<td>130 2%</td>
<td>3,800 5%</td>
<td>30,000 €</td>
<td>2,250 €</td>
</tr>
<tr>
<td>incl. Other</td>
<td>1,550 22%</td>
<td>11,800 17%</td>
<td>7,600 €</td>
<td>570 €</td>
</tr>
</tbody>
</table>

World GDP, estimated in purchasing power parity, was about 71,200 billions euros in 2012. World population was about 7,050 billions inhabitants, hence a per capita GDP of 10,100€ (equivalent to a monthly income of about 760€ per month). All numbers were rounded to the closed dozen or hundred.

Sources: see piketty.pse.ens.fr/capital21c.
Figure 1.4. Exchange rate and purchasing power parity: euro/dollar

In 2012, 1 euro was worth $1.30 according to current exchange rate, but $1.20 in purchasing power parity. Sources and series: see piketty.pse.ens.fr/capital21c.
In 2012, 1 euro was worth 8 yuan according to current exchange rate, but 5 yuan in purchasing power parity. Sources and series: see piketty.pse.ens.fr/capital21c.
Fact 2. Growth slowdown

• Productivity growth is always slow for countries at the world technological frontier; once global catch-up process is over, growth might be low everywhere

• Population growth seems to be $\to 0$ (or $<0$)

• Average world growth 1700-2012: $g=1.6\%$, including $n=0.8\%$ for population and $h=0.8\%$ for per capita output

• But $0.8\%$ per year was enough to multiply world population (and average income) by a factor of $10$

• $g = n + h$ with $n =$ population growth and $h =$ productivity growth

• In the very long run, maybe $n \approx 0\%$ and $h \approx 1-1.5\%$, so that $g=n+h\approx1-1.5\%$

• Some economists are even less optimistic: long-run $g<1\%$ according to [Gordon 2012](#) and secular stagnation debate
<table>
<thead>
<tr>
<th>Average annual growth rate</th>
<th>World output</th>
<th>World population</th>
<th>Per capita output</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1700</td>
<td>0.1%</td>
<td>0.1%</td>
<td>0.0%</td>
</tr>
<tr>
<td>1700-2012</td>
<td>1.6%</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
<tr>
<td>incl.: 1700-1820</td>
<td>0.5%</td>
<td>0.4%</td>
<td>0.1%</td>
</tr>
<tr>
<td>1820-1913</td>
<td>1.5%</td>
<td>0.6%</td>
<td>0.9%</td>
</tr>
<tr>
<td>1913-2012</td>
<td>3.0%</td>
<td>1.4%</td>
<td>1.6%</td>
</tr>
</tbody>
</table>

Between 1913 and 2012, the growth rate of world GDP was 3.0% per year on average. This growth rate can be broken down between 1.4% for world population and 1.6% for per capita GDP.

Sources: see piketty.pse.ens.fr/capital21c.
<table>
<thead>
<tr>
<th>Annual growth rate equal to...</th>
<th>Is equivalent to a generational growth rate (30 years) of...</th>
<th>i.e. a multiplication by a coefficient equal to...</th>
<th>and a multiplication after 100 years by a coefficient equal to...</th>
<th>and a multiplication after 1000 years by a coefficient equal to...</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1%</td>
<td>3%</td>
<td>1.03</td>
<td>1.11</td>
<td>2.72</td>
</tr>
<tr>
<td>0.2%</td>
<td>6%</td>
<td>1.06</td>
<td>1.22</td>
<td>7.37</td>
</tr>
<tr>
<td>0.5%</td>
<td>16%</td>
<td>1.16</td>
<td>1.65</td>
<td>147</td>
</tr>
<tr>
<td>1.0%</td>
<td>35%</td>
<td>1.35</td>
<td>2.70</td>
<td>20,959</td>
</tr>
<tr>
<td>1.5%</td>
<td>56%</td>
<td>1.56</td>
<td>4.43</td>
<td>2,924,437</td>
</tr>
<tr>
<td>2.0%</td>
<td>81%</td>
<td>1.81</td>
<td>7.24</td>
<td>398,264,652</td>
</tr>
<tr>
<td>2.5%</td>
<td>110%</td>
<td>2.10</td>
<td>11.8</td>
<td>52,949,930,179</td>
</tr>
<tr>
<td>3.5%</td>
<td>181%</td>
<td>2.81</td>
<td>31.2</td>
<td>...</td>
</tr>
<tr>
<td>5.0%</td>
<td>332%</td>
<td>4.32</td>
<td>131.5</td>
<td>...</td>
</tr>
</tbody>
</table>

