

A decorative L-shaped frame made of thick, dark grey lines. One vertical line runs down the left side, and one horizontal line runs across the top, meeting at a right angle in the top-left corner. Another vertical line runs down the right side, and another horizontal line runs across the bottom, meeting at a right angle in the bottom-right corner.

# THE ECONOMICS OF IMPROVED SCHOOLS

**Eric A. Hanushek**  
Stanford University

Romanian Business Leaders Summit  
Bucharest  
3 March 2017

# UN Sustainable Development Goals



# Development = Growth



**Growth = Skills**



# Conclusions

1. Development = growth

*- Recent focus on fiscal issues cannot neglect future*

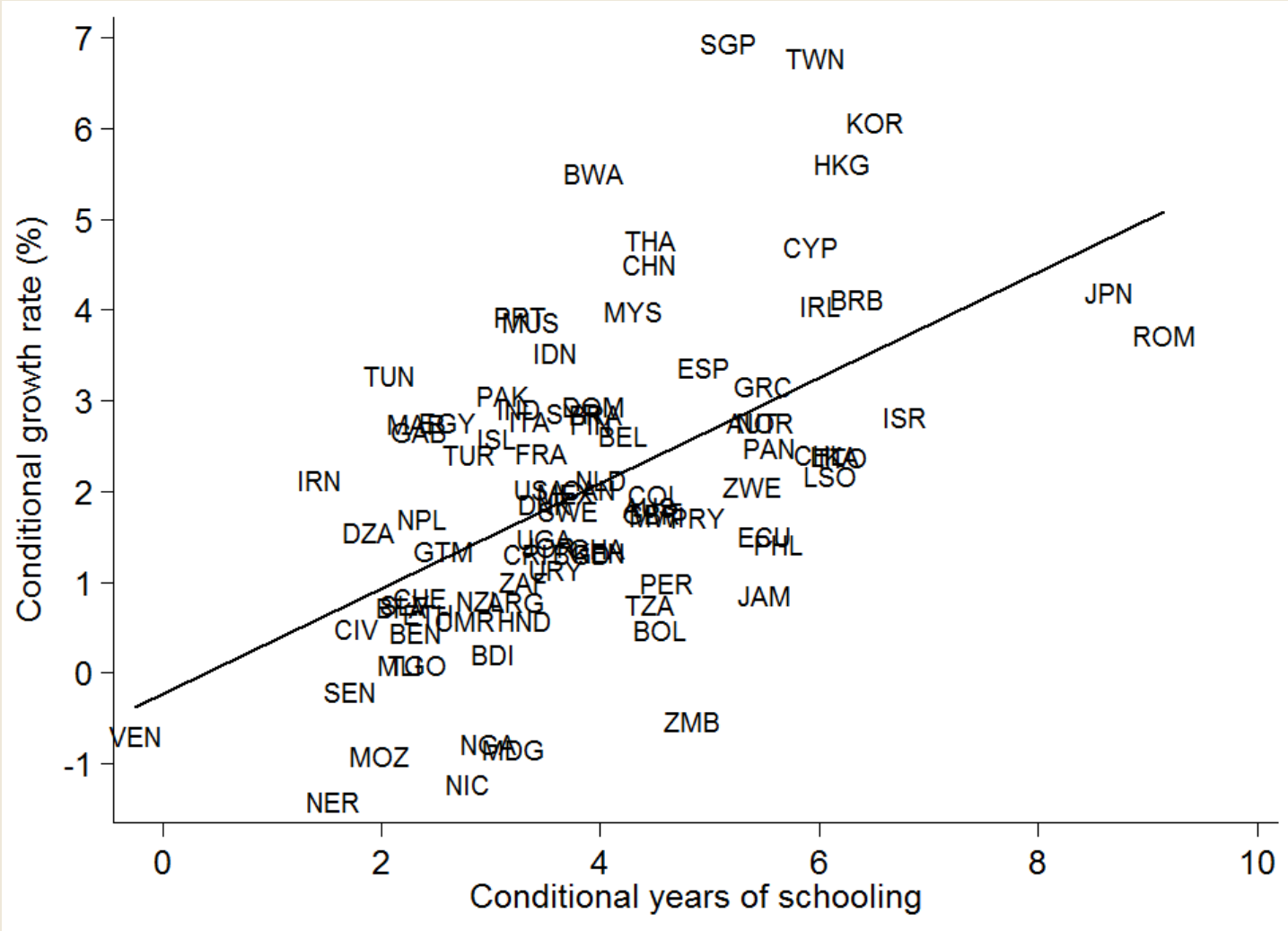
 *Growth = skills*

2. Value of school improvement is enormous

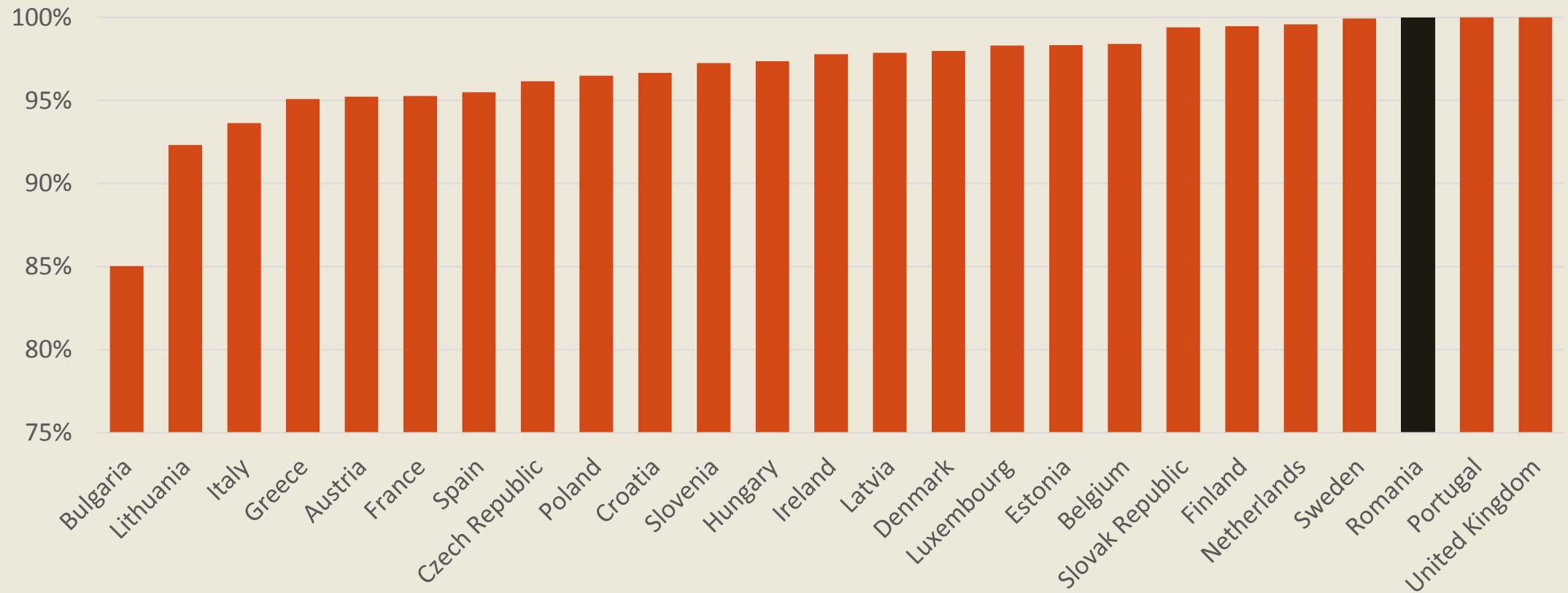
3. Improvement is possible

4. Improvement requires continued commitment

# Years of Schooling and Economic Growth

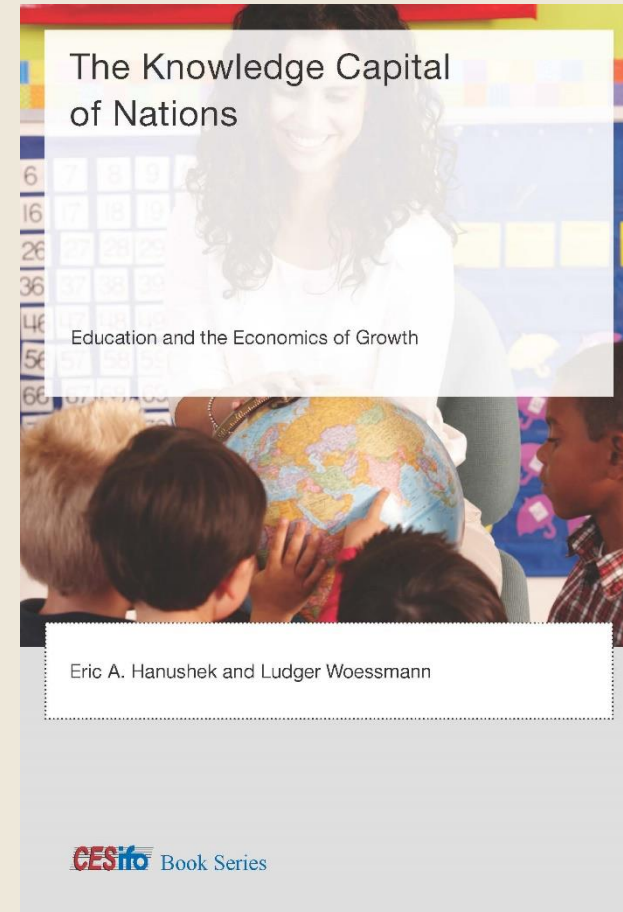


# Enrollment in Lower Secondary



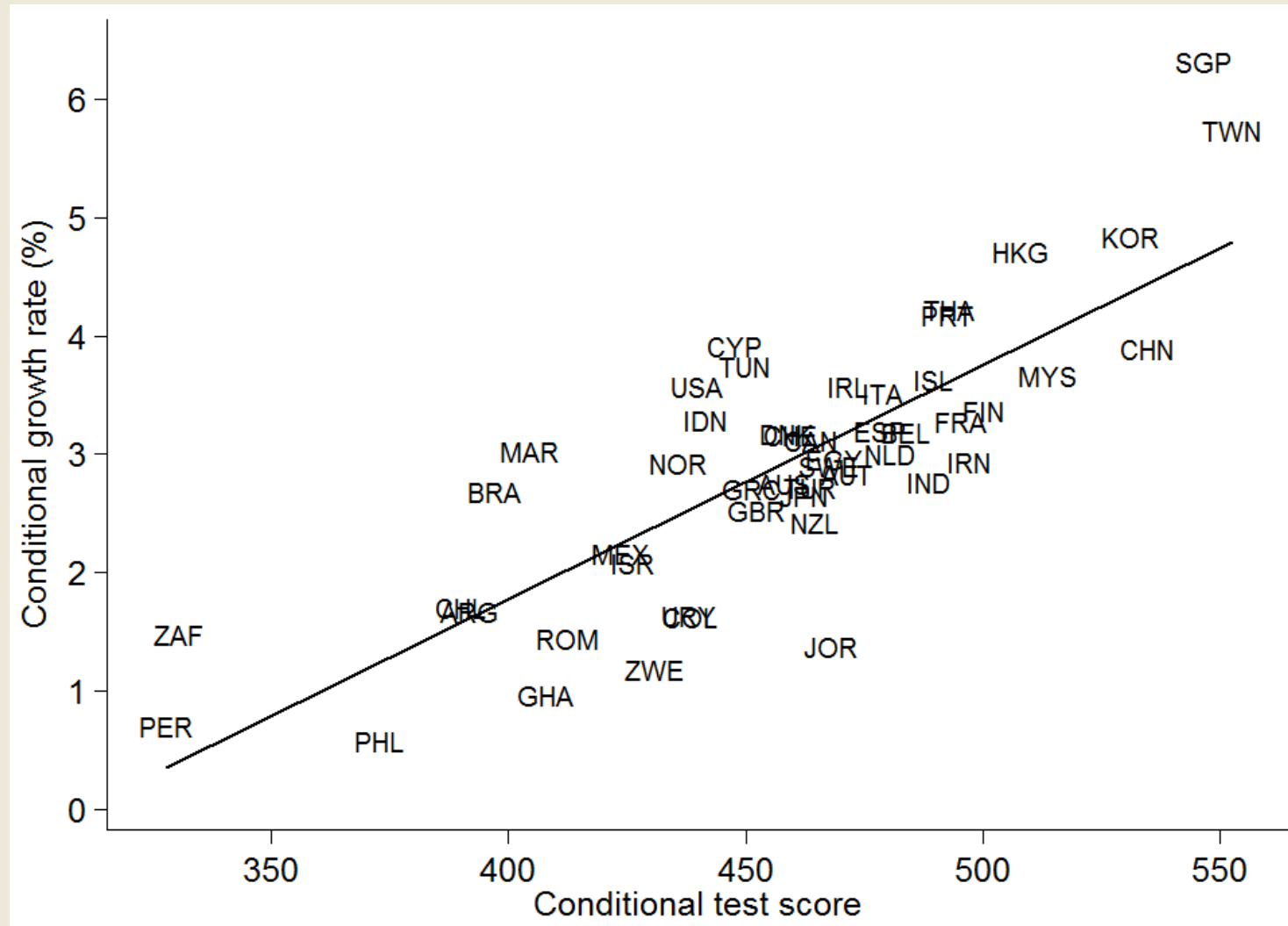
# Evidence on Learning and Long Run Growth

- Long run growth depends on **skills** of the population
- The knowledge capital of nations depends on **learning**
- International math and science tests good measures of learning

