Introduction to the Economics of Development

1. Intro and structure

Luke Heath Milsom

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Overview

The team

- Lecturer: Me :) (Luke Milsom)
- Teaching assistant: Justin Mutambeshya

- Office hours: After lectures

- First point of contact: justin.mutambeshya@student.kuleuven.be

Assessment

- 60% Exam. Closed book. Examinable = slides + readings.
- 30% Paper. In groups.
- 10% Weekly Quizzes.

- Total grade is out of 20.
- Can resit the exam if achieved $< 10/20$ on that component.

- Exam, paper, and course are in English only.
- Exam **must** be taken during the main exam periods.

Resources

- These slides!
- Readings.
- A weekly list of readings/topics, and some general resources can be found here.

Come to the lecturers having completed the readings ("Main paper(s)").

Course aims

Bring you to the forefront of development economics research and thinking.

- Without assuming any prior knowledge.
- Ambitious...

1. Know core development "facts".
2. Be conversant in the key intuition of (some) standard development models.
3. Be able to critically analyse modern empirical development economics papers.

We are ambitious $\Rightarrow$ this course will not be easy! If you don't put the work in, you will do badly.

Content

Structure

1. Econometrics primer (2 weeks)
   - Short pre-recorded videos designed to get everyone up to speed. This material will be foundational, so not directly examined. Watching the videos is optional (I can't check), but recommended, especially if you haven't taken a course in econometrics before. The week 2 quiz will be based on this material.

2. Lectures (8 weeks)
   - 8 weeks of 2 times (1h to 2h) lectures on Tuesday and Friday.
     - Tuesday, 4pm-6pm, MSI1 00.28
     - Friday, 11am-1pm, AGOR 00.E20
   - Question-based and paper-based course.
   - Each week we will tackle a key question in development economics.
   - This is a third-year course — we will critically engage with the literature from day 1.
   - There will be maths, there will be econometrics, there will be tables and graphs.

3. Group project (3 weeks)
   - Group project of 1500 to 2000 words. You will have 3 weeks to complete the project. In the second week, each group will meet individually with me.

Lecture content

Questions:

1. Why do people stay poor?
2. Are natural resources a solution, or a trap?
3. Can we manufacture prosperity?
4. Are institutions key?
5. Are credit constraints constraining development?
6. Humanities greatest invention? Is urbanization the only route to development?
7. How will climate change interact with the development challenge?

Lecture recordings

- Lectures will be recorded.
- Recordings will be uploaded on Friday evening.
- Technical issues are common; I cannot guarantee the recording will work.

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- Please come to the lectures in person :)

Structure of each topic/ question

- We will focus the discussion on one or two key papers.
  - You are expected to read the introduction of each paper before the lectures — but don't worry if you don't understand most of it!
- In each section, we will cover some economic theory and some empirical methodology as well as discuss empirical results critically.
- We will attempt to conclude by forming some answer to the question posed.

Lecture style

- Lectures will be 1 to 2 hours long, in any remaining time I will hang around for informal office hours.

- Lectures aim to be engaging and participatory.
  - Will include me asking questions that you will answer live using your phones.
  - May include small group discussions/ work during lectures.

- Asking questions throughout is highly encouraged! If you have a question, I guarantee many others do too and will be very appreciative if you ask it!

In class questions

Assessment

3 methods of assessment

- Weekly quizes = 10%
- Small group project = 30%
- Exam = 60%

The exam (60%)

- Not reading comprehension.
- Will require you to critically engage with the material.
- You will not be asked to do any high-level maths. You may be asked to formalise problems and highlight the key intuition of common models.
- Practice exam questions will be available before the exam.
- Use the exam to show off!

Taster exam question

Short questions [40%]

a. Why is settler mortality a relevant instrument in the Acemoglu et al. (2001) study?
b. What is “dead capital” in the context of informality?
c. How do poor institutions affect economic growth?
d. Give three examples of ``bad'' institutions often found in a developing context.

Taster exam question

A researcher is interested in testing whether the hypothesis put forward by Acemoglu et al. (2001) or the one put forward by Glaeser et al. (2004) is right. They propose estimating the following regression:

$$\ln(y_i) = \mu + \beta_1 R_i + \beta_2 E_i + \varepsilon_i$$

Where y_i denotes GDP per capita, R_i denotes measure of institutions on a 10 point scale (10 is the best institutions and 1 the worst), and E_i denotes average years of schooling. The researcher has data over 100 developed and developing countries indexed by i.

a. Interpret the coefficients β_1 and β_2
b. Suppose the researcher finds that $\beta_1 = 0.5$ and $\beta_2 = 0.7$ where both quantities are statistically significantly different from 0 and each other. How do you interpret these results in light of the question the researcher is interested in answering?
c. The researcher wants to perform a causal analysis and to do this plans to use settler mortality as an instrument. To do this they will use the data in Acemoglu et al. (2001). Suppose this instrument satisfied the validity condition and exclusion restriction. Using it as an IV for institutions the researcher finds that $\beta_1 = 0.9$, and $\beta_2 = 0.8$.
    I. Why might $\beta_2$have also changed in the IV specification?
    II. Now how do you interpret these results in light of the question the researcher is interested in answering?
d. Are you satisfied that the researchers proposed strategy of instrumenting institutions with settler mortality will allow them to answer their question of interest? If so, why, and if not propose an alternative approach.

The small group project (30%)

- Small groups of 3 to 5.
- Pick one of the 7 questions covered in the lectures.
- You have 3 weeks to write and submit a small research project $\sim$ 2000words
- Key things I will be looking for:
  - Clearly defined research question.
  - A well thought-out and somewhat comprehensive review of the relevant literature.
  - Construction and defence of an argument. Can use data, can argue discursively, can use case studies, can even try to formalise your argument mathematically.

What I'm expecting from the small group paper

- Well-defined question, argued convincingly.
- You can use data, provide some figures, etc. You can use some abstraction and modeling. You can use case studies or a purely discursive argument.
- You have to come up with a question and argument on your own, but can reuse evidence from others.
- You have 3 weeks to complete the project Dec 1st to Dec 22nd 12:00 noon. Late submission = 0, no excuses.
- Your group will meet once with me on the 11th of December.

