Class Notes: Lecture 2

Divergence or Convergence: What is Happening to Global Inequality?

Readings:

- Lant Pritchett (1997) Divergence, Big Time, *Journal of Economic Perspectives*
- *Patel, Dev, Justin Sandefur, and Arvind Subramanian (2021) "The new era of unconditional convergence." Journal of Development Economics*
- Branco Milanovic (2013). Global income inequality in numbers: In history and now, *World Bank Policy Research Paper*

Question for the lecture:

- Is there catching-up between poor and rich countries regarding per-capita income in the last several decades, particularly since decolonisation?

Convergence:

- Intuitive idea: poor counties should catch up with their wealthy counterparts as development happens.
- Technical result: Absolute convergence from the Solow growth model whereby all countries with the same population growth rate, savings propensity and technology should converge to the same level of per capita income.

Divergence, Big Time (Pritchett, 1997):

- There is a dual structure that has evolved in the last 120 years globally (1870-1990)
- We have two distinct groups developed/rich countries and developing/poor countries.
- Developed countries: Europe, the US, Canada, Australia, New Zealand and Japan.
- There has been absolute convergence among these countries.

Now, look at the following table:

Average Per Annum Growth Rates of GDP Per Capita in the Presently High-Income Industrialized Countries, 1870–1989

Country	Level in 1870 (1985 P$)	Per annum growth rates		
		1870–1960	*1960–80*	*1980–94*
Average	1757	1.54	3.19	1.51
Std dev. of growth rates		.33	1.1	.51
Australia	3192	.90	2.43	1.22
Great Britain	2740	1.08	2.02	1.31
New Zealand	2615	1.24	1.39	1.28
Belgium	2216	1.05	3.70	1.52
Netherlands	2216	1.25	2.90	1.29
USA	2063	1.70	2.48	1.52
Switzerland	1823	1.94	2.07	.84
Denmark	1618	1.66	2.77	1.99
Germany	1606	1.66	3.03	1.56
Austria	1574	1.40	3.81	1.58
France	1560	1.56	3.53	1.31
Sweden	1397	1.85	2.74	.81
Canada	1360	1.85	3.32	.86
Italy	1231	1.54	4.16	1.62
Norway	1094	1.81	3.78	2.08
Finland	929	1.91	3.77	1.09
Japan	622	1.86	6.28	2.87

Source: Maddison, 1995.

Some observations:

- A clear indication of convergence within the advanced countries- the poorest in this group grew at a much higher rate than the richest,
- The growth process has been relatively stable, with low dispersion rates.
- The sample of countries is problematic.

What is the situation when developing counties are included?

- The author starts with an assumption of a global lower bound for per-capita income of $250 measured in 1985 PPP dollars since 1870.
- He justifies this lower bound using different data sources.
- Given the available data on per-capita income levels and rates of growth in the different countries, Pritchett claims significant divergence in income levels across the globe.

Simulation of Divergence of Per Capita GDP, 1870–1985
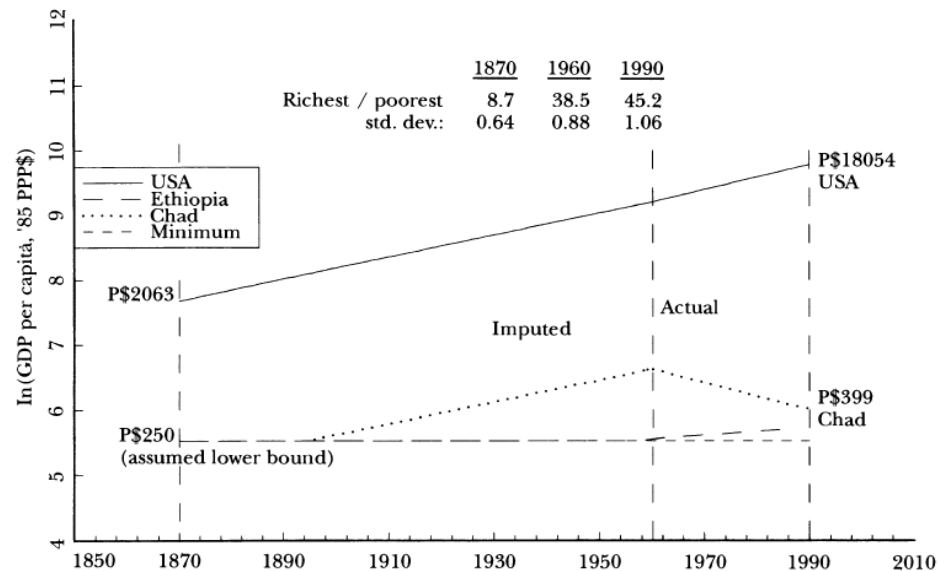*(showing only selected countries)*

