ADDRESSING INCOME INEQUALITY:
KEY ISSUES AND POLICY RECOMMENDATIONS

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INTRODUCTION

- We are living in a period of unparalleled **global economic prosperity**---in most countries, output and income per capita have surged since 1960
- Reasons: **Expansion of knowledge and technological progress.** Supported by **improved institutions and governance. International cooperation** on conflict resolution, trade and finance, macroeconomic management, etc.
- BUT **political support** for this growth-promoting institutional framework **is fraying.** Many feel left behind, a sense of unfairness
- Reason: **The benefits of economic growth are not being shared equitably**

DECLARATION OF G-20 LEADERS

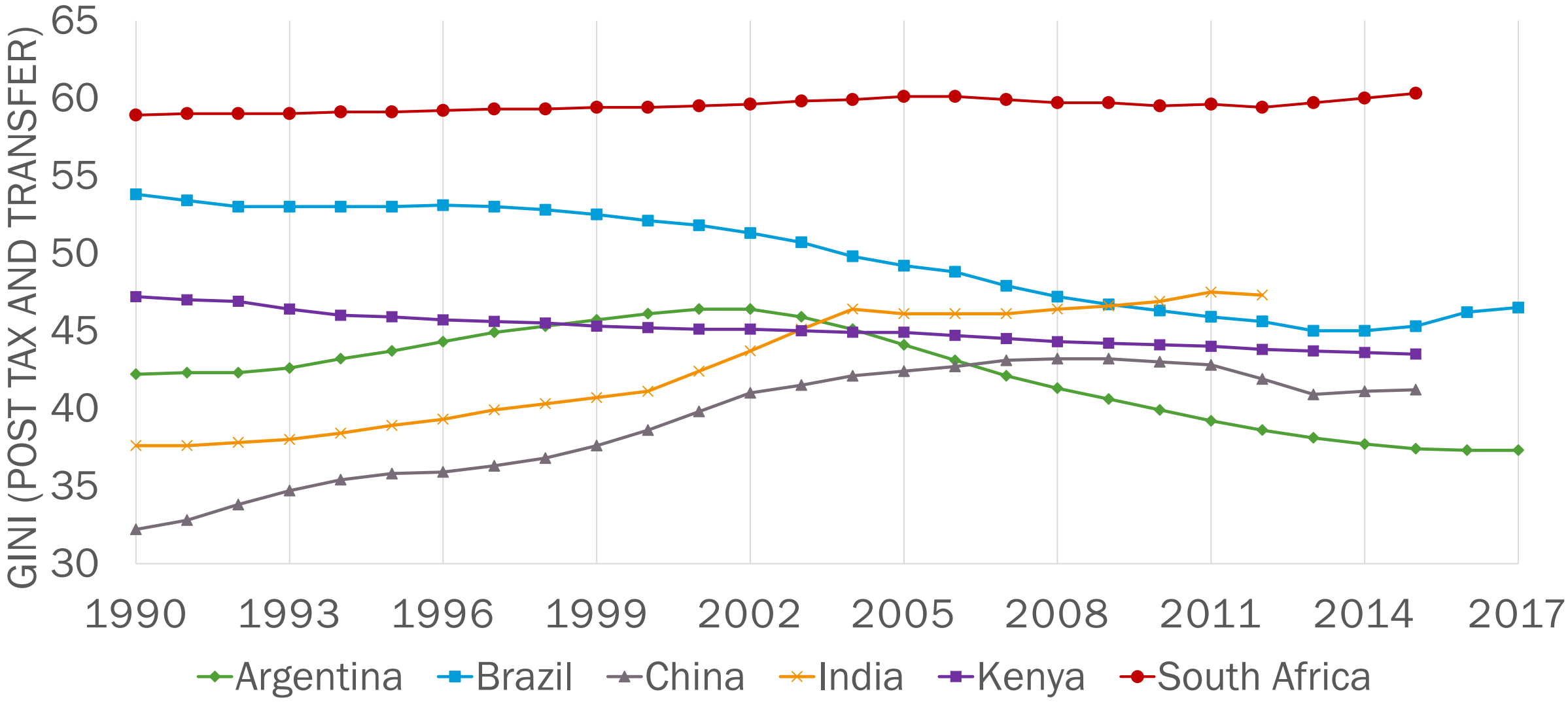
- G-20 leaders have acknowledged the important linkages between income distribution and growth, recently indicating their intention to:

"…strive to create a virtuous cycle of growth by addressing inequality and realize a society where all individuals can make use of their full potential."