An annual growth rate of 1% is equivalent to an annual growth rate of 35% per generation (30 years), a multiplication by 2.7 every 100 years, and by over 20,000 every 1000 years.
Figure 2.1. The growth of world population 1700-2012

World population rose from 600 millions inhabitants in 1700 to 7 billions in 2012.
Sources ans series: see piketty.pse.ens.fr/capital21c.
Figure 2.2. The growth rate of world population from Antiquity to 2100

The growth rate of world population was above 1% per year from 1950 to 2012 and should return toward 0% by the end of the 21st century. Sources and series: see piketty.pse.ens.fr/capital21c.
Table 2.3: Demographic growth since the industrial revolution

<table>
<thead>
<tr>
<th>Average annual growth rate</th>
<th>World population</th>
<th>Europe</th>
<th>America</th>
<th>Africa</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1700</td>
<td>0,1%</td>
<td>0,1%</td>
<td>0,0%</td>
<td>0,1%</td>
<td>0,1%</td>
</tr>
<tr>
<td>1700-2012</td>
<td>0,8%</td>
<td>0,6%</td>
<td>1,4%</td>
<td>0,9%</td>
<td>0,8%</td>
</tr>
<tr>
<td>incl: 1700-1820</td>
<td>0,4%</td>
<td>0,5%</td>
<td>0,7%</td>
<td>0,2%</td>
<td>0,5%</td>
</tr>
<tr>
<td>1820-1913</td>
<td>0,6%</td>
<td>0,8%</td>
<td>1,9%</td>
<td>0,6%</td>
<td>0,4%</td>
</tr>
<tr>
<td>1913-2012</td>
<td>1,4%</td>
<td>0,4%</td>
<td>1,7%</td>
<td>2,2%</td>
<td>1,5%</td>
</tr>
<tr>
<td>Projections 2012-2050</td>
<td>0,7%</td>
<td>-0,1%</td>
<td>0,6%</td>
<td>1,9%</td>
<td>0,5%</td>
</tr>
<tr>
<td>Projections 2050-2100</td>
<td>0,2%</td>
<td>-0,1%</td>
<td>0,0%</td>
<td>1,0%</td>
<td>-0,2%</td>
</tr>
</tbody>
</table>

Between 1913 and 2012, the growth rate of world population was 1.4% per year, including 0.4% for Europe, 1.7% for America, etc.

Sources: see piketty.pse.ens.fr/capital21c. Projections for 2012-2100 correspond to the UN central scenario.
• Per capita (per inhabitant) growth was exceptionally high in Europe and Japan in the 1950-1980 period (h=4-5% per year) because of a catch-up process with the US; but since 1980, per capital growth rates have been low in all rich countries

• In the very long, h=1% is already quite fast and requires permanent reallocation of labor (about one third of the economy is being renewed at each generation)
Table 2.5: Per capita output growth since the industrial revolution

