



Human Capital 2020

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2. Human Capital Index 2020 update
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HUMAN CAPITAL INDEX --- METHODOLOGY

HUMAN CAPITAL INDEX: COMPONENTS

How much human capital can a child born today expect to acquire by age 18, given the risks to poor health and poor education that prevail in the country where she lives?

Three ingredients reflect the building blocks of the next generation's human capital:



SURVIVAL

Will children born today survive to school age?



SCHOOL

How much school will they complete and how much will they learn?



HEALTH

Will they leave school in good health, ready for further learning and/or work?

HUMAN CAPITAL INDEX (HCI)



SURVIVAL

Children who don't survive don't grow up to become future workers

X



SCHOOL

Contribution of quality-adjusted years of school to productivity of future workers

X



HEALTH

Contribution of health (adult survival rate and stunting) to productivity of future workers

=



HCI

Productivity of a future worker
(relative to benchmark of complete education and full health)

HUMAN CAPITAL OF AN INDIVIDUAL

- Based on standard measures of human capital per worker from development accounting literature:

$$h_i = e^{\phi s_i + \gamma z_i}$$

where:

- h_i is human capital of individual i
- s_i is learning-adjusted years of school of individual i
- z_i is *latent health* of individual i (mapping to stunting, ASR)
- ϕ, γ are “returns” to education and health

AGGREGATING THE HCI: DISTANCE TO THE FRONTIER

- For ease of interpretation, we express HCI *relative to benchmark of complete education* (s^*) and full health (p^*, z^*)

$$HCI = \frac{p}{p^*} \times e^{\phi(s_{NG}-s^*)} \times e^{\gamma(z_{NG}-z^*)}$$

- The HCI measures the expected productivity as a future worker of a child born today relative to this benchmark, i.e. $0 < HCI \leq 1$
- A value of $0 \leq x \leq 1$ means that the expected productivity as a future worker of a child born today is only a fraction x of what it would be under the benchmark of complete education and full health
- Meaningful units mean no need for rankings



HUMAN CAPITAL INDEX

2020 UPDATE

WHY **NOW** AND WHAT'S **NEW**?

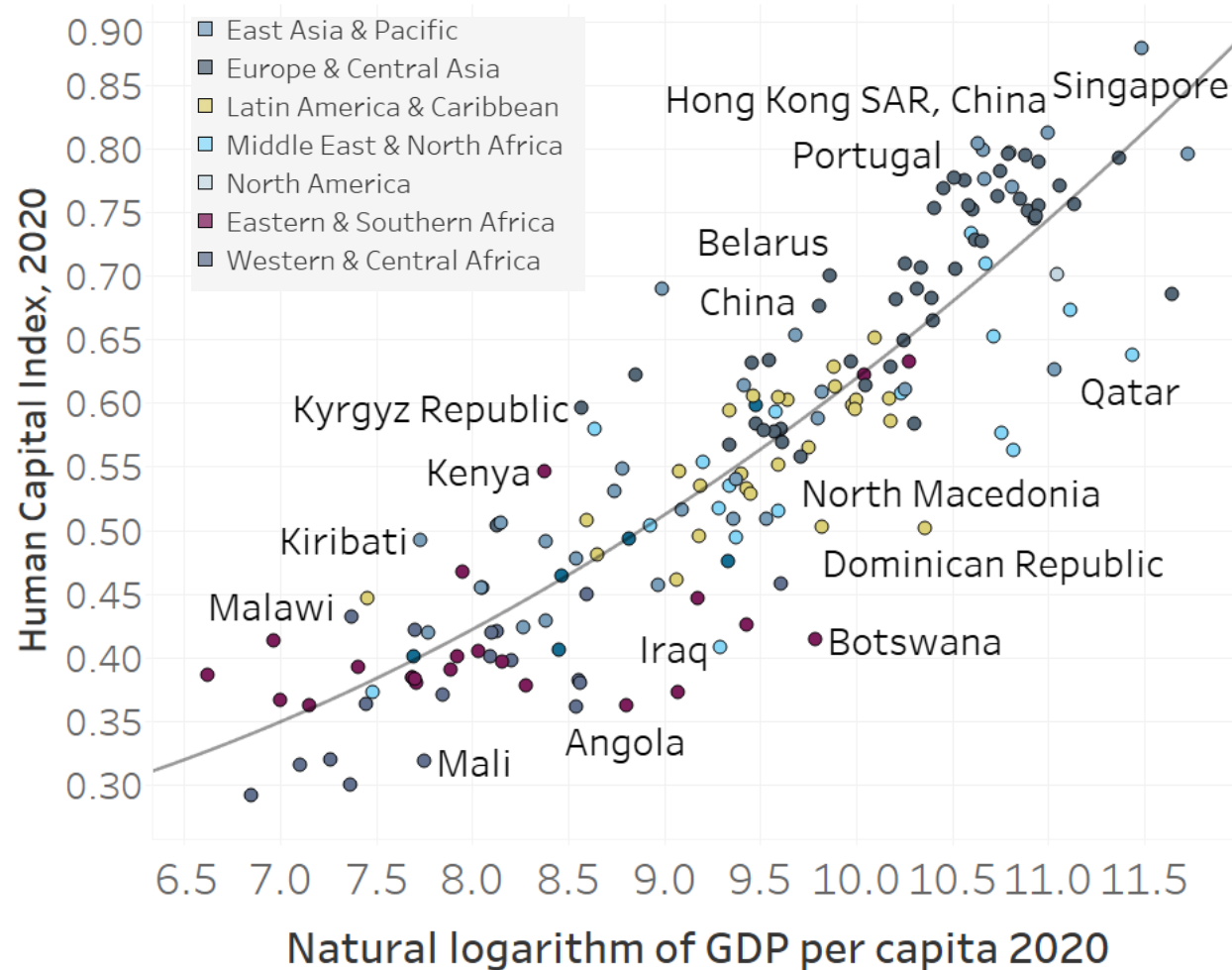
- Reports **HCI 2020 scores for 174 countries**, adding 17 countries as compared to the HCI 2018.
- Uses most recently available data to construct an index that is a **baseline for pre-COVID19**
- Consistent with best practice for indices, reports a **back-calculated 2018 index (HCI 2018b)**
- Provides **data for 103 countries for 2010 (HCI 2010)** to measure progress in human capital over the past decade

DATA FRESHNESS FOR HARMONIZED TEST SCORES

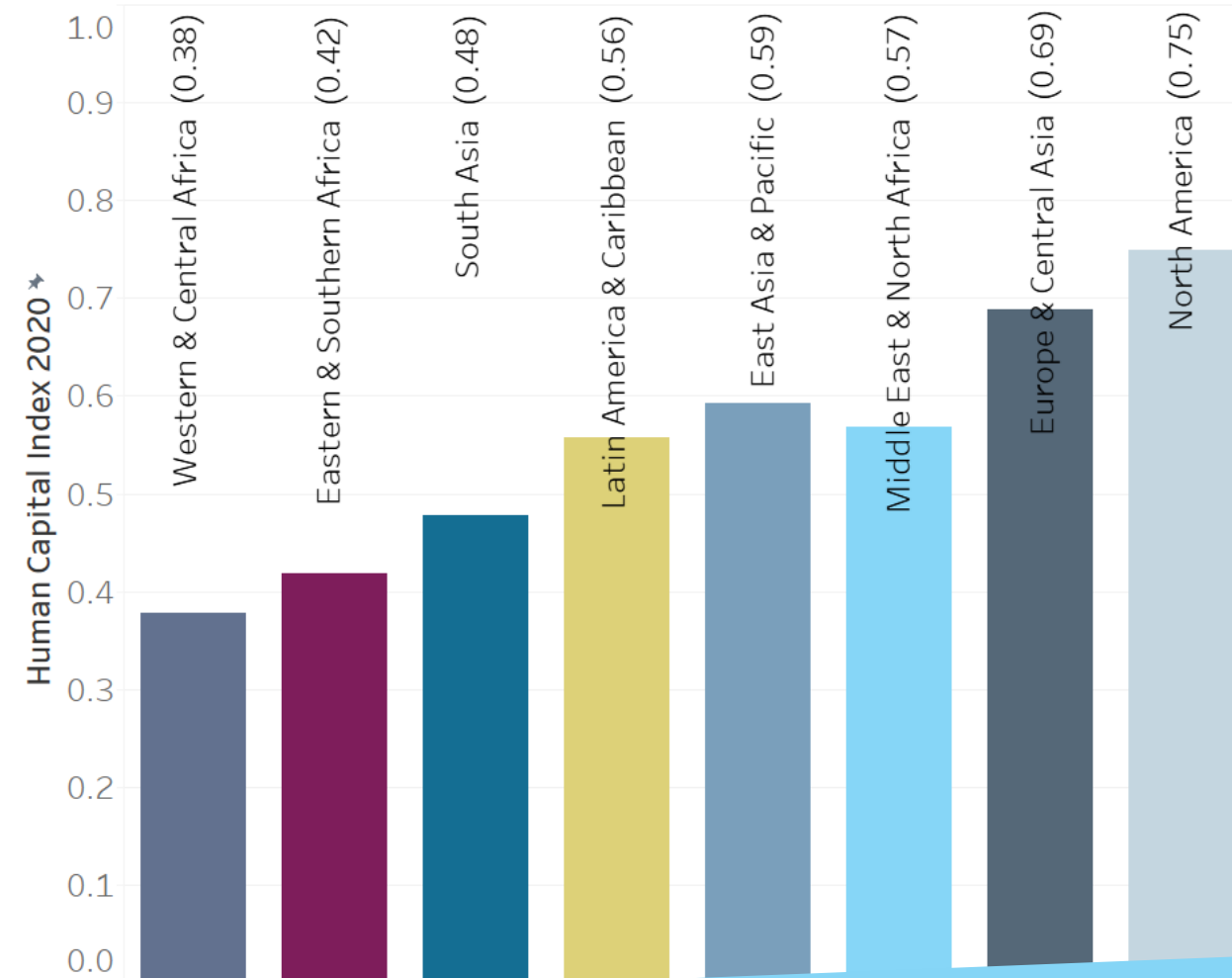


THE 2020 HCI UPDATE

Human Capital Index 2020 (Boys & Girls)

