

# Module 10: Microinsurance and Economic Development

Tsvetanka Karagyozyova

Department of Economics

York University



These slides, authored by Tsvetanka Karagyozyova, are available under a [CC BY-NC-SA 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/), except where otherwise noted.

# Preview

- Micro vs macroeconomics
- How do we measure economic development?
- Why are some countries rich while others are poor?
- How large are the gaps in economic prosperity across countries?
- Are these gaps narrowing or widening over time?
- What are the major sources of economic growth?
- What is microinsurance and can it affect economic development?

# Micro Vs. Macroeconomics

**Microeconomics** studies subjects like

- Choices of individuals
  - E.g. consumption, investment, hours of work
- Choices of firms
  - E.g. how much to produce, what price to charge
- The determinants of prices and quantities in specific markets

**Macroeconomics** studies subjects like

- The performance of national economies
  - Long run growth and prosperity
    - Why have some countries grown substantially while others remain poor?
  - Short run booms and busts
    - What determines unemployment and inflation?
- Government policies to change performance



This Photo by Unknown Author is licensed under CC BY.

# What is GDP?

Gross Domestic Product or GDP

The market value of the final goods and services produced in a country during a given period.



This Photo by Unknown Author is licensed under CC BY.

# Output Per Person in Constant \$

- GDP can increase because of a rise in the Canadian population
  - More workers are available to make more output - but more people are sharing the consumption of those goods and services
  - $\text{GDP per capita} = \text{GDP} / \text{population}$
- GDP can increase because of a rise in the prices
  - **Inflation:** the rate at which prices in general are increasing over time
  - $\text{Real GDP capita} = \text{GDP per capita} / \text{a measure of the aggregate price level such as CPI}$
- Real GDP per person is a better indicator of the average living standard over time.
  - If we want to compare GDP over time, we should always compare real GDP.

# Questions

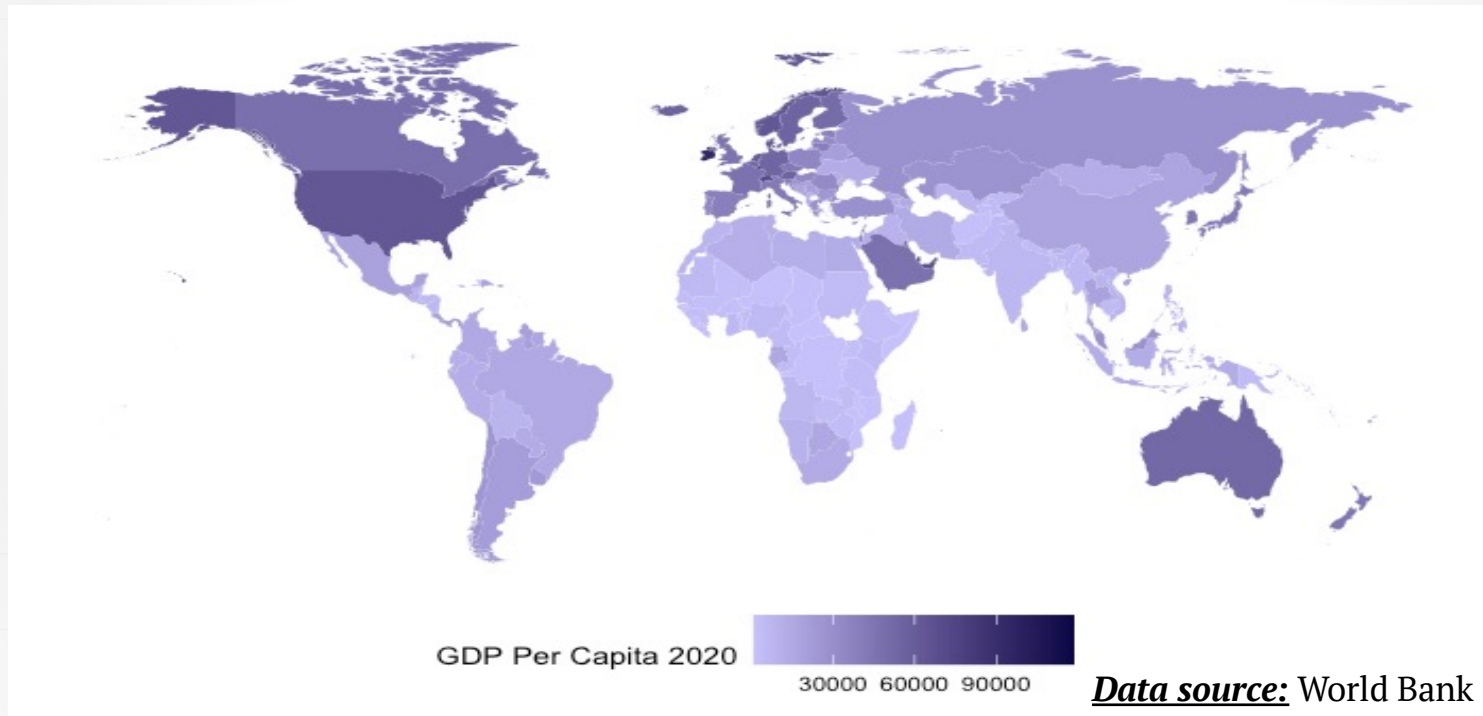
Name a country with a low GDP but a high GDP per capita.