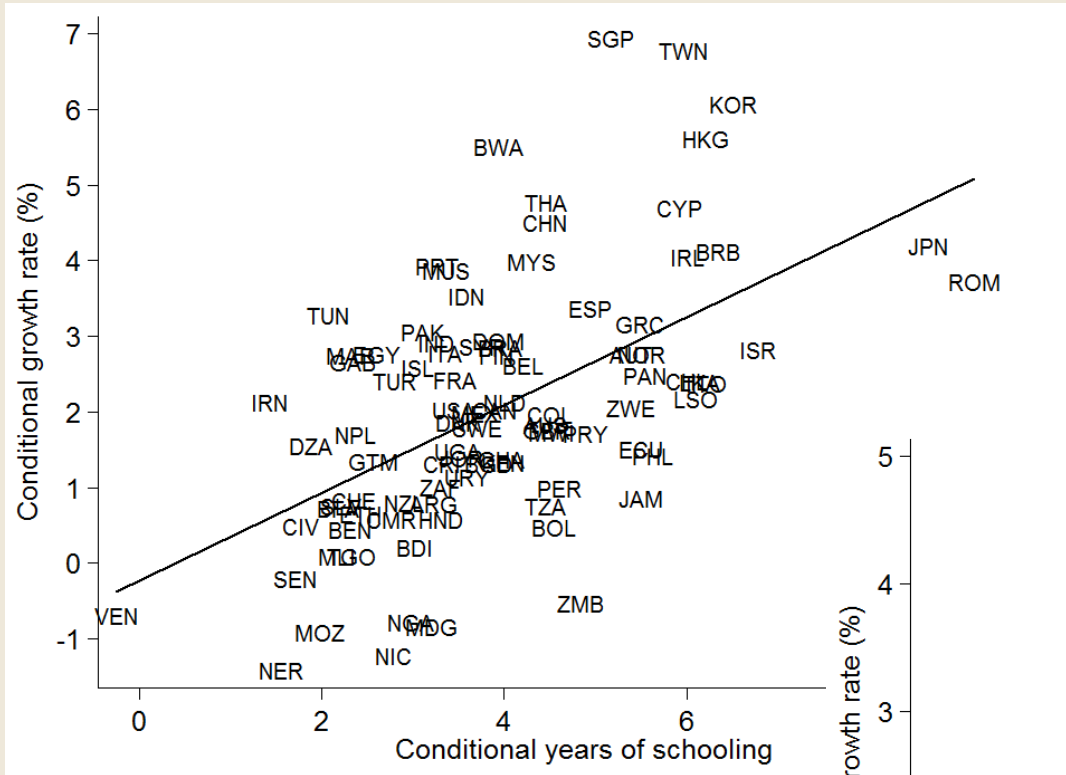




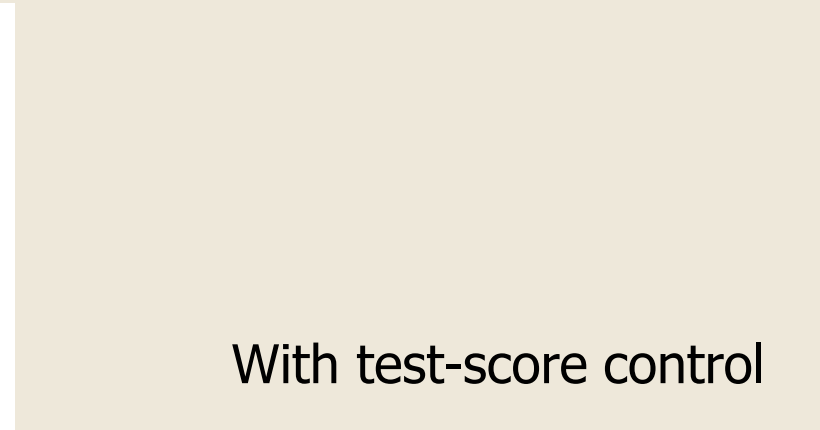
# Knowledge Capital and Economic Growth



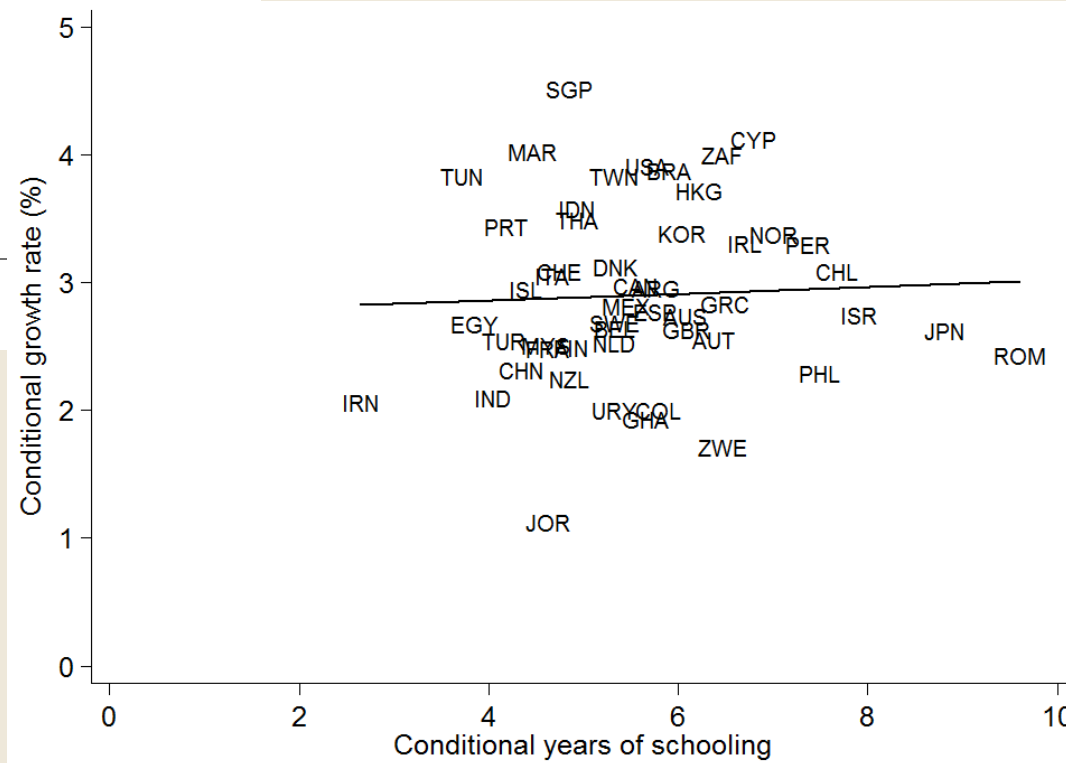
# Years of Schooling and Economic Growth



Without test-score control



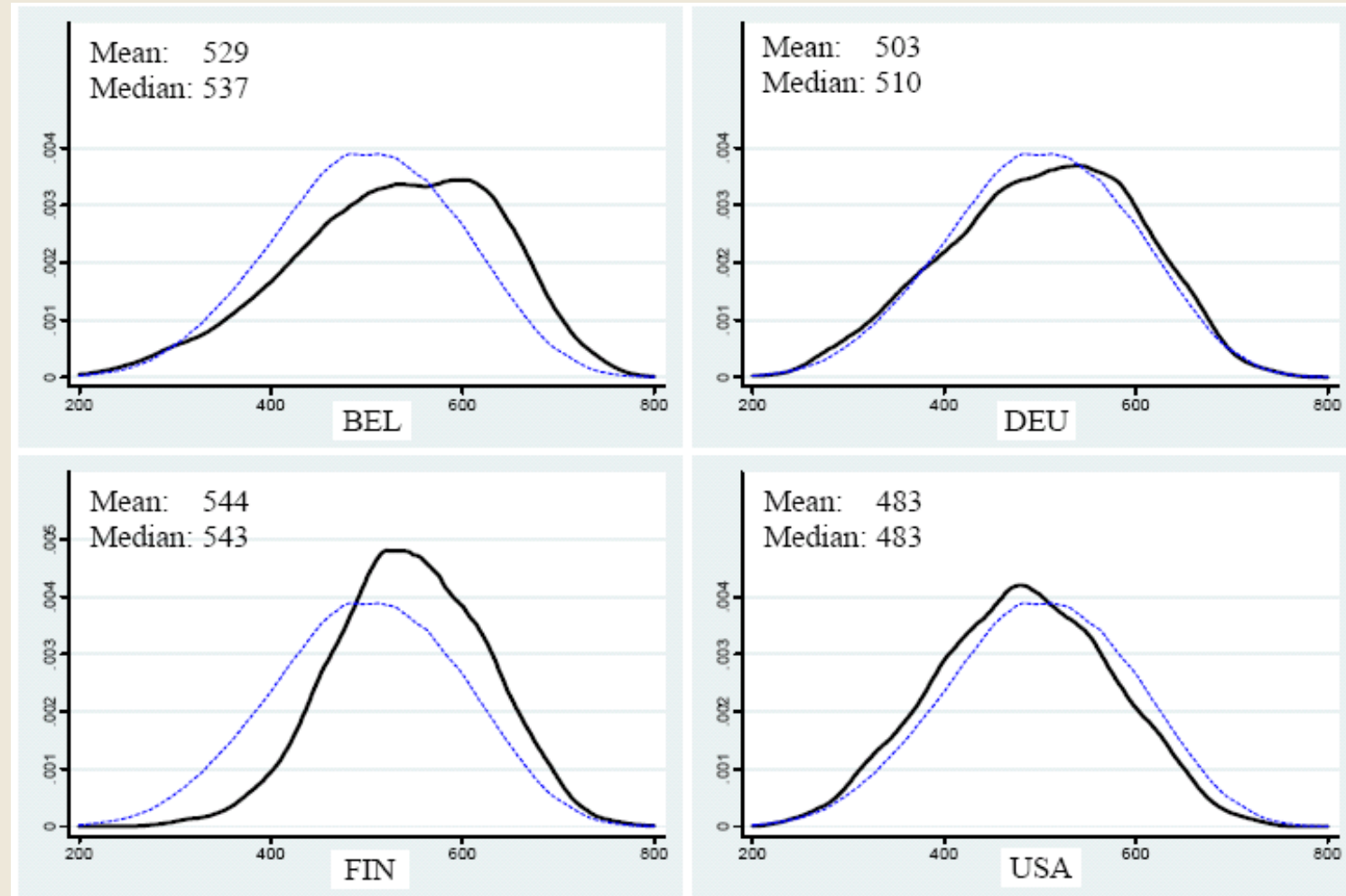
With test-score control



# Rocket Scientists or Basic Education for All?

- Should policy concentrate on lowest or highest achievers?