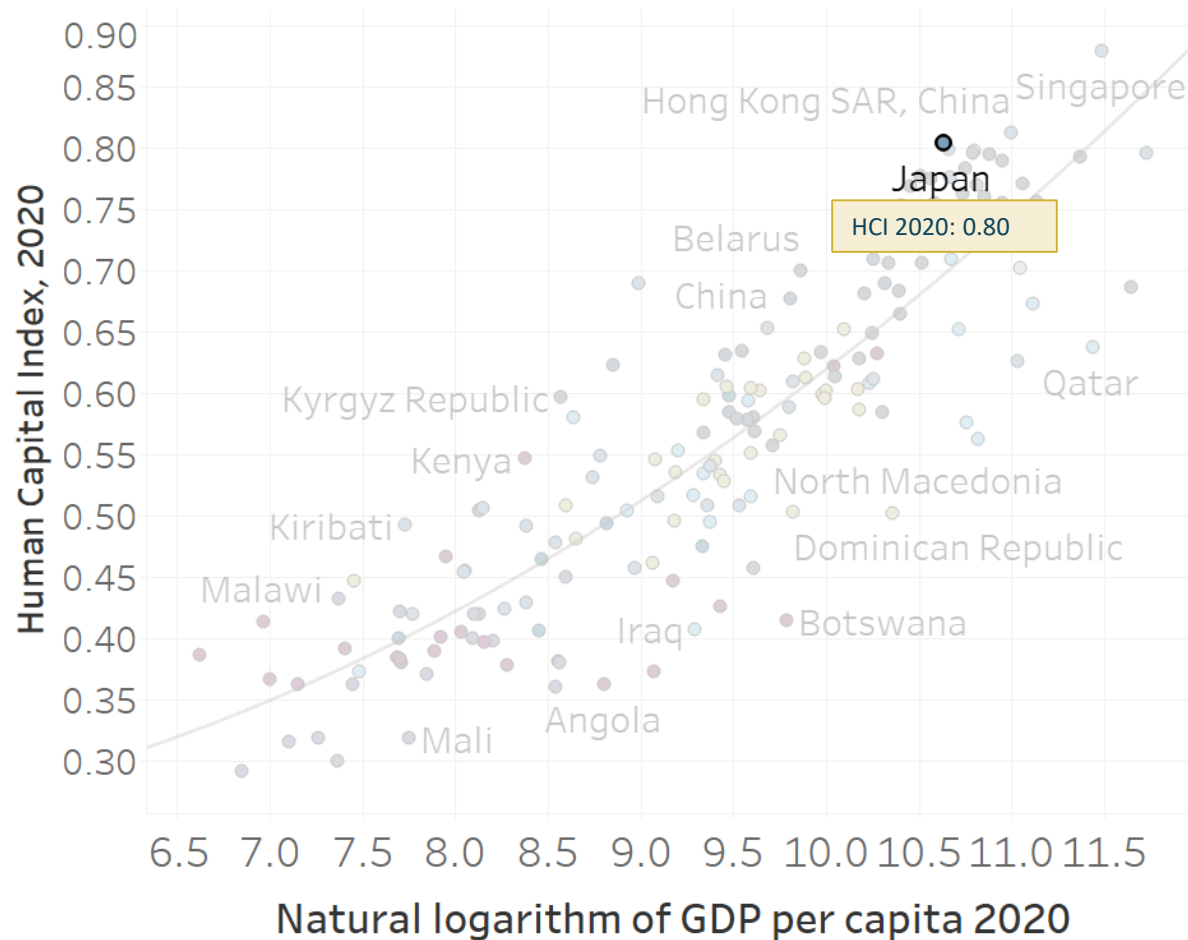


Human Capital Index 2020, by region (Boys & Girls)