Name a country with a high GDP but a low GDP per capita.



This Photo by Unknown Author is licensed under CC BY-NC.

# Map of Countries by GDP (PPP) per Capita, 2020





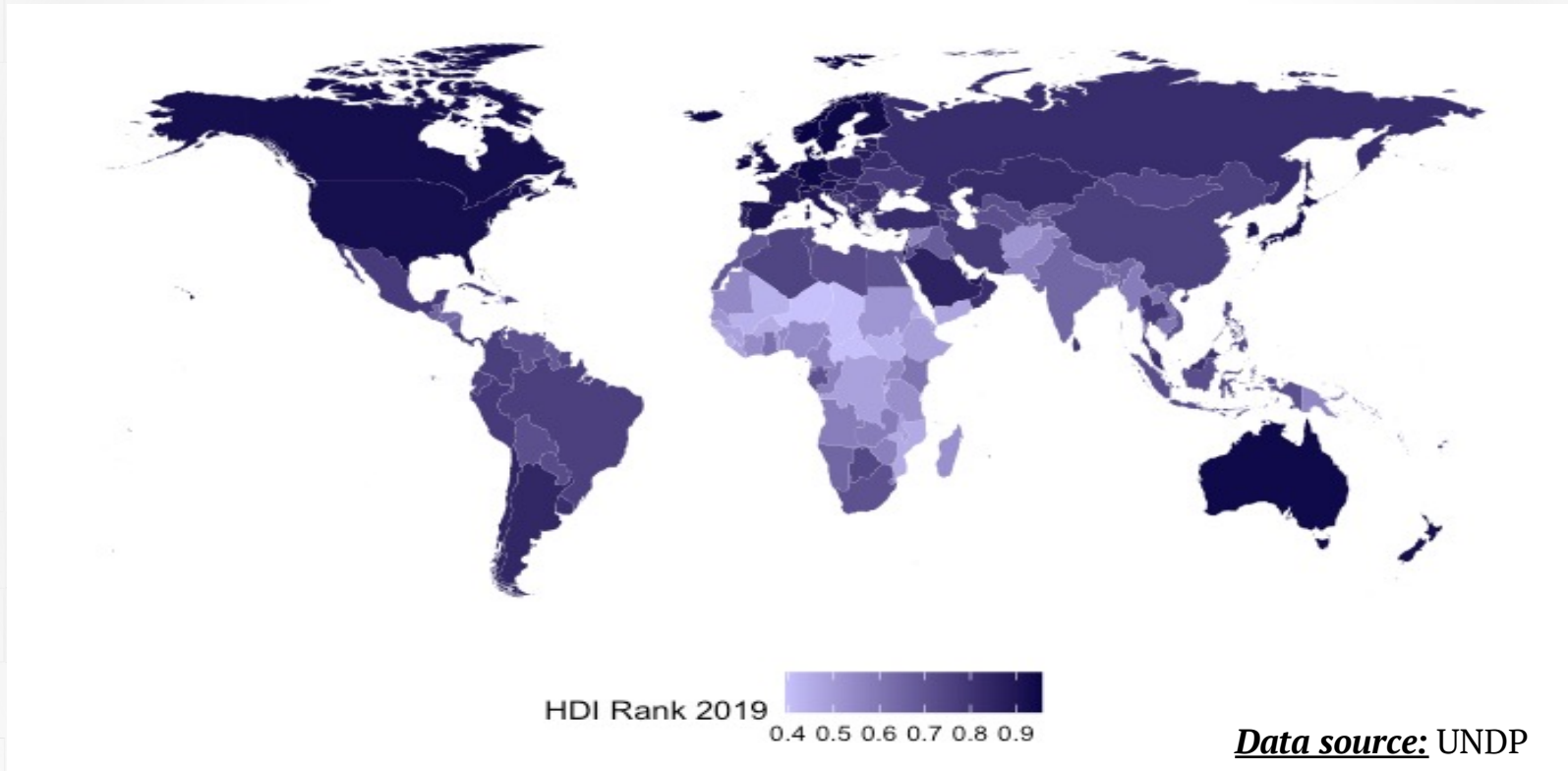
# UN Sustainable Development Goals

17 Sustainable Development Goals (SDGs) adopted in 2015 to be achieved by 2030.





# Human Development Index

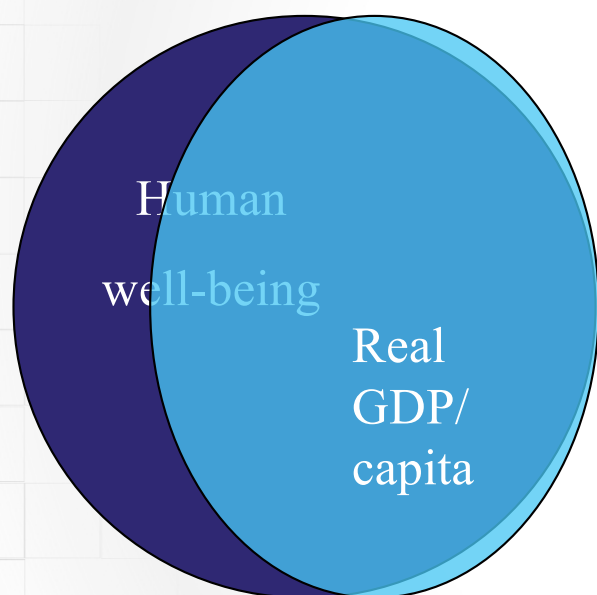


# Human Well-Being

- Increases in human well-being may be the ultimate objective of policy, but the concept is hard to define.
- Real per capita GDP is the standard measure of economic development.
- BUT GDP per capita  $\neq$  WELL-BEING.



# GDP and Human Well-Being



- “[Real GDP per capita] may seem too narrow a definition, and perhaps it is, but thinking about income patterns will necessarily involve us in thinking about many other aspects of societies too.”

Robert Lucas, 1995 Nobel Prize Laureate

- BUT real GDP per person is highly correlated with things we value

# Indicators of Welfare for 4 Groups of Countries, 2019

	GNI per capita, (current USD)	Life expectancy at birth	Child mortality, under-5 (per 1,000 live births)	Primary school completion rate (%)
Low income	<1,036	64	68	66
Lower-middle income	1,036 - 4,045	69	49	90
Upper-middle income	4,046 - 12,535	77	13	92
High income	>12,535	81	5	98

**Source:** World Bank

Note: Income groups classifications are for 2021-2022