The paper, some practicalities

- Submit a word document. Times new Roman font size 12 line spacing 1.5 default margins.
- 1,500 to 2,500 words.
- In English only.
- I expect you to cite relevant literature and include a bibliography. Copy how it is done in the papers we read during the course.
- Do not plagiarise (not citing someone is plagiarism). Papers will be put through plagiarism detection software.
- Hannah Ameye's slides :)
- AI policy.

The quizzes (10%)

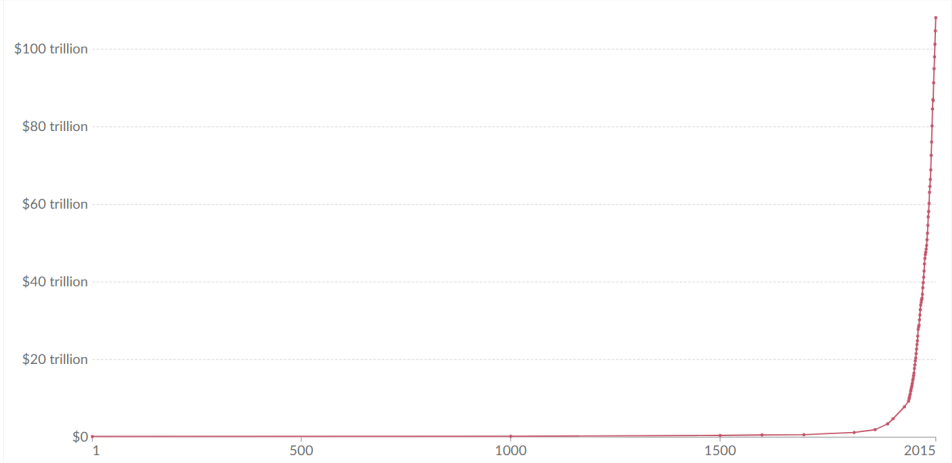
- 8 weekly quiz posted after Friday's lecture. Must be handed in before next Tuesday's lecture.
- Multiple choice questions, fairly straightforward.
- Not exam-style questions.
- There will be 8 quizzes overall, the average over your best 7 quizzes counts for 10% of your overall grade.

Some facts: The Scale of the Problem

What is development economics?

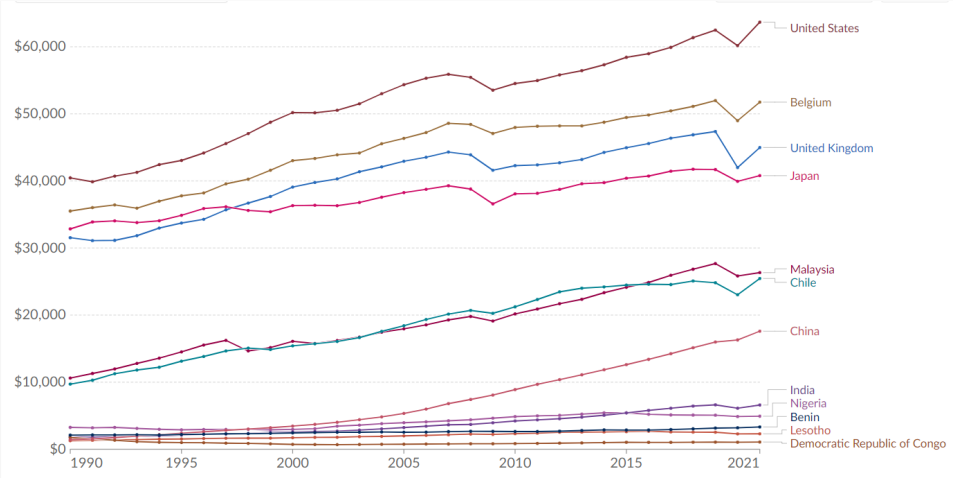
Equality of Opportunity for everyone, everywhere.

For most of human history almost everyone was extremely poor



Source: Our World in Data

Today there are large differences in: GDP per capita



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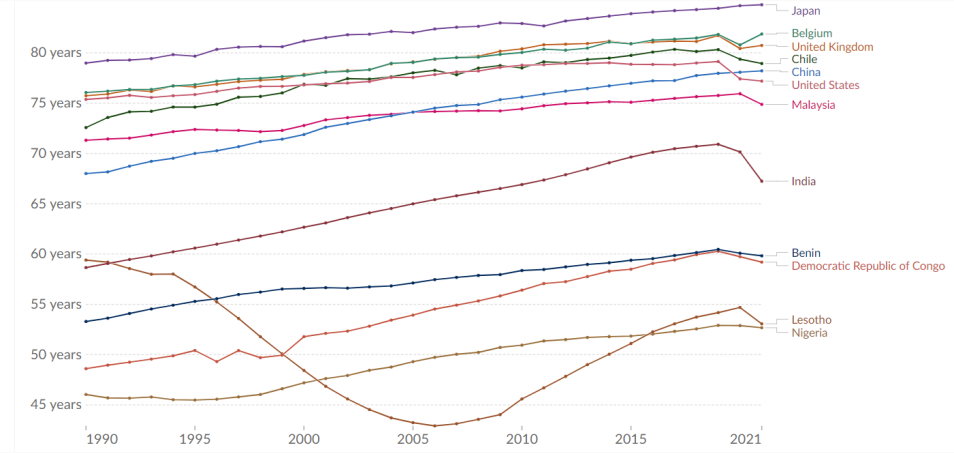
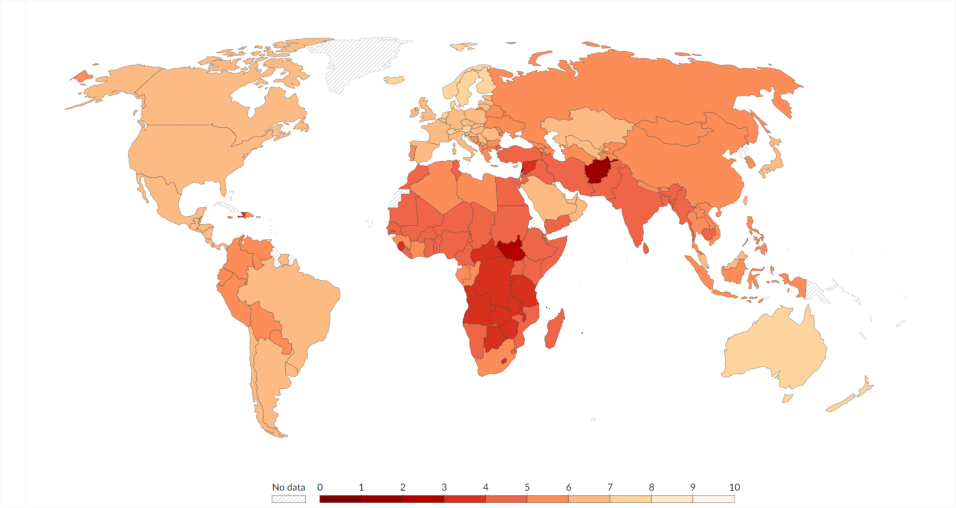
Today there are large differences in: Life expectancy