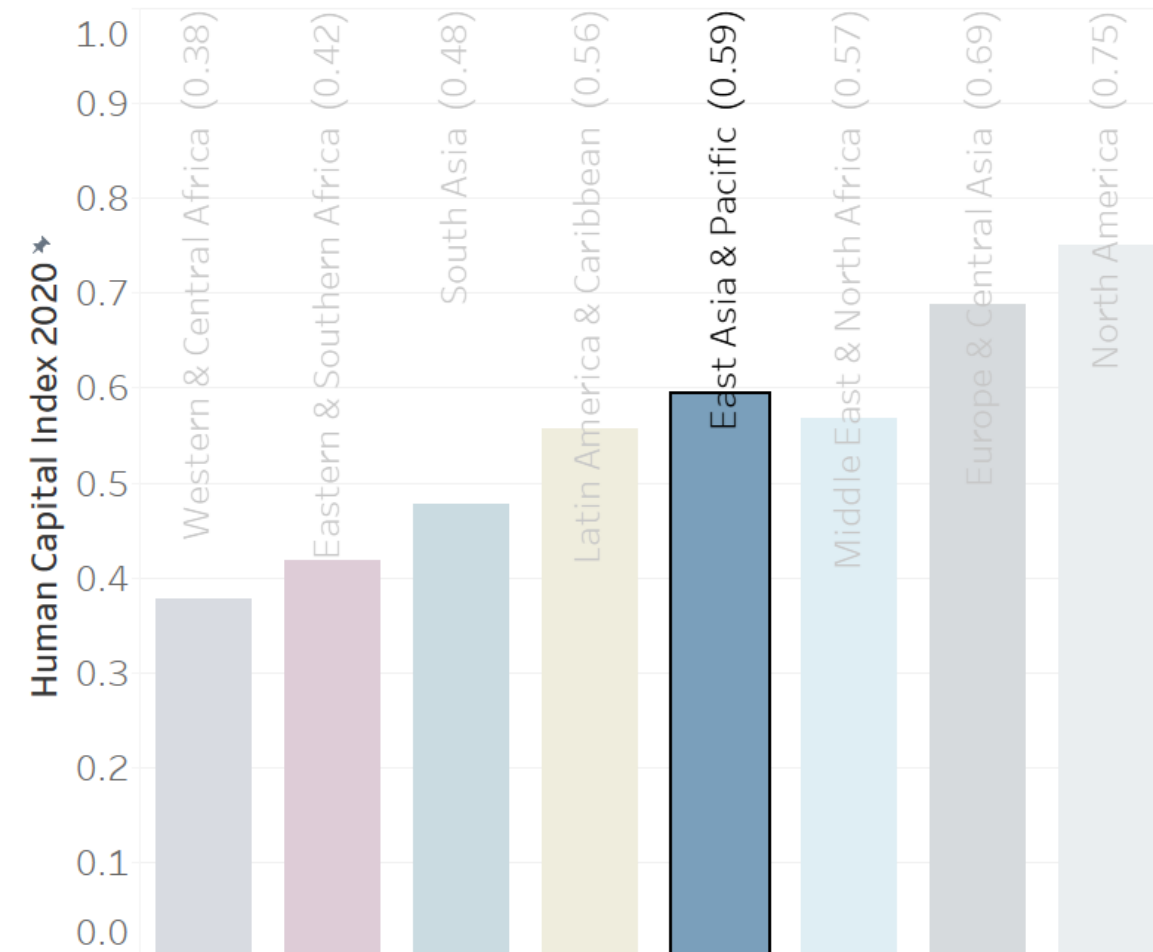


THE HCI 2020 UPDATE

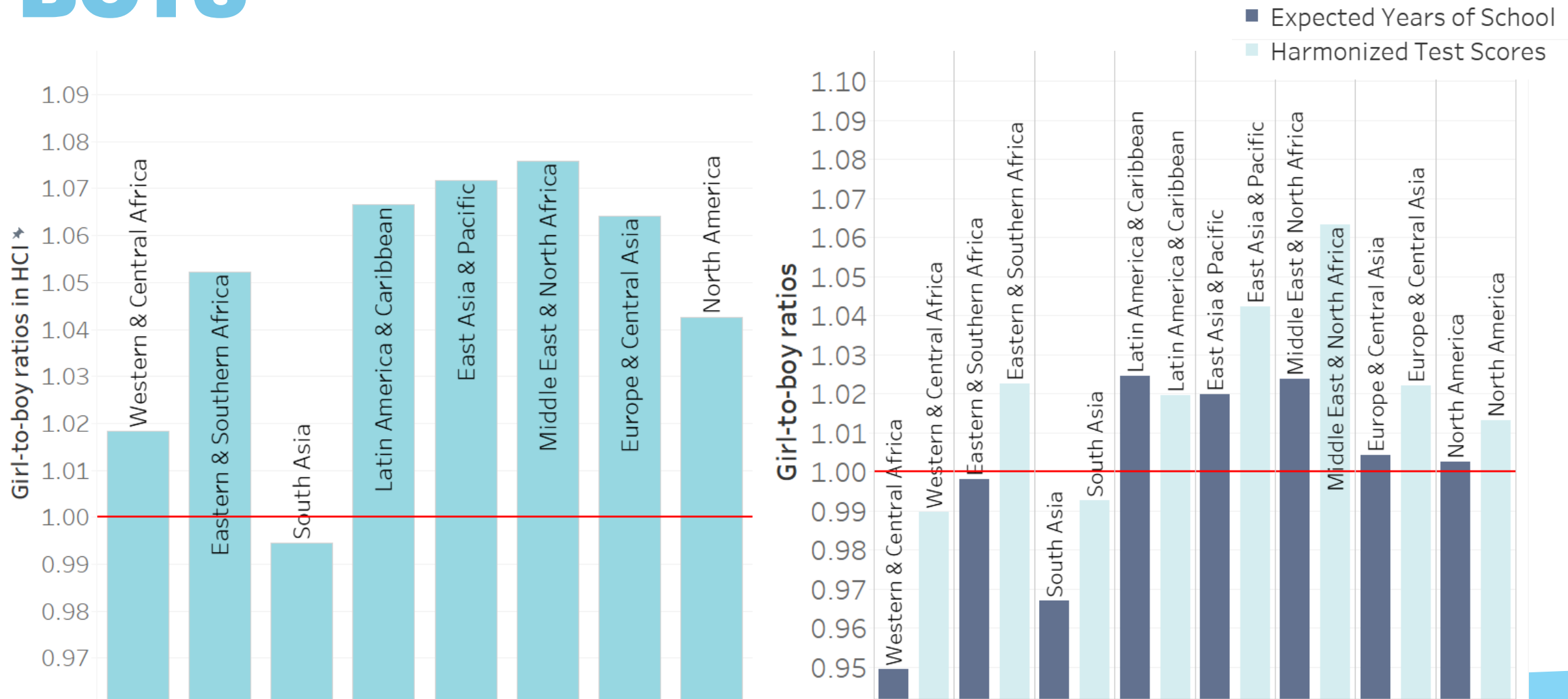
Human Capital Index 2020 (Boys & Girls)



Human Capital Index 2020, by region (Boys & Girls)



HUMAN CAPITAL FOR GIRLS AND BOYS



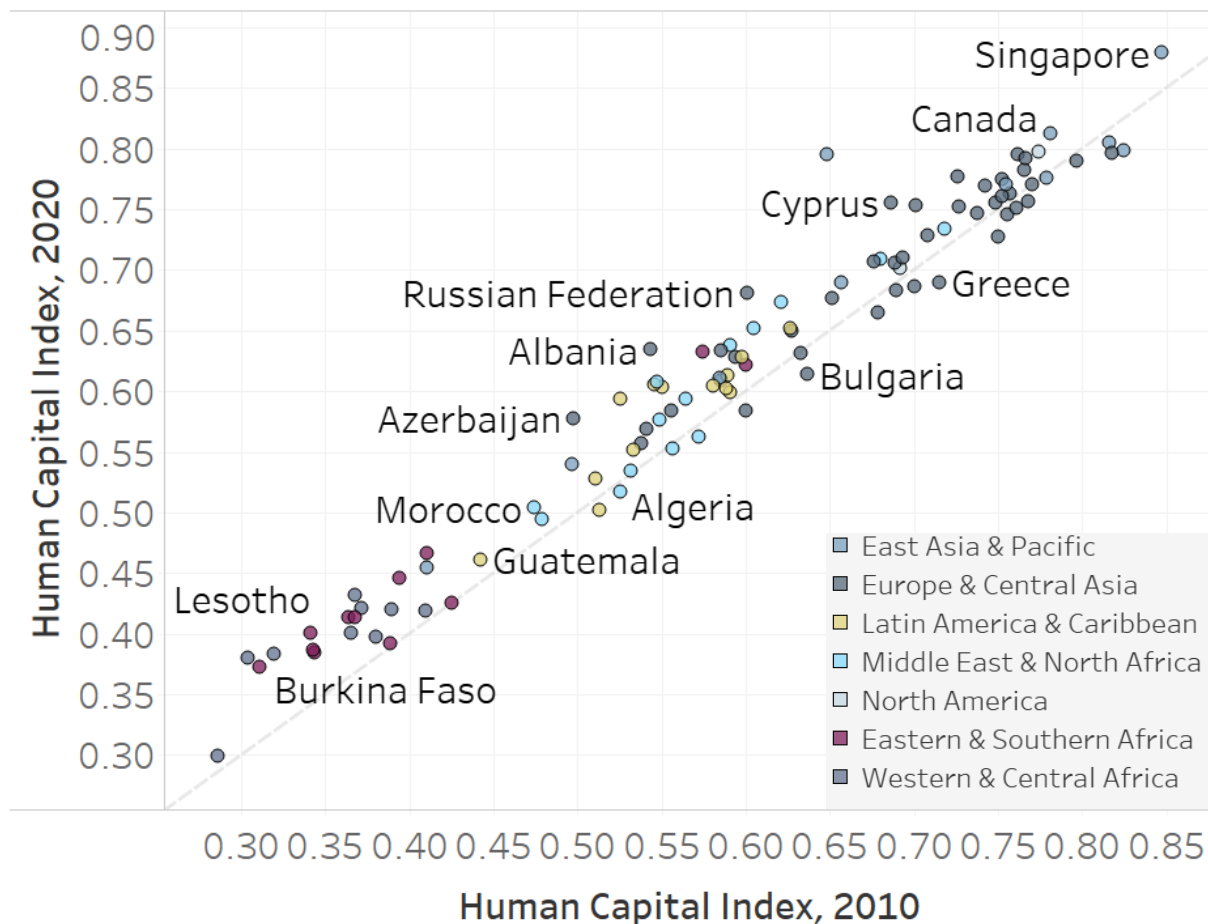


CHANGES IN HUMAN CAPITAL OVER TIME

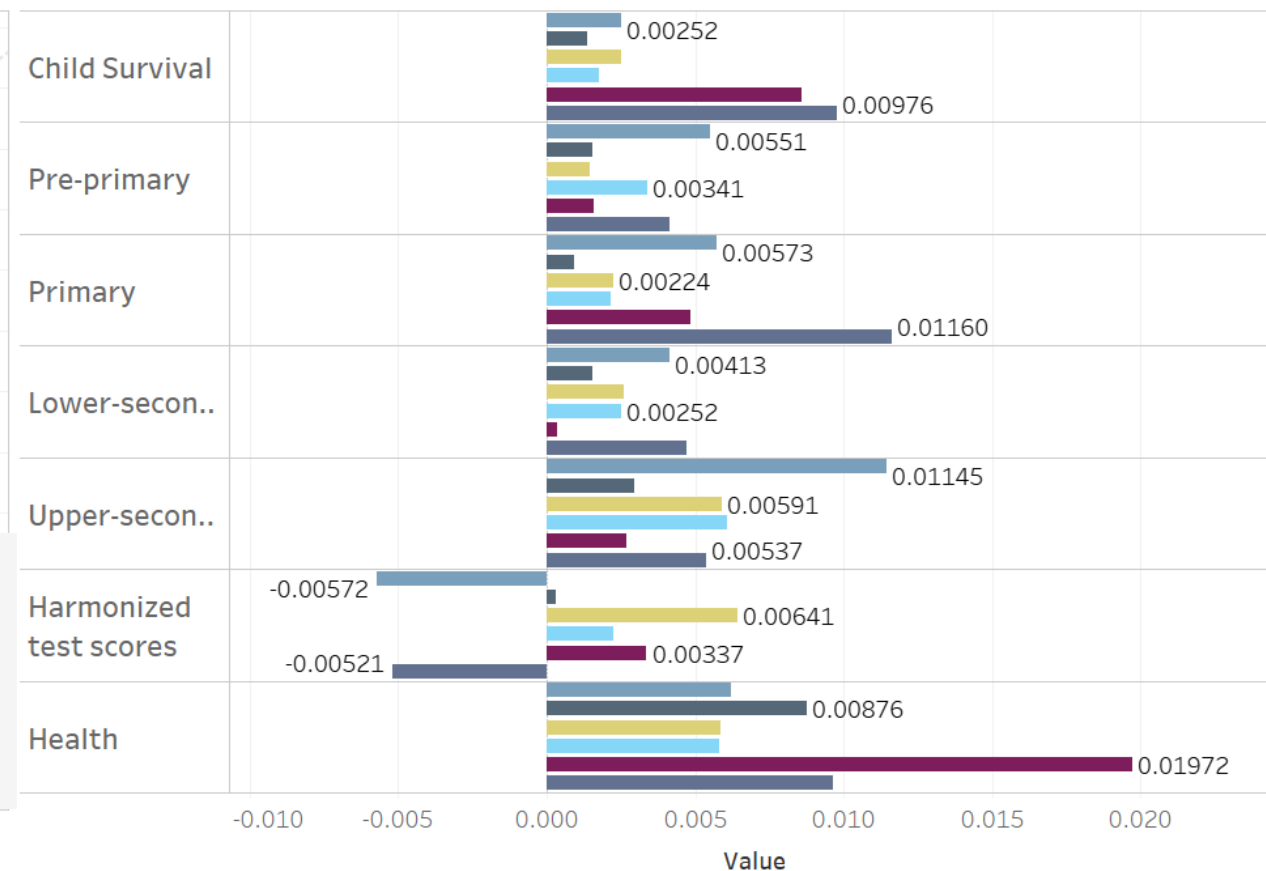
HCI 2010-2020

COMPARING THE HCI 2020 AND HCI 2010 FOR 103 COUNTRIES

Human Capital Index 2010 to 2020 (Boys & Girls)

