Growth and Developmoent

EC 390 - Development Economics

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2025

Living Standards Across the World

People Live Differently

Who woulda thunk?

We can make some coarse comparisons across countries by some measures we will detail later

- One of those is **Gross National Income**
  - It is like GDP plus stuff:
    - It adds the money that the country's citizens and companies make **outside of the country**
    - It subtracts what foreigners make **inside the country and send out**

Take for example the per capita GNI of different countries:

- Japan → $36,030
- Nigeria → $1,250
- France → $45,180
- US → $83,660
- Brazil → $9,950
- Australia → $62,550

People Live Differently

We can think about living standards across the globe in four “stylised strata”:

- Highest
- 2nd Highest
- 2nd Lowest
- Bottom

Let’s dive in and see

Bottom

- Almost 700 million people (8.5% of the global population) live in extreme poverty
  - That is qualified as living on **less than $2.15 per day**
- They will likely have serious concerns about their health, nutrition, education, sanitation, potable water, and housing
- They grow their own food and make their own shelter.
- They are essentially in a **subsistence economy**

2nd Lowest

Not **officially** extremely poor, but I think we would usually consider them as very poor

- About 1.7 **Billion** people live on less than $3.65 per day

- Employment is most likely informal
- Likely get around on cheap and barely functioning vehicles
- Water may only be potable after boiling or adding chlorine
- Possibly less hazardous cooking materials used

> Still likely suffer from **one or more components of poverty**, although not enough to be officially classified as multidimensionally poor

2nd Highest

- We can think of people in this strata as living on about $15 per day
  - More than 75% of the world lives at this level ⟶ we would consider them as middle income by global standards
- They will live in more urban areas
- Employment may still be informal with minimal stability
- They probably have a TV
- Have some education

> **Children** are **likely to survive early childhood**

Nuevo Zirosto, Michoacan, Mexico

But also like this

And this

Highest

Close to a billion people live at this level

We are all here

- Not millionaires but live comfortably
- Formal jobs, generally with some sort of labor protection
- TVs, high-speed internet, smartphones, laptops, refrigerators, dishwashers, etc.
- Food is not necessarily an issue
- Children will be healthy
  - Although obesity has rapidly become a problem
- High life-expectancy at birth
- Life will have ups and downs but very unlikely to fall below this stratum

Movement Across Strata

It is possible to move across strata, but the probabilities are usually low

- Usually movements will occur within levels, where individuals gain greater relative wealth
- Interestingly enough, the lower strata are generally aware of what life is within the higher levels.
- The opposite is not necessarily true

Central Role of Women

Women and Poverty

There is a disturbing phenomenon that occurs with women in the world

Female-headed households are more prevalent yet:

- Yet they are more likely to be poor and malnourished
- And Less likely to receive medical care, clean water, sanitation, and other basic needs
- Less likely to attain education
- Less likely to have a job
- And all while providing childcare and household management

- Let’s add to this income disparity between men and women for the same work

Women and Poverty

A very naïve thought might be that the "markets are rewarding productivity"

- This would largely ignore historical institutions which purposefully limit women's participation in the market
- Social norms or legislation often prohibit women from owning property or signing financial contracts without their husband's signature
- A large proportion of women's work in the home is not renumerated, so it is **incorrectly** thought to be as unproductive

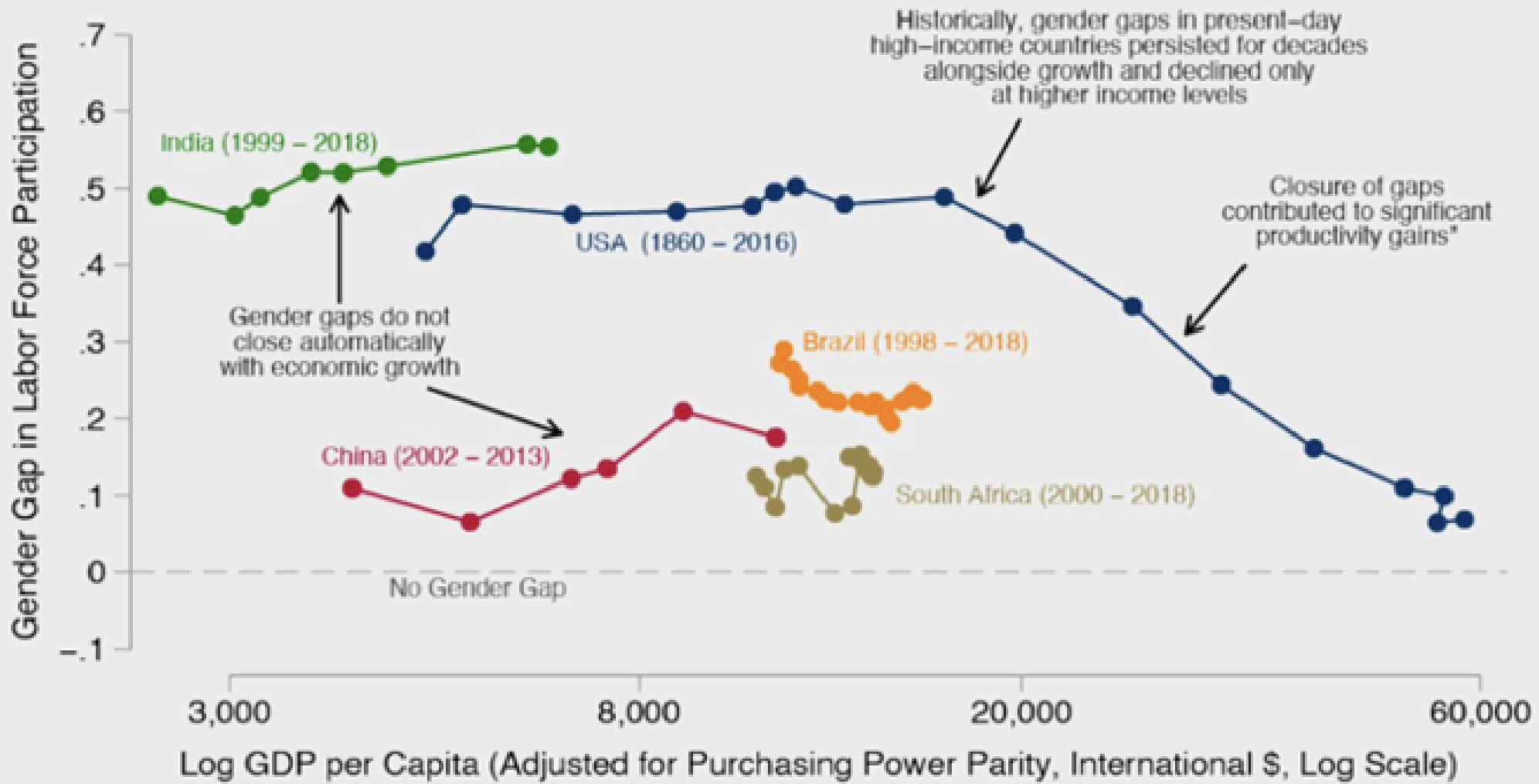
- Importantly, there has been studies that have found that where women's share of income within the home is relatively high, there is less discrimination against girls and women are better able to meet their own needs and those of their children