<table>
<thead>
<tr>
<th>Average annual growth rate</th>
<th>Per capita world output</th>
<th>Europe</th>
<th>America</th>
<th>Africa</th>
<th>Asia</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1700</td>
<td>0,0%</td>
<td>0,0%</td>
<td>0,0%</td>
<td>0,0%</td>
<td>0,0%</td>
</tr>
<tr>
<td>1700-2012</td>
<td>0,8%</td>
<td>1,0%</td>
<td>1,1%</td>
<td>0,5%</td>
<td>0,7%</td>
</tr>
<tr>
<td>incl.: 1700-1820</td>
<td>0,1%</td>
<td>0,1%</td>
<td>0,4%</td>
<td>0,0%</td>
<td>0,0%</td>
</tr>
<tr>
<td>1820-1913</td>
<td>0,9%</td>
<td>1,0%</td>
<td>1,5%</td>
<td>0,4%</td>
<td>0,2%</td>
</tr>
<tr>
<td>1913-2012</td>
<td>1,6%</td>
<td>1,9%</td>
<td>1,5%</td>
<td>1,1%</td>
<td>2,0%</td>
</tr>
<tr>
<td>1913-1950</td>
<td>0,9%</td>
<td>0,9%</td>
<td>1,4%</td>
<td>0,9%</td>
<td>0,2%</td>
</tr>
<tr>
<td>1950-1970</td>
<td>2,8%</td>
<td>3,8%</td>
<td>1,9%</td>
<td>2,1%</td>
<td>3,5%</td>
</tr>
<tr>
<td>1970-1990</td>
<td>1,3%</td>
<td>1,9%</td>
<td>1,6%</td>
<td>0,3%</td>
<td>2,1%</td>
</tr>
<tr>
<td>1990-2012</td>
<td>2,1%</td>
<td>1,9%</td>
<td>1,5%</td>
<td>1,4%</td>
<td>3,8%</td>
</tr>
<tr>
<td>1950-1980</td>
<td>2,5%</td>
<td>3,4%</td>
<td>2,0%</td>
<td>1,8%</td>
<td>3,2%</td>
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<tr>
<td>1980-2012</td>
<td>1,7%</td>
<td>1,8%</td>
<td>1,3%</td>
<td>0,8%</td>
<td>3,1%</td>
</tr>
</tbody>
</table>

Between 1910 and 2012, the growth rate of per capita output was 1,7% per year on average at the world level, including 1,9% in Europe, 1,6% in America, etc.

Sources: voir piketty.pse.ens.fr/capital21c
Figure 2.3. The growth rate of per capita output since the industrial revolution

The growth rate of per capita output surpassed 4% per year in Europe between 1950 and 1970, before returning to American levels. Sources and series: see piketty.pse.ens.fr/capital21c
Figure 2.4. The growth rate of world per capita output since Antiquity until 2100

The growth rate of per capita output surpassed 2% from 1950 to 2012. If the convergence process goes on, it will surpass 2,5% from 2012 to 2050, and then will drop below 1,5%.

Sources and series: see piketty.pse.ens.fr/capital21c.
Figure 2.5. The growth rate of world output from Antiquity until 2100

The growth rate of world output surpassed 4% from 1950 to 1990. If the convergence process goes on it will drop below 2% by 2050. Sources and series: see piketty.pse.ens.fr/capital21c.
<table>
<thead>
<tr>
<th>Year</th>
<th>France</th>
<th></th>
<th></th>
<th>United States</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agriculture</td>
<td>Manufacturing</td>
<td>Services</td>
<td>Agriculture</td>
<td>Manufacturing</td>
<td>Services</td>
</tr>
<tr>
<td>1800</td>
<td>64%</td>
<td>22%</td>
<td>14%</td>
<td>68%</td>
<td>18%</td>
<td>13%</td>
</tr>
<tr>
<td>1900</td>
<td>43%</td>
<td>29%</td>
<td>28%</td>
<td>41%</td>
<td>28%</td>
<td>31%</td>
</tr>
<tr>
<td>1950</td>
<td>32%</td>
<td>33%</td>
<td>35%</td>
<td>14%</td>
<td>33%</td>
<td>50%</td>
</tr>
<tr>
<td>2012</td>
<td>3%</td>
<td>21%</td>
<td>76%</td>
<td>2%</td>
<td>18%</td>
<td>80%</td>
</tr>
</tbody>
</table>

In 2012, agriculture made 3% of total employment in France, vs. 21% in manufacturing and 76% in the services. Construction - 7% of employment in France and the U.S. in 2012 - was included in manufacturing.

Sources: see piketty.pse.ens.fr/capital21c.
How did rich countries become rich, and how did convergence happen?

• (0) One possible view: with free markets & private property, everybody should become rich. The West first adopted these «institutions» (rule of law, well-protected property rights, freedom, democracy,...) and became rich. If the rest of the world follows this strategy, then everybody will become rich.