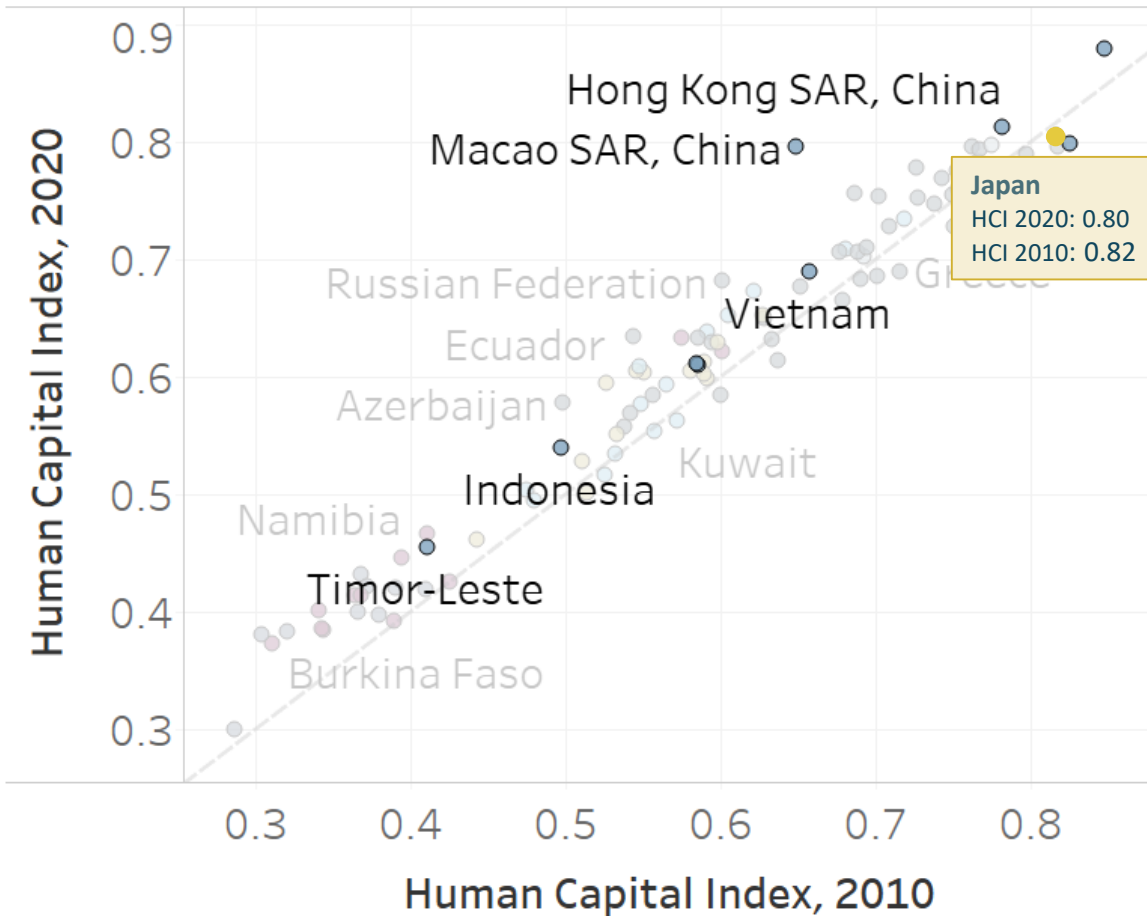


Human Capital Index 2010 to 2020, decomposition (Boys & Girls)

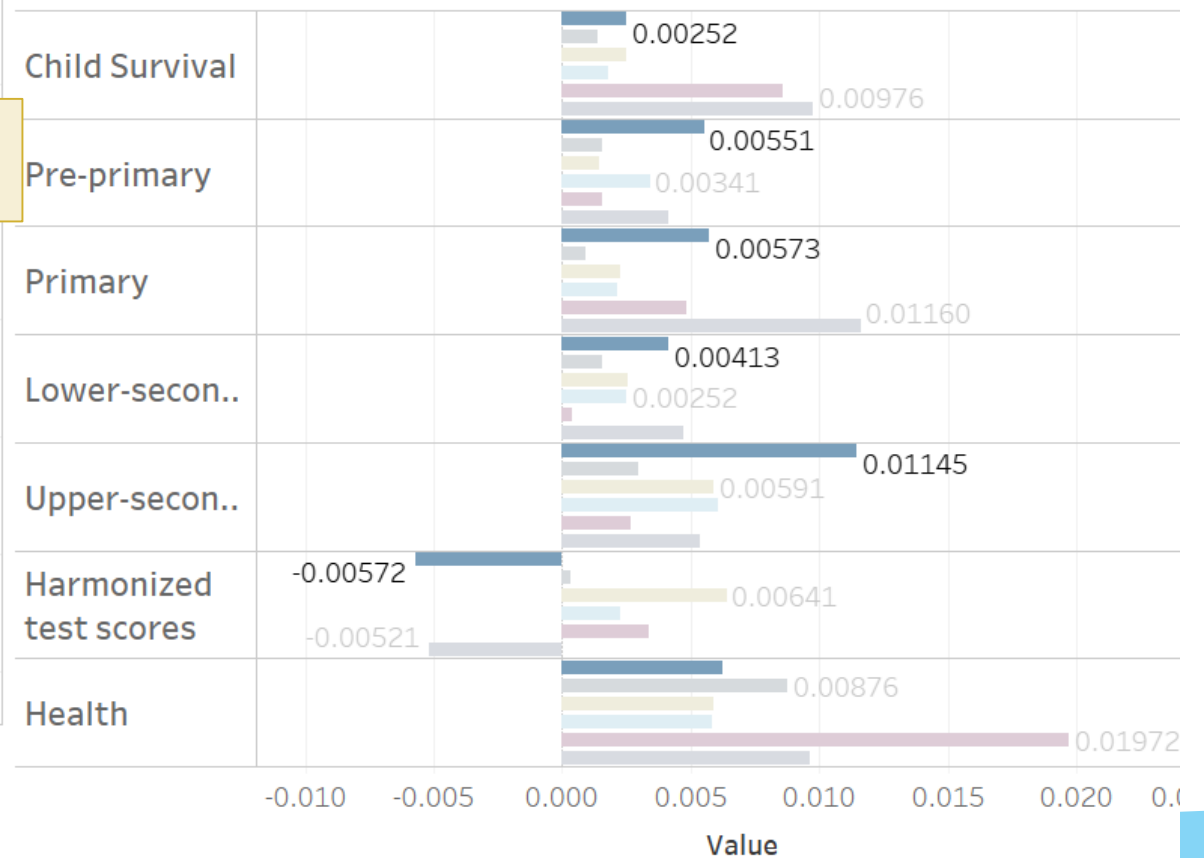


COMPARING THE HCI 2020 AND HCI 2010 FOR 103 COUNTRIES

Human Capital Index 2010 to 2020 (Boys & Girls)

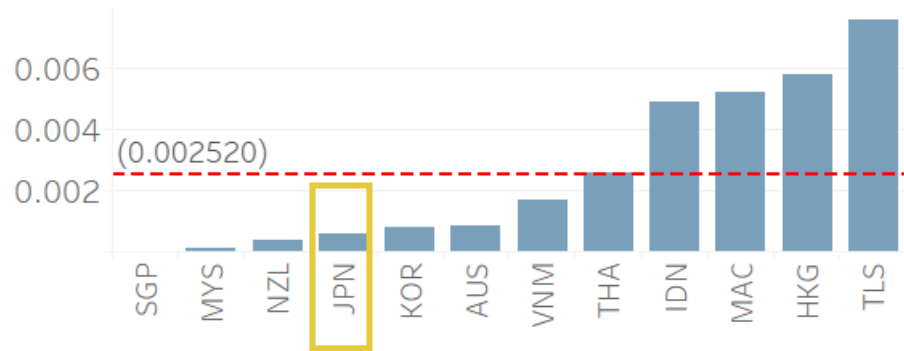


Human Capital Index 2010 to 2020, decomposition (Boys & Girls)

