

# Costs and Trade-Offs in the Fight against COVID-19: A Developing Country Perspective

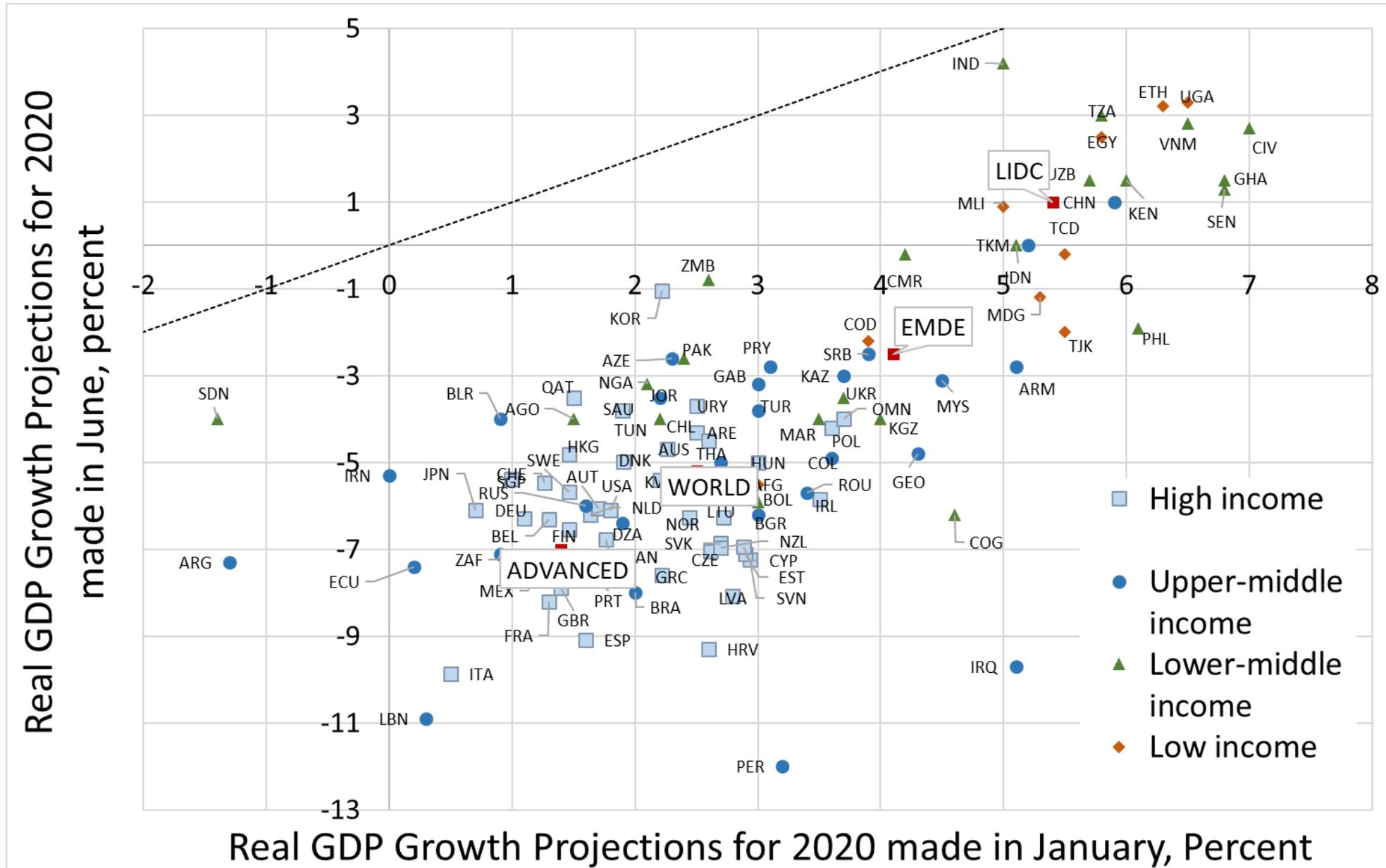
Norman Loayza  
June 2020



# The pandemic crisis

- Worst pandemic in one hundred years. Worst recession since World War II
- In 2020, the world economy is projected to grow 7.7 pp lower than expected, with 90% countries experiencing negative growth
- For developing countries:
  - Large adverse external shock: export demand, commodity prices, tourism, remittances, and external finance plummeting to record lows
  - Large(r) domestic shock: partly because of the pandemic itself (illness, uncertainty) but mostly because of the measures to prevent contagion (lockdowns)
- IMF (2020), WB (2020): “Severe risks of a worse outcome.” World GDP growth in 2020 could drop an additional 3 pp with weak recovery for years