	1870	1960	1990
Richest / poorest	8.7	38.5	45.2
std. dev.:	0.64	0.88	1.06

Table 2
Estimates of the Divergence of Per Capita Incomes Since 1870

	1870	1960	1990
USA (*P*$)	2063	9895	18054
Poorest (*P*$)	250	257	399
	(assumption)	(Ethiopia)	(Chad)
Ratio of GDP per capita of richest to poorest country	8.7	38.5	45.2
Average of seventeen "advanced capitalist" countries from Maddison (1995)	1757	6689	14845
Average LDCs from PWT5.6 for 1960, 1990 (imputed for 1870)	740	1579	3296
Average "advanced capitalist" to average of all other countries	2.4	4.2	4.5
Standard deviation of natural log of per capita incomes	.51	.88	1.06
Standard deviation of per capita incomes	*P*$459	*P*$2,112	*P*$3,988
Average absolute income deficit from the leader	*P*$1286	*P*$7650	*P*$12,662

Notes: The estimates in the columns for 1870 are based on backcasting GDP per capita for each country

Fast forward by a quarter century: New results from Patel et al. (2021)

- Testing for absolute convergence using data between 1960 to 2019.
- Multiple data sources- World Development Indicators (WDI), Penn World Tables (PWT), Angus Maddison database
- Multiple time intervals are used, as well as multiple regression methodologies.
- Basic regression and $\mathscr{B} > 0$ as indicators of convergence