Source: Our World in Data

Today there are large differences in: Life satisfaction



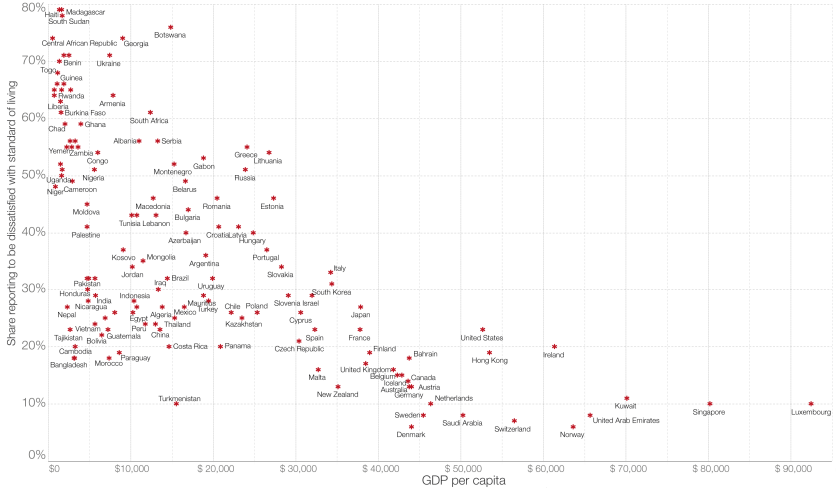
Source: Our World in Data

Money does buy you satisfaction

Dissatisfaction with standard of living vs GDP per capita

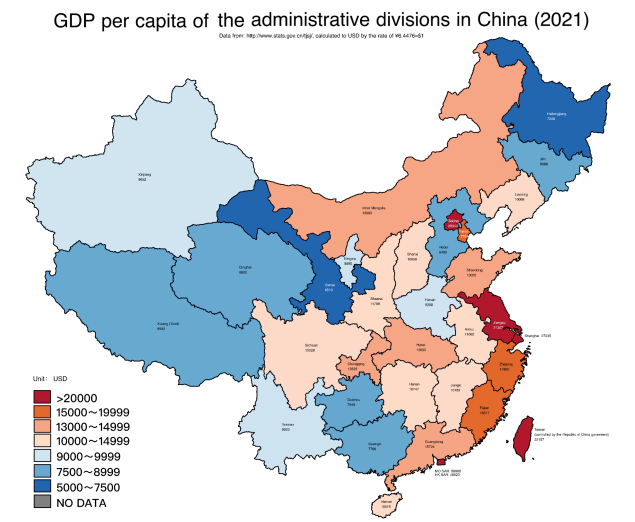
Shown on the y-axis is the share that answered 'dissatisfied' to the question "Are you satisfied or dissatisfied with your standard of living, all the things you can buy and do?".

Our World in Data



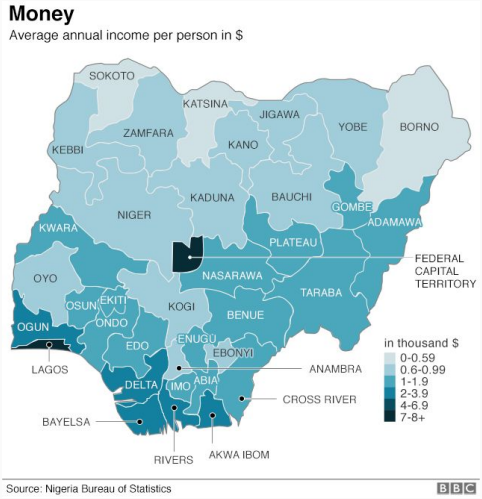
Data source: GDP per capita data from the World Bank; survey data on the satisfaction with living standards from the Gallup World Poll.
The visualization is available at OurWorldinData.org where you find more visualizations and research on global development.

There are also large differences within-country



Source: Official Statistics 2021

There are also differences within-country



Source: Nigeria Bureau of Statistics 2019

There are also differences within-country

Rank	Province	GDP per capita in EUR
-	Brussels	66,200
1	Antwerp	46,900
2	Walloon Brabant	46,500
3	Flemish Brabant	39,800
4	West Flanders	39,000
5	East Flanders	36,300
6	Limburg	32,300
7	Liège	28,000
8	Namur	26,300
9	Hainaut	24,600
10	Luxembourg	24,200

Source: Eurostat

Cross country differences aren't everything

- The richest areas of Nigeria are (significantly) richer than the poorest areas of China.

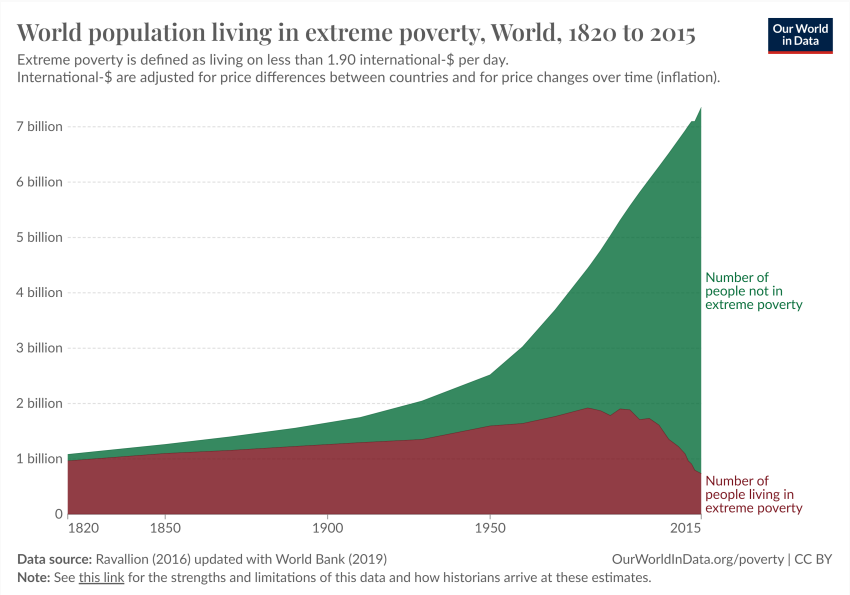
- The richest areas of China are richer than the poorest areas of Belgium.