- Low income: e.g., most sub-Saharan Africa, North Korea, Syria, Yemen, Afghanistan
- Lower-middle income: e.g., many in Africa, former Soviet Union, Caribbean, Middle East, India, Pakistan
- Upper-middle income: e.g., Brazil, Mexico, Saudi Arabia, Malaysia, South Africa, Czech and Slovak Republics, Hungary, Poland
- High income: e.g., US, Canada, France, Japan, Singapore, Kuwait, Israel

# GDP and Well-Being (1 of 2)

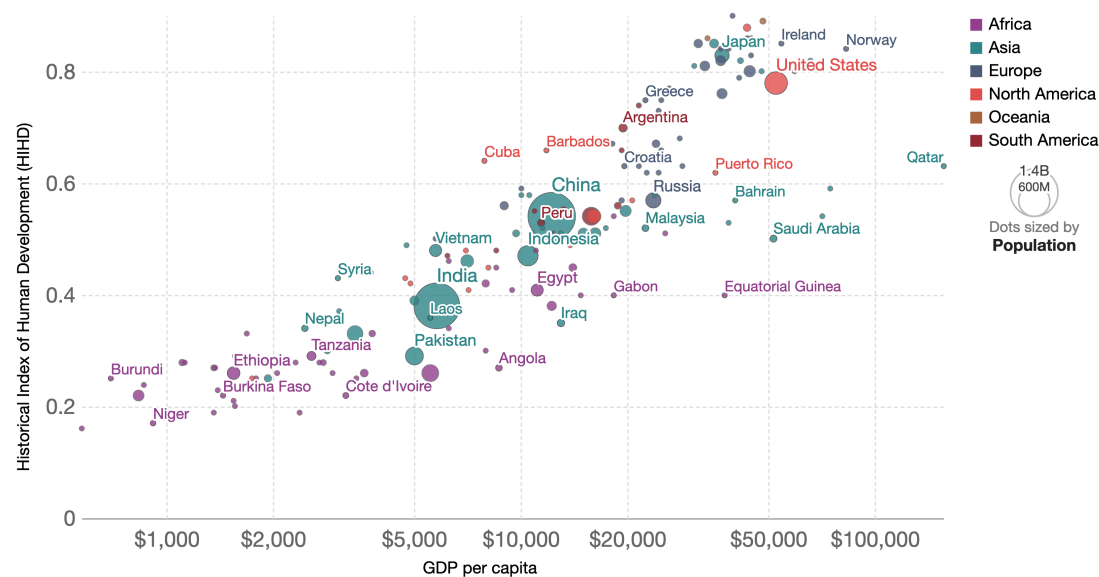
- Real GDP matters for social well-being.
- Richer countries enjoy
  - Healthier and longer lives
  - Lower child mortality rates
  - Less poverty
  - Better educational opportunities
  - Better quality of life

# GDP and Well-Being (2 of 2)

## Historical Index of Human Development vs. GDP per capita, 2015

Our World in Data

Historical Index of Human Development (HIHD), measured from 0 to 1 (where highest is best) versus gross domestic product (GDP) per capita, measured in 2011 international-\$. HIHD is a composite measure of development derived from the variables average life expectancy, literacy rates, educational enrolment and GDP per capita.



Source: Prados de la Escosura (2018), Maddison Project Database 2020 (Bolt and van Zanden (2020))

CC BY

# How Do We Measure Economic Growth?

- **Real growth per capita:** best reflection of changing living standards.