# Distribution of Student Achievement



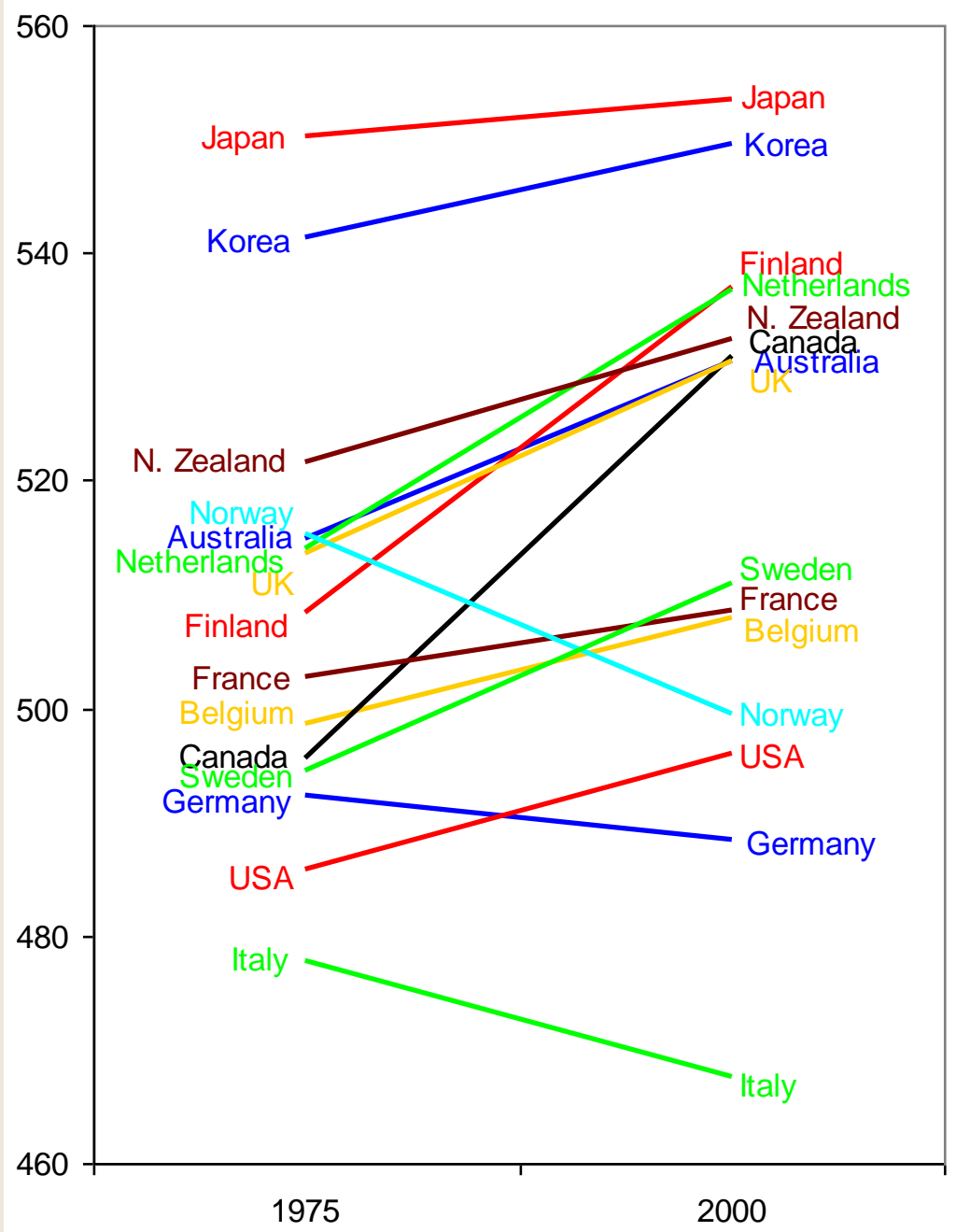
# Rocket Scientists or Basic Education for All?

- Should policy concentrate on lowest or highest achievers?
- ANSWER: Both are important!

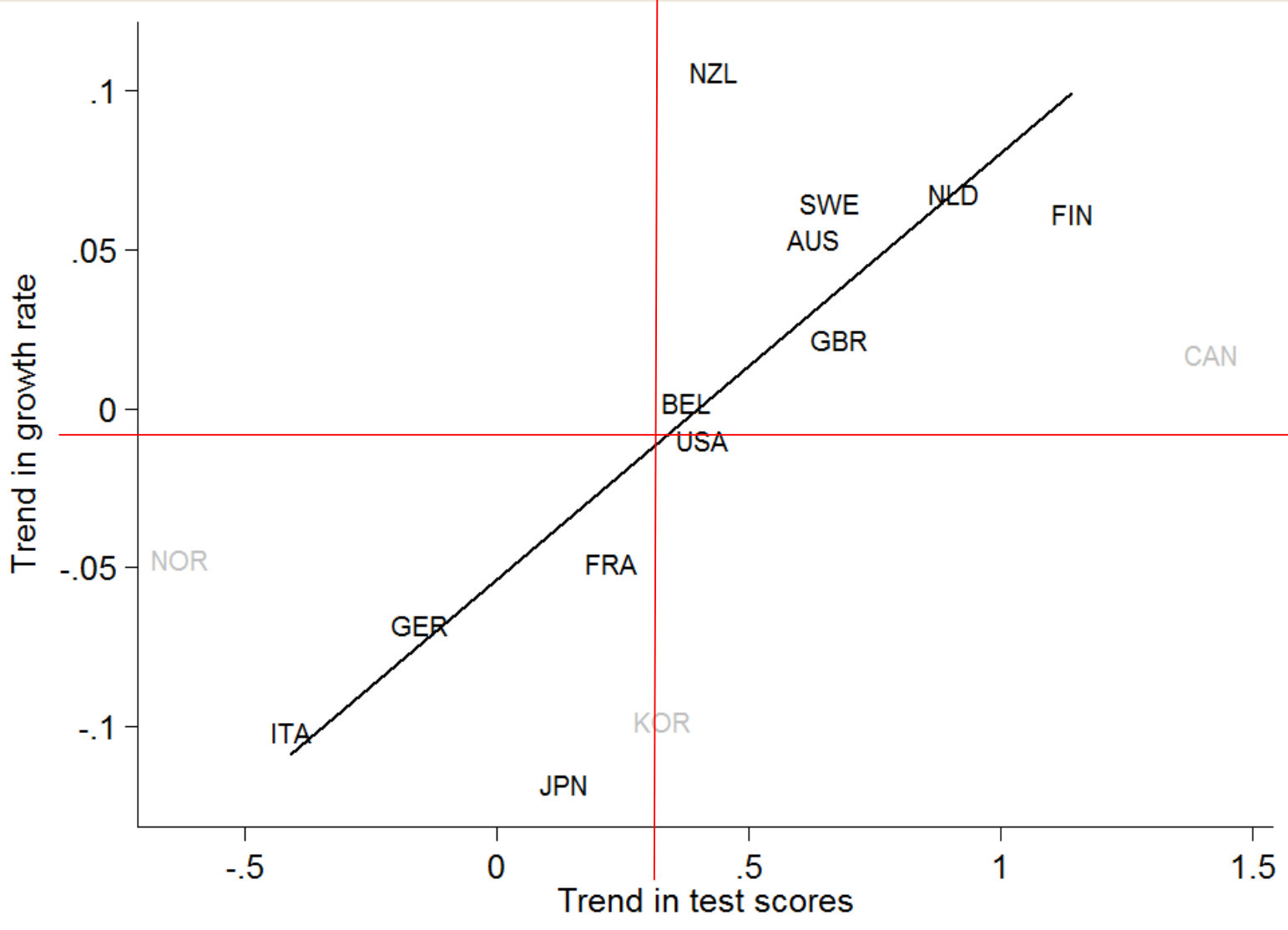
# Do Skills Cause Growth?