Thing are getting better!

Since 2000...

- The proportion of the world living in extreme poverty has halved (UN).
- Life expectancy across the whole of Africa has increased by about 10 years (Human Mortality Database. Max Planck Institute for Demographic Research).
- Worldwide child mortality rates have almost halved (United Nations Inter-agency Group for Child Mortality Estimation (UN IGME)).
- GDP per-capita in Belgium has almost doubled, but almost all of that growth happened before 2008. (The World Bank).

Things are getting better!



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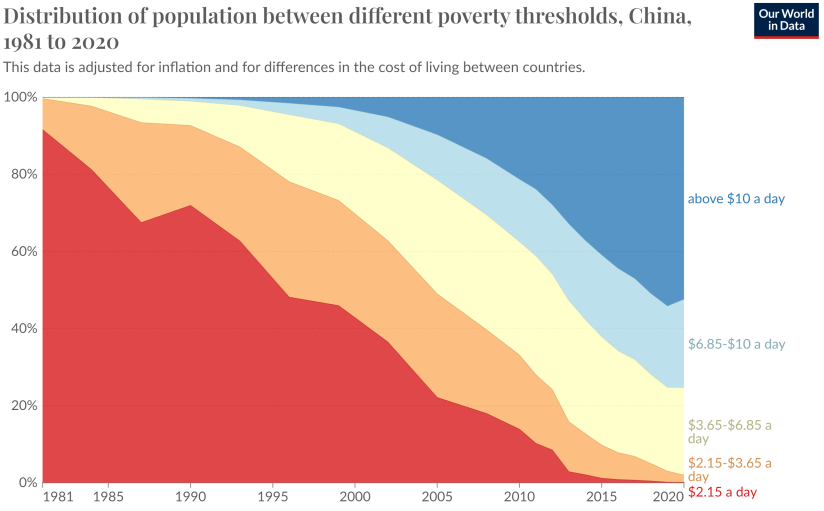


The big question

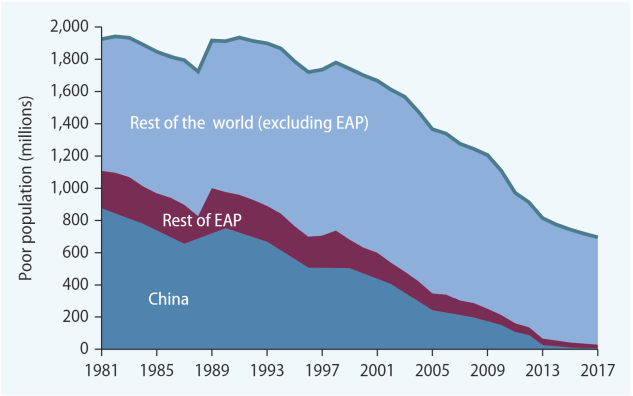
How do we achieve growth and development in the future?

A natural place to look: Previous success stories.

How did we do it before?

1. China

- From 1982 to 2022 over 800 million people in China were lifted out of poverty.
- Accounts for 75% of global poverty reduction over this period.

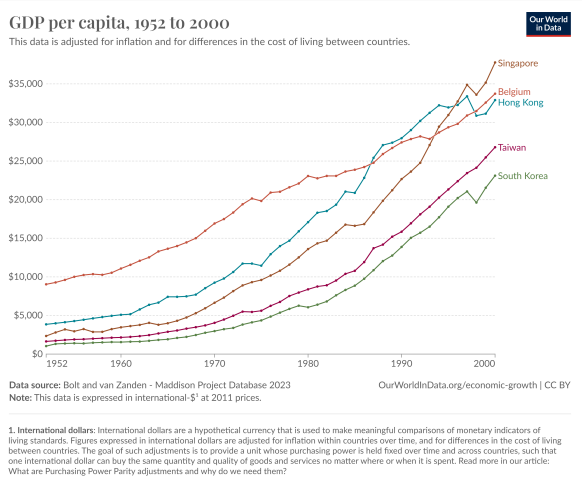


Sources: Lugo, Niu, and Yemtsov 2021, based on PovcalNet adapted from World Bank 2018.
Note: EAP = East Asia and Pacific.

How did we do it before?

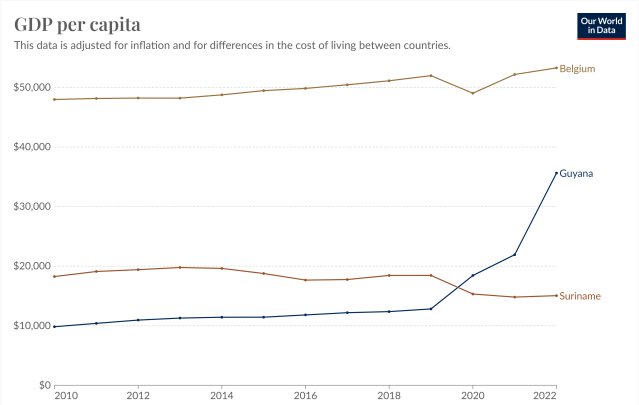
2. Asian growth miracle in the four “Asian Tigers”.

- GDP per capita in Singapore in 1970 = 6,650 in 2000 = 37,773 a 5.7x increase.



How did we do it before?

3. Guyana



How?

1. Export-led growth?
2. Good institutions?
3. Cheap and accessible credit?
4. Rapid urbanisation?

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Or

1. Very low base — China had an 88% poverty rate in 1981.
2. Small countries are different?
3. Natural resources.

Getting a bit more formal — how can we measure poverty and inequality?