- Notations:

$Y_t$  = real GDP/capita in year  $t$

$g$  = growth rate

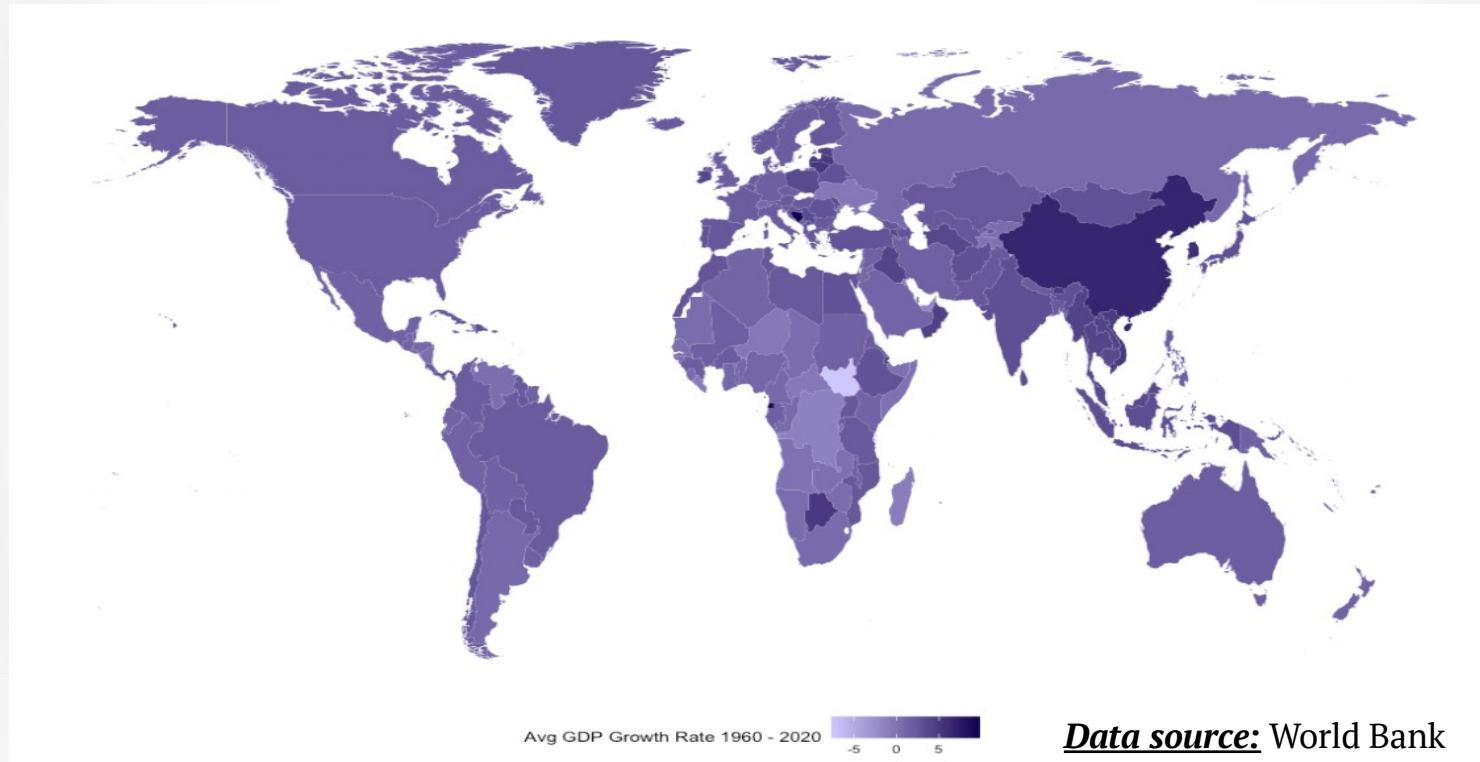
Year	Real GDP/capita
1	11,000
2	11,500

$$g_t = \frac{Y_t - Y_{t-1}}{Y_{t-1}} \times 100$$

$$g_t = \frac{11,500 - 11,000}{11,000} \times 100 = 4.55\%$$



# Real Growth per Capita



# Small Differences in Growth Rates Matter in the Long Run

- Small differences in annual growth rates have large long-run effects
  - Year after year compound growth
- **Compound interest** is
  - The payment of interest not only on the original deposit but on all previously accumulated interest.
- **Compound growth works the same way.**