- Simple reverse causation
- Omitted factors
  - *Cultural factors*
  - *Regulations*
  - *Institutions (openness, property rights)*

# Trends in Test Scores



# Trends in Growth Rates vs. Trends in Test Scores





A thick, dark grey L-shaped graphic that starts at the top left, extends horizontally to the right, and then turns 90 degrees to extend vertically downwards.

6.

# THE ECONOMIC VALUE OF EDUCATIONAL REFORM

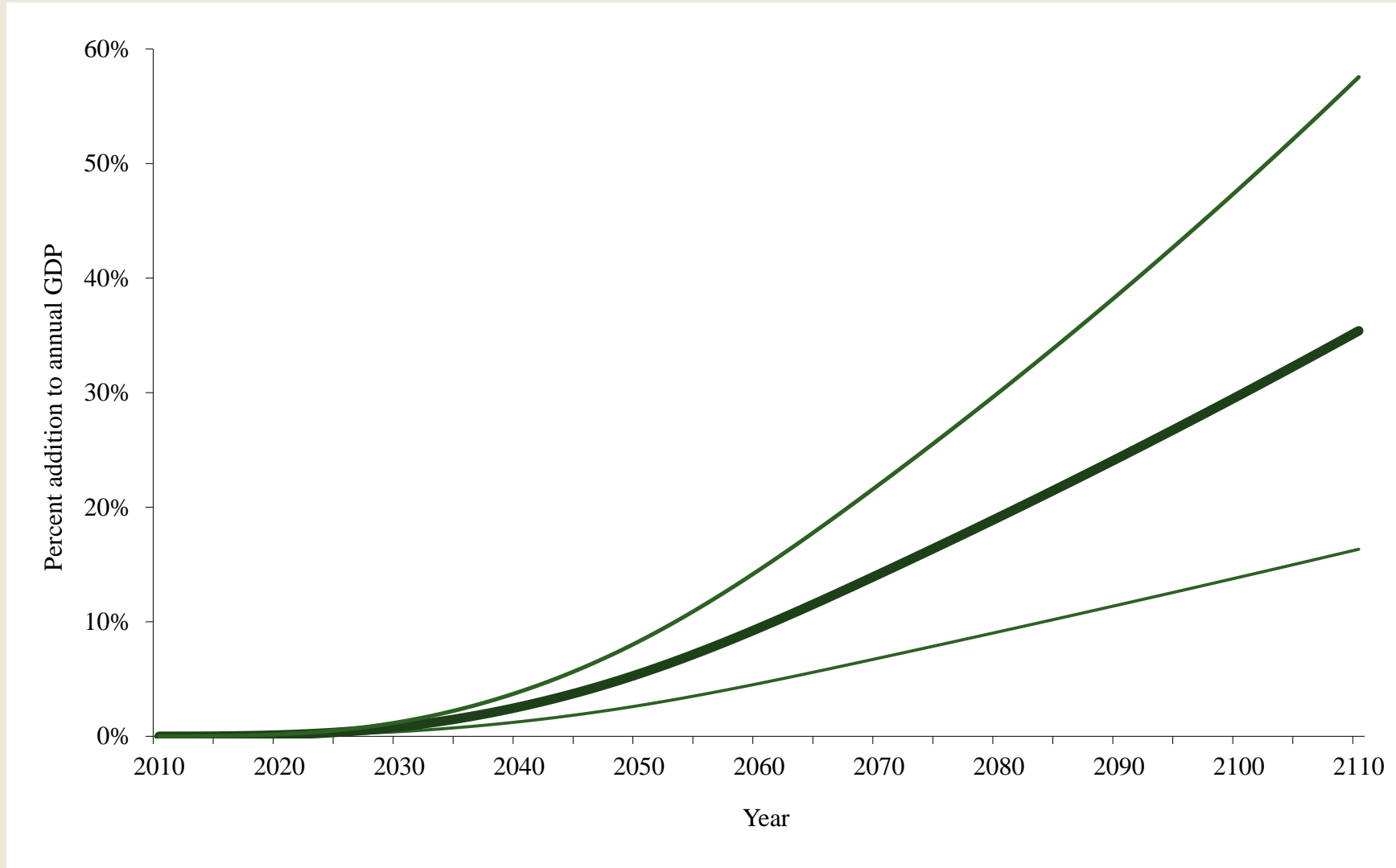
A thick, dark grey L-shaped graphic that starts at the bottom right, extends horizontally to the left, and then turns 90 degrees to extend vertically upwards.

# Estimating the Value of School Reform

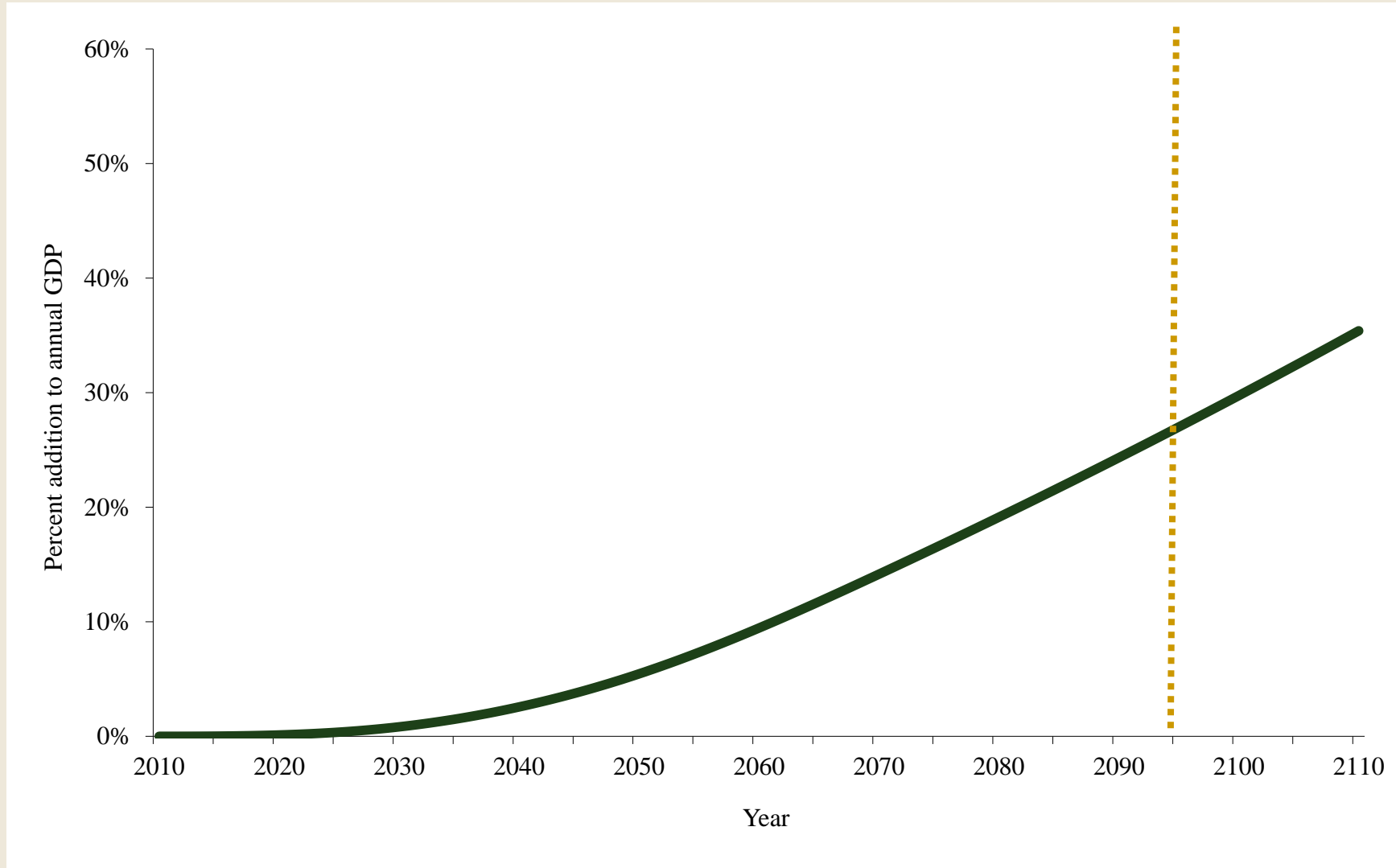
- *Use available estimates of growth impact to simulate how future GDPs would evolve under school reforms*
- Reform that increases achievement
  - *15 years to reach new levels*
- Assume future growth like 1960-2000 growth
- Discount future at 3 percent
- Growth without education reform at 1.5 percent
- Calculate present value over lifetime of person born today
  - *80 year expected life*
  - *40 year working life*