# GDP Growth Will Plummet in Almost Every Country in 2020



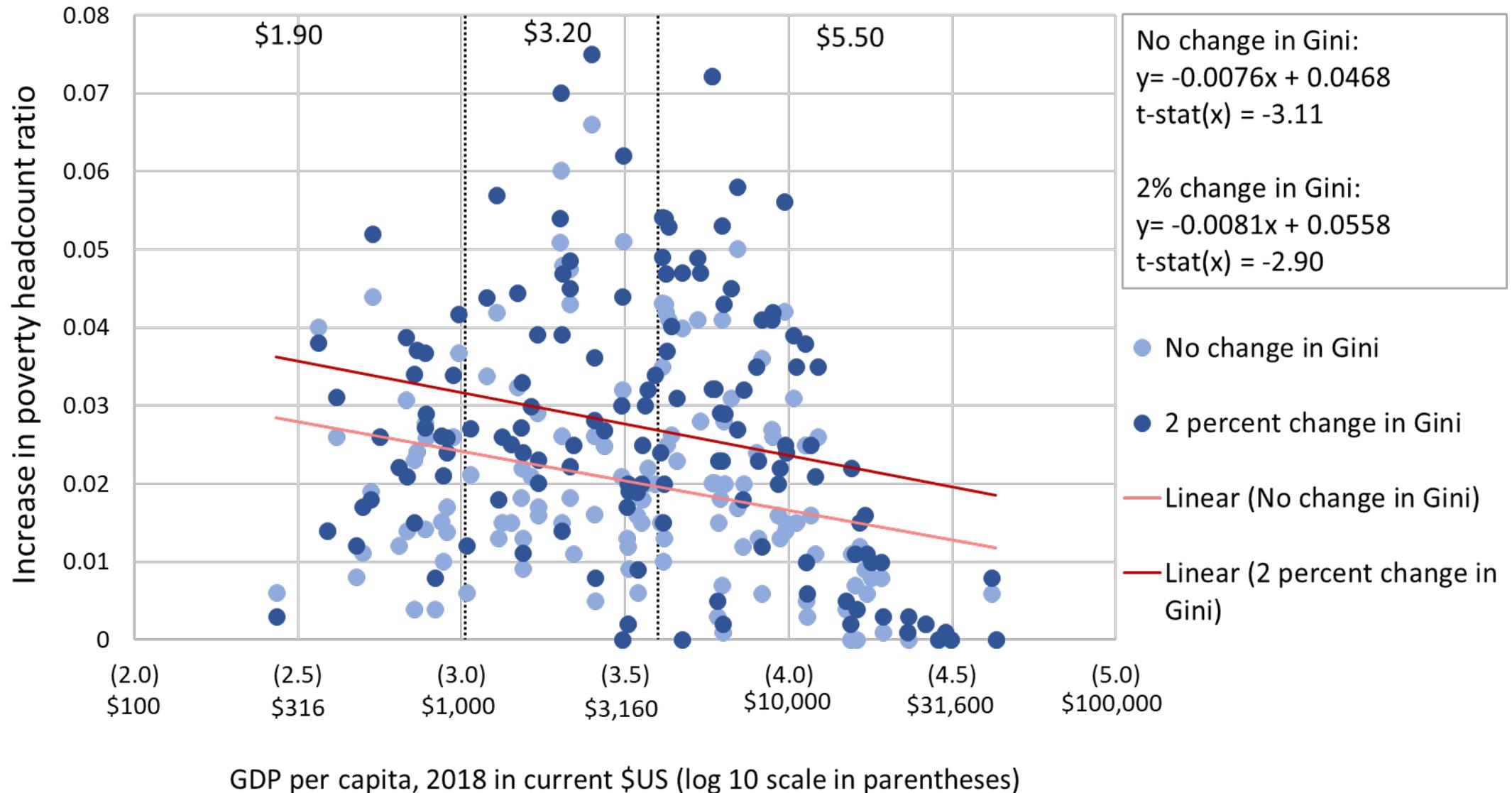
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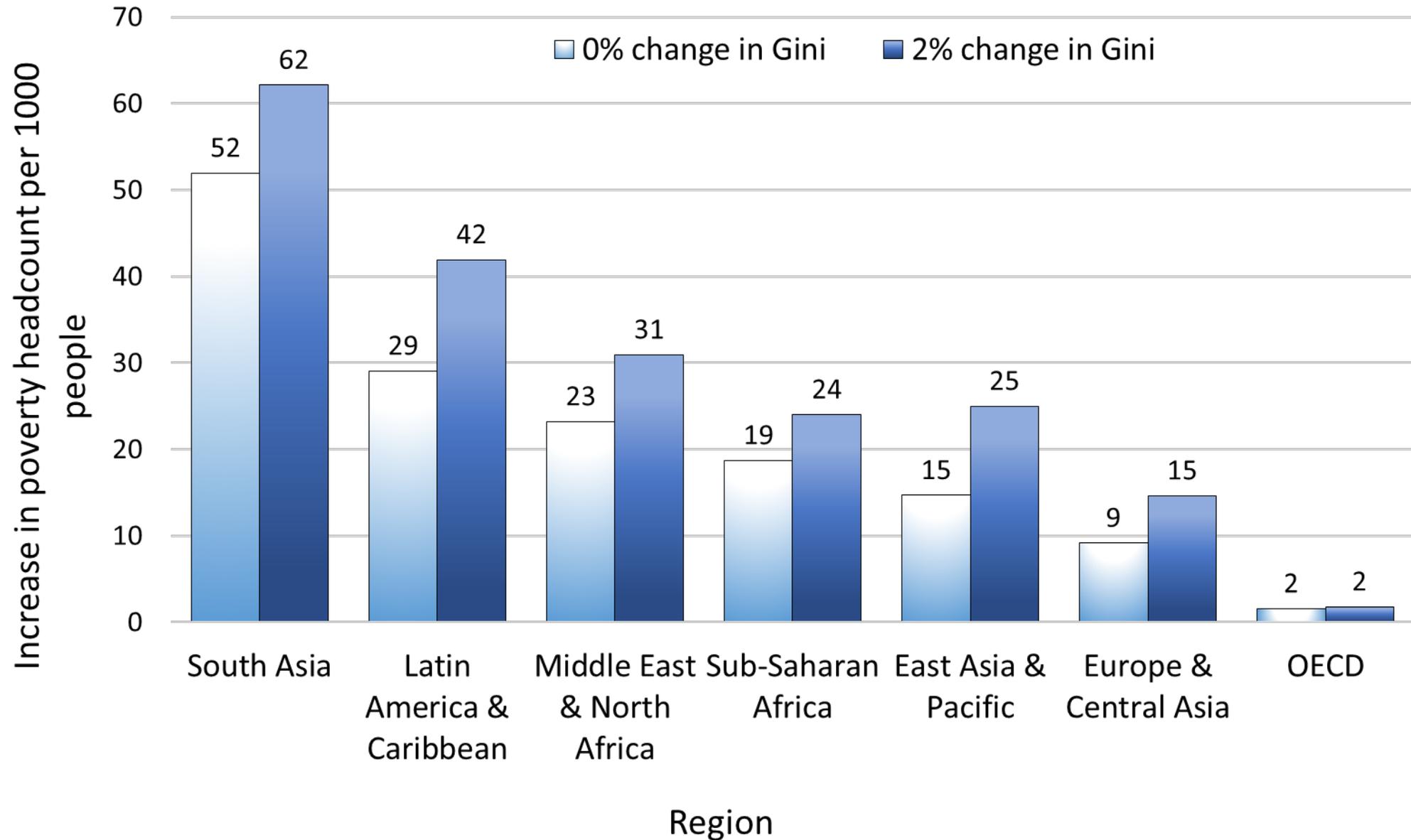
# The impact on poverty

- Conservative estimates (center growth projections and no change in inequality):
  - the economic crisis will push 135 million people to poverty worldwide in 2020, making it the first year since 1998 that the global poverty rate increases
- If inequality increases in every country (Gini rising by 2%):
  - 200 million new poor
- If more “severe” growth contraction (GDP dropping by 3 pp more):
  - 422 million new poor
- Beyond monetary poverty: loss in nutrition, health, education, living conditions
  - Annual income of the bottom 40% in developing countries could drop by 13.4 pp
  - ILO (2020): “1.6 billion informal workers could see their livelihoods destroyed due to the continuous decline in working hours brought on by lockdowns”