# Standard of Living and Economic Growth

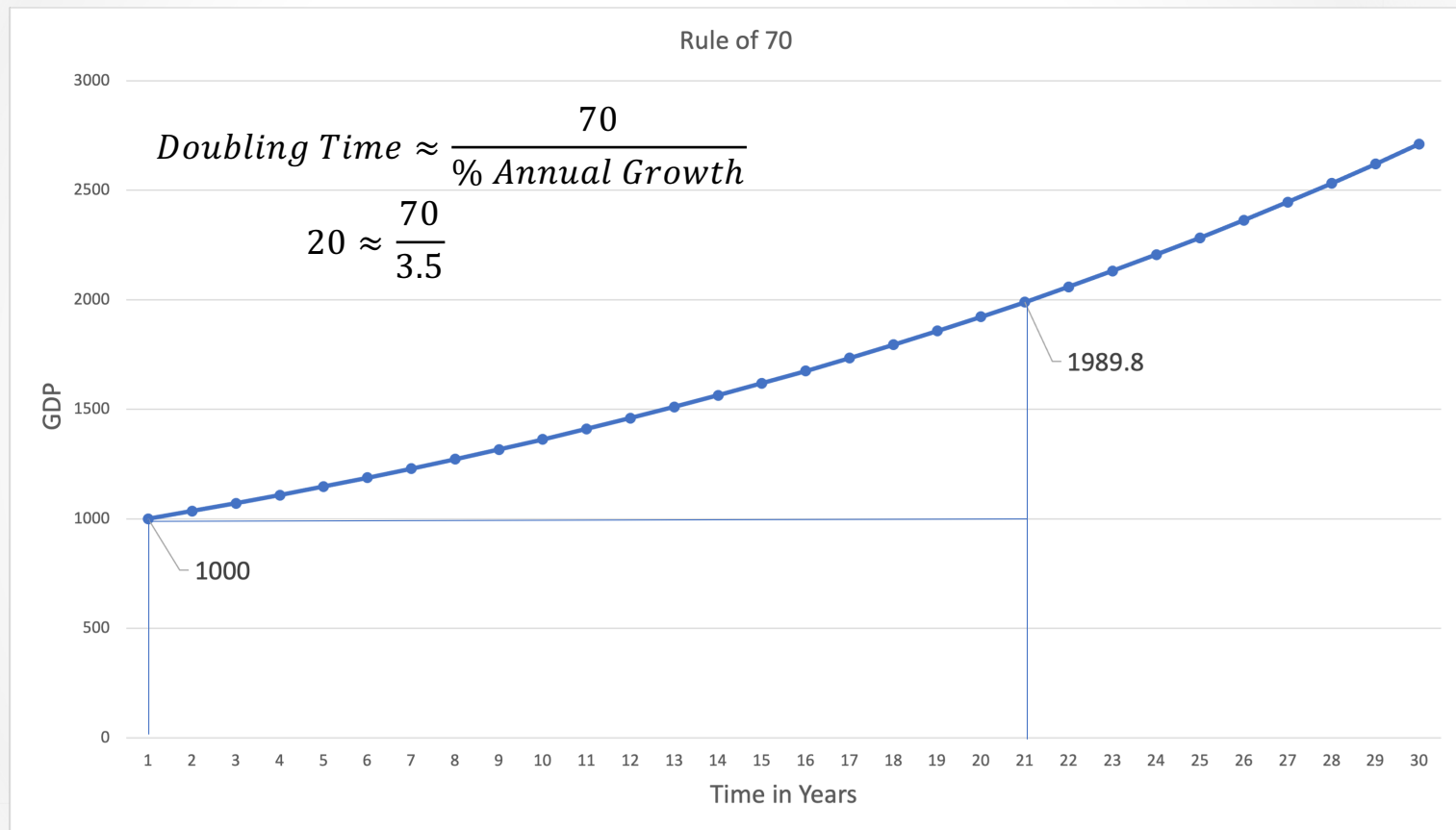
- **The Rule of 70:**

$$\text{Doubling Time} = \frac{70}{\% \text{ Annual Growth Rate}}$$

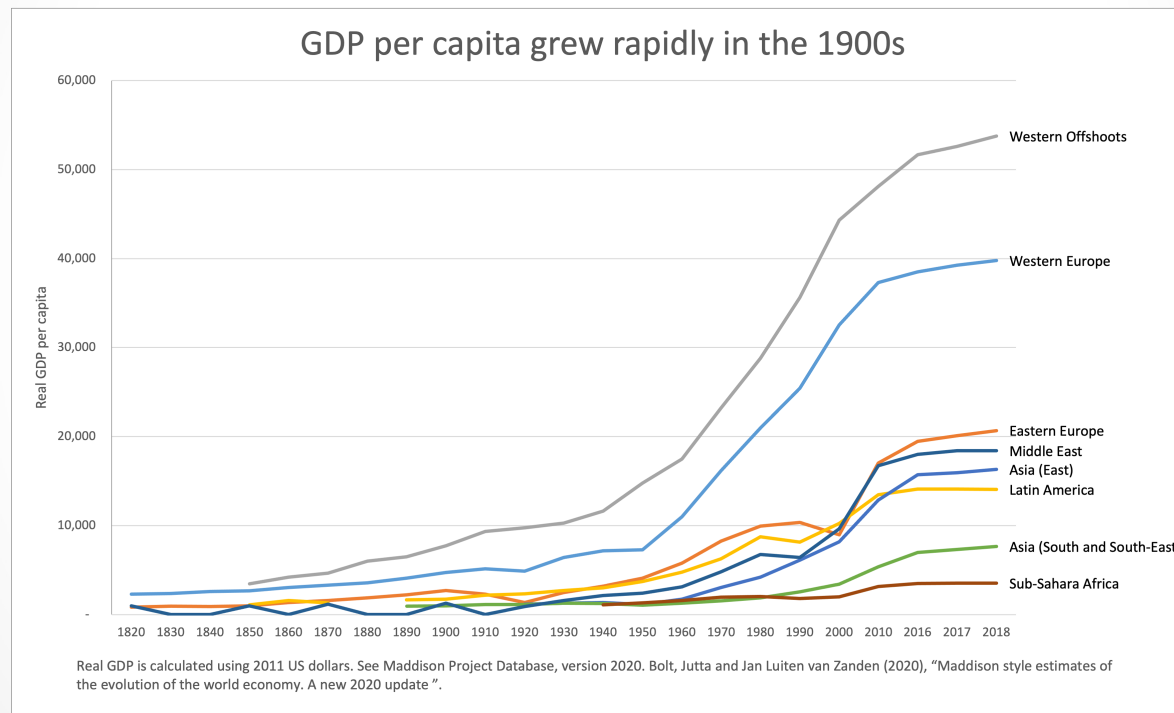
- **Example:** If real GDP per capita is growing at an annual growth rate of 3.5%, in how many years will the GDP/capita double?