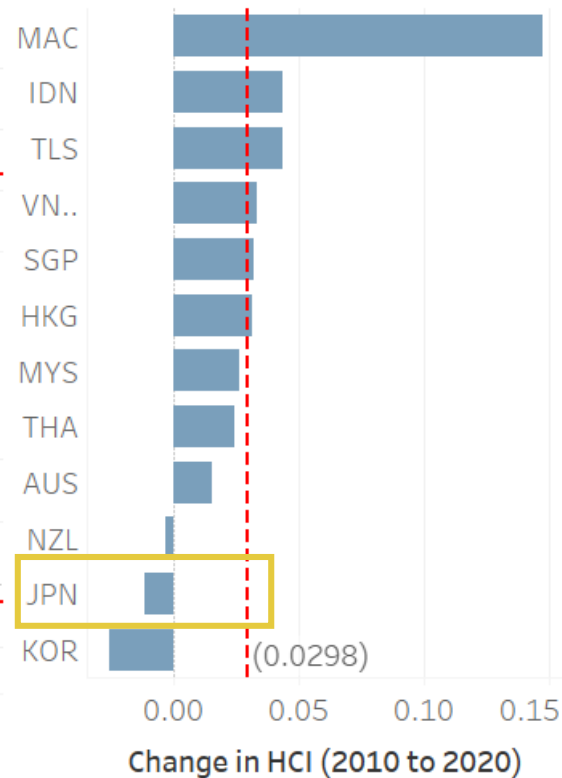


COMPARING HCI 2020 AND HCI 2010 AND HCI 2010 IN EAP (N=12)

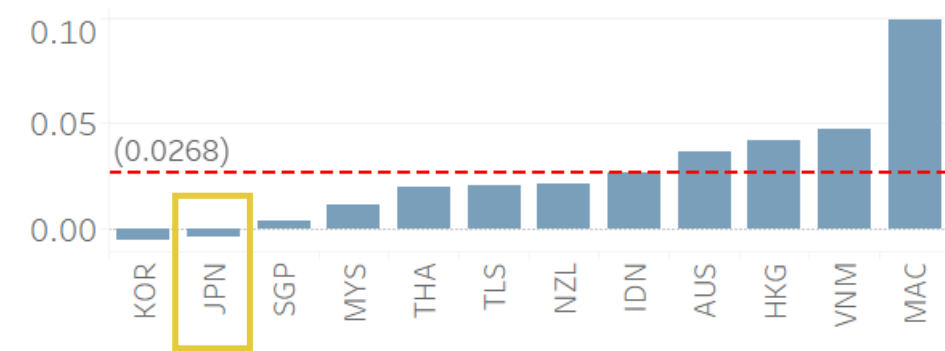
Child survival (2010-2020)



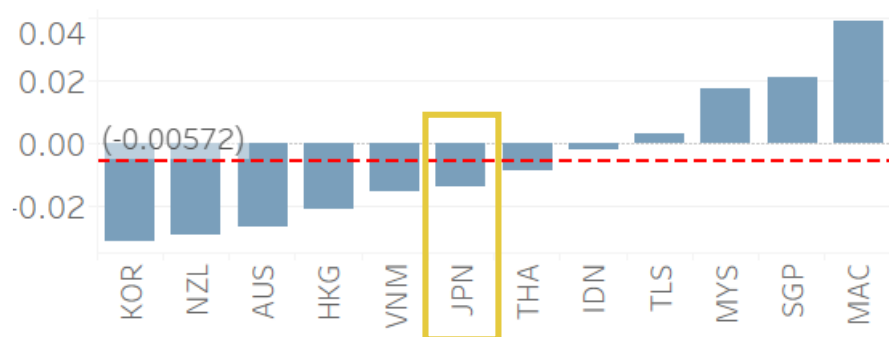
HCI (2010-2020)



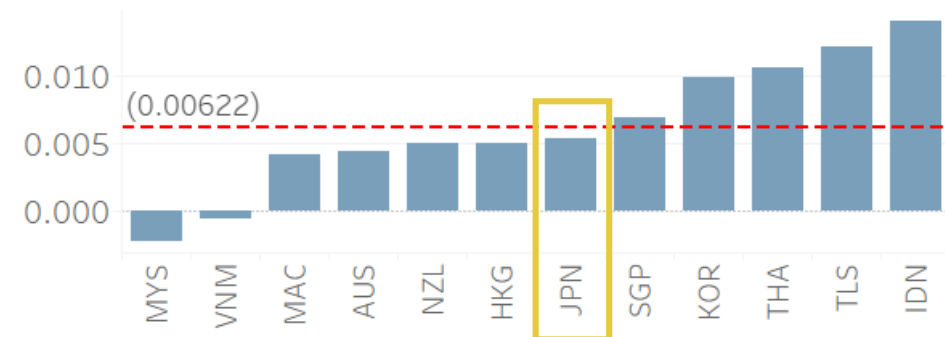
Expected years of school (2010-2020)



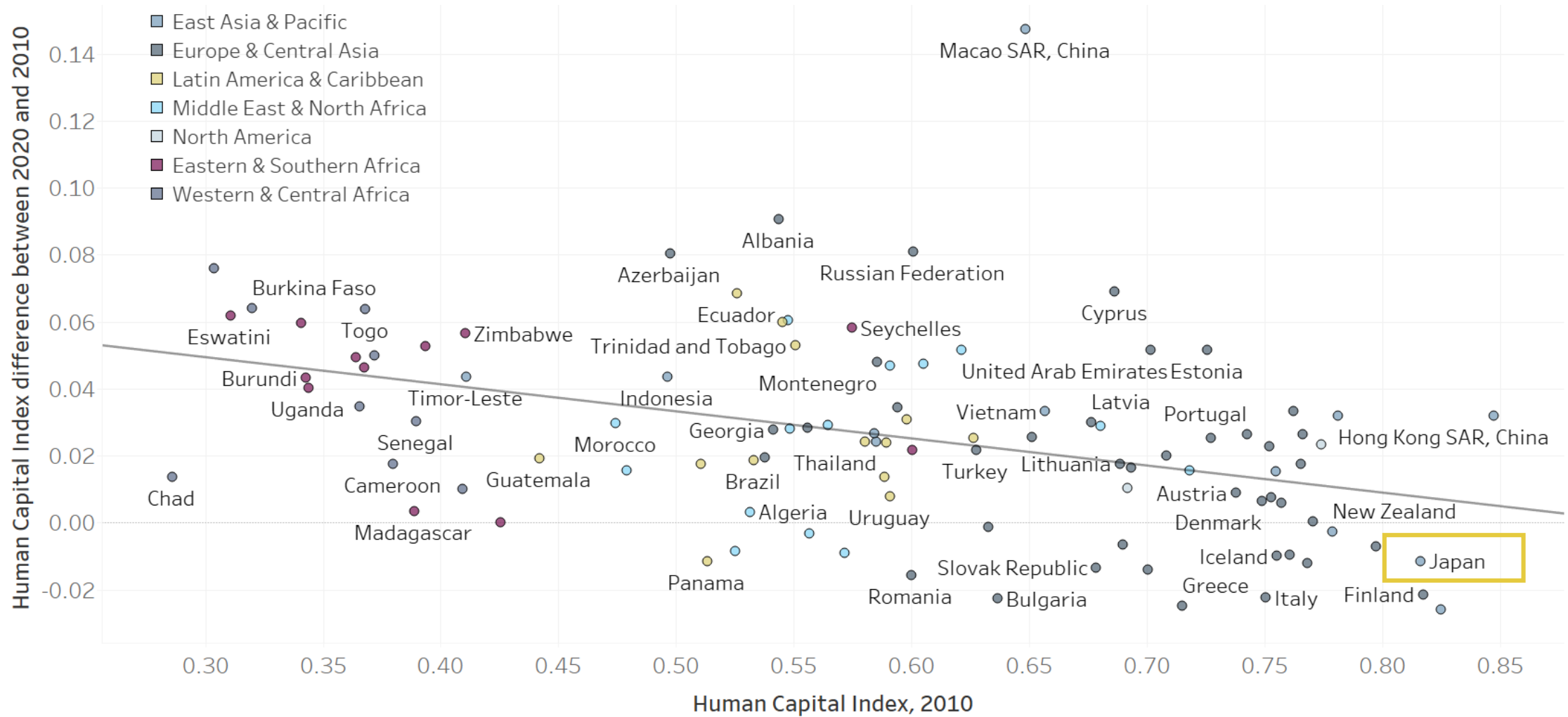
Harmonized test scores (2010-2020)



Health (2010-2020)