RECENT INEQUALITY TRENDS

- **Global income inequality has declined** in recent decades. This reflects the fast growth of several large EMEs.
- However, **income inequality has increased within many countries**
  - Income inequality is generally higher in EMEs than in AEs mainly reflecting their less effective government and redistributive policies
  - In fast growing EMEs (e.g., China and India), top income households have benefitted disproportionately from their countries' fast growth

INCOME INEQUALITY TRENDS IN SELECTED COUNTRIES



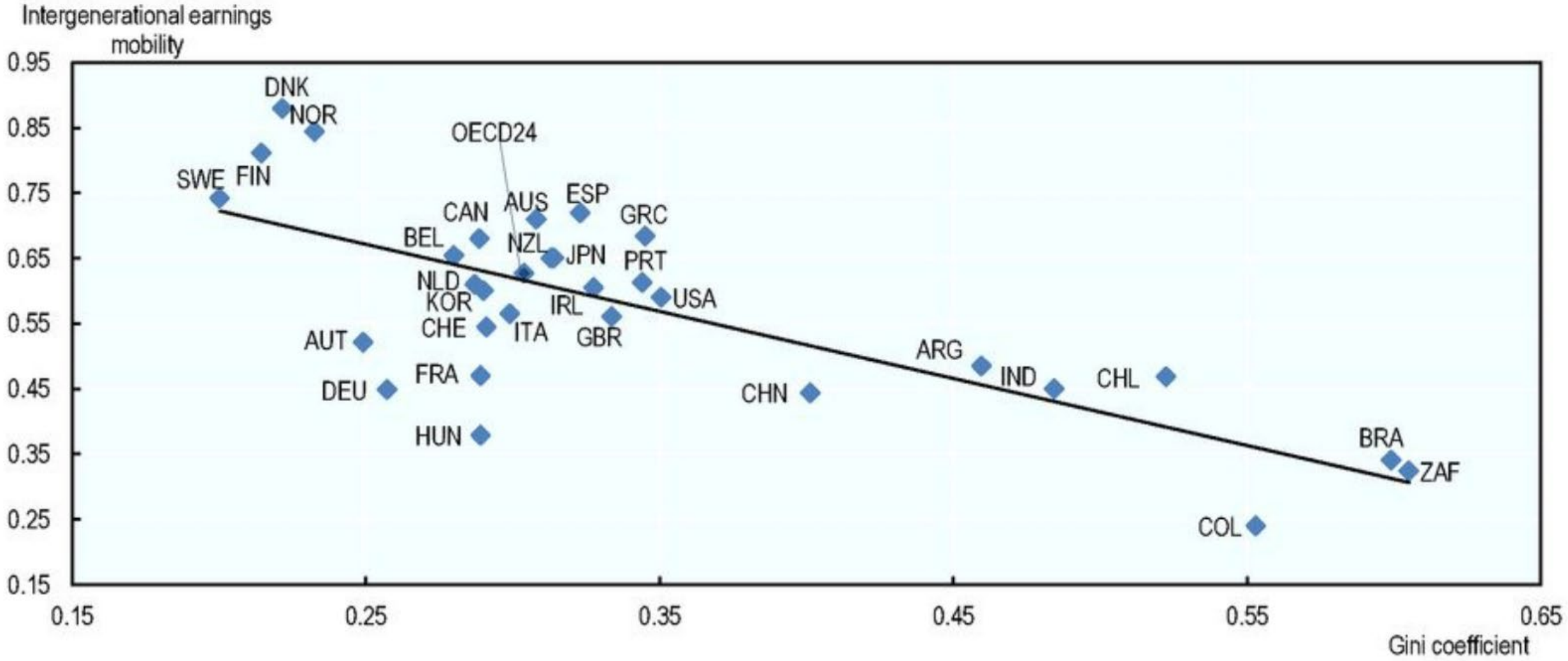
INEQUALITY TRENDS

- Wealth inequality is substantially higher than income inequality and rising faster
- Causes of rising inequality
  - Higher saving and the **concentration of asset ownership** at top of income scale
  - Effects of **structural change** (winners and losers)
  - **Weak redistributive policies and institutions**
  - Shortfalls in addressing **key market distortions and failures** (e.g. in education, health, housing, transportation, labor markets)

ECONOMIC AND SOCIAL MOBILITY

- As income distribution worsens, intergenerational **economic and social mobility declines**
- Social immobility is, to an important extent, explained by **weaknesses in the learning outcomes** of children in, particularly, low income households
- Mobility is **related to factors that are location specific** such as the quantity and quality of education and health services, infrastructure and housing
- Inequalities of incomes and wealth lower efficient investment, particularly in human capital, reduce economic opportunities and adversely affect institutional strength