$$\frac{70}{3.5} \approx 20 \text{ years}$$

# Huge Effects from Tiny Differences



# Everyone Used to be Poor



# Factors of Production

- **Physical capital:** the stock of tools, structures, and equipment.
- **Human capital:** is the productive knowledge and skills that workers acquire through education, training and experience.
- **Labour:** the effort that people contribute to the production of goods and services
- **Land:** includes all natural resources
- **Technological knowledge:** knowledge about how the world works that is used to produce goods and services.

# Institutions (1 of 2)

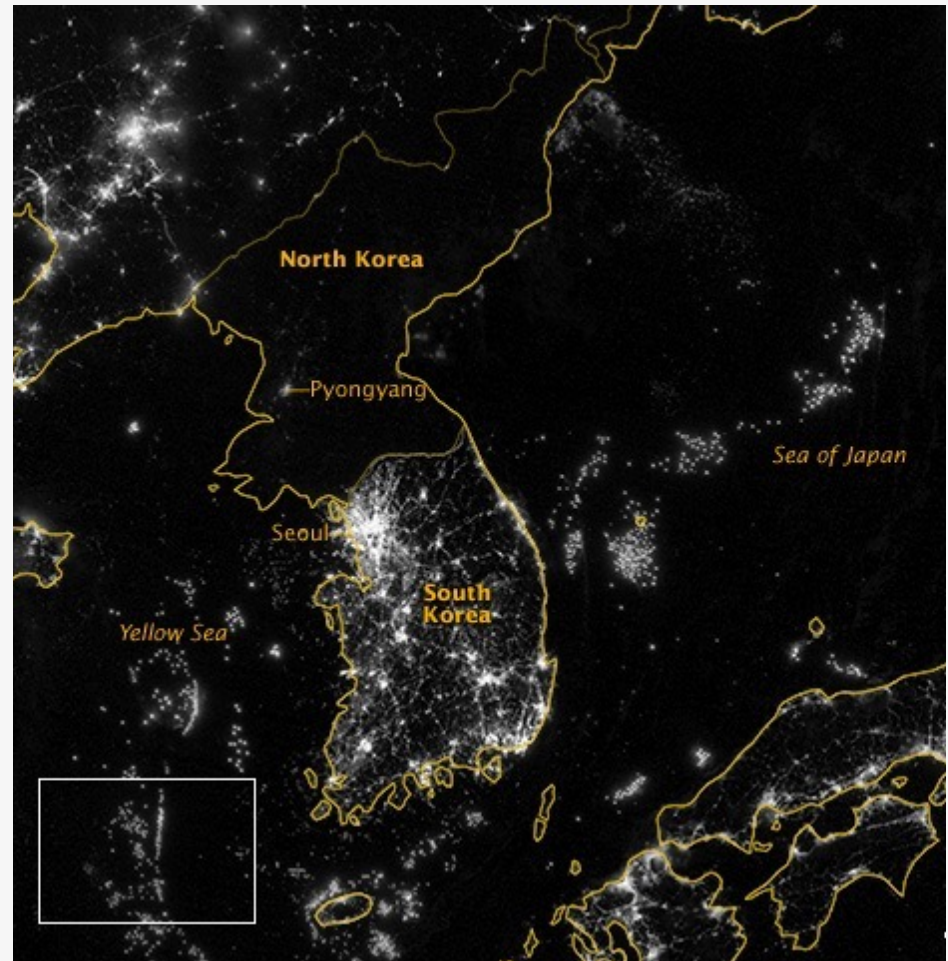


- **Institutions** are the “rules of the game” that structure economic incentives.
  - Key determinant of growth
- Institutions
  - Property rights
  - Honest government
  - Political stability
  - A dependable legal system
  - Competitive and open markets



# Institutions (2 of 2)

- Prior to their split in 1953, the two Koreas shared the same history, population, culture, government, and institutions.
- After separation, the two Koreas embarked on different paths, governed by very different policies and institutions.
- The result in terms of prosperity, 60 years later, is visible even from space.