Women and the Informal Sector

They often make up the bulk of the informal-sector labor supply

- This form of work comes with:
  - Low wages
  - Unstable jobs
  - No social or employee benefits
  - Less than desirable working conditions

Gender gaps in labor force participation may increase or decrease with economic development



Development Goals

17 Sustainable Development Goals

In 2015, the UN adopted **17 Development Goals** to be achieved by 2030.

> We are determined to end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment.

There are three underlying principles that guides them:

- Universality principle → Apply to every nation
- Integration principle → There are interrelationships to consider between goals
- Transformation principle → Not sufficient to half-ass it

17 Sustainable Development Goals

Critique of Goals

They are not perfect by any measure.

One of my personal critiques is that it unfortunately relies on humans, but other than that we have:

- Goals may not be prioritised
- Too broad goals and difficult to address them all at once
- Trade-offs exist and some goals may be contradictory
  - Economic growth (Goal 8 and 9) may require environmental sacrifices (Goal 13 and 15)
- Lack of binding agreements
  - This is a general problem with everything the UN does
- Different access to resources across the globe

Classifying Countries

How Can We Classify Nations?

An imperfect way we use is by their **GNI per capita** levels

This creates 4 classifications:

- ***Low-Income Countries (LICs)***
- ***Lower-Middle-Income Countries (LMCs)***
- ***Upper-Middle-Income Countries (UMCs)***
- ***High-Income Countries (HICs)***

How Can We Classify Nations?

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Countries with a **GNI per capita less than $1,135** in 2024

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Countries with a **GNI per capita between $1,136 and $4,495** in 2024

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Countries with a **GNI per capita between $4,496 and $13,935** in 2024

- ***High-Income Countries (HICs)***

How Can We Classify Nations?

An imperfect way we use is by their **GNI per capita** levels

This creates 4 classifications:

- ***Low-Income Countries (LICs)***
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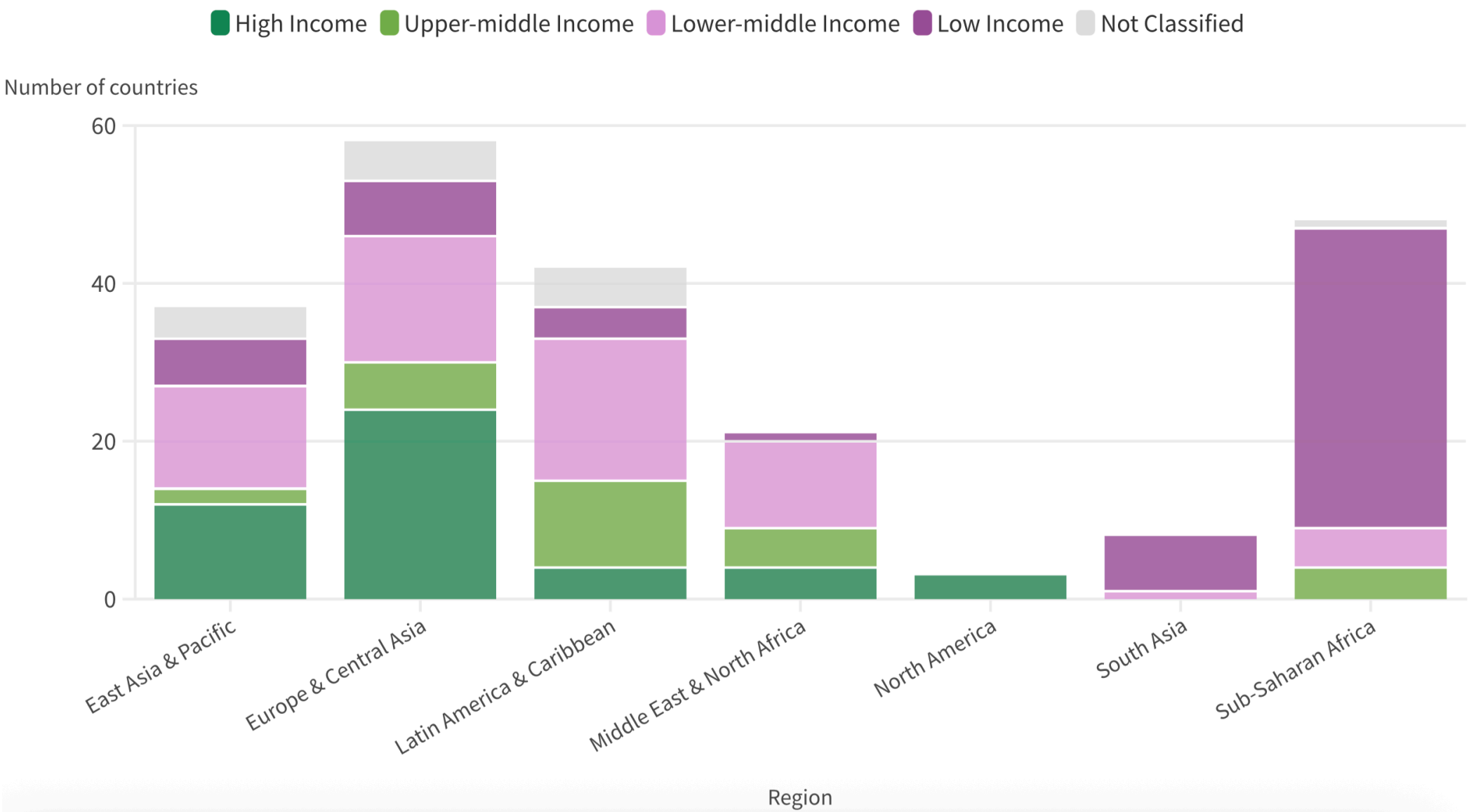
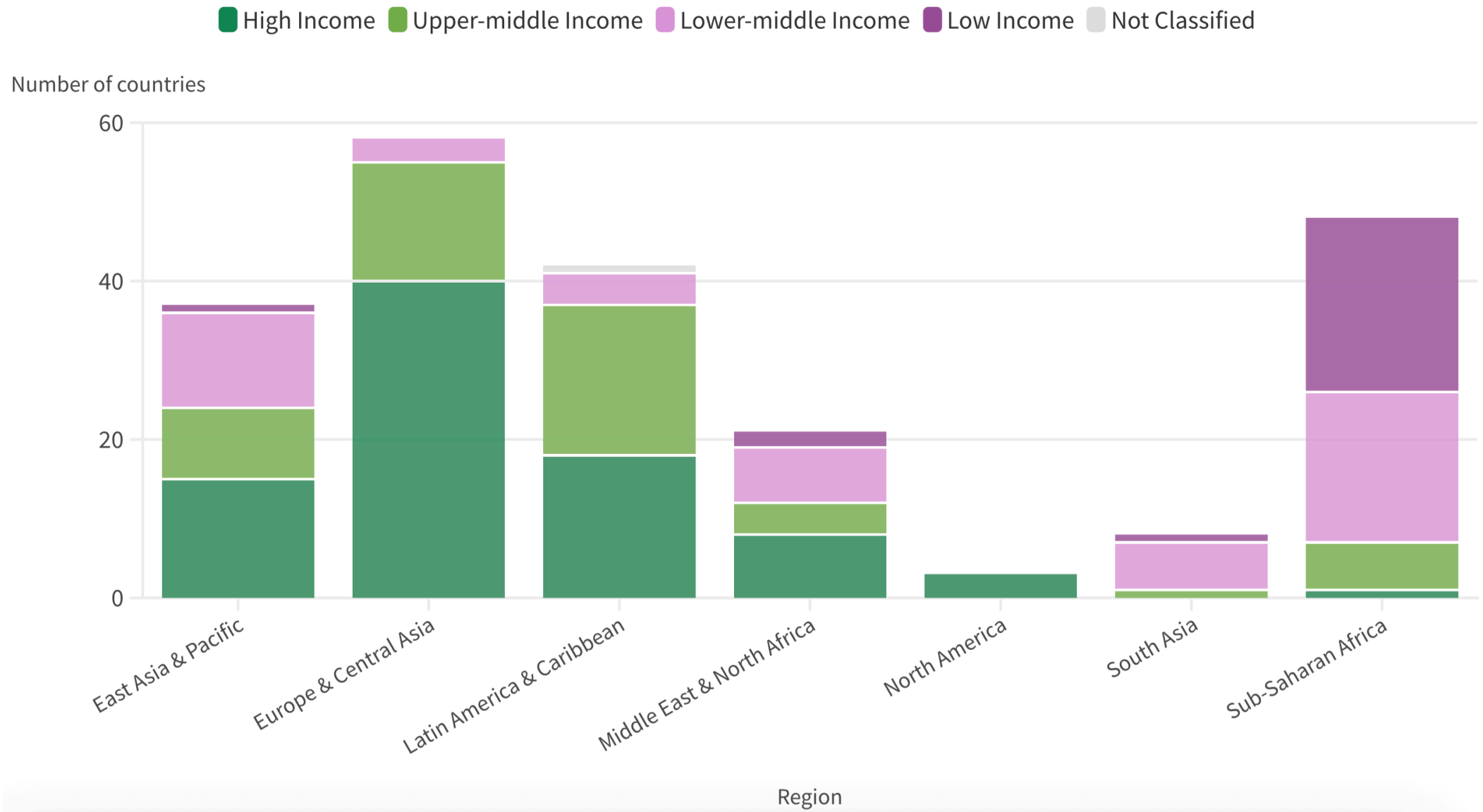
- ***High-Income Countries (HICs)***

Countries with a **GNI per capita greater than $13,935** in 2024

Growth Over Time (1995)



Growth Over Time (2023)