EARNINGS MOBILITY ACROSS GENERATIONS AND INCOME INEQUALITY



HUMAN CAPITAL AND LONG-TERM GDP GROWTH RATES

- **Human capital** is a key factor of long-term output per capita growth
- **Raising the "knowledge capital" or cognitive skills** of disadvantaged individuals and **improving their health outcomes** boosts both a country's growth prospects, and improves equity and social mobility
- **Female education and labor force participation is beneficial** economically - it grows the labor force and its productivity. It enhances the health and education of children and, thus, promotes long-term growth
- **Disruptive modernization and structural change hurts those with weak cognitive skills**

EQUITY AND GROWTH ENHANCING POLICIES

- **Effective government actions** have been shown to reduce income inequality, while accelerating economic growth:
  - Promote **macroeconomic stability**
  - Enhance **educational quality and equity**
  - **Improve health outcomes**, as it helps raise cognitive skills and productivity
  - **Alleviate local and regional disparities**, and remove barriers to accessing labor opportunities, education, health, housing
  - Promote **gender equality** in access to education and the labor markets
  - Improve **the functioning of key markets** and address market failure

CREATING FISCAL SPACE TO REDUCE INEQUALITY

These actions are likely to require government resources

- Tax measures that would **raise revenue and improve the distribution of income**, while ensuring that incentives remain adequate
- Tax measures that would **raise disposable incomes of lower-income workers**, while encouraging work and hiring
- **Taxing goods with negative externalities**
- Establishing/reinforcing **conditional transfers targeted to low income households**
- **Curtailing inefficient and/or regressive expenditures**

POLITICAL ECONOMY CONSIDERATIONS

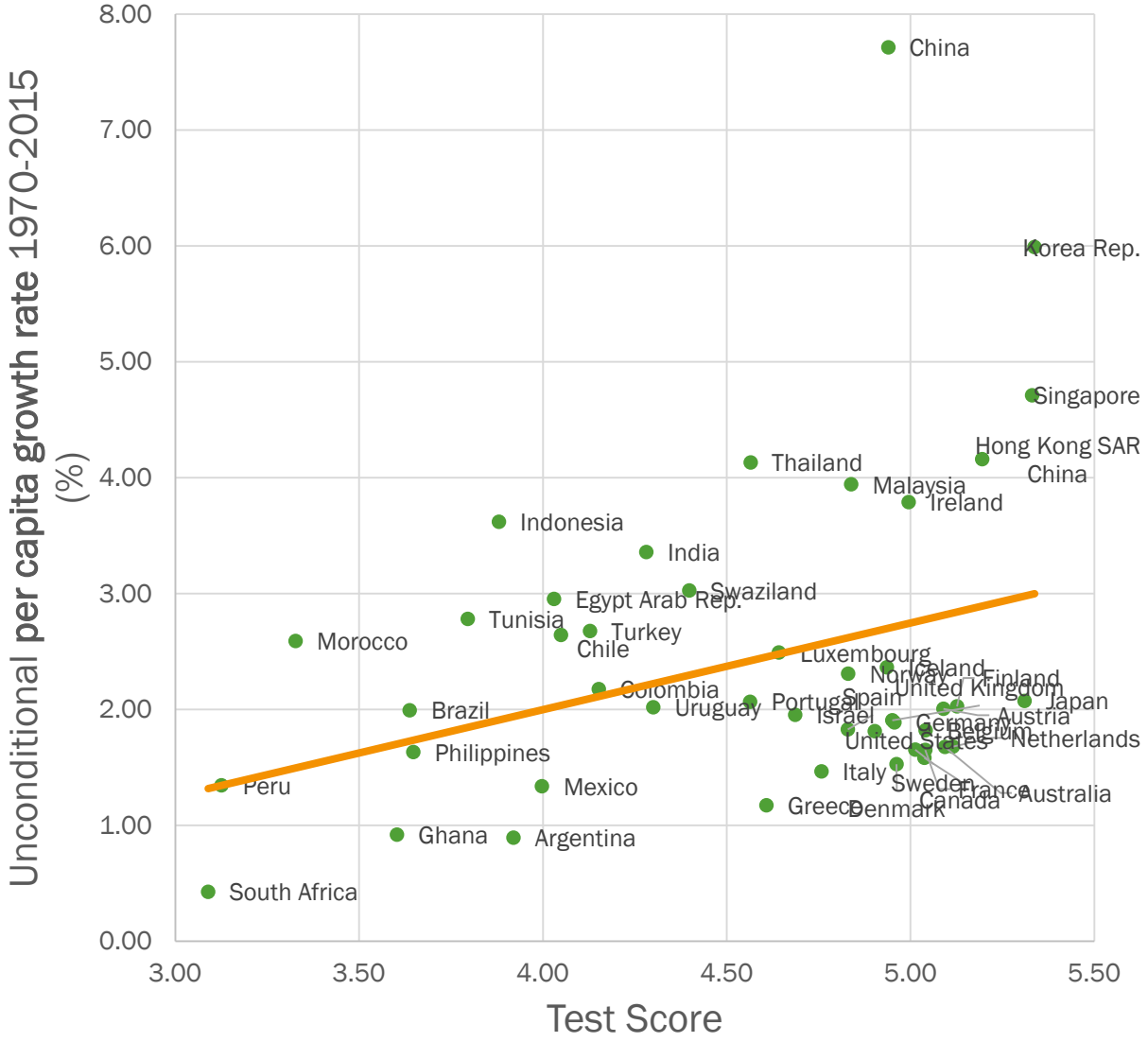
- The policies identified earlier yield benefits over the medium and long runs, thus **maintaining the commitment of political leaders** in the context of countries' short political cycles is challenging
- Key **features of successful reform strategies** include:
  - At the outset, **building support of key stakeholders** in favor of the most critical policy reform
  - **Sequencing the reforms** so that key constituents and stakeholders begin to receive benefits early on
  - Building **support across the political spectrum**
  - Giving adequate attention to **relieving administrative and budgetary bottlenecks**
- **Macroeconomic stability and sustained output growth** would help secure political "buy in" for the authorities' redistributive reforms