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Inequality

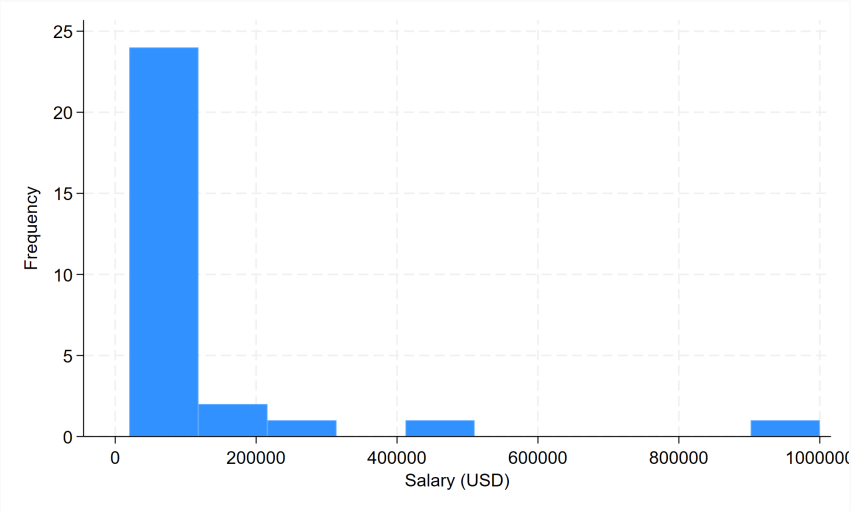
Income distribution

- Suppose we have a group of people 1,2,3,4,...
- We want to know how evenly their income is distributed.
- All have the same income $\Rightarrow$ very equal, easy.
- Person 1 has 100x everyone else $\Rightarrow$ very unequal, easy.
- Anything in between... harder... let's look at the data.

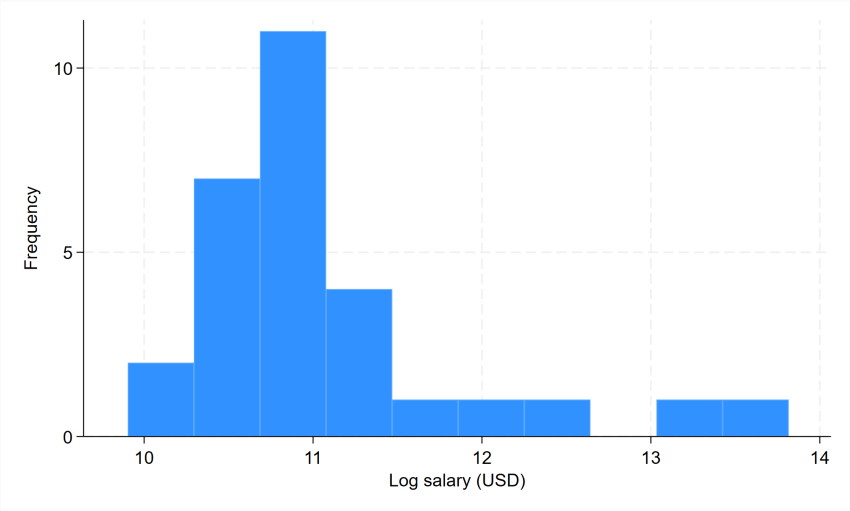
The data... not super helpful

	FirstNa...	salary
1	Michael	85000
2	Dwight	65000
3	Jim	60000
4	Pam	40000
5	Ryan	50000
6	Andy	60000
7	Stanley	62500
8	Phyllis	57500
9	Karen	60000
10	Angela	52500
11	Oscar	47500
12	Kevin	42500
13	Creed	40000
14	Meredith	42500
15	Toby	57500
16	Jan	135000
17	David	220000
18	Holly	60000
19	Darryl	55000
20	Roy	32500