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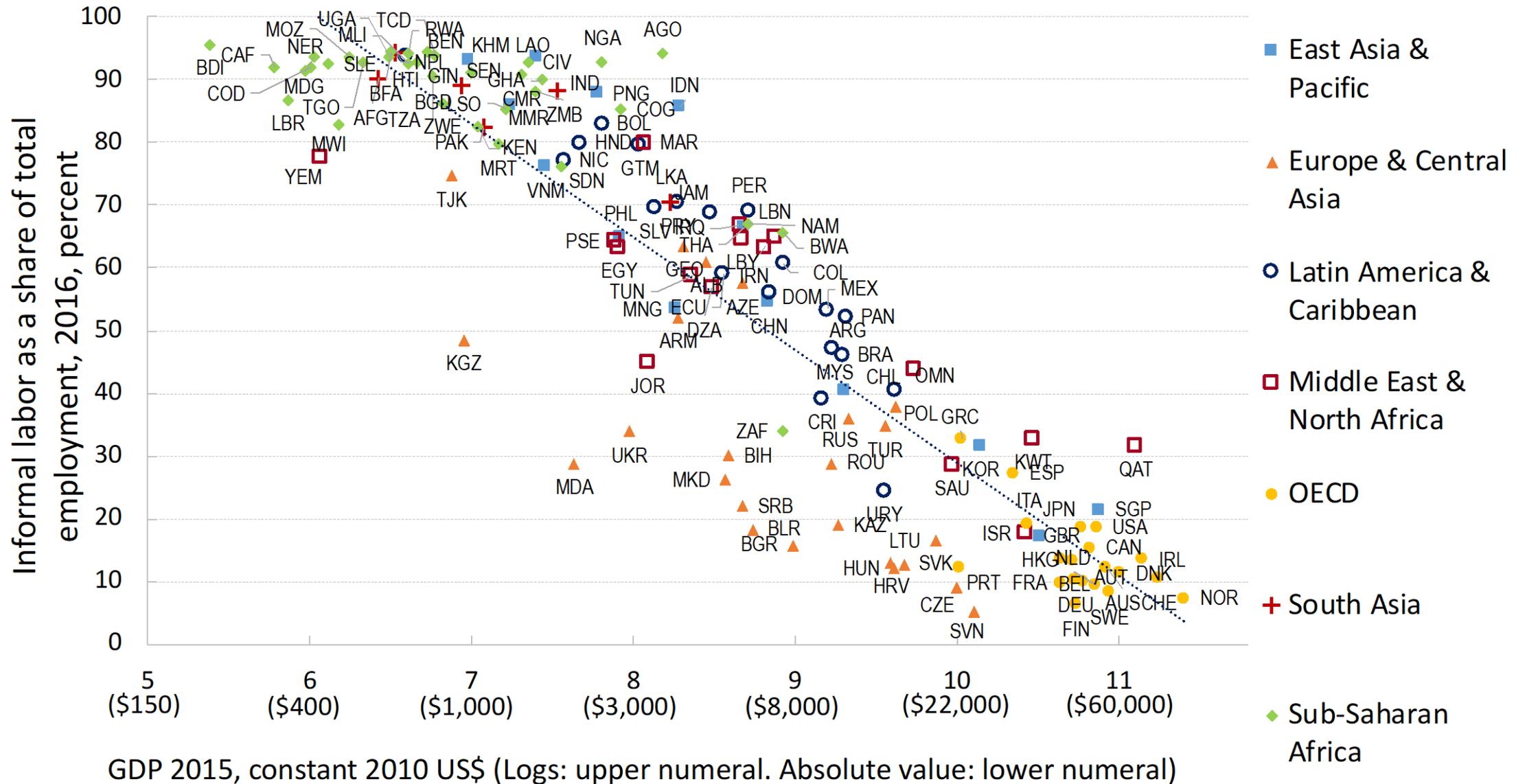
# Why would developing countries suffer more from the economic aspect of the pandemic crisis?

- Most developing countries lack the resources and capacity to deal with large systemic shocks
- They will suffer more in terms of worsening poverty, human capital losses, economic disruption, and uncertainty, with scarring consequences that could last years or decades
- Three structural characteristics make developing countries more vulnerable to the pandemic crisis:
  - **Large informal sectors:** no social protection, no insurance, no work from home
  - **Limited fiscal space:** risky debt, small tax base, deficit to double in 2020 to 9% GDP
  - **Poor governance:** corruption, inefficiency, even fragility and conflict

# Limited ability to cope

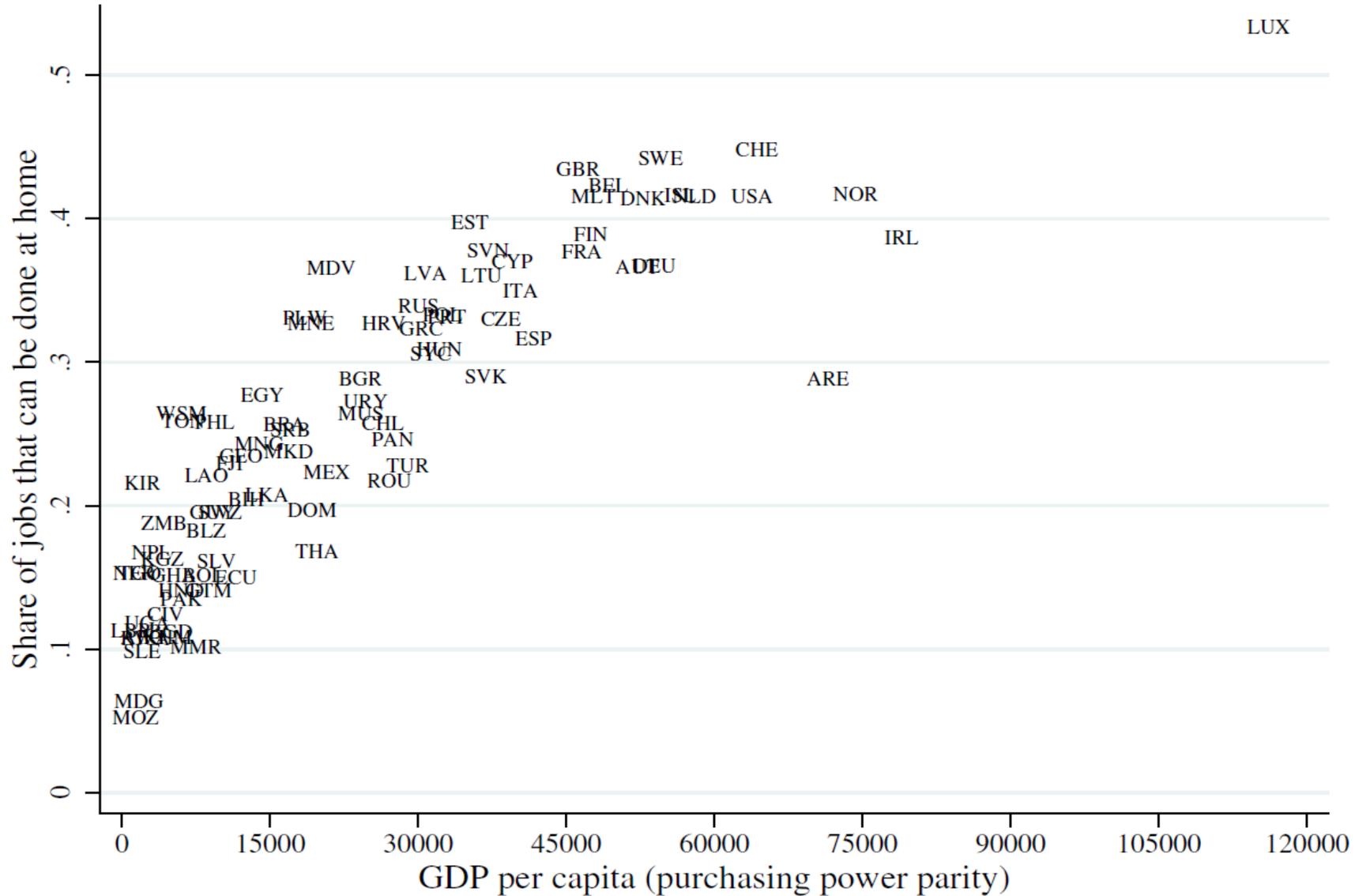
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# Labor Informality is Higher in Poorer Countries