Movements Are Clearly Possible

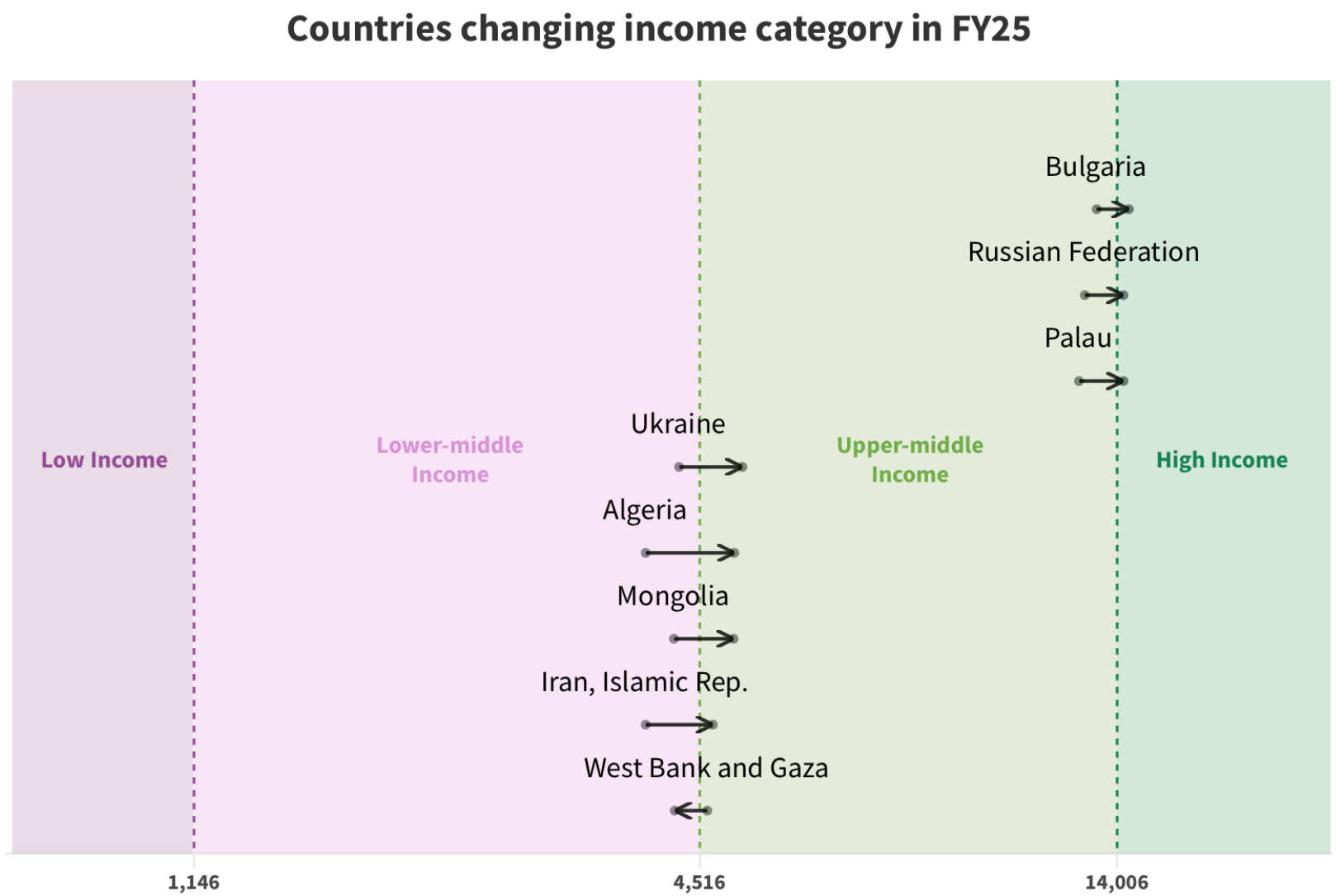
All it takes is a higher **GNI per capita** level

- GNI, as we saw, is simply a measure of income for the country → It can increase or decrease
- Per Capita means per person → Populations can shift for many reasons

But achieving a higher income status does not necessarily eliminate the "developing country" tag

- Say a country achieves a high enough GNI per capita to be classified as a **HIC**
- This country has a history of not being good at managing debt or a weak financial system
- This country is highly susceptible to dropping in income
  - Because it's probably happened before

Latest Shifts



Purchasing Power Parity

A Less Imperfect Way to Compare Countries

Enter Purchasing Power Parity (PPP)

- Calculates GNI using a common set of international prices for all goods and services
  - Main idea: Create a basket of goods needed to live → Calculate price in each country and create an index

What could be a problem with this?

- The goods that make up the basket may be subjective

How To Think About PPP?

PPP adjusts the fact that **the same amount of money buys very different baskets** of goods in different countries

It helps "equalize" incomes across nations, otherwise we get:

Without PPP

- **Person A** earns $10,000 in Costa Rica
- **Person B** earns $20,000 in the US

You'd say that Person A is poorer than **Person B**

With PPP

- Say prices are half as high in Costa Rica than in the US
- Then $10,000 in Costa Rica gives the same **purchasing power** as $20,000 in the US

> If you ever need to do a quick calculation in a different country, find out how much a Big Mac costs

PPP Example

Let the basket of goods be: **a toothbrush**

- Price of **a toothbrush** in the US: 1 USD
- Price of **a toothbrush** in Mexico: 0.80 MXN

We can find the "Exchange Rate" by:

$$PPP_{US,MEX} = \frac{Cost_{US}}{Cost_{MEX}} = \frac{1}{0.8} = 1.25$$

- This means that 1 MEX is worth approx. 1.25 USD
- Now that we know that, we can compare GNIs

PPP Example

Let Mexico GNI per capita be 40,284 MXN.

We found that $PPP_{US,MEX} = 1.25$

Then we have:

$$GNI_{MEX} \times PPP_{US,MEX} = 40,284 \times 1.25 = 50,355$$

Mexico's GNI per capita is equivalent to 50,355 USD

> But this is **conditional on the basket of goods** we consider

PPP Example 2

Now we have two goods, so we create a **price index**

- Consider a basket made up of a toothbrush and toothpaste
- Price of a toothbrush in the US is 2 USD
- Price of a toothbrush in Mexico is 2 USD

Then the basket of goods in the US would be
$1\,USD + 2\,USD = 3\,USD$

A basket of goods in Mexico would be
$0.80\,MXN + 2\,MXN = 2.8\,MXN$

$$PPP_{US,MEX} = \frac{Cost_{US}}{Cost_{MEX}} = \frac{3}{2.8} \approx 1.07$$

Defining Development

So far we have only touched on **one possible way to measure a country's development**

We believe that income is typically a good indicator for other signals about well-being, but it is not perfect

We can also consider other **objective measures** for development:

- Infant/child mortality
- Mother/child health
- Life expectancy
- Disease prevalence
- Primary school completion rates
- Literacy rates
- Gender differences within rates

So we can think of a more comprehensive way to measure development

Human Development Index

Defining Development

Recall we have a large list of factors to possibly consider when measuring development

- What if a country has a **high life expectancy but low literacy**? How can we compare that country with **high literacy but low life expectancy**?