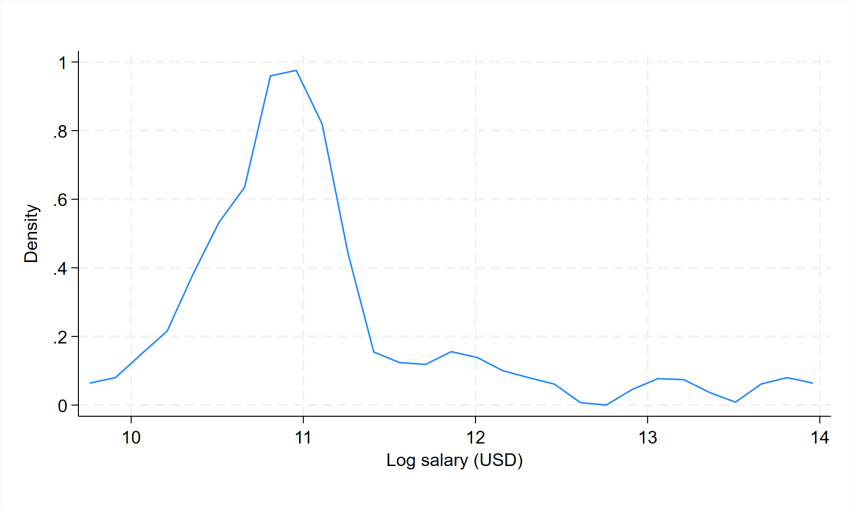
Histograms to the rescue



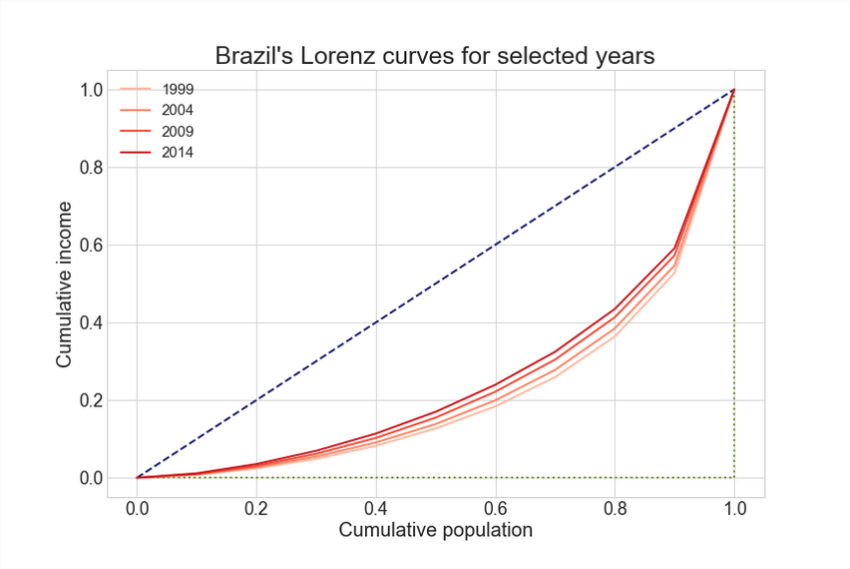
Logging is better



Smoothed histograms = probability density function

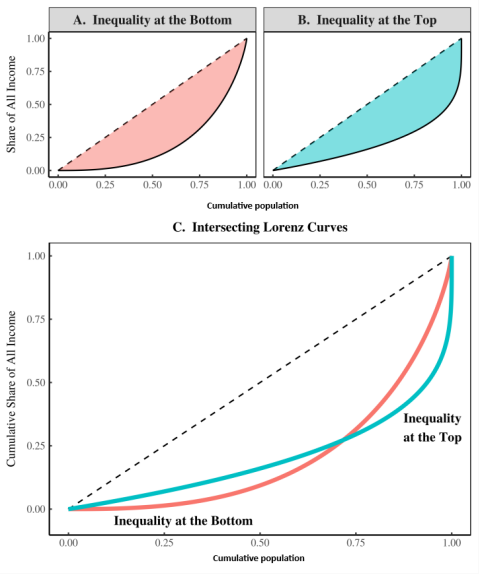


Going from a distribution to an inequality index. Step one: Lorenz curve.



Source: Moreira, 2019

Which Lorenz is more equal

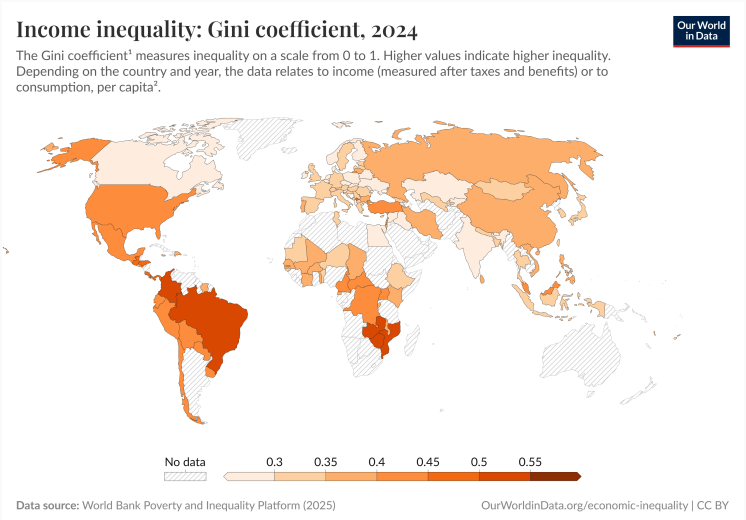


Differentiating between Lorenz curves = Gini coefficient

Intuition: The further from 45 degrees, the more unequal.

- Want to measure "distance" from the 45 degree line.
- Choosing a specific point will lead to difficulties, similar to what we had before.
- Instead, measure the area between the Lorenz curve and equality.
- This is exactly the Gini coefficient.
- The Gini coefficient ranges from 0 (perfect equality) to 1 (perfect inequality).

Gini's from across the world.



Most equal = 0.24 (Slovakia), most unequal = 0.54 (Colombia), Belgium = 0.26, USA = 0.42.

How can you compare income distributions? Four principles to live by

Constructing an index of inequality.

1. Anonymity principle — it doesn't matter who earns what income.
2. Population principle — the index should be population-size invariant.
3. Relative income principle — the index should be scale invariant.
4. Dalton principle — moving money from someone poor to someone rich will always create more inequality.

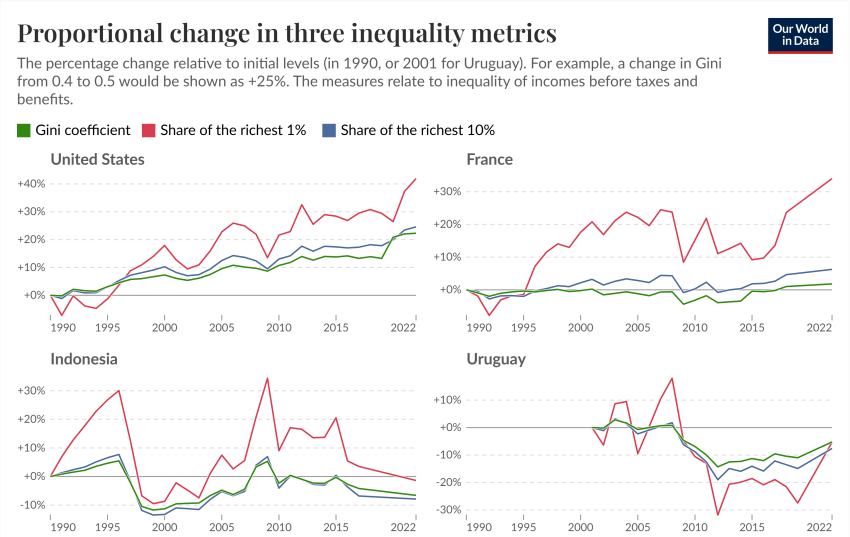
The Gini coefficient satisfies all four principles.

Some alternative measures of inequality

1. Range. (Richest - Poorest) / Mean.
2. Mean absolute deviation. $(1/\text{number of people}) \times \sum_i |\text{income}_i - \text{mean}|$.
3. Coefficient of variation. Standard deviation / Mean.
4. Share of the richest 10%. Income of the top 10% / Total income.

Which satisfy the 4 principles?

So, has inequality increased in recent years?