Source: Prepared by Loayza and Shaharuddin based on data from ILO 2018; Loayza and Meza-Cuadra 2018.

# Working at Home Is Harder in Lower-Income Countries



Source: Figure reproduced from Dingel and Neiman 2020.

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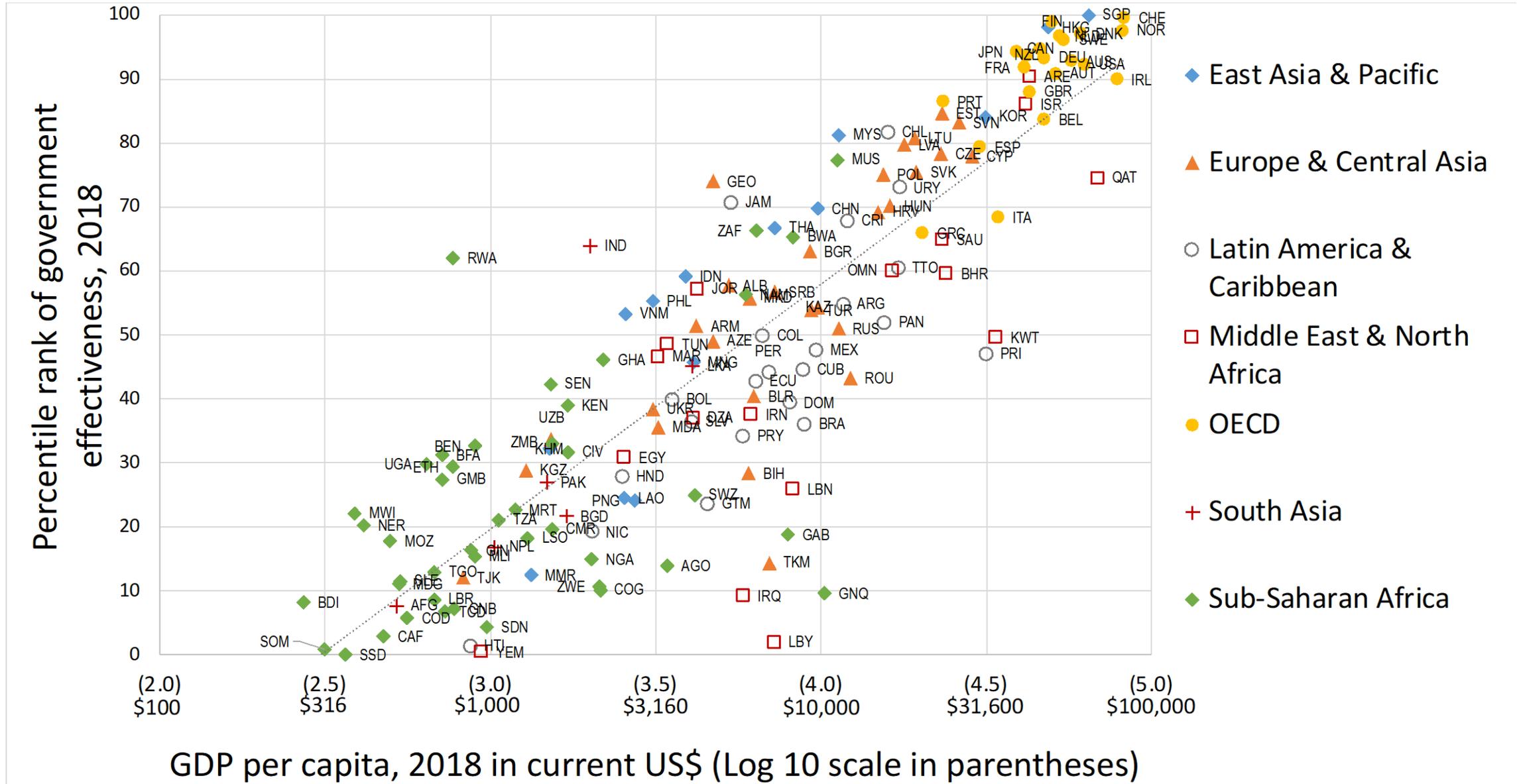
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# Government Effectiveness Is Lower in Poorer Countries



# Different strategies for different contexts

- **How to deal with the pandemic crisis?**
  - Take into account both public health and economic considerations jointly
  - Recognize institutional constraints and structural challenges
  - Consider people's needs and their incentives to comply with health regulations
- Governments have had difficult choices to make
  - In the face of uncertainty, some government chose indiscriminate, strict lockdowns
- Can lockdowns be the foundation of a sustainable strategy? *No*
- With the benefit of time and evidence, can government make better choices? *Yes*