We can then consider using the **Human Development Index (HDI)**

- This measures the national socioeconomic development by combining education, health, and adjusted real income per capita
- It goes from 0 (lowest human development) to 1 (highest human development)

How is HDI Measured?

Since there are **three separate components**, we first have to measure those.

Thankfully it is not complicated

Each component is calculated as a ratio given by the **distance above the minimum to the maximum** level that a country has achieved

$$\text{Dimension Index} = \frac{\text{Actual Value} - \text{Min Value}}{\text{Max Value} - \text{Min Value}}$$

The dimensions used are:

- Health → Life Expectancy
- Education → Average Years of Schooling & Expected Years of Schooling
- Income → PPP adjusted per capita GNI

How is HDI Measured?

Once we have these values, we calculate the **HDI** using a **geometric mean**

- This allows for imperfect substitution between the factors when measuring economic development of countries

- The formula is then:

$$HDI = H^{1/3} E^{1/3} I^{1/3}$$

Where:

H =Health Index E =Education Index I =Income Index

HDI - Interpreting the Value

After having obtained all **3 individual indices** and calculated the **HDI**, we get a number between 0 and 1

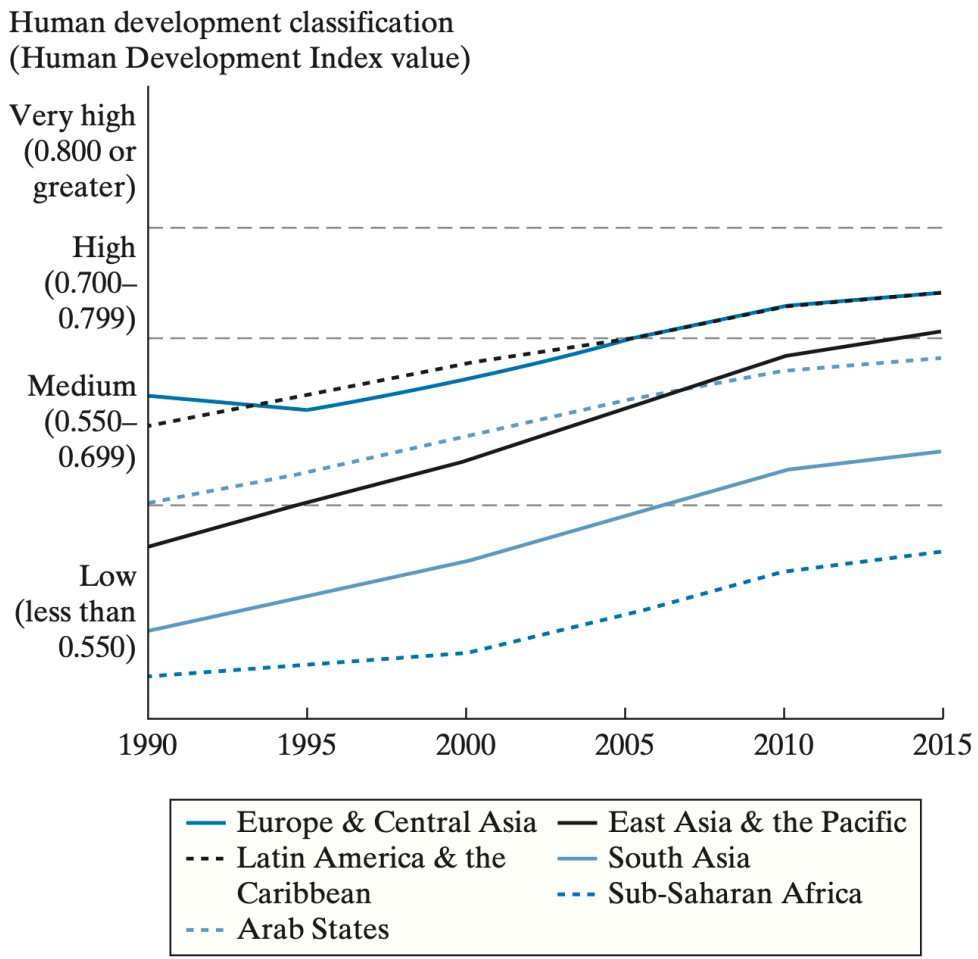
The most recent classifications are:

- Low Human Development (< 0.550)
- Medium Human Development (0.550 - 0.699)
- High Human Development (0.700 - 0.799)
- Very High Human Development (≥ 0.800)