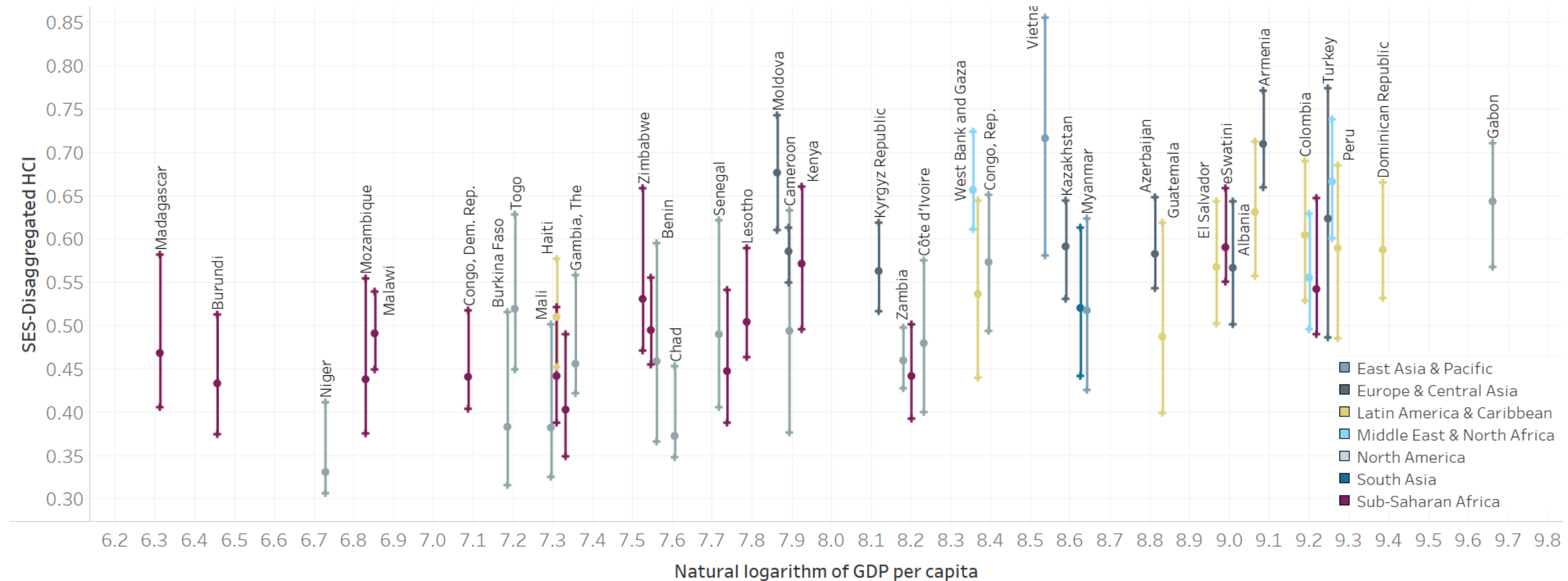
CATCHING UP IN HUMAN CAPITAL





WITHIN-COUNTRY INEQUALITIES

BEYOND THE HEADLINE INDEX: SOCIO-ECONOMIC DISAGGREGATION

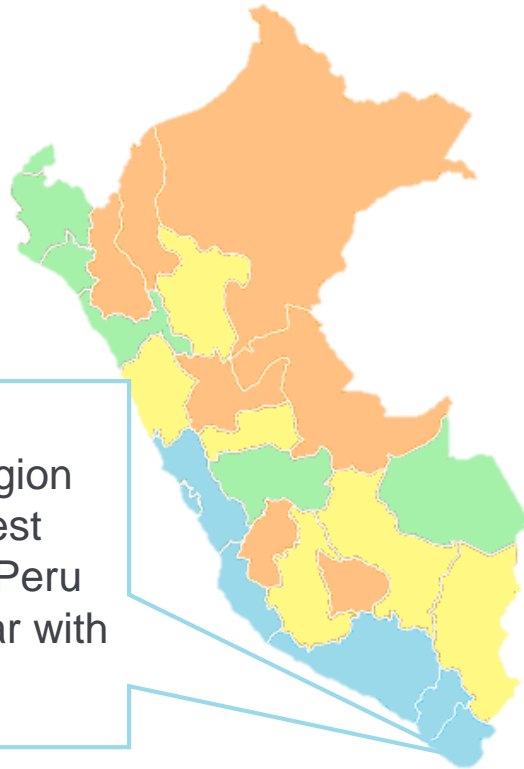


Source: D'Souza, Gatti and Kraay (2019).

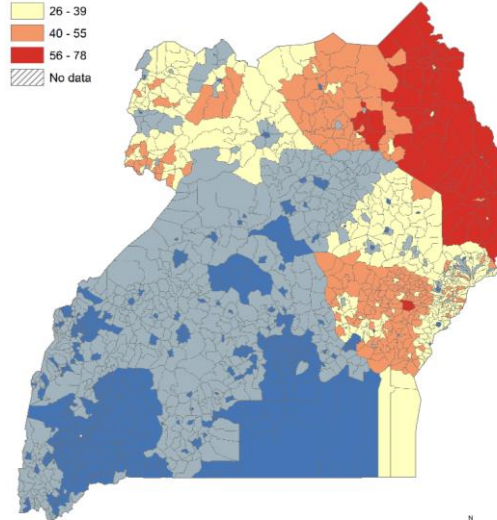
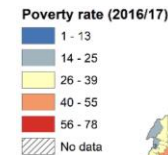
BEYOND THE HEADLINE INDEX: SUBNATIONAL DISAGGREGATION

Governments can look to 'high performers' within the country 'home-grown' solutions to closing human capital gaps.

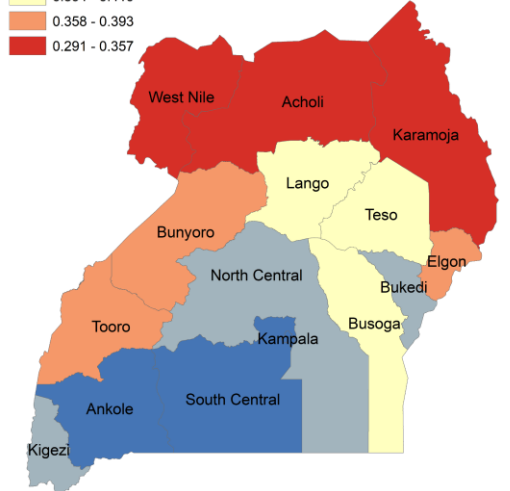
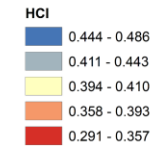
Using multiple methodologies improves targeting effectiveness in reaching the vulnerable and marginalized.



Poverty map (2016/17)



Human Capital Index (2018)



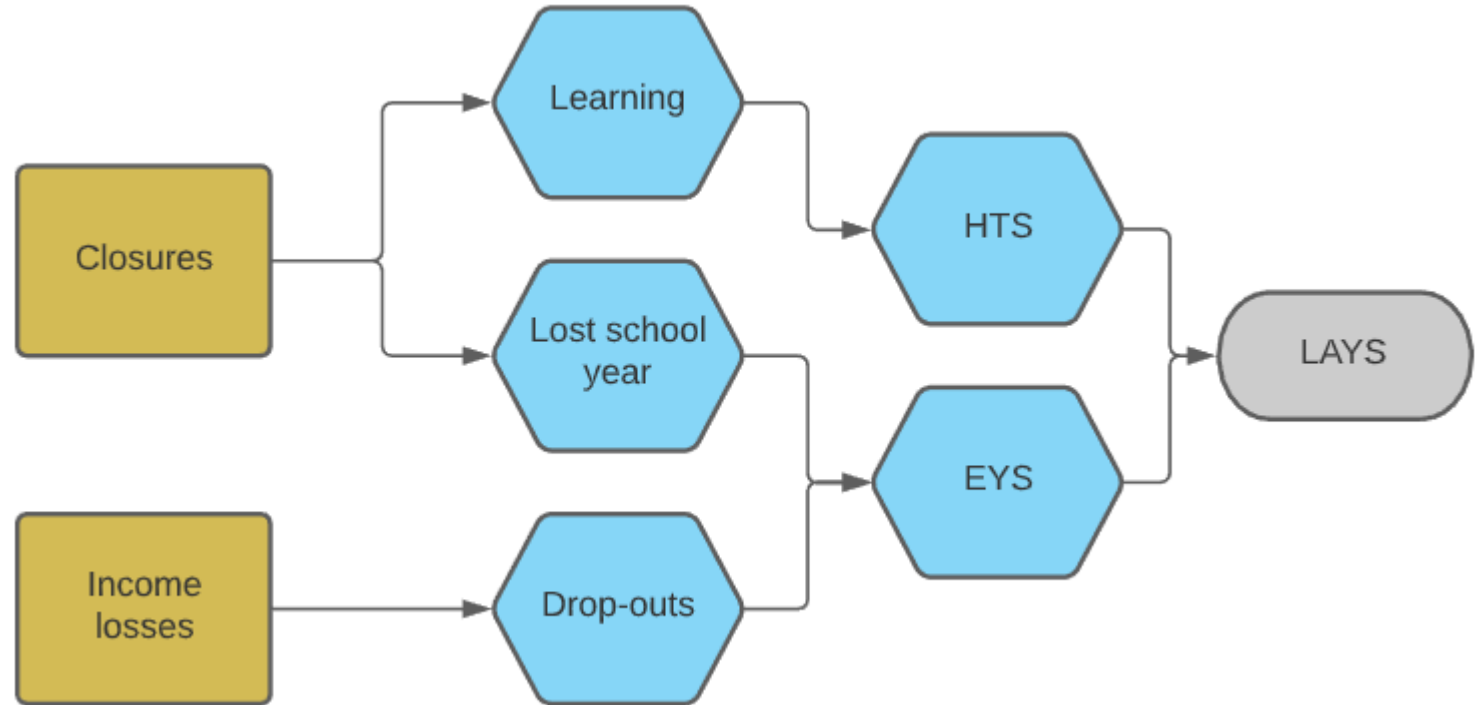


HUMAN CAPITAL IN THE TIME OF COVID-19

COVID-19 THREATENS HUMAN CAPITAL GAINS

Shock to children in school

- Based on education team's simulations
- Closures and income losses are the channels of impact
- Predicted loss of 0.56 of a school year once learning is factored in (LAYS) for a 5-month school closure
- Higher loss for richer countries due to higher assumed learning gains over the school year
- Equivalent to **4.5% of HCI** or **~2.5 points of the index**