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# The problem with lockdowns

- They are ineffective

- when imposed in cities with pervasive overcrowded dwellings and neighborhoods
- when they produce massive displacement of people
- when compliance is low – the dire need of poor people to come out and work

- They are too costly

- when they put families at risk of starvation, disease, and crime
- when the loss of resources affects the ability to provide other vital services for education and health care with long-run consequences
  - Evidence from India, Pakistan, and Sub-Saharan African countries: fewer prenatal visits, more unattended home births, fewer child immunization, lower adherence to cancer and tuberculosis treatments

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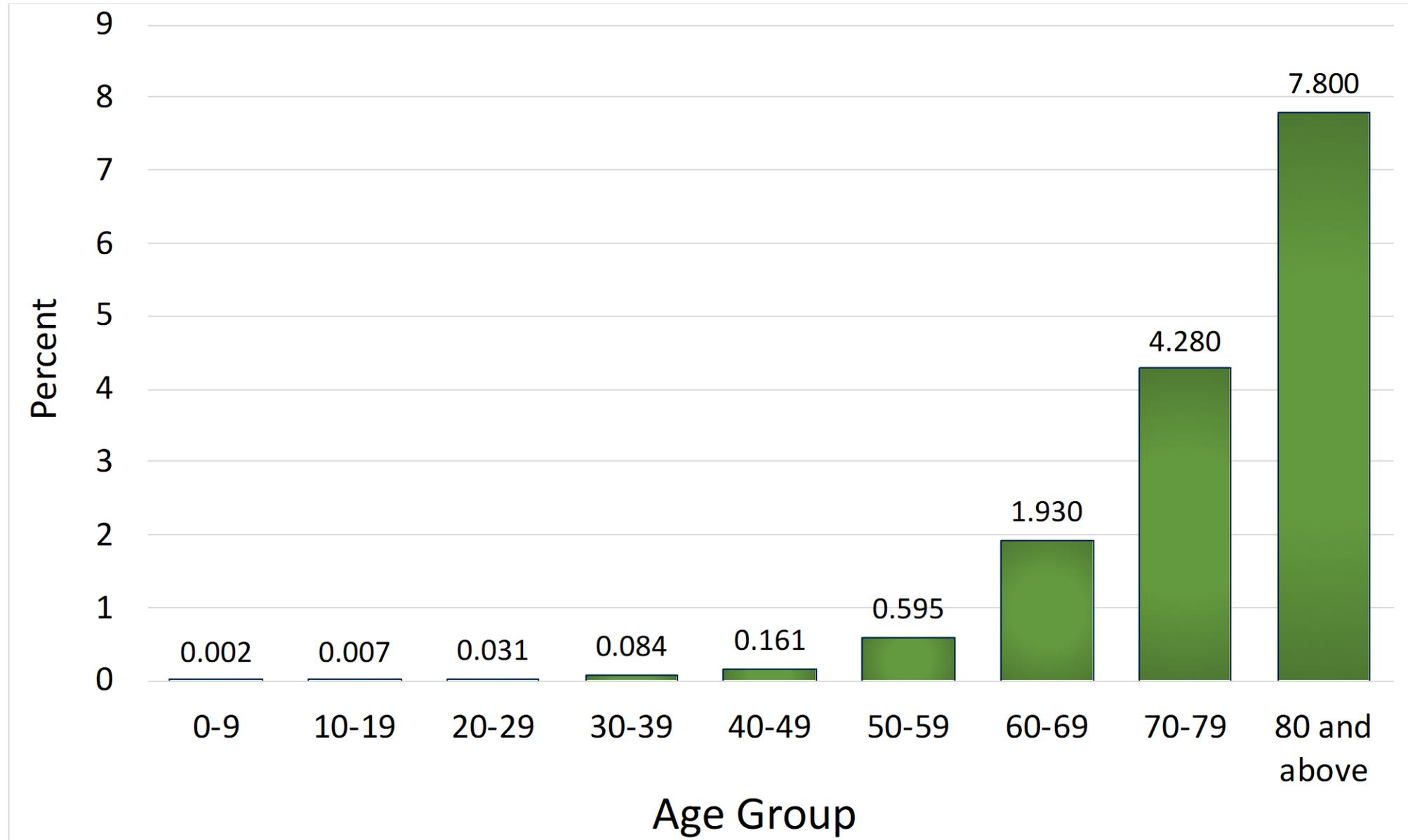
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# The alternatives to lockdowns

# Insights from epidemiology (I): different vulnerabilities for different age groups

- The Spanish Flu killed disproportionately children and young people. The same happens with malaria and many other infectious diseases
- COVID-19 is different: older adults (70+) are much more vulnerable
- Two implications:
  - People most economically active are at considerably lower risk
  - Having younger populations, developing countries face lower mortality risk
    - Co-morbidities –cardiovascular disease, chronic respiratory disease, and diabetes– are actually less prevalent in lower-income countries