UNDP Website

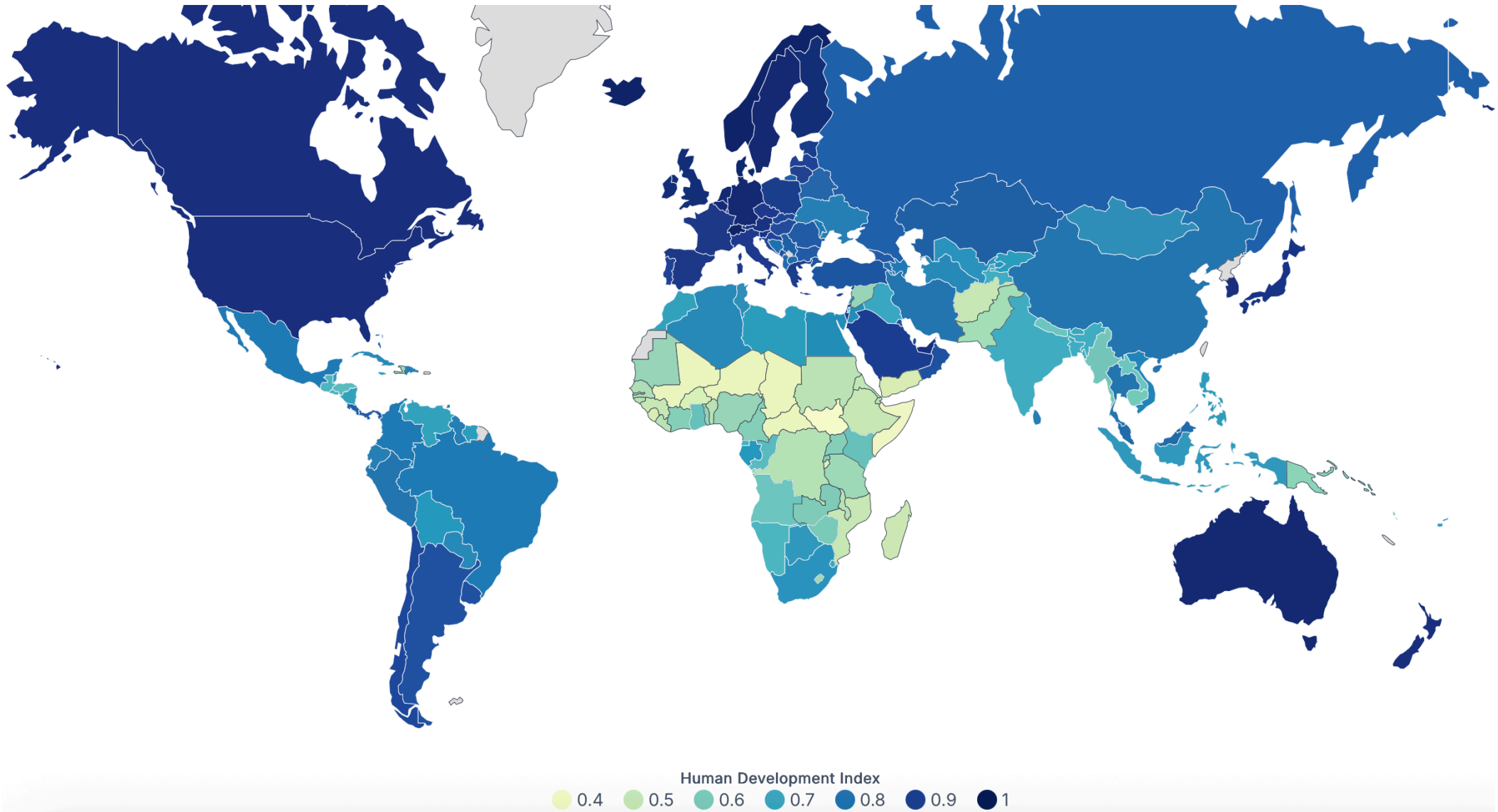
HDI Through Time

FIGURE 2.3 Improvements in Human Development Since 1990, by Region



Source: Human Development Report Office, UNDP – Human Development Report, 2016, p. 27

HDI Snapshot



Difference and Similarities

To Drive the Point Home

There are 10 features that help us define key similarities and differences among developing countries

> An important caveat to remind yourself of is that when we compare nations, we use **averages** which inherently blur some important information

The textbook has their own 10. I'll do my own 8:

- Physical and Human Resource Endowment
- Per Capita Incomes and GNI Levels Relative to the Rest of the World
- Climate
- Population Size, Distribution, and Growth
- Historical Role of International Migration
- International Trade Benefits
- Basic Scientific and Technology Research & Development Capabilities
- Efficacy of Domestic Institutions

Physical and Human Resource Endowment

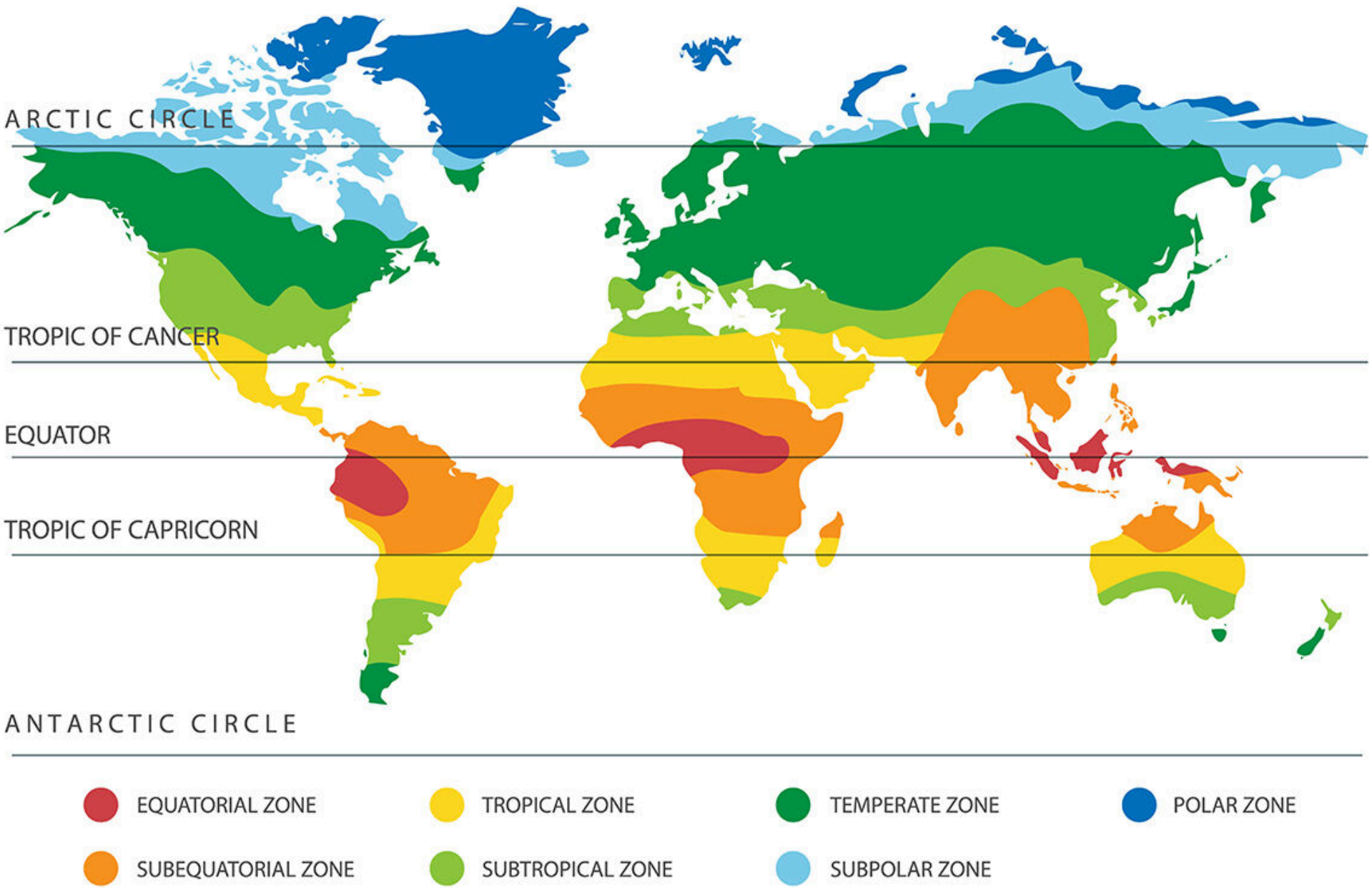
- Current developed countries had plentiful natural resources in early global development
- Current developing countries are typically lacking natural resources
  - If they do, resource extraction may be inefficient