$$\frac{1}{s} \ln \left(\frac{y_{i,t+s}}{y_{i,t}} \right) = \alpha - \left(\frac{1 - e^{-\beta s}}{s} \right) \ln \left(y_{i,t} \right) + \varepsilon_{i,t+s}$$
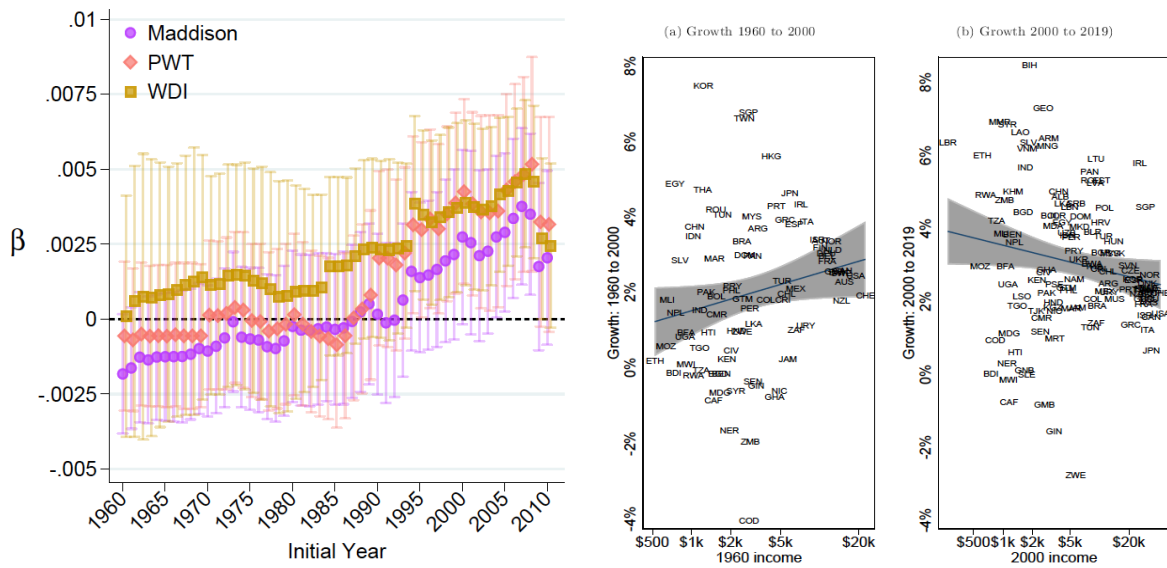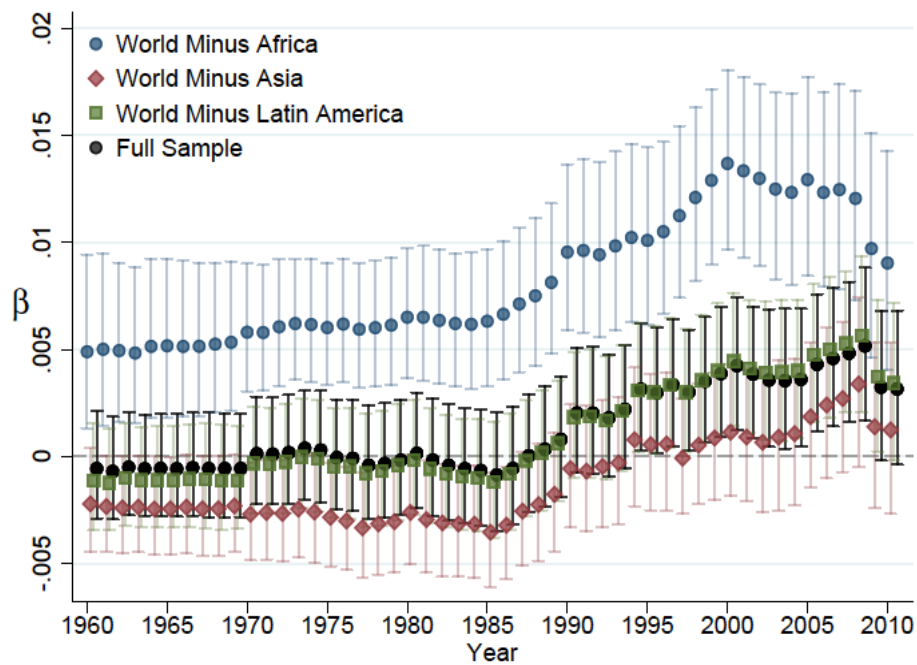
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Figure A.9: Dropping Regions: Unconditional Convergence from Various Starting Dates to 2019

A turnaround towards absolute convergence?

- The new estimates indicate a turnaround from a divergence pattern to convergence around 1995.
- The convergence is led by Asia and significantly muted by the African continent.
- However, convergence is very slow, with the possibility of catching up not in sight in the foreseeable future.
- Is the 'Divergence, Big Time' thesis not relevant anymore?

Figure 2. International and global inequality, 1952-2011: "The mother of all inequality disputes"
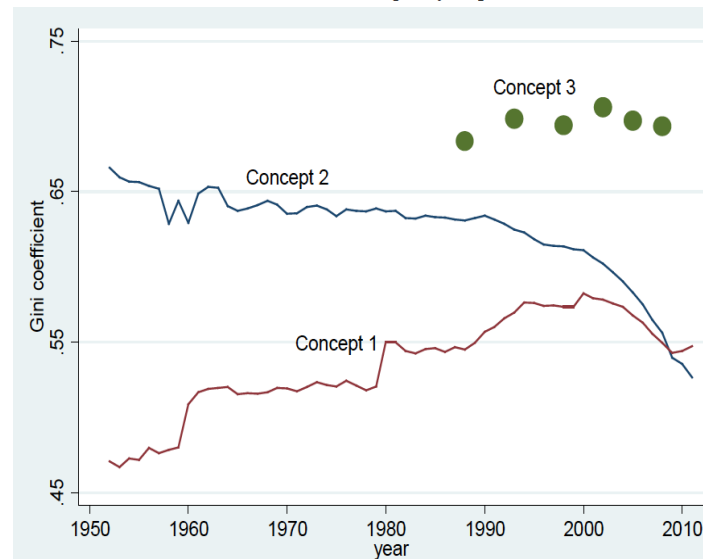
Three concepts of inequality