# COVID-19 Infection Fatality Rate

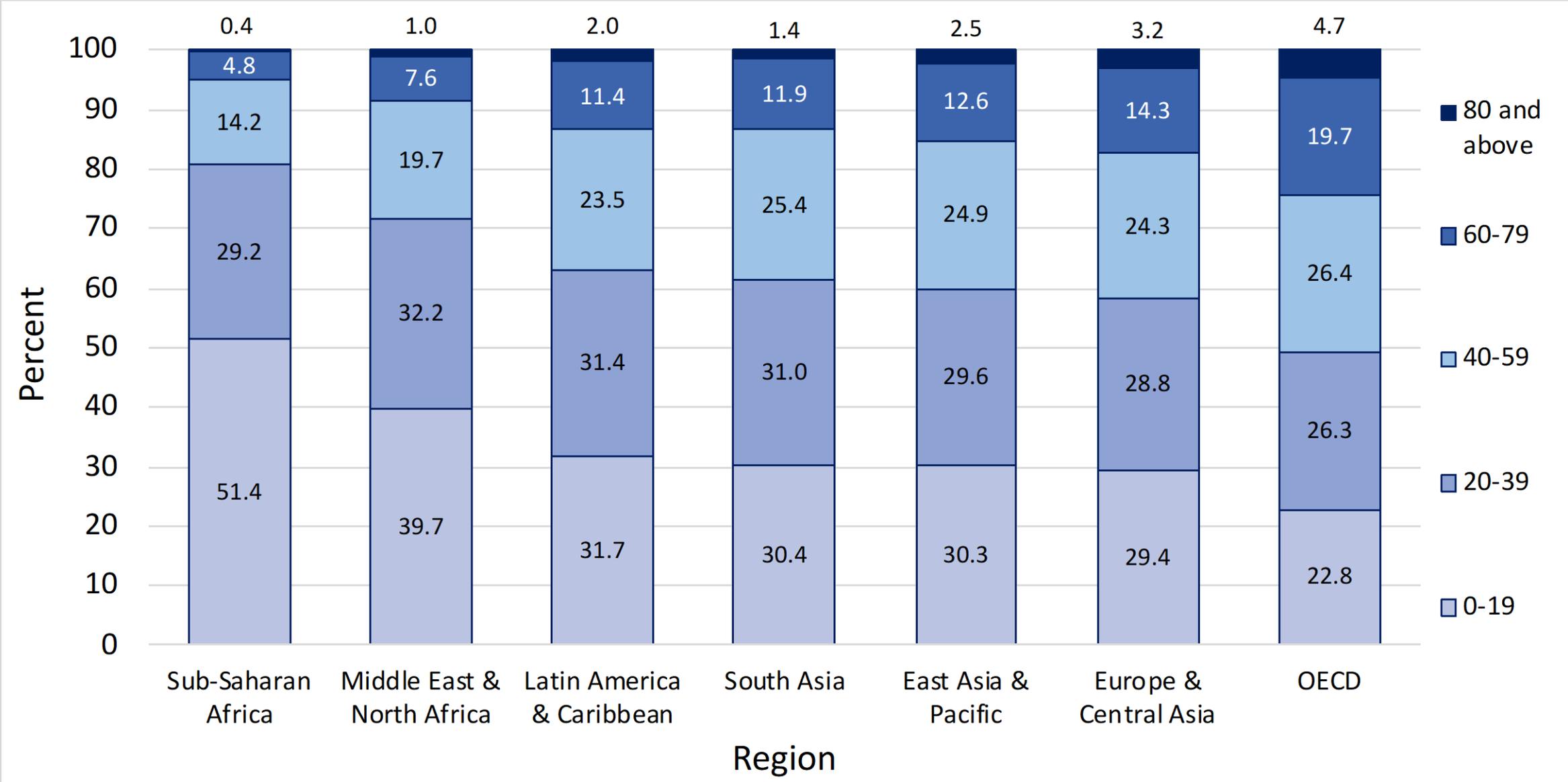


Source: Figure based on data from Verity et al. 2020.

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# Demographic Profile by Region (population-weighted average)

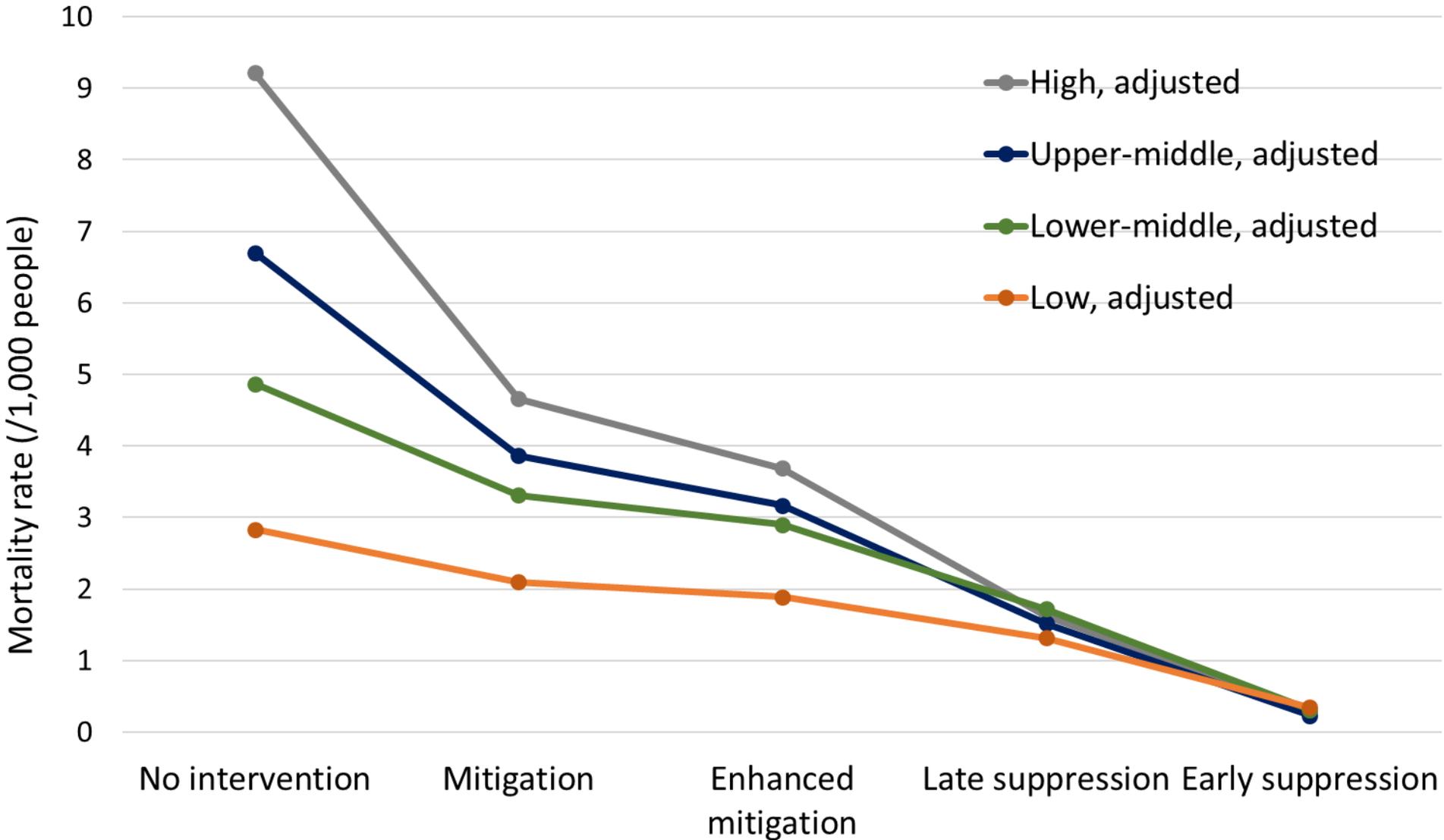


Source: United Nations 2020.