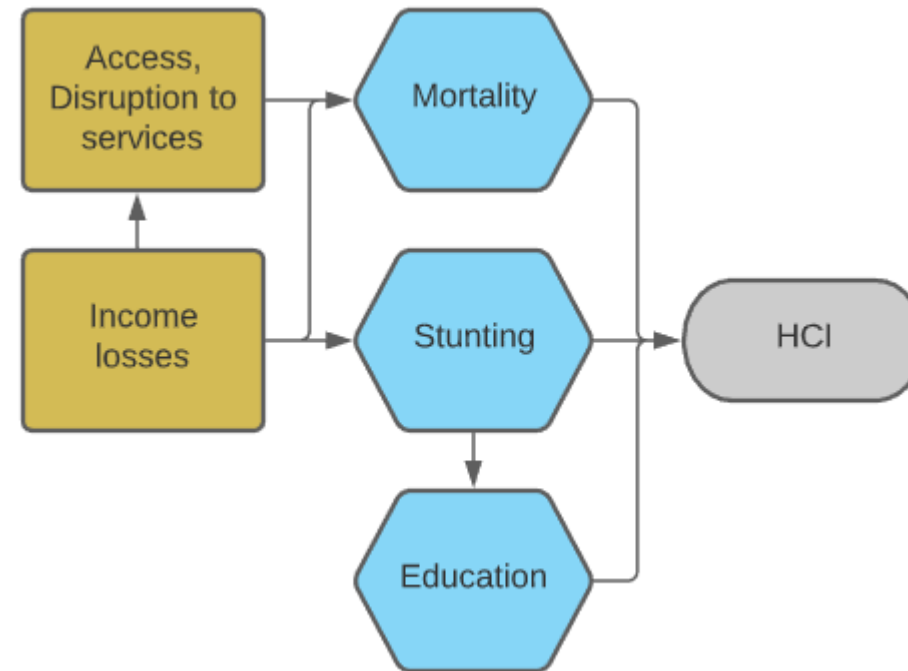
COVID-19 puts at risk the gains achieved over the past decade

Source: Azevedo et al. (2020)

COVID-19 THREATENS HUMAN CAPITAL GAINS

Shock to children under 5

- Economic shock due to pandemic and the interruption to health coverage are the main transmission channels
- Projected loss of human capital, as measured by HCI, of almost half a percent
- Losses are expected to be highest for low-income countries nearing 1 percent



A TEMPORARY SHOCK WITH LONG LASTING EFFECTS



UTILIZING HUMAN CAPITAL

UTILIZATION-ADJUSTED HUMAN CAPITAL INDEX (UHCI)

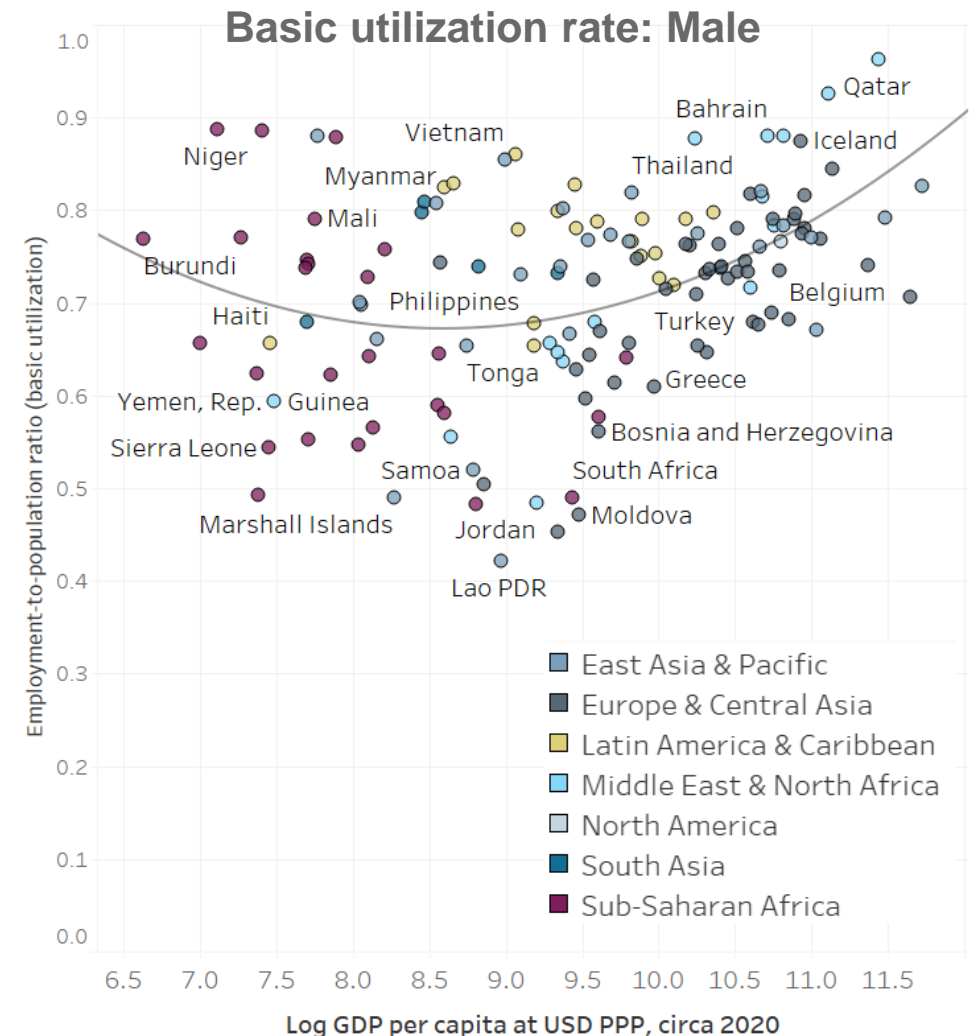
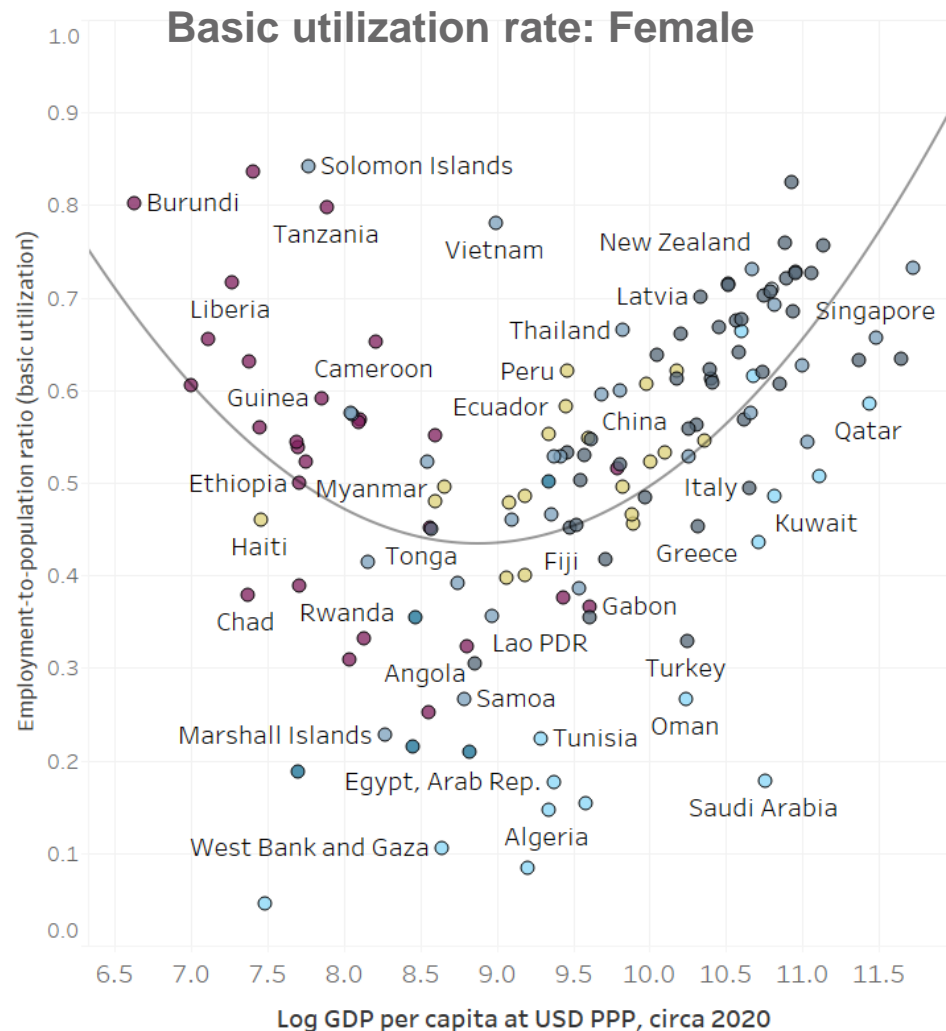
- Adjusts the HCI for labor-market underutilization of human capital, as:
 1. A child born today may not be able to get a job in the future (especially girls)
 2. Even if they do, it might not be a job where can fully utilize human capital

$$UHCI = Utilization Rate \times HCI$$

- UHCI available for 160+ countries, with similar economic interpretation as the HCI
- Basic Utilization Rate: employment/population (captures 1)
- Full Utilization Rate: (i) “better employment”/population (captures 1+2)
(ii) how much human capital to underutilize