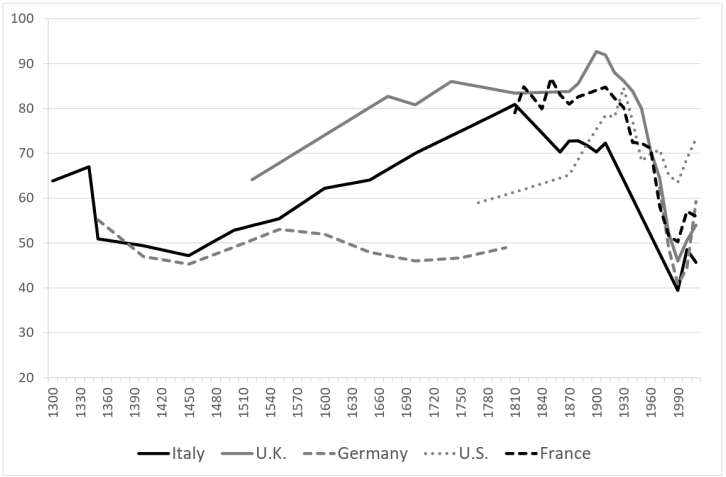
Different types of inequality

- Wealth

- Intergenerational mobility

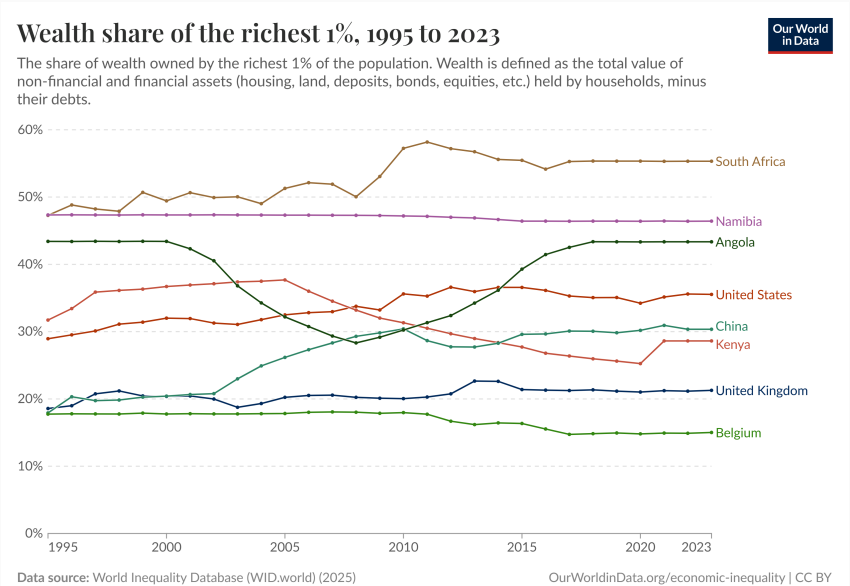
Wealth inequality over the very long run

a. Wealth share of the richest 10%



Alfani, 2024

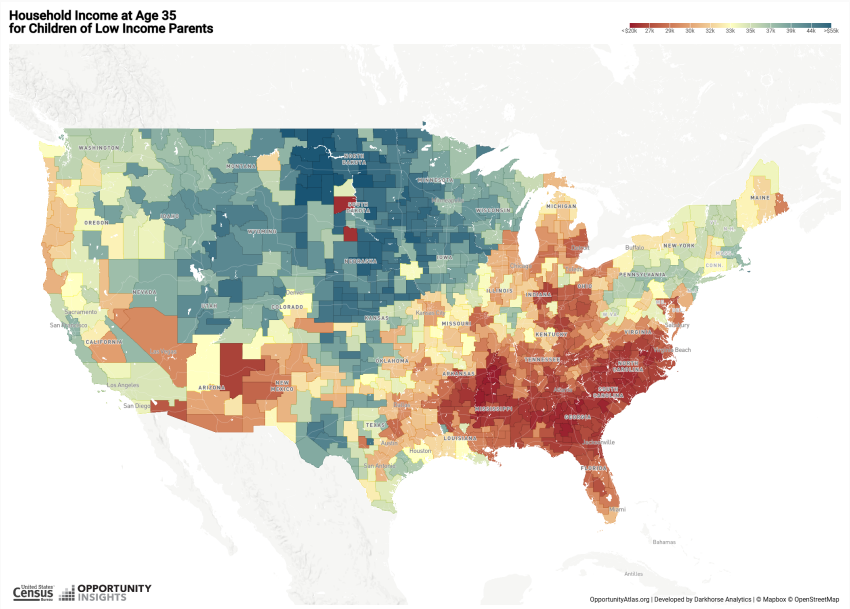
Wealth inequality across countries



Intergenerational mobility

- How likely is it that you will be better off than your parents?
- Many ways to measure this, better off in terms of what?
- Fixing parental characteristics and asking how much better off children growing up in different places are = inequality of opportunity over space.

Spatial inequality in intergenerational income mobility in the US



Intergenerational education mobility across the African continent

Alesina et al. (2021)

- Focus on primary education.
- Data from 27 countries (75% of the population and GDP of Africa) from 69 censuses between 1975 and 2013.
- Define (*indicator variables*):
  - $\text{IMup}_i = 1$ if child i is born to parents who did not complete primary school goes on to complete primary school.
  - $\text{IMdown}_i = 1$ if child i is born to parents who did complete primary school goes on to not complete primary school.

How can we measure intergenerational educational mobility

Just looking at IMup or IMdown will conflate intergenerational educational mobility with cohort effects,

- Cohort effects: the next generation as a whole is more educated.

To overcome this look at levels of mobility comparing child-parent pairs in the same cohorts.

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α_c^{up} is the "clean" measure we want.

Results

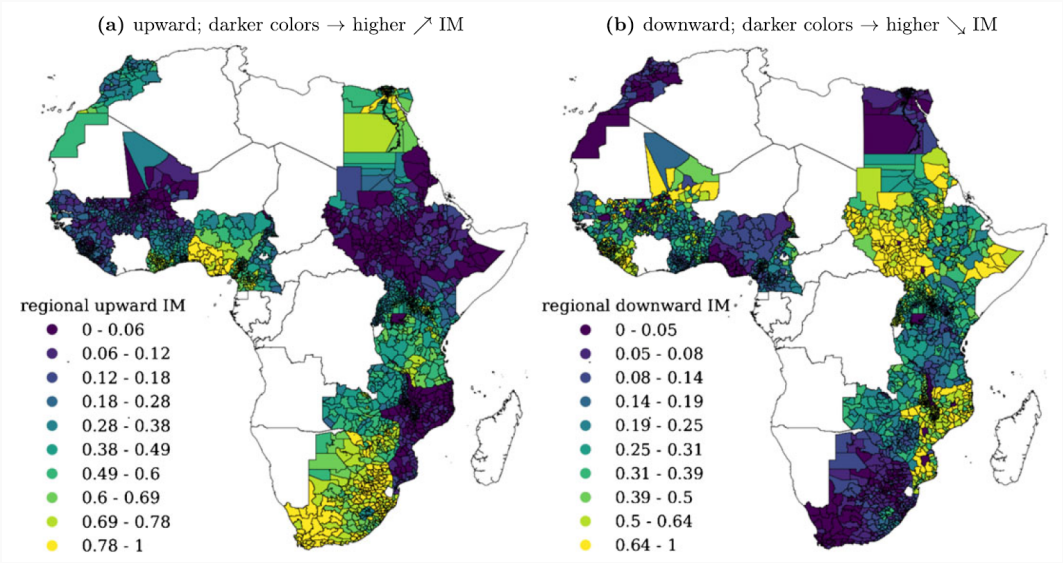
- On average 40% of those born to parents without primary school go on to complete it. Downward mobility is 25%.