- Concept 1: Unweighted inequality between nations
- Concept 2: Inequality between nations weighted by population size.
- Concept 3: Global inequality between individuals across the world

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Table 1. Population Share (%) in the Global South by Daily Consumption Level, 1990, 1999 and 2013

Year	1990	1999	2013
<US$ 1.90	49.2	33.4	13.4
US$ 1.90–5	37.4	42.9	40.0
US$ 5–10	12.3	14.9	24.5
>US$ 10	8.3	8.8	22.9

Note: The regions included are: East Asia and the Pacific, Latin America and the Caribbean, South Asia and Sub-Saharan Africa. See also Sumner (2016) for a detailed discussion of these trends.
Source: Authors' construction based on data from the World Bank's PovcalNet (http://iresearch.worldbank.org/PovcalNet/povOnDemand.aspx).

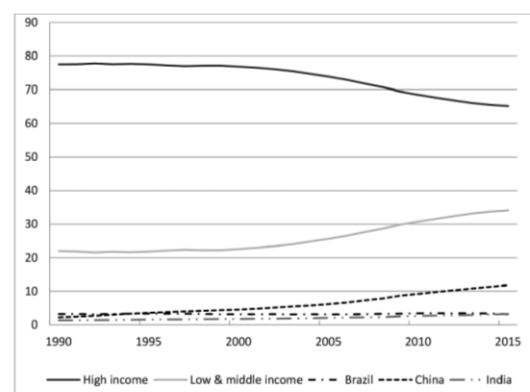Figure 2. Share of Global GDP (constant 2010 US$), 1990–2015

Figure 4. Extreme Wealth: Share of US$ Billionaires 2001 and 2016

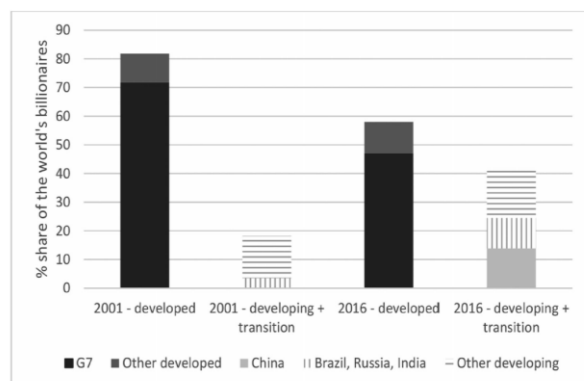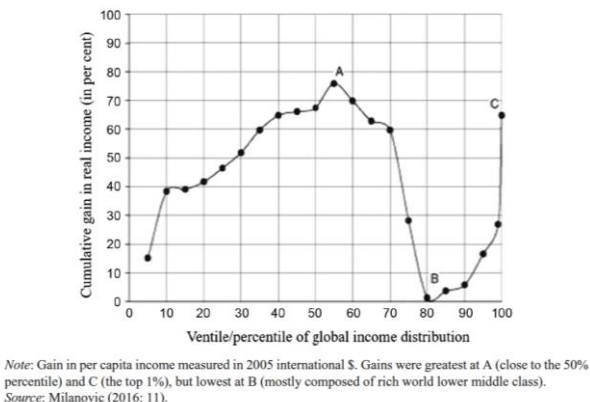Figure 5. The 'Elephant Graph': Relative Gain in Real per Capita Income by Global Income Level, 1988–2008

Note: Gain in per capita income measured in 2005 international $. Gains were greatest at A (close to the 50% percentile) and C (the top 1%), but lowest at B (mostly composed of rich world lower middle class).
Source: Milanovic (2016: 11).

"Indeed, the percentiles of the global income distribution which did best in terms of percentage gain in real income from 1988 to 2008 were 90 per cent comprised of Asians, while of the least successful, 86 per cent were from 'mature economies', that is, the global North (see Figure 5)." (Horner and Hulme, 2017 on the Elephant Graph)

Has there indeed been a move towards convergence in the last two decades?

- Despite the above patterns indicating a significant realignment in the world economy, convergence speed is prolonged.
- Much of the realignment is also driven by a handful of 'emerging' economies like China and India
- Claims of a dissolution of the binary between the developed and developing world also seem premature.