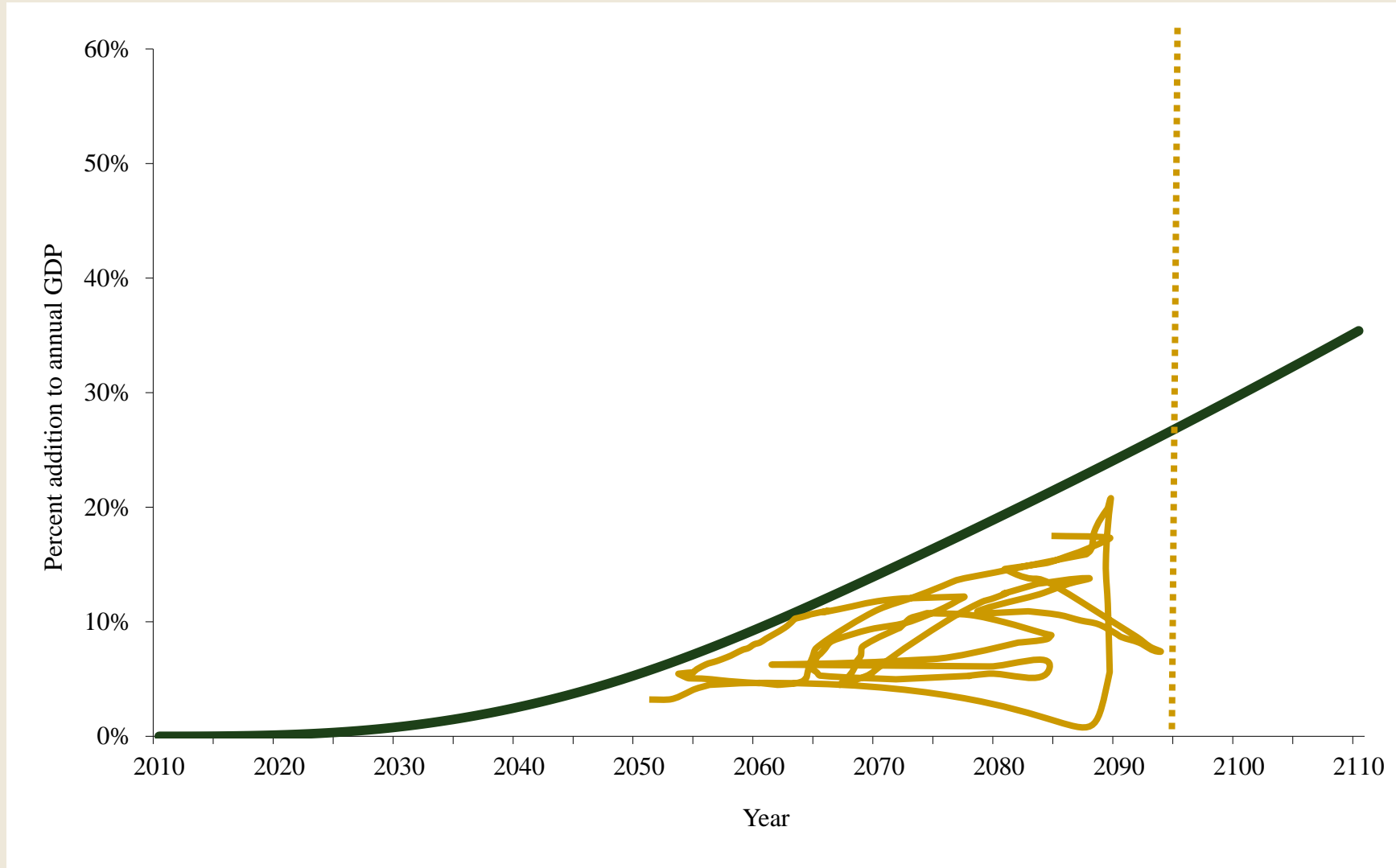
# Gains from Added Growth



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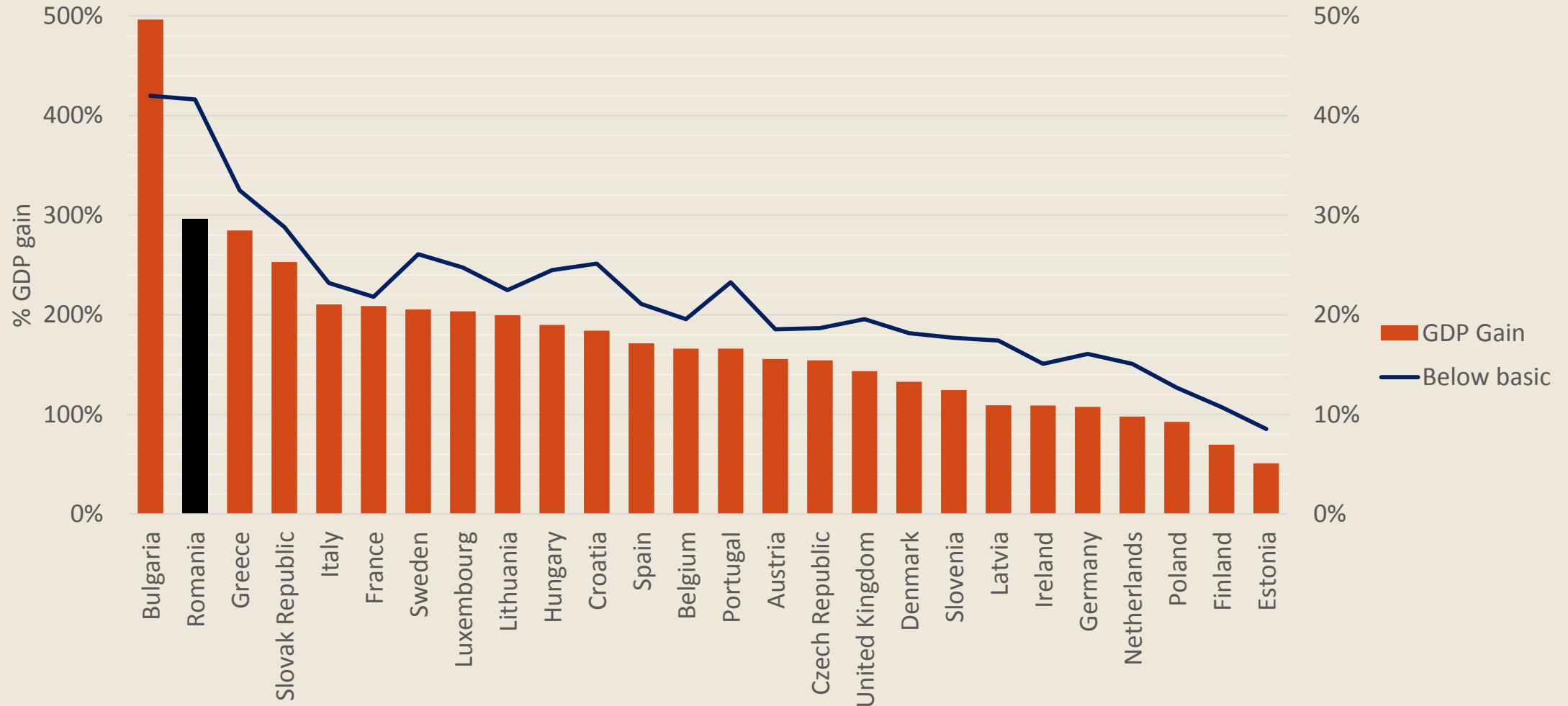