Relative Size of GNI per Capita

- Many people in developing countries are
  - Not everyone but a significant proportion
- Individuals that are in developed countries had more economic freedom in their earlier stages
- Developed countries got ahead economically in their early stages
  - They leveraged that accumulated wealth to extract resources

Climate Differences

- Most developing countries are in a **tropical or sub-tropical climate**
- Most developed contries have more **temperate climates**
- High head and humidity degrade soil and other natural goods
- There is also a higher prevalence of tropical diseases
  - The tropics are great for life to take hold at its most basic stages


ARCTIC CIRCLE
TROPIC OF CANCER
EQUATOR
TROPIC OF CAPRICORN
ANTARCTIC CIRCLE
EQUATORIAL ZONE
TROPICAL ZONE
TEMPERATE ZONE
POLAR ZONE
SUBEQUATORIAL ZONE
SUBTROPICAL ZONE
SUBPOLAR ZONE

Population Size, Distribution, and Growth

- Size
  - About 80% of world population (dominated by Asia and Africa) in **developing world**
  - Smaller populations but often with **higher per capita resources**
- Rapid population growth
  - Developing: High birth rates, and falling death rates → **rapid growth**

International Migration

- Developed countries during development saw benefits from migration of labor
  - People migrate from low-income countries to higher-income countries seeking a higher quality of life
- Developing countries suffer from **Brain Drain**
  - "Skilled" workers leave their home countries and work in developed

International Trade

- Developed countries benefited from free trade early on
  - **Free Trade**: Goods are imported/exported without obstacles like quotas or tariffs
- Now we are going through a drastic shift in attitudes toward **Free Trade**
  - Brexit
  - US Global Tariffs

Basic Scientific and Technology Research & Development Capabilities

- Developed countries got ahead early with their scientific and technological research, primarly due to their ability to invest in them
- Developing countries are lagging far behind in R&D
  - Not necessarily their fault

Efficacy of Institutions

- Many developed countries began with and still have strong institutions
  - Well defined property rights
  - Well defined rule of law
  - Strong judicial system

Developed vs Developing Countries

Unfortunately, developed countries are not always a good template of growth

Historically, nations that are ahead got there through a not-so-great reason

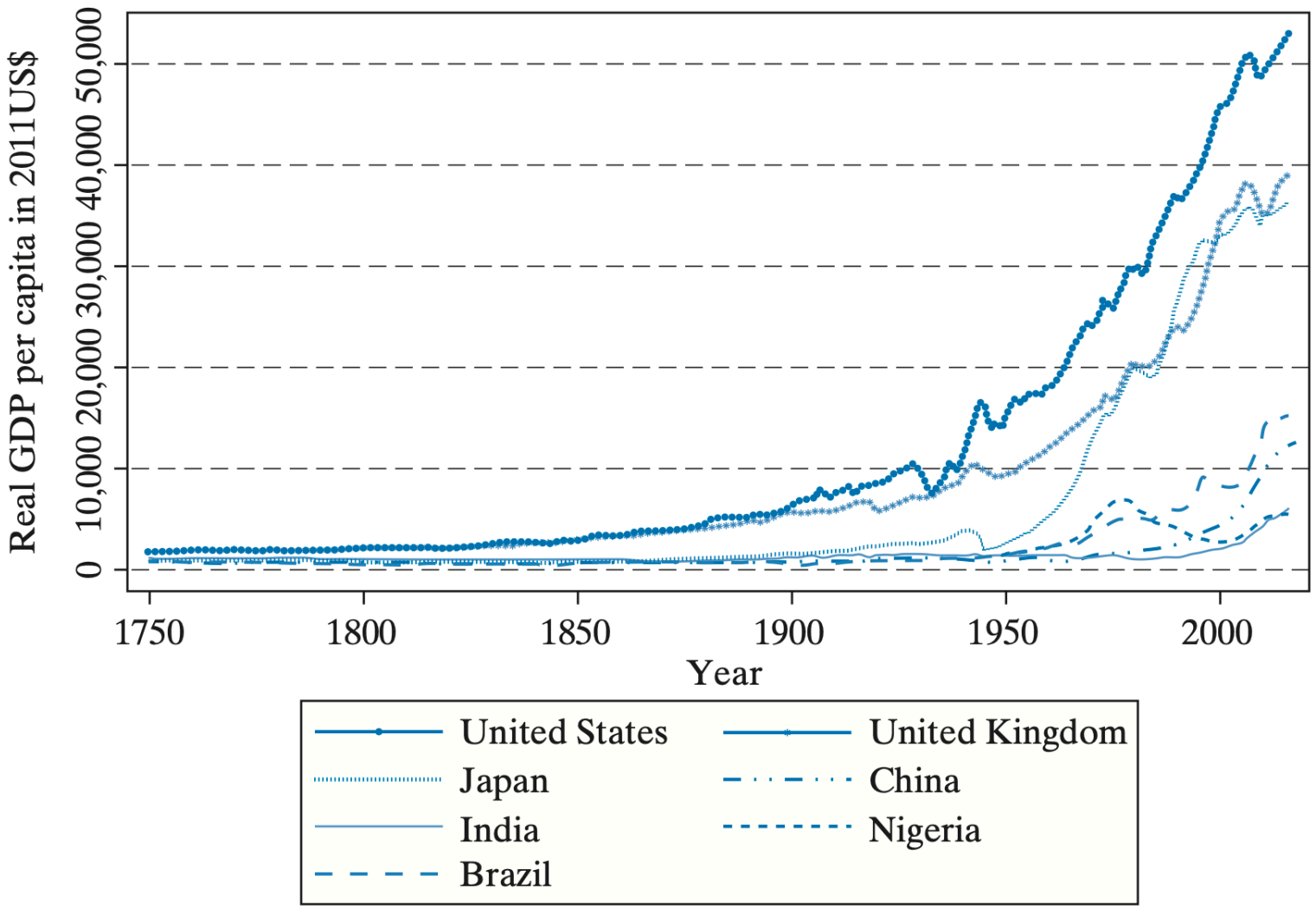
However, given globalization and stronger international market participation growth is normalizing in the world