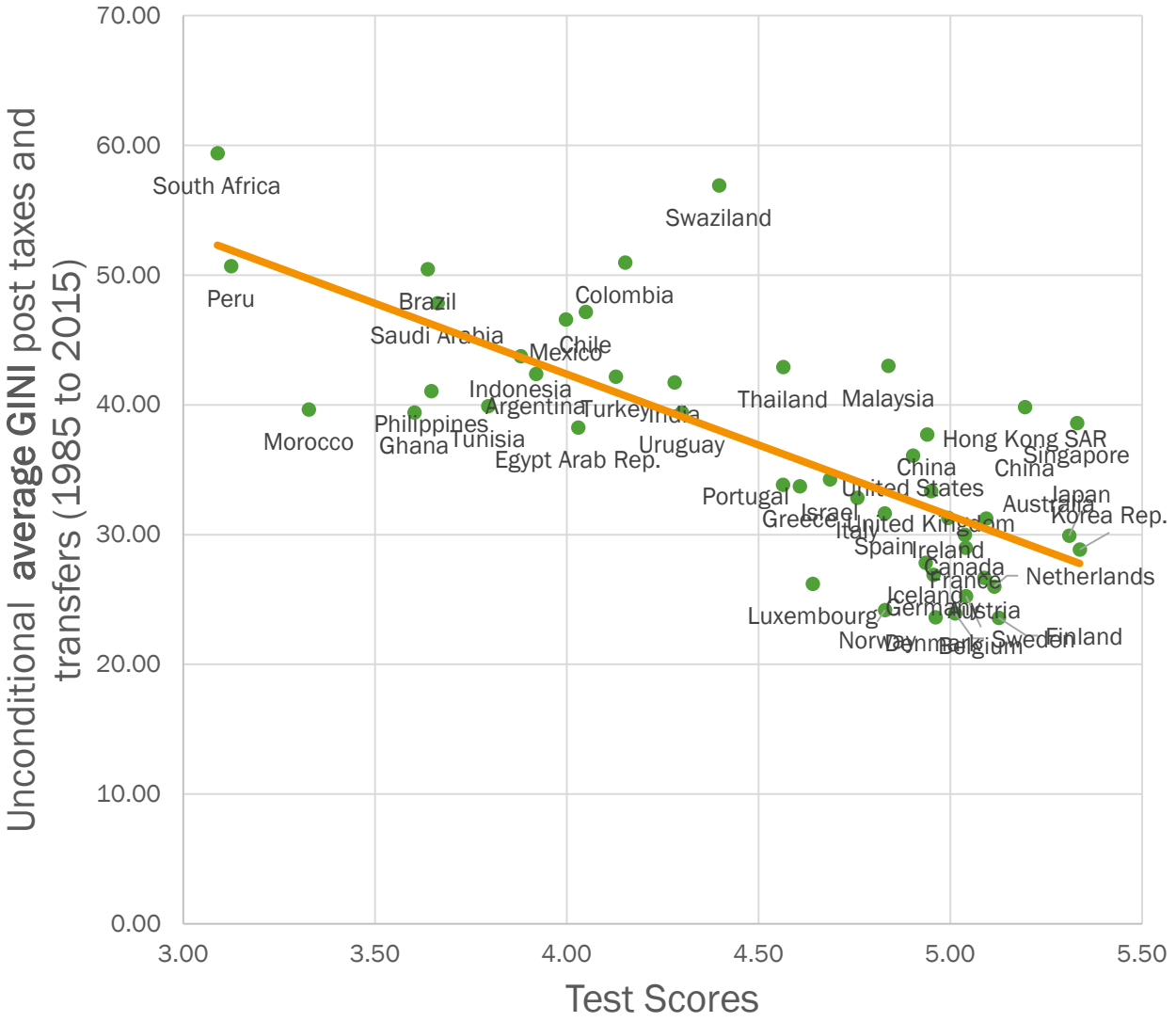
ADDRESSING INCOME INEQUALITY: ILLUSTRATIVE SCENARIOS OF THE ECONOMIC EFFECTS OF COMPREHENSIVE EDUCATION REFORMS