# Value of Improvement for Romania

- Two projections
  1. *Universal Basic Skills*
  2. *Reaching Slovakia*

# Economic Gains from Universal Basic Skills

(percent of GDP)



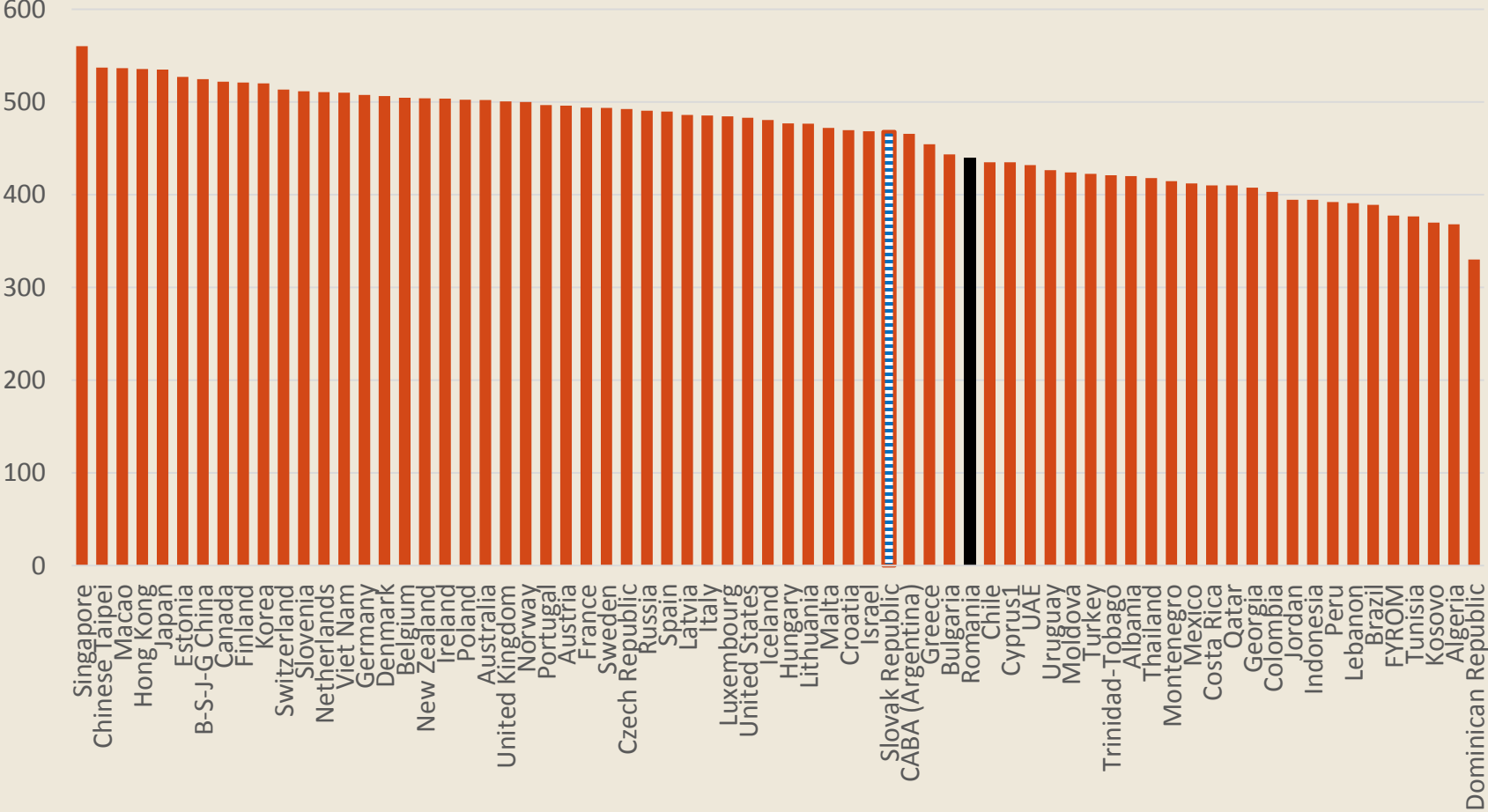
# Value of Improvement - 1

## Universal Basic Skills

- 42 percent below 420
  - Present value of **296% of GDP [USD 1194 billion]**
  - Average **6.3% higher GDP/pop**
  - **12% higher paychecks** for all workers every year

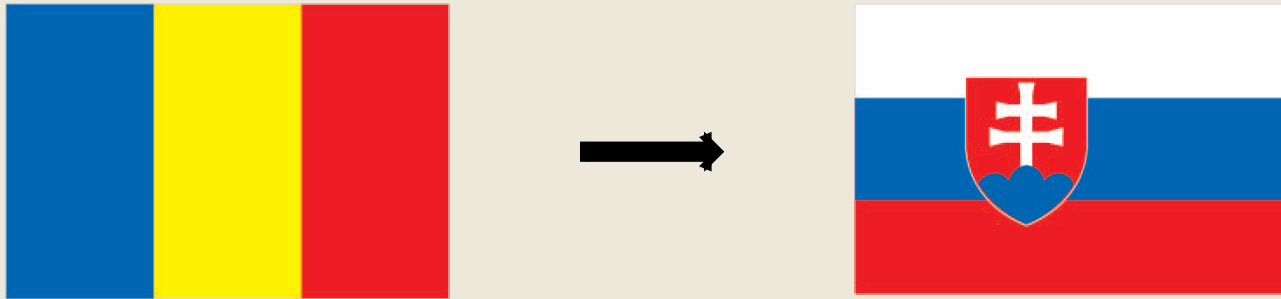


# PISA 2015 -- Math + Science



# Value of Improvement - 2

- Romania moves to level of Slovakia



- Present value of **340% of GDP [USD 1371 billion]**
- Average **7.3% higher GDP/pop**
- **15% higher paychecks** for all workers every year