# Insights from epidemiology (II): different mortality risks for various mitigation and suppression scenarios

- Susceptible-Infected-Recovered (SIR) model (Walker et al. 2020)
  - Mortality risk adjusted by age
  - Contagion risk adjusted by age and mitigation/suppression strategy
  - Mortality risk of critical patients adjusted by quality of health care (Kim and Loayza 2020)
- Consider 5 mitigation and suppression scenarios: from inaction to lockdowns
- Results:
  - Mortality rates are smaller for countries at lower income levels
  - Mortality rates decrease with mitigation and suppression measures
  - But the reduction in mortality gets smaller with more strict measures, especially in lower-income countries

# Mitigation and Suppression Strategies Have Different Effects on Mortality Rates in Low-, Middle-, and High-Income Countries



Source: Prepared by Loayza and Kim based on data provided by Patrick GT Walker (Imperial College London COVID-19 Response Team).

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# Insights from economics (I): assess public health and economic considerations jointly

- Approach: Embed SIR model in a macroeconomic setup
  - Relationship between pandemic dynamics and economic activity (consumption and work)
  - Derive joint results on public health and economic outcomes
- Social welfare: optimal government intervention
  - Two externalities: Infection and congestion
  - Two losses: fatalities and economic contraction
- Increasing complexity:
  - From homogeneous to heterogeneous agents (sector, productivity, vulnerability)
  - From indiscriminate lockdowns to “smart” measures based on isolating and shielding
- Introduce political economy considerations:
  - distributional consequences (old vs. young, rich vs. poor)
  - imperfect compliance and feedback between mitigation measures and economic policy

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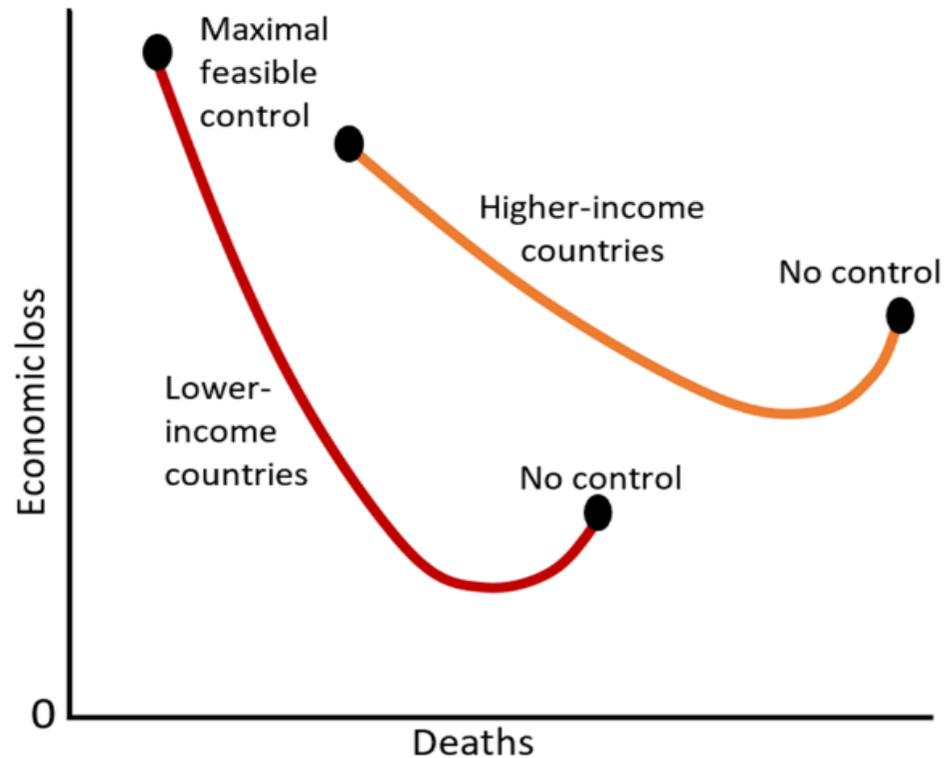
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  - distributional consequences (old vs. young, rich vs. poor)
  - imperfect compliance
  - interaction between mitigation measures and economic policy

# Insights from economics (II): “smart” mitigation can ease the trade-off between lives and livelihoods

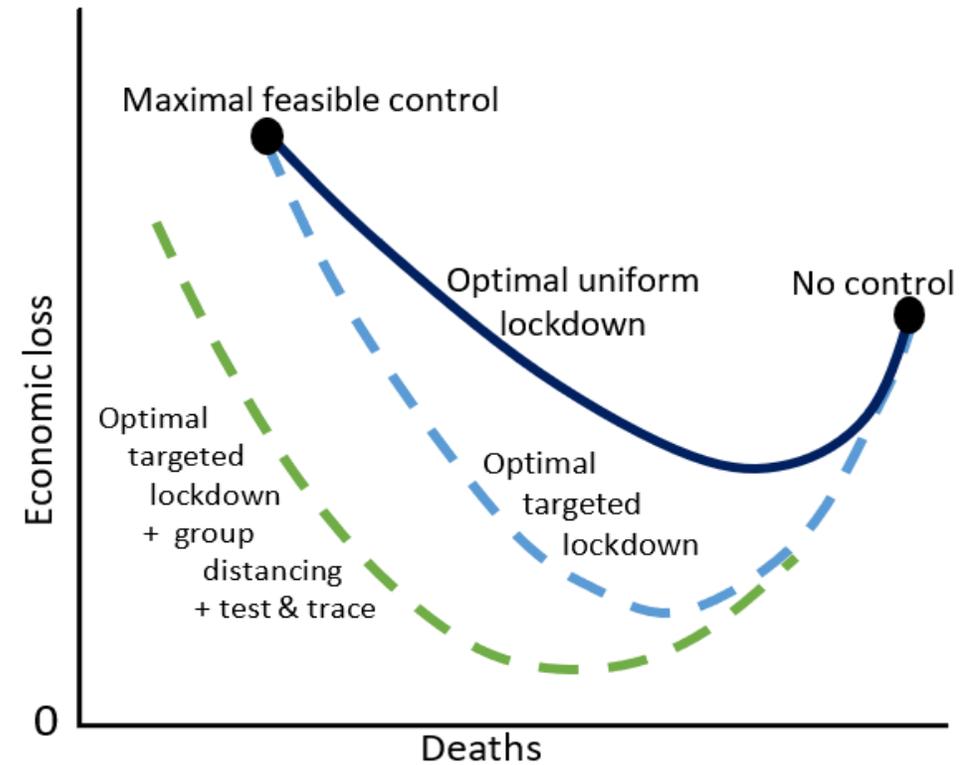
- Acemoglu et al. (2020): a comprehensive model ... for advanced economies
  - **Benchmark scenario:** In this case, the only available measure is a uniform lockdown. The optimal policy prescribes a strict and extended quarantine, with a fatality rate of 1.83% and output loss of 23.4%
  - **Targeting scenario:** differential lockdowns across groups are possible. Optimal policy prescribes targeted shielding of the old (and vulnerable) and light social distancing for the rest. The fatality rate and the economic loss drop to one-half
  - **Targeting plus testing/isolating:** Social losses can be reduced further. For example, if all symptomatic people are tested and quarantined, fatalities will reduce to one-third and economic loss to one-fourth
- Alon, Kim, Lagakos, VanVuren (2020): a model for developing countries