• A bit simplistic & western-centric:

• (1) Rise of the West over 1500-1900 period came with a lot of violence: key role of armed trade, slavery, colonization, military domination. Not really peaceful institutions and the rule of law.

• (2) Rising living standards in 20c came with the rise of government (tax revenues: 10% Y before WW1; 30-50% Y in all developed countries today). In order to understand development, one needs a broader view of institutions: public infrastructures, education, social welfare, economic and political democracy. Not just property rights.
(3) Free markets and private property sacralization during 19c and early 20c led to extreme inequality and social tensions >>> nationalism, wars, communism >> the elites finally accepted public regulation, welfare state, progressive taxation >>> reduction of inequality = the « Great Transformation » of the 1914-1945 period

But complex legacy of 20c shocks: different memories of post-WW2 exceptional period:

- high-growth egalitarian ideal in western Europe (Trente glorieuses)
- mixed memory in US/UK (relative decline; Reagan-Thatcher reaction)
- negative memory for ex-communist countries (Russia/China/East.Eur.)

>> pro-market reaction, back to private property sacralization

- Third world: decolonization period, mixed experience with state intervention; European colonial power replaced by US power system... until today and the rise of China (pluto-communism?)

⇒ interaction between domestic inequality, international power relations, national identities & development narratives plays a key role
(4) Rise of emerging countries certainly benefited from market openness, but did not come simply from market forces; in particular, foreign investment played a relatively minor role: convergence came from domestic saving and investment, public infrastructures and education, the diffusion of knowledge and state formation; e.g. bigger govt and public spend. in China than India, & higher growth; there are different ways to organize economic & political institutions

The standard growth model predicts output convergence, not income and convergence; if we simply rely on market forces (rather than investment in productivity, knowledge and education), we can end up with permanent wealth inequality, foreign-owned countries, political instability and redistribution cycles (Africa, South America)

International property relations are particularly complicated to regulate peacefully

Learning to live with inequality, collective learning about the ideal compromise & institutions: the dimensions of political conflict
A quick roadmap of the global history/comparative development literature

• Hundreds of authors have written about comparative development (why some countries develop and not others) since 18c : Montesquieu 1748 (climate), Smith 1776 (markets), Marx 1867 (primitive accumulation, colonial extraction), Weber 1904 (protestant ethic), etc.

• Impossible to summarize everything; here I give a very quick overview and introduction; I will return to several themes later

• **Braudel 1979 Civilisation and capitalism** (3 vol.): the first global, multidimensional history of capitalism 1500-1800; much broader than Weber; enormous influence on subsequent research and the rise of « world history »

• **Pomeranz 2000 The Great Divergence: China and Europe in the Making of the Modern World Economy** (see also [AHR 2002](#)) = possibly the most important book in global history since Braudel
• **K. Pomeranz 2000**: btw 1500 and 1750-1800, (the most advanced regions of) China/Japan and Europe followed more or less the same devt path: slow but positive population growth, agriculture/textile domestic proto-industrialisation

• If anything, China/Japan had more « Smithian » market institutions than Europe until 1800: more unified land and grain markets (less church property, more political unity, fewer wars), more labor mobility (less serfdom & labor control)

• The Great Divergence only begins with armed trade & military domination of the West around 1750-1850; in effect, this allowed the West to escape the proto-industrialization « ecological constraint » (massive deforestation in 18c): coal, slaves, New World

• National accounts of colonial extraction are highly uncertain (Williams 1944 vs O’Brien 1982); Pomeranz innovation is to use land accounts: btw 1500 & 1800, share of forested land goes from 30-40% to 5-10% in Europe; by 1830, British imports of cotton/timber/sugar ≈ 1.5-2 additional Britain in arable land
• S. Beckert 2014, *Empire of Cotton – A Global History*: until 1500-1600, cotton and textiles had always been produced locally; things started to change with the Great Discoveries and the military expansion of Europe: the West appropriated land in America, sent slaves from Africa in order to produce raw cotton, and finally banned Indian textiles → by 1750-1850, Europe controlled global textile manufacturing (= complementary to Pomeranz 2000)