QUANTITATIVE RELATIONSHIPS BETWEEN HUMAN CAPITAL, GROWTH AND INCOME DISTRIBUTION

The estimated models are consistent with the **“endogenous growth” theory**: countries with more human capital have greater capacity to acquire new ideas, adopt or innovate new technologies, and develop better-quality supportive public and private institutions. All this sustains productivity gains, leads to higher growth rates and improves income distribution.

KNOWLEDGE CAPITAL, AND LONG-TERM GDP GROWTH RATES AND GINI





EMPIRICAL GROWTH MODEL WITH COGNITIVE SKILLS

The estimated **output per capita growth model** is:

$$g = \underset{(3.93)}{-4.24} - \underset{(4.67)}{0.0001}\ GDP/capita1970 + \underset{(6.74)}{1.88}\ C - \underset{(1.57)}{0.14}\ S$$

(Adjusted R2=0.58)

- Relates the avg. growth rate of GDP per capita to: (1) the level of GDP per capita in 1970, (2) as a human capital proxy, avg. years of school attainment in 1970 (S) and (3), as a human capital proxy, the avg. level of cognitive skills of students (C), measured by mathematics and science scores on available international exams (e.g. TIMSS, PISA, etc.) taken in 1964-2003, normalized
- The estimated coefficient on cognitive skills is statistically highly significant and suggests that **an increase of 100 points on the PISA score (approx. 1 standard deviation) would increase the GDP per capita growth rate by nearly 2 percentage points.** This result is robust to different model specifications

EMPIRICAL INCOME DISTRIBUTION MODEL WITH COGNITIVE SKILLS

The estimated **income distribution model** is:

$$GINI = 75.998 - 0.0005\ GDP/capita1970 - 7.998\ C + 0.51S - 0.125\ AvgGDP/capita\ growth$$