- Lots of regional variation.

  - Lowest rates of upward mobility: 4% in South Sudan, 11% in Mozambique.

  - Highest rates of upward mobility: 80% in South Africa, 70% in Botswana.

Regional variation



Getting a bit more formal — how can we measure poverty and inequality?

Poverty

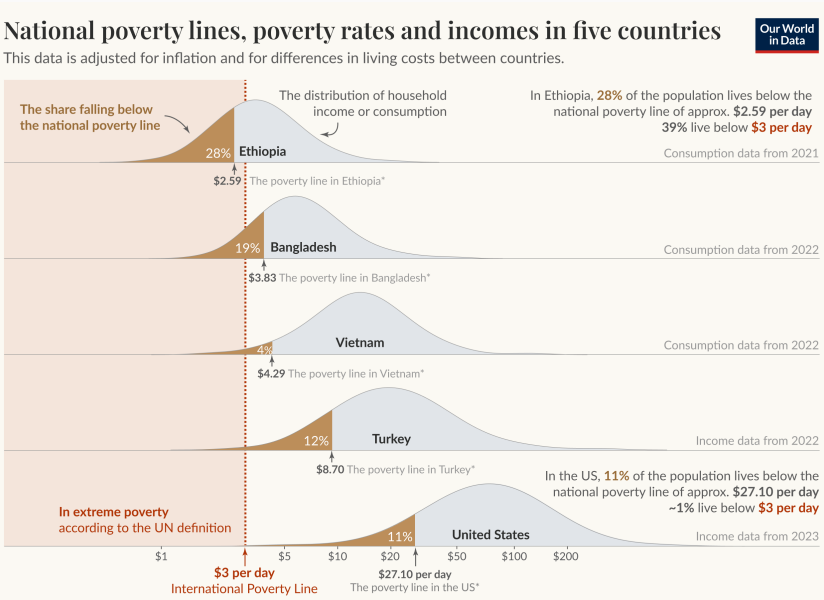
Inequality isn't everything

- A world where everyone is equal, but everyone is poor is not what we want.
- Note: Poverty is multidimensional — income isn't all that matters!!!
- But, for now, let's focus on income...

Absolute and relative poverty

- Someone in the bottom 10% of the income distribution in Belgium is not the same as someone in the bottom 10% of the income distribution in Sierra Leone.
- But both will face legitimate challenges. However, for now we will focus on absolute poverty lines.
- We decide a daily income, anyone below this (adjusted for PPP) is considered absolutely poor.
- Currently, the international poverty line is set at about 3$ a day.
  - The international poverty line is how much it costs to purchase core goods deemed essential for a basic standard of living in the worlds poorest countries.

Where do the absolutely poor and relatively poor live



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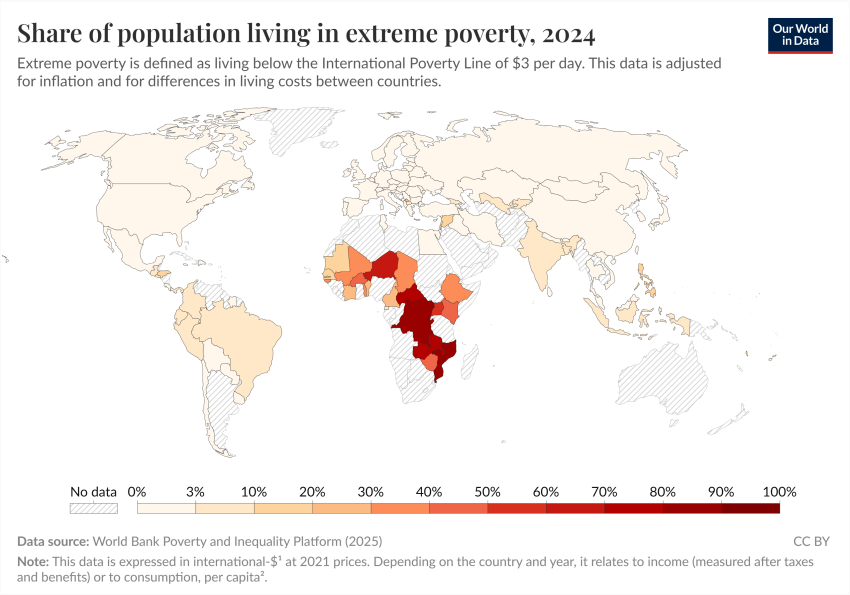
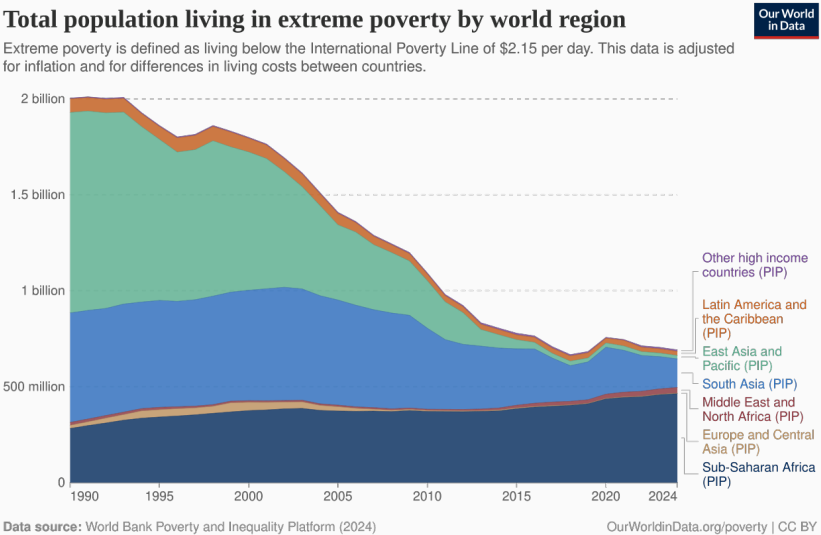


Where do the absolutely poor live



To conclude

Finish as we started — Astonishing progress and completely unacceptable