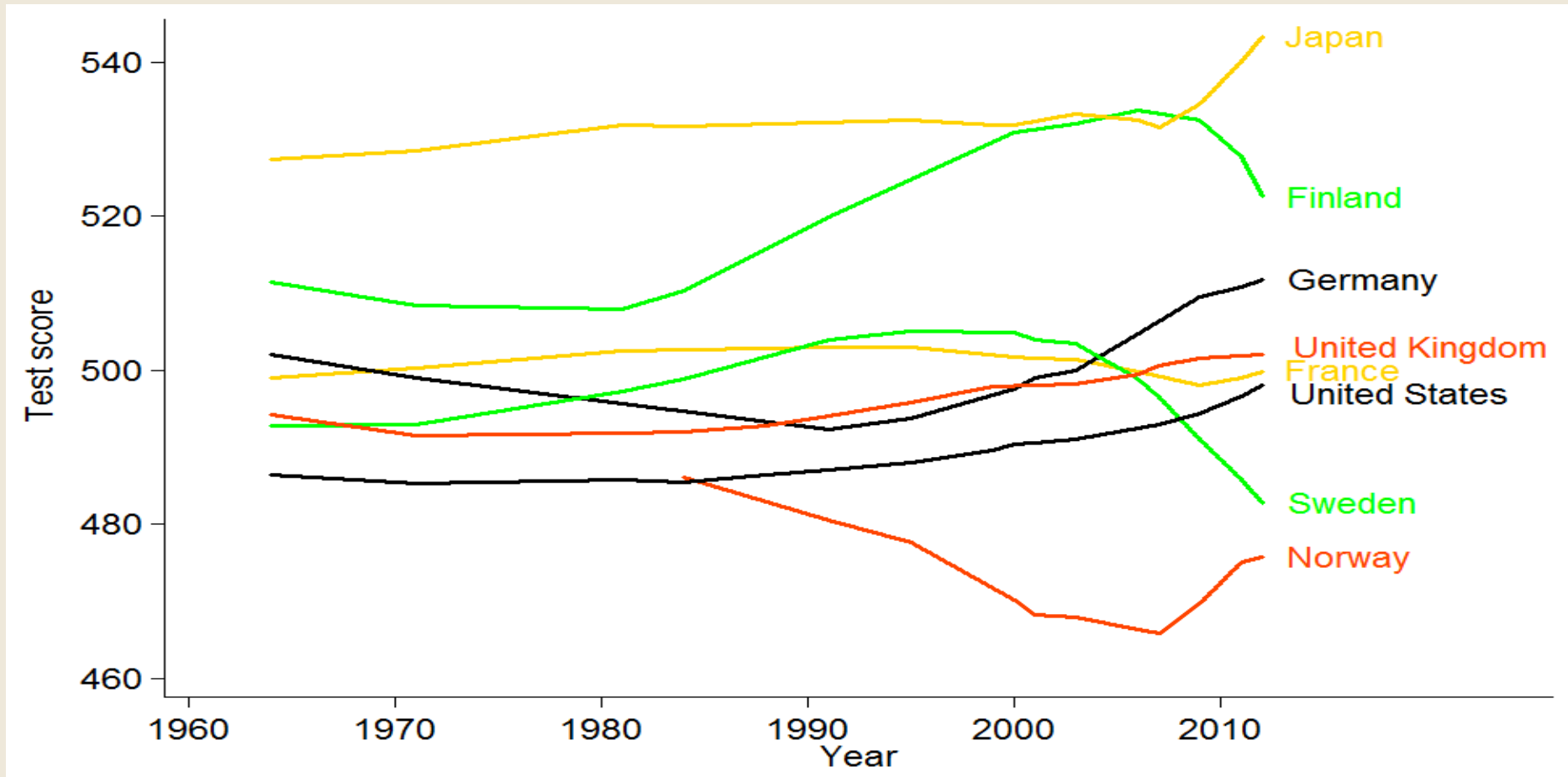


7.

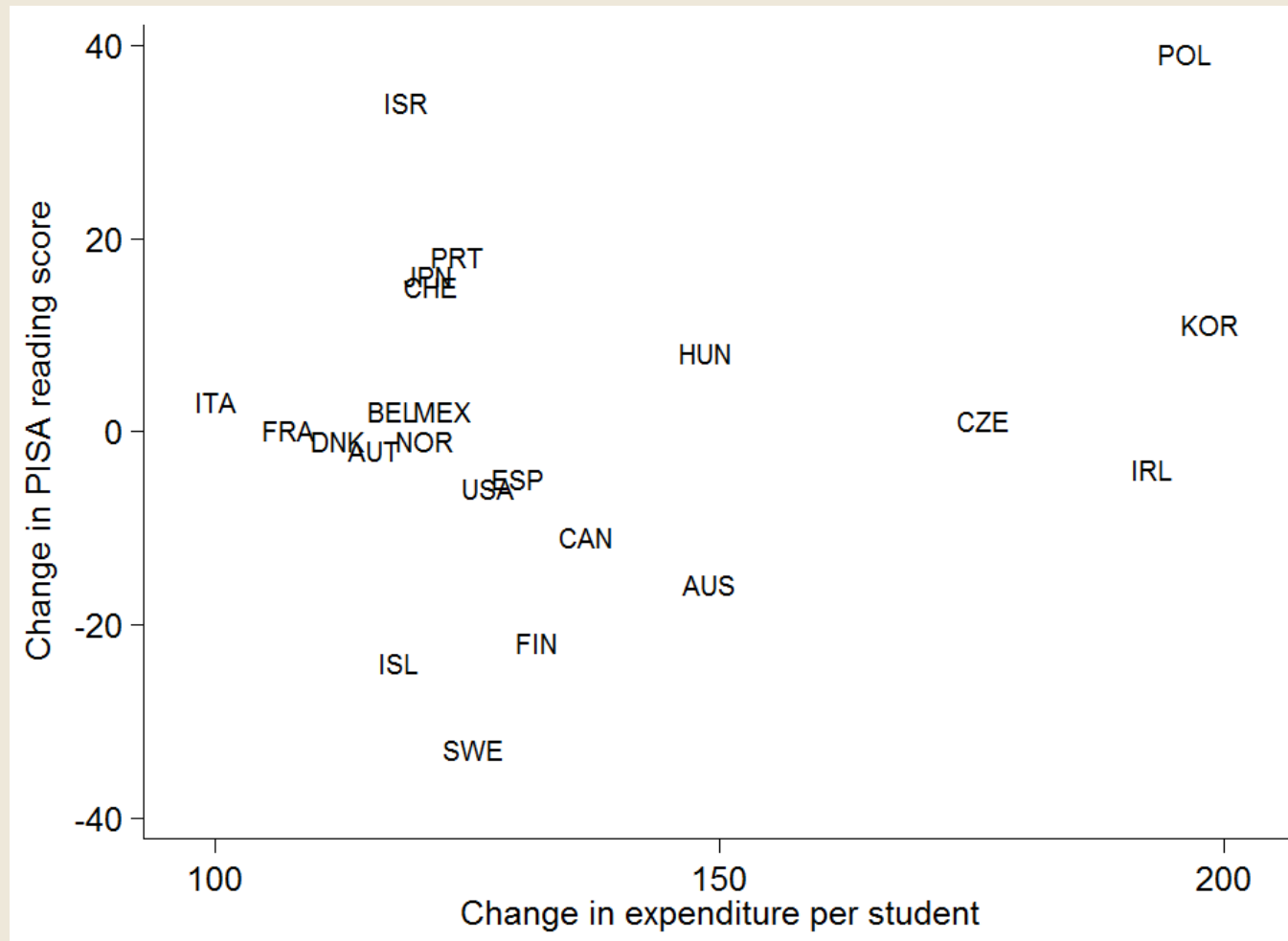
# **POLICIES TO IMPROVE KNOWLEDGE CAPITAL**



# Long-Run Test Score Trends in Selected Countries, 1964-2012



# Changes in Educational Spending and in Achievement across Countries



# What Can Be Done?

1. Improve teacher quality
2. Improve teacher quality
3. Improve teacher quality

\*and administrator quality

# Teacher Quality