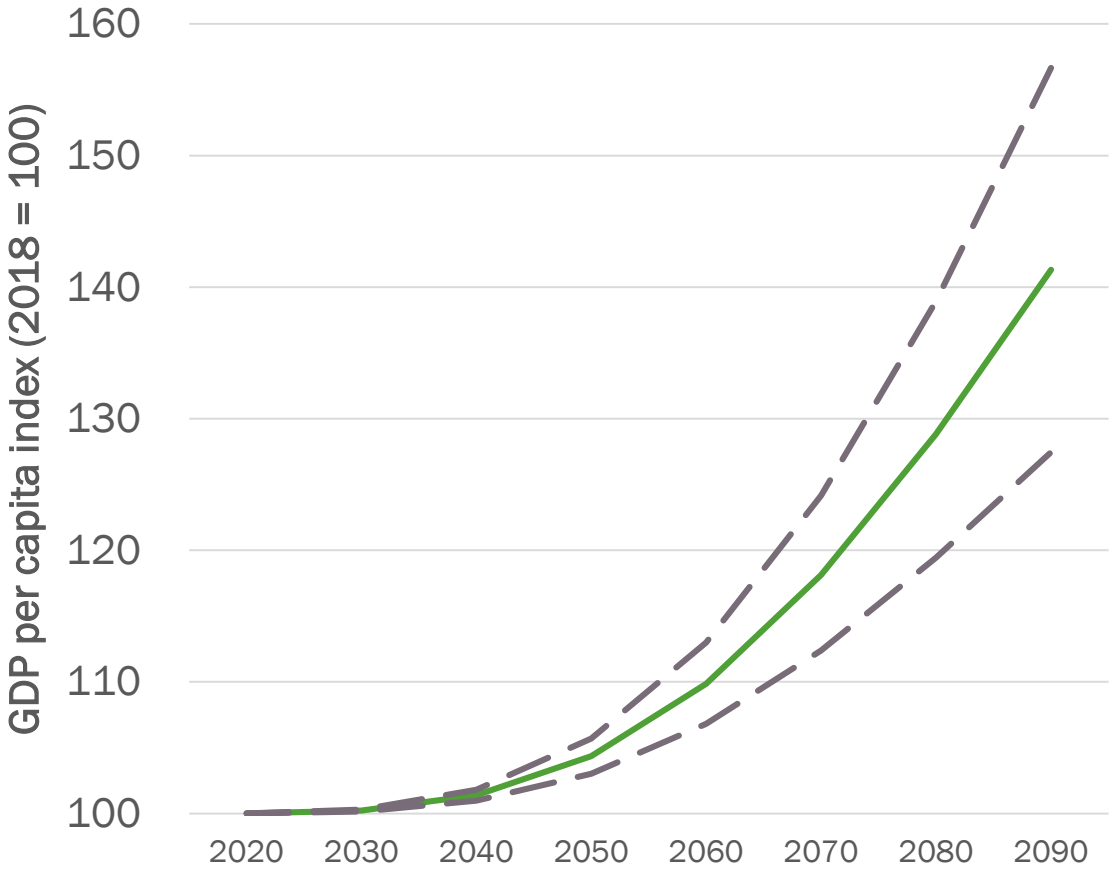
(10.27) (3.36) (3.39) (0.94) (0.14)

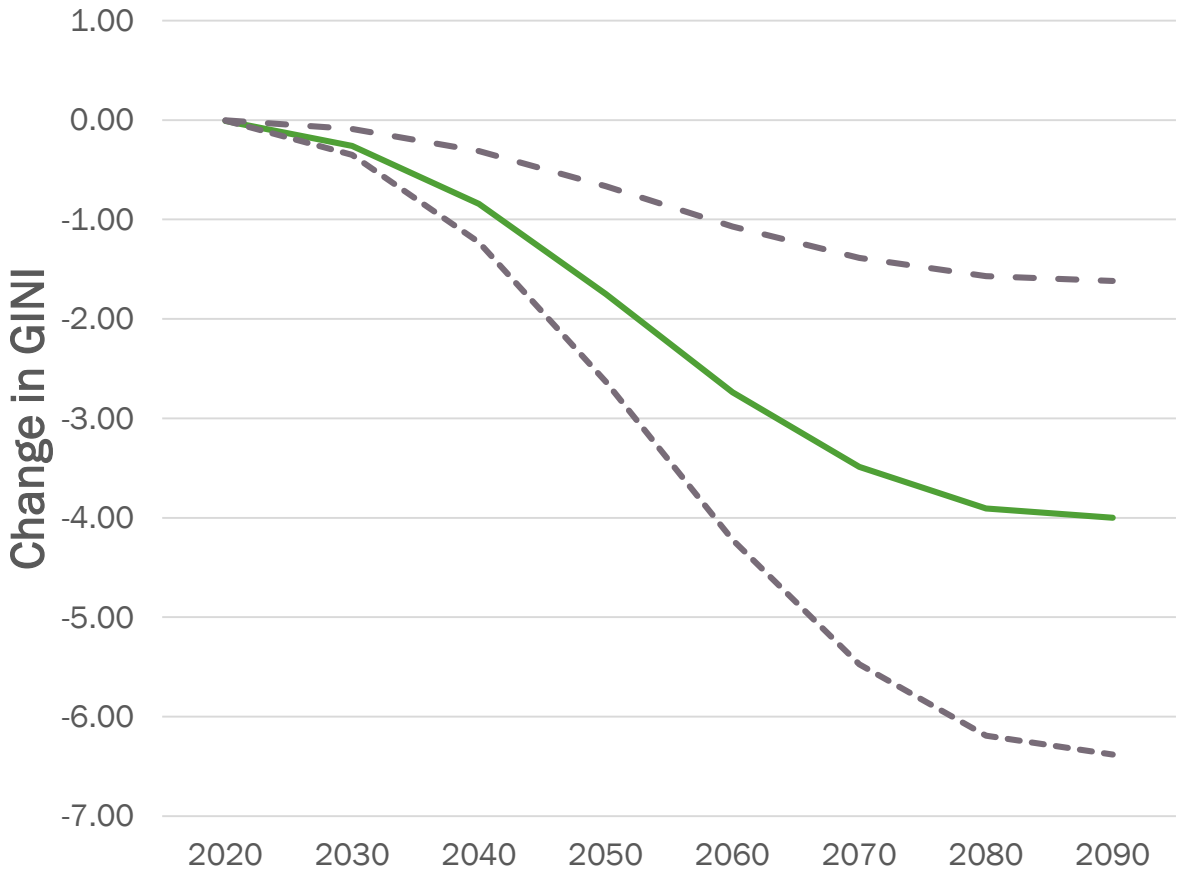
(Adjusted R2=0.67)