**Source:** NASA Earth Observatory

# Finance and Economic Development

- Theorists disagree as to whether there is a causal relationship between economic growth and the development of financial markets and institutions.
- However, the vast empirical literature on the finance-growth nexus generally points to a strong positive, causal, effect of financial development on economic growth.
- Financial inclusion is not a SDG but it is considered a key lever for poverty reduction and economic growth.
- One of the goals of financial inclusion is to provide access at a reasonable cost for all households to a full range of financial services (United Nations, 2006).



This Photo by Unknown Author is licensed under CC BY-NC-ND

# What is Microinsurance?

- “[T]he protection of **low-income people** against specific perils in exchange for regular premium payments proportionate to the likelihood and cost of the risk involved.”

Churchill (2007)

- “Microinsurance is ... managed **based on insurance principles** and funded by premiums.”

IAIS (2007)

- “[M]icroinsurance ... refers to insurance **specifically designed to meet the needs of the poor.**”

MicroInsurance Centre at Milliman (2018)

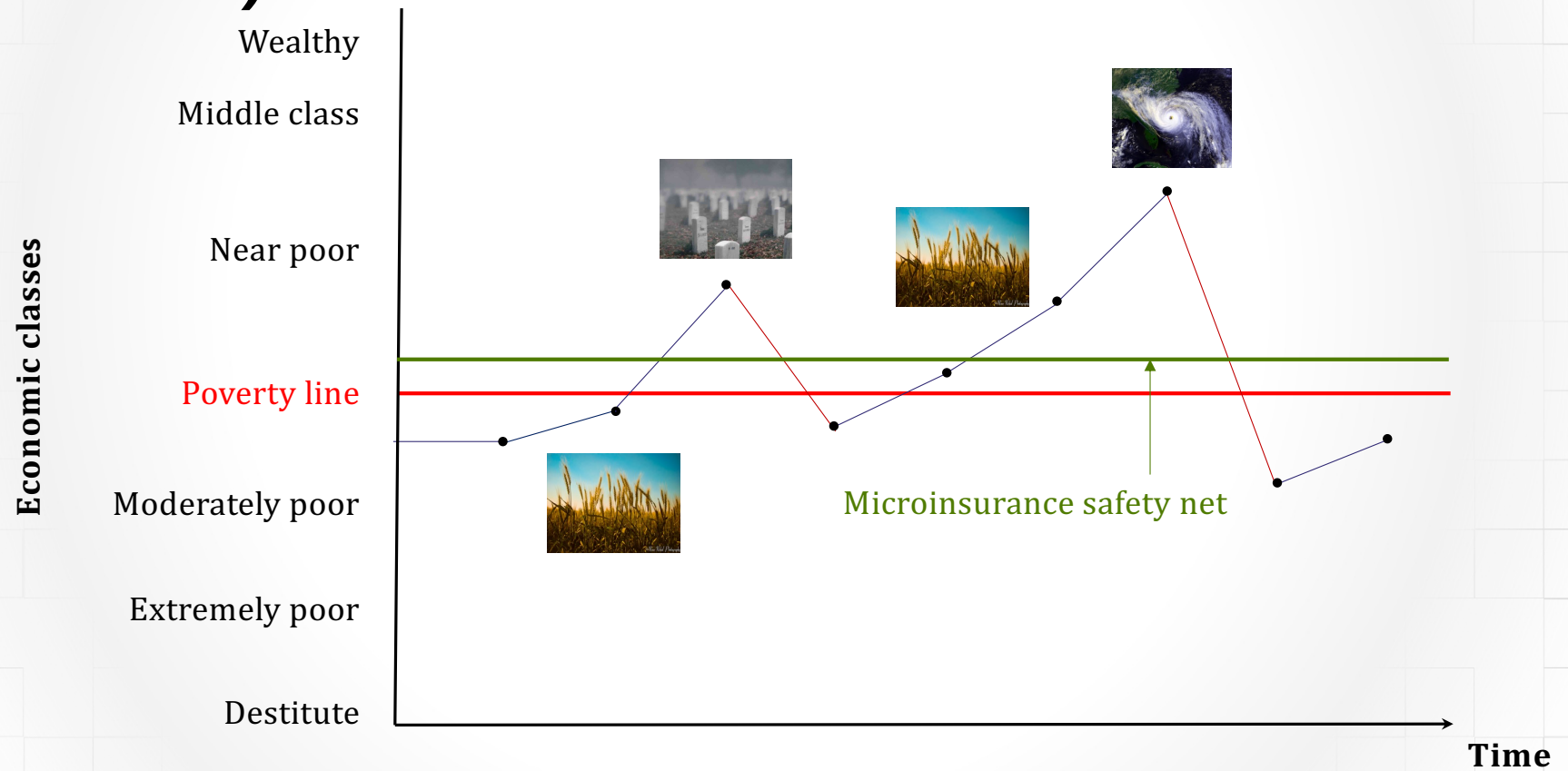
# Microinsurance as a Safety Net (1 of 2)



- The poor in developing countries rely predominantly on agriculture to earn a living.
- Draught, famine, disease and crop failures – myriads of risks faced by the poor in developing countries.
- The same risks as those faced by the more affluent.
- But larger impact on the poor because of
  - lack of access to conventional consumption-smoothing mechanisms such as borrowing and lending in formal financial markets.
  - lack of liquid savings to smooth consumption.
- Microinsurance has a large role to play in risk mitigation.