# “Smart” Measures Can Ease the Trade-Off between Lives and Livelihoods

a. Different trade-offs for different countries



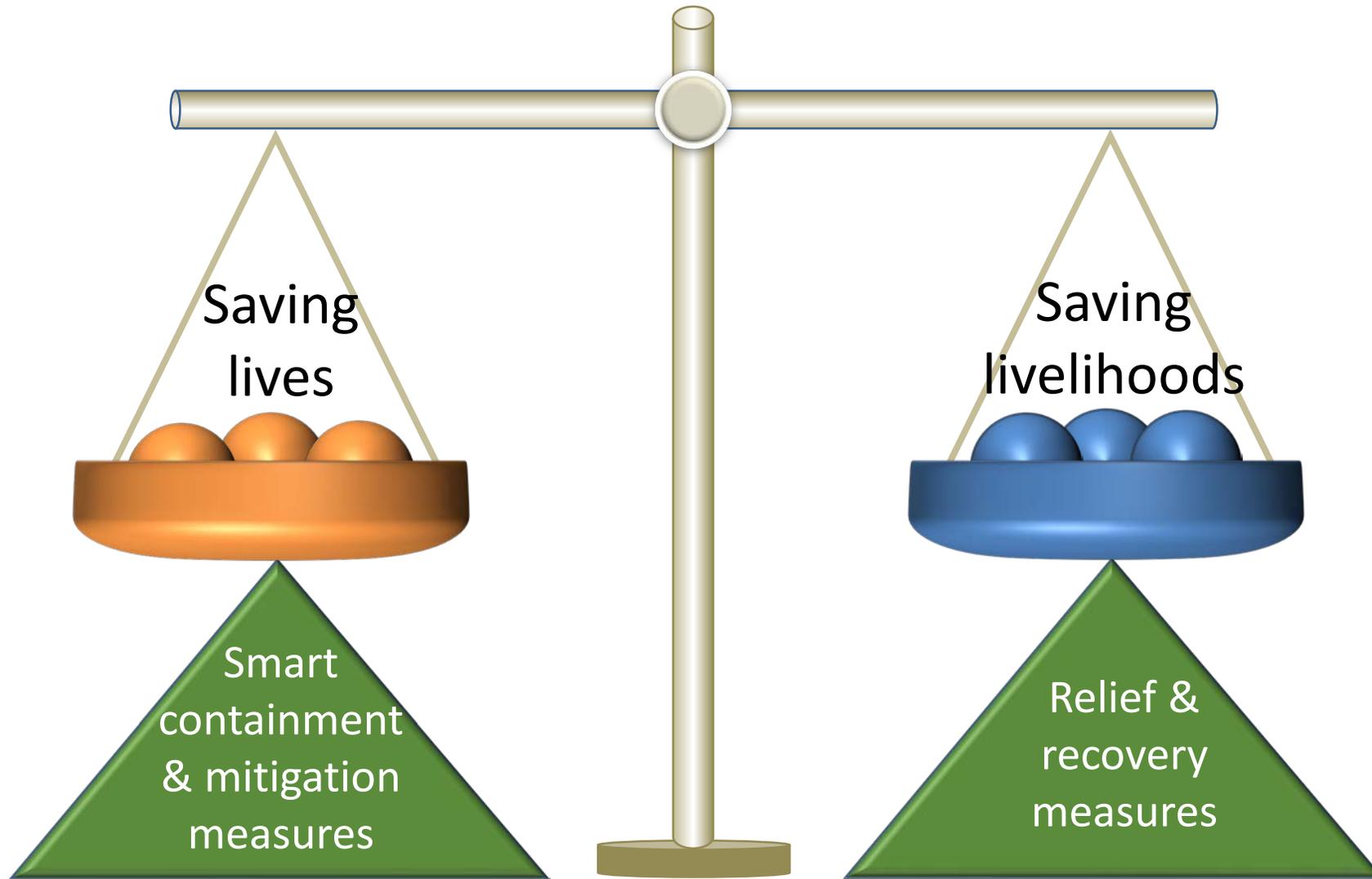
b. Easing the trade-off with “smart” measures



# Conclusions

- The trade-off between saving lives and saving livelihoods:
  - excruciating but also real and unavoidable
- Developing countries,
  - have limited ability to cope with the pandemic crisis: a single-minded goal of saving lives *from the pandemic* is unrealistic and can lead to considerable human losses
  - face different trade-offs and should adopt different strategies: for poorer and younger countries, more moderate measures are best
  - can ease their trade-offs with coordinated and pragmatic economic and public health policies: relief and recovery economic policy + smart and sustainable health measures
- The goal is reviving the economy while mitigating health and mortality risks
  - The challenge is implementation: Ingenuity for adaptation, renewed effort by national authorities, and support of the international community

# Easing a difficult trade-off



# Smart, sustainable public health policy

## Knowledge

Test for antibodies  
(representative sample)

Test for antigens (at least  
for vulnerable and  
symptomatic)

Research on treatment  
and vaccines

## Prevention

Shield the elderly and  
comorbid

Mandatory face masks in  
public places

Personal and public  
hygiene and disinfection

Work from home

## Treatment

Trace and isolate the  
infected

Identify clusters of  
infection

Improve capacity to treat  
critical patients

Procure medical  
equipment

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- The goal is reviving the economy while mitigating health and mortality risks
  - From a containment mentality to a risk management perspective
  - **The challenge is implementation:** Ingenuity for adaptation, renewed effort by national authorities, and support of the international community

# Costs and Trade-Offs in the Fight Against the COVID-19 Pandemic : A Developing Country Perspective

<http://documents.worldbank.org/curated/en/799701589552654684/Costs-and-Trade-Offs-in-the-Fight-Against-the-COVID-19-Pandemic-A-Developing-Country-Perspective>



Thanks