• Key role of slavery: half of all slaves transported over 1492-1887 period were transported after 1780; huge acceleration 1780-1860; it is only after US Civil War that Indian cotton rises again

• « 18c-19c were the age of barbarity and catastrophe; one has to be very eurocentric to view 20c as the age of catastrophe: it is the age of independance and end of slavery; global capitalism today is still shaped by the struggles for independance, and for a fair empire of cotton »
Rosenthal-Wong 2011, *Before and Beyond Divergence: The Politics of Economic Change in China and Europe*: stress on size of political communities (polities); Europe = smaller polities → more competition between small nation-states, more military innovation (and war- & public-debt-induced financial innovation) → rise of the West; but also self-destruction of Europe during 20c, and major coordination problems today within EU…; China = larger polity, less military innovation during 17c-19c, but probably better in the long run

During 17c-18c, China not only had more Smithian market institutions than Europe, but also more Smithian government: no war, low taxes, development-friendly spending, no public debt... until Western indemnities and war tributes imposed by the West during 19c (key role of public debt in colonial coercion: China, Turkey, Morroco,...)

→ key role of military coercion is now well established & recognized

• J. Goody 2006, *The Theft of History* : analysis of Western-centric bias in some of the main writings in modern social sciences; see also E. Saïd, *Orientalism*, 1978 → colonial coercion may be over, but Western discriminatory narratives & practices are still active
World systems, power and ideology

• K. Polanyi, *The Great Transformation*, 1944: 19c capitalist system was inherently unstable, which led to its own destruction in 1914-1945

• Sacralization of private property + generalized competition between individuals and nations = v. unequal & unstable system, both within and between countries → wars, monetary chaos, revolutions, fascism

• Key pb = myth of self-regulated markets for labor, land and money; solution is democratic socialism; over-optimistic view of pre-industrial restrictions on labor mobility?

• Compare with H. Arendt, *The Origins of Totalitarianism* 1951; *On Revolution* 1963: same basic premises as Polanyi (generalized market competition 1815-1914 led to self-destruction of European nation-states 1914-1945), but somewhat different conclusions: Arendt stresses the need for post-national political organizations (=what Bolsheviks and Nazis did in a totalitarian manner; what the US do in a constitutional, democratic manner; Arendt fairly pessimistic about Europe...)
World systems, power and ideology


• On core-periphery growth models: see Krugman-Venables *QJE* 1995: a decline in transport costs can make big parts of the world worst off

• Arrighi: power = military dominance + moral/ideological leadership; “power = the grey zone between coercion and consent”

• See also Frank, A., B. Gills, *The World System. Five hundred years or Five thousands?*, Routledge 1993
State formation and the rise of government

- P. Lindert, *Growing Public- Social Spending and Economic Growth since the 18th Century*, Oxford UP 2004

- Very interesting and detailed history of the rise of modern government and social spendings (taxes: 10% Y during 18c-19c & until WW1; 30-50% Y in all developed count. today)

- Rising living standards during 20c came with the rise of governement and the modern fiscal and social state

- Rise of fiscal and social state was not bad for growth and development because public spendings were for the most part growth-enhancing: public infrastructures, education, health, etc. → post-WW2 rise of govt was good for growth

- Up to a point, there is no equity/efficiency trade-off

- Key role of education for comparative devt: US vs Europe, UK vs Germany-Sweden vs France, Asia today; govt policies and institutions are very important to explain cross-country differences (culture, family structures and values, religion also played large historical roles; see Todd, lecture 6)

- Key role of education also implies that excessive inequality is not good for development (infinite education cannot accumulate in one individual...
Long run negative impact of extreme inequality on development

• Sokoloff- Engerman, “Institutions, Factor Endowments, and Paths of Development in the New World”, 1997; *JEP* 2000: more initial inequality in South America than in North America (colonial extraction vs settlers colonies) → more instability, less development