- Relates avg. GINI coefficients (after taxes and transfers) in 1985-2015 to: (1) the level of GDP per capita in 1970; (2) the avg. years of school attainment in 1970; (3) the avg. level of cognitive skills of students, measured by math and science scores on available international exams (e.g. TIMSS, PISA, etc.) taken in 1964-2003, normalized; and (4) average GDP per capita growth in 1970-2015
- The estimated coefficient on cognitive skills is statistically highly significant and suggests that **an increase in 100 points on the PISA scale (approx. 1 standard deviation) would reduce the GINI coefficient by 8 percentage points**

ILLUSTRATIVE COUNTRY SCENARIOS: ECONOMIC EFFECTS OF COMPREHENSIVE EDUCATION REFORM

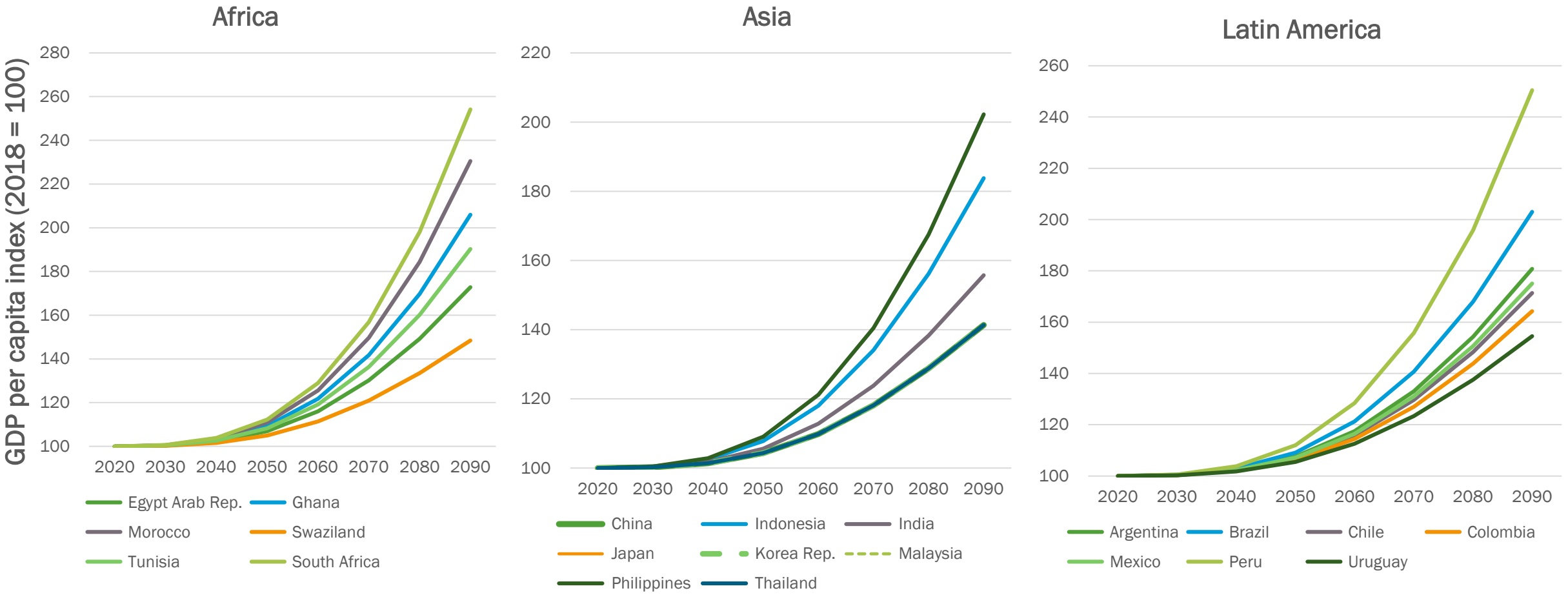
In the already high performing countries (mostly AEs), the reform efforts would target their worse performing schools and improve their student test scores. As a result, average test scores would rise by 50 PISA points.