# Microinsurance as a Safety Net (2 of 2)



# MI and Economic Development

- By reducing income risk, microinsurance has the potential to encourage low-income individuals to take up occupations which are more in line with their comparative advantage and risk tolerance thus improving human capital and enhancing growth in the long run.
- Microinsurance coverage can enable credit-constrained entrepreneurs to invest in profitable but risky ventures.



This Photo by Unknown Author is licensed under [CC BY-NC](#)

## Conclusion

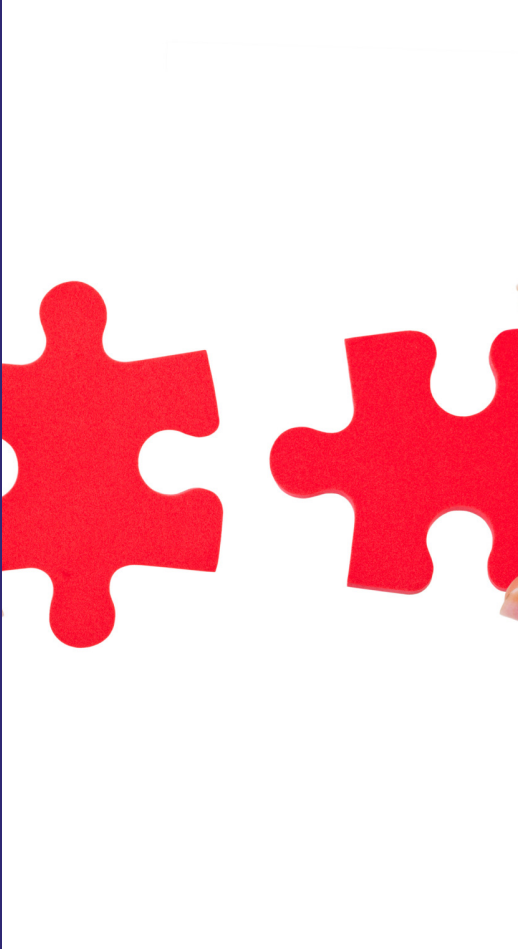
Economic growth has resulted in GDP per capita today being 50 times higher in the rich countries than in the poorest.

Economic growth has lifted billions out of poverty but billions still remain in dire poverty.

Poor countries can catch up to the rich countries in a surprisingly short period of time.

Accumulation of human and physical capital is key but not sufficient.

Countries with institutions that encourage the efficient use of human and physical capital are those who will succeed.



[This Photo](#) by Unknown Author is licensed under [CC BY](#)



# Questions?



This Photo by Unknown Author is licensed under [CC BY](#)

# References

- Collier, Paul. 2008. *The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It*. Oxford University Press.
- Cowan, Tyler, and Alex Tabarrok. 2013. *Modern Principles: Macroeconomics*. New York: Worth, 2013. (6th ed.)
- Lucas J., Robert E. 1988. “On the Mechanics of Economic Development.” *Journal of Monetary Economics*, 22(1): 3-42.
- UN General Assembly. 2015. “Transforming our World: The 2030 Agenda for Sustainable Development.” A/RES/70/1, available at: <https://www.refworld.org/docid/57b6e3e44.html> [accessed 22 November 2021]
- MicroInsurance Centre at Milliman

# Resources

- Paul Collier TED Talk on the Bottom Billion:  
<https://ed.ted.com/lessons/the-bottom-billion-paul-collier>
- [Robert Lucas](#) Nobel Prize website: 1995 Nobel Prize in Economics for “for having developed and applied the hypothesis of rational expectations, and thereby having transformed macroeconomic analysis and deepened our understanding of economic policy.”
- Sources of aggregate economic data:
  - [World Bank Open Data](#)
  - [Our World in Data](#)

# Acknowledgements

- I am very indebted to my colleague, Joanna Holliday, for her adept editorial assistance. I also want to gratefully acknowledge research assistance provided by Shane Ellard, Matthew Andary, Olusemilore Lawal, Tenzin Chozin, and Aneri Patel.
- As a publicly funded institution, York University is committed to ensuring the greatest possible scholarly and public access to the scholarship and creative works produced by the University community. We have followed the accessibility guidelines detailed in this [Accessibility Checklist](#).
- *This project is made possible with funding by the Government of Ontario and through eCampusOntario's support of the Virtual Learning Strategy. To learn more about the Virtual Learning Strategy visit: <https://vls.ecampusontario.ca>.*

