Advanced Macroeconomics I

Lecture 3 (6)

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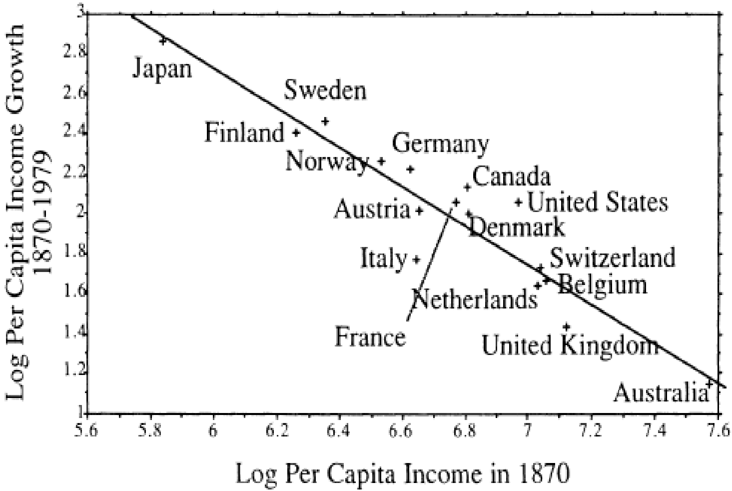
Empirical Evidence of Convergence

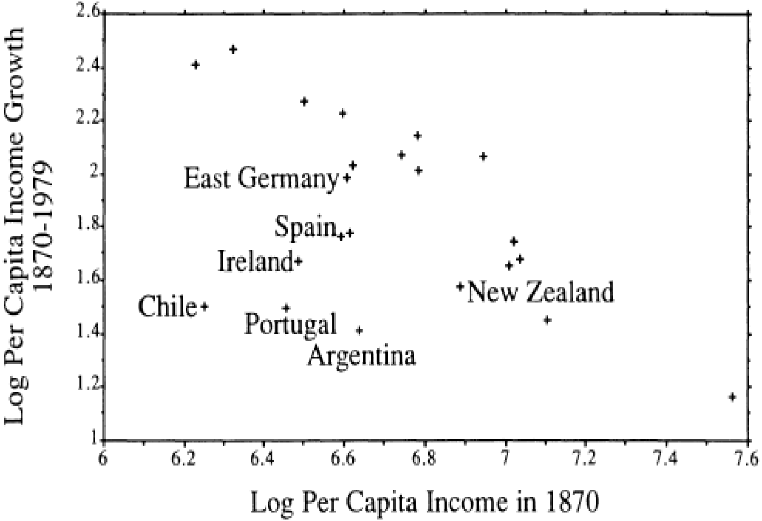
- Whether poor conutries tend to grow faster than rich countries?
- Baumol (1986) examines convergence from 1870 to 1979 among the 16 industralized countries

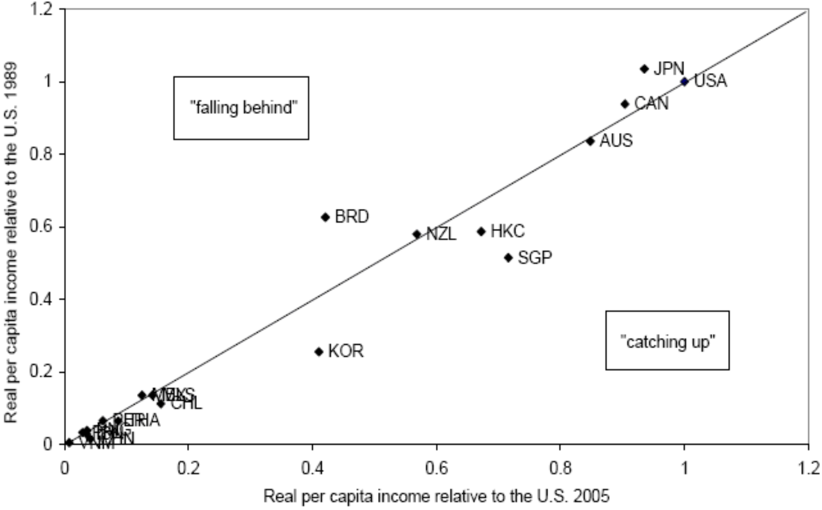
$$\ln \frac{y_{i,t}}{y_{i,0}} = a + b \ln y_{i,0} + e_i$$

$$\begin{aligned} a &= 8.457 \\ b &= 0.995 \quad (0.094) \\ R^2 &= 0.87 \end{aligned}$$

- $b = -1$ corresponds to perfect convergence: higher initial income on average lowers subsequent growth one-for-one, and so output per capita in 1979 is uncorrelated with its value in 1870
- Delong (1988) criticizes: sample selection (only industrialized countries in the sample, while they were poor 100 years ago)


Log Per Capita Income Growth
1870-1979
Japan
Sweden
Finland
Norway
Germany
Canada
United States
Austria
Denmark
Italy
Switzerland
Belgium
Netherlands
France
United Kingdom
Australia
3
2.8
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
5.6
5.8
6
6.2
6.4
6.6
6.8
7
7.2
7.4
7.6
Log Per Capita Income in 1870


Log Per Capita Income Growth 1870-1979
2.6
2.4
2.2
2
1.8
1.6
1.4
1.2
1
East Germany
Spain
Ireland
Chile
Portugal
Argentina
New Zealand
6
6.2
6.4
6.6
6.8
7
7.2
7.4
7.6
Log Per Capita Income in 1870


"falling behind"
"catching up"
JPN
USA
CAN
AUS
BRD
NZL
HKC
SGP
KOR
CHL
Real per capita income relative to the U.S. 1989
Real per capita income relative to the U.S. 2005
1.2
1
0.8
0.6
0.4
0.2
0
0.2
0.4
0.6
0.8
1
1.2