Convergence and Divergence of Countries

Are living standards in developing countries **converging** to developed countries? Or **diverging**?

- **Convergence:** Tendency for per capita income (or output) to grow faster in lower-income countries than in higher-income countries
  - Low-income countries are **"catching up"**
- **Divergence:** A tendency of per capita income (or output) to grow faster in higher-income countries than in lower-income countries
  - High-income countries are **"pulling away"**

FIGURE 2.5 The growth of real output per person since 1750



Source: Data from Maddison Project Database

Relative vs Absolute Convergence

- **Relative Convergence:** Are developed countries growing at a faster rate than developed countries?

- It is easier to grow at lower levels of wealth
- There are higher returns to small increases in productivity, wealth, etc.
- Because of this, the **relative gap** between developing and developed countries would shrink

- Poorer countries are cathing up, but not necessarily matching richer countries

Relative vs Absolute Convergence

- **Absolute Convergence:** Is the **absolute gap** between developing and developed countries shrinking?

- Even if incomes are growing at a faster rate in poorer countries, **real incomes** could be increasing more in developed countries
- Developed countries would remain ahead
- **Absolute convergence** implies that they will equalize at some point
  - Highly unlikely to happen

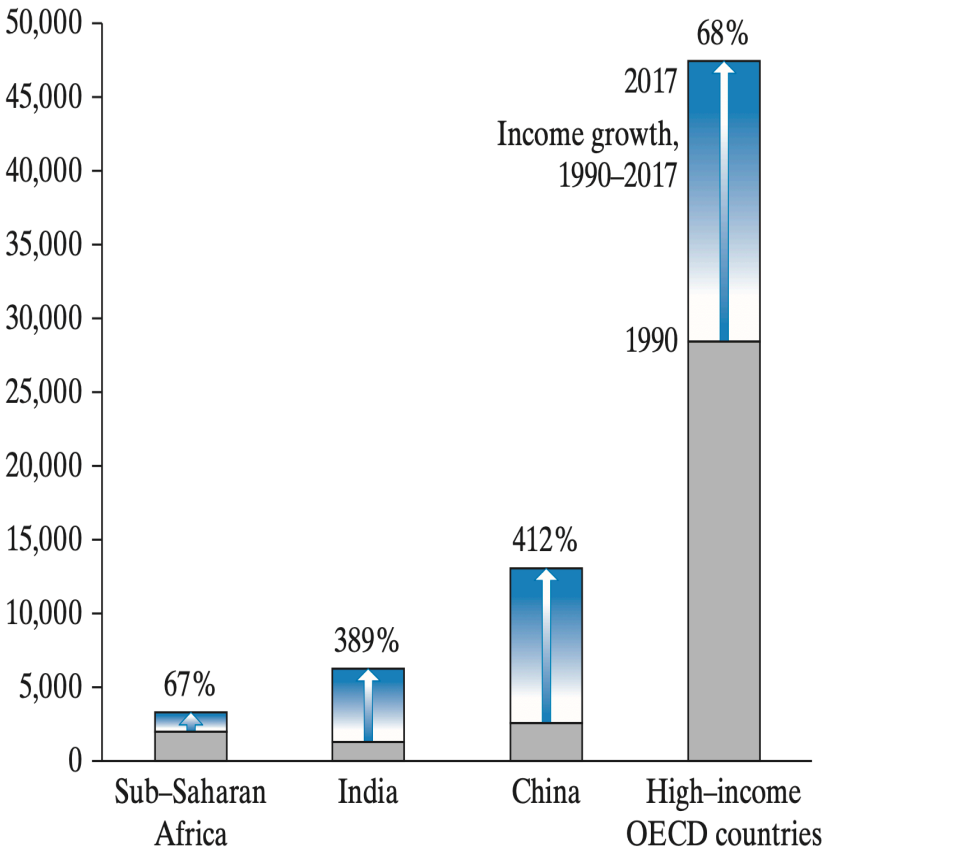
- It is possible to have relative convergence without absolute convergence
- However, if there is absolute convergence, then there will be relative convergence as well

Calculating Convergence

We will use incomes to measure convergence (not perfect but it does the job). Additionally, we will look at growth rates of incomes.

Graphical Example

FIGURE 2.8 Growth Convergence versus Absolute Income Convergence



Data Source: Penn World Table

- Average incomes in South Asia and China are growing at a **faster rate** than those in high-income OECD countries (56% and 196% vs 24%)
  - There is evidence of **relative country convergence**

Long-Run Causes of Comparative Development

Causes of Development

So far we have focused on the differences between the developing and developed world

- We are also interested in how countries progress through stages of economic development

- Usually starts with geography/climate/natural resources
- Which leads to institutions forming
- Which leads to socioeconomic conditions
- Which leads to development

In reality it is very messy, since countries do not exist in isolation are subject to international interactions

FIGURE 2.9 Schematic Representation of Leading Theories of Comparative Development