• J.S. You, “Land reform, inequality and corruption: a comparative historical study of Korea, Taiwan and the Philippines”, 2014: less inequality in Korea/Taiwan than in the Philippines (particularly due to more ambitious land reform in 1950 and more egalitarian social and education services) → more growth in Korea/Taiwan in 1950-2000 than in the Philipinnes, although the starting points were not very different in terms of per capita GDP (see also China vs India)

→ extreme inequality is not good for growth & development, both because of inequality-induced political instability, and because high inequality tends to come with low mobility (high mobility and inclusive investment in social and educational services are good for growth)
• **How my book fits into this:** *Capital in the 21st century* is an attempt to put the study of the long-run evolution of income and wealth inequality (main novelty is systematic data collection) at the center of economics/economic history/political economy

• Main finding: key role of 1914-1945 political shocks in historical reduction of inequality → it is critical to draw lessons from historical experience and to design appropriate policies to avoid the return to extreme inequality and political unstability; relying on self-regulated market forces is not sufficient

• General conclusion: how each country deals with inequality & property relations is central for the construction of a legitimate government, state formation, and the development of broad-based democratic, educational and fiscal institutions; pb = each country tends to be self-centered + power of self-serving ideology
I should make clear that my book is a very, very incomplete attempt to move in this direction, particularly regarding the study of beliefs systems and politics; a bit too data-sources-driven

«Putting Distribution Back at the Center of Economics», JEP 2015
(english version: «Toward a Political and Historical Economics»)
and other debates and symposia here

Please do not hesitate to ask any question about these debates! Today or in the following lectures.
• **Basic theoretical idea behind the book**: even with perfect markets, there’s no reason to expect a spontaneous reduction of inequality levels

• In particular, it is worth stressing that the **standard neoclassical growth model predicts convergence in output levels, but never in income or wealth levels**; very trivial result, but important

• **Basic logic of the convergence model**: if capital can freely flow from rich to poor countries, and if labor productivity is the same everywhere, then per capita output will be the same everywhere = « convergence »

• This result requires strong assumptions: perfect competition, one-good model, no specialization effect (core/periphery models), no colonial extraction, etc.
• But even if these strong assumptions are all satisfied, the point is that the standard growth model predicts output cv, not income or wealth cv: one can end up with permanently high wealth inequality, within countries as well as between countries (foreign-owned countries, political instability and redistribution cycles: Africa, South America), and even more so if the gap r-g is important

• Asian miracles were induced by domestic saving, diffusion of knowledge and education, pro-development policies and public investment, not by capital flowing from rich to poor countries

• See Course notes on standard models of growth and wealth accumulation
The property-rights/western-centric viewpoint

- **North-Weingast**, « Constitutions and commitment », *EHR 1989*: British 1688 parliamentary miracle → financial & industrial development

- **Acemoglu-Robinson**, *Why nations fail*, 2012; *AER 2001; AER 2005; AER 2011*: « if property rights are well protected (small risk of expropriation, nationalization, etc) & small government (=« good institutions »), then development occurs »

- Very interesting, but (in my view):
  - Somewhat narrow approach to « institutions »: too much centered on the protection of private property rights
  - Somewhat too vague and ahistorical: AR refer to « inclusive vs extractive institutions », but they are not very precise; v. little on specific institutions/policies such as education systems, welfare state, fiscal systems, etc. ; almost nothing on 20c state formation
  - Somewhat too Western-centered (or US-centered): « if western settlers impose the right institutions, then development occurs »

- Read them & make your own mind !
From: AJR, “The Colonial Origins of Comparative Development”
Figure 3. First-Stage Relationship Between Settler Mortality and Expropriation Risk

From: AJR, “The Colonial Origins of Comparative Development”

- “Huge positive impact of colonialism, in particular of British colonialism, on world development”
  (≠ Acemoglu-Robinson, who stress positive colonial impact only for settlement colonies, i.e. only if locals disappear…)
- Ferguson’s virtual history: “If Britain had sided with Germany in 1914, then we would have had a sustainable British world empire together with a German-European empire (instead of a US and Russian empires), and the world would have been much better”
- Pretty reactionary (=post-post-colonial reaction) *(in my view)*
- But please make your own mind! Books and ideas matter