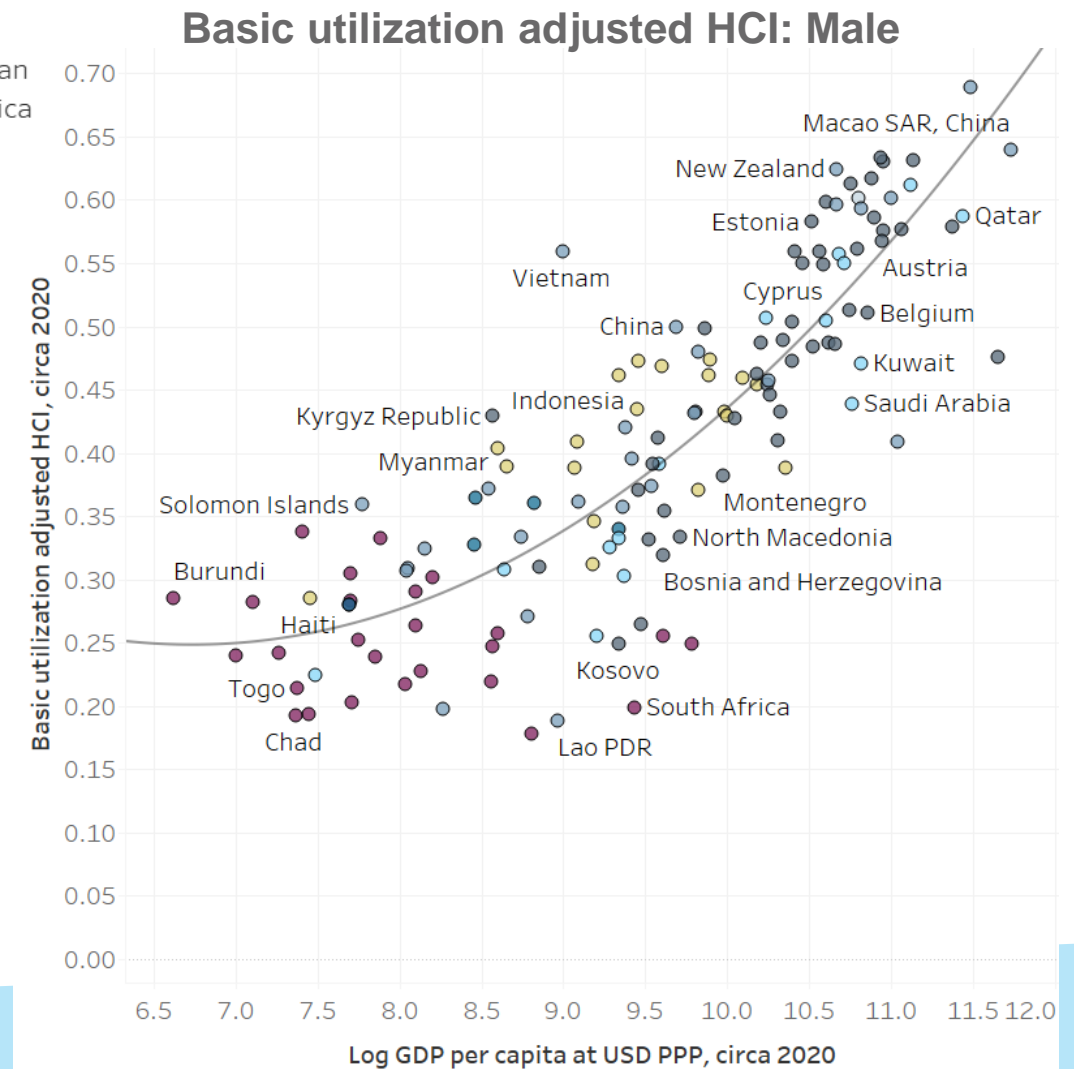
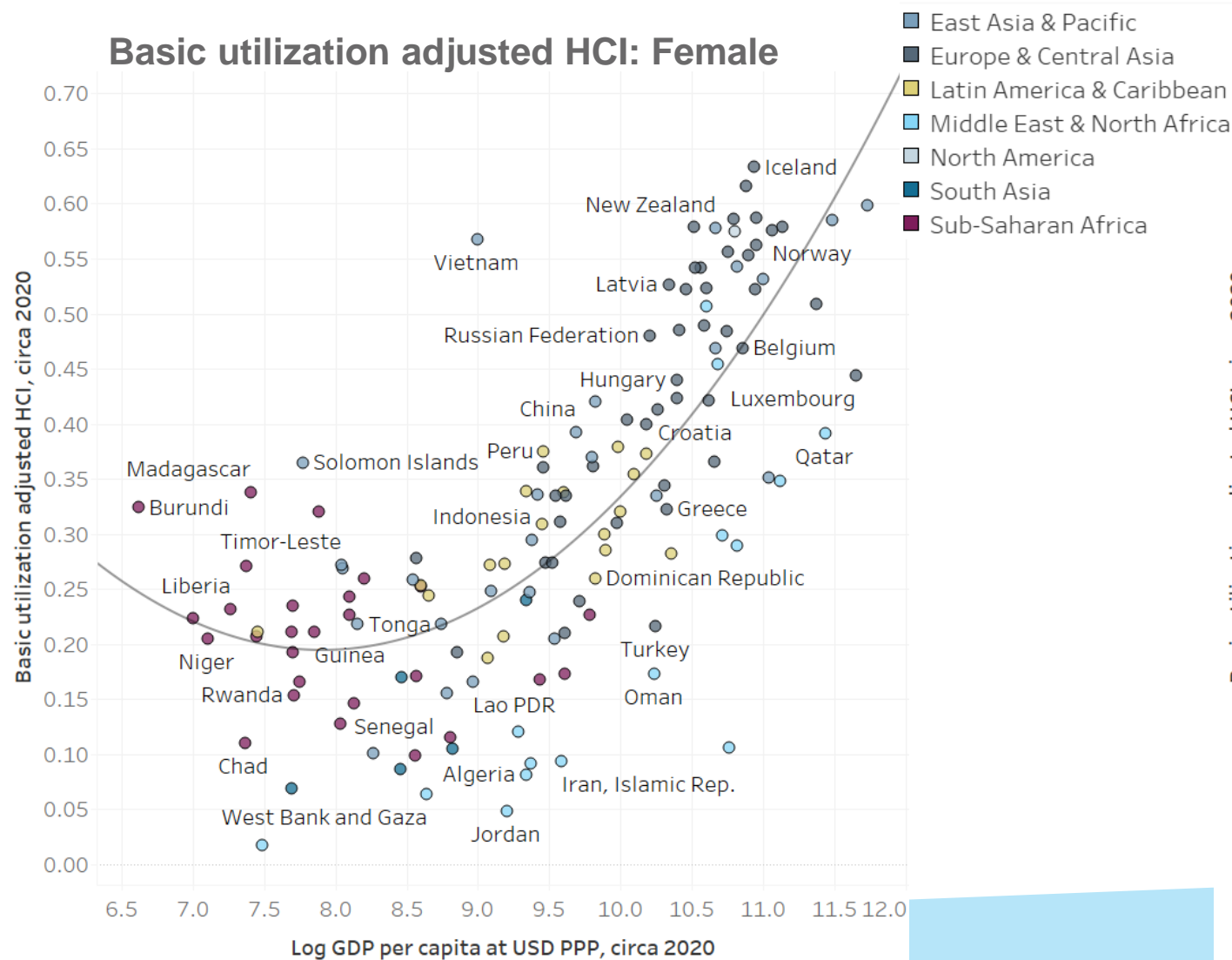
UTILIZATION RATES

Utilization U-shaped in income level → middle income countries lowest utilization



UTILIZATION-ADJUSTED HCI

Gender gap in utilization not present in HCI → UHCI lower for women than men



THANK YOU

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<https://www.worldbank.org/humancapital>

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