ILLUSTRATIVE COUNTRY SCENARIOS: ECONOMIC EFFECTS OF COMPREHENSIVE EDUCATION REFORM

In other countries, the reform would target all schools and students, and succeed in closing 60 percent of their gap in test scores with the best performing country (Japan) or increase test scores by 50 points, whichever is larger



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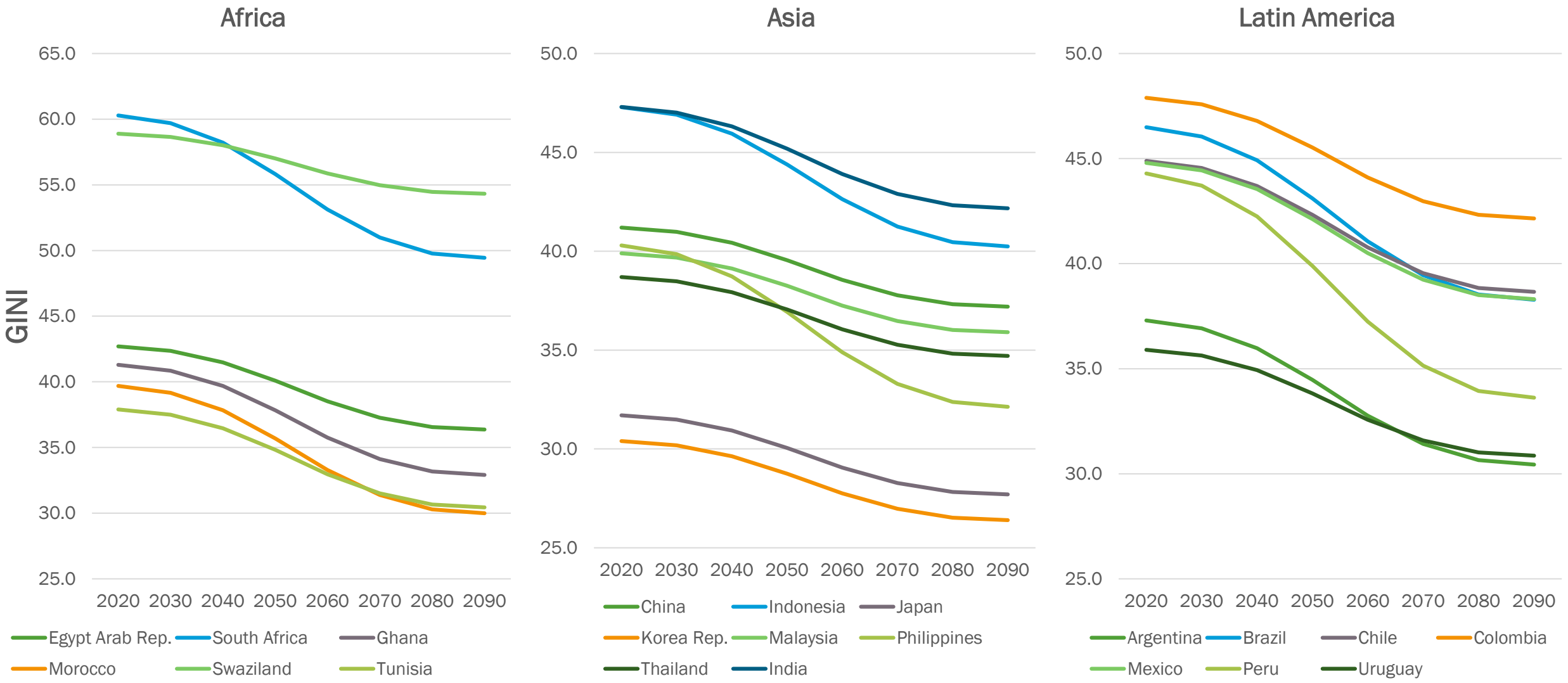

CONCLUDING REMARKS

- In summary: In the long-run, a one standard deviation increase in knowledge capital is associated with a nearly 2 percent a year faster growth rate of per capita GDP and an 8 percentage point decline in the GINI coefficient
- Thus, **human capital accumulation is the fountain of growth and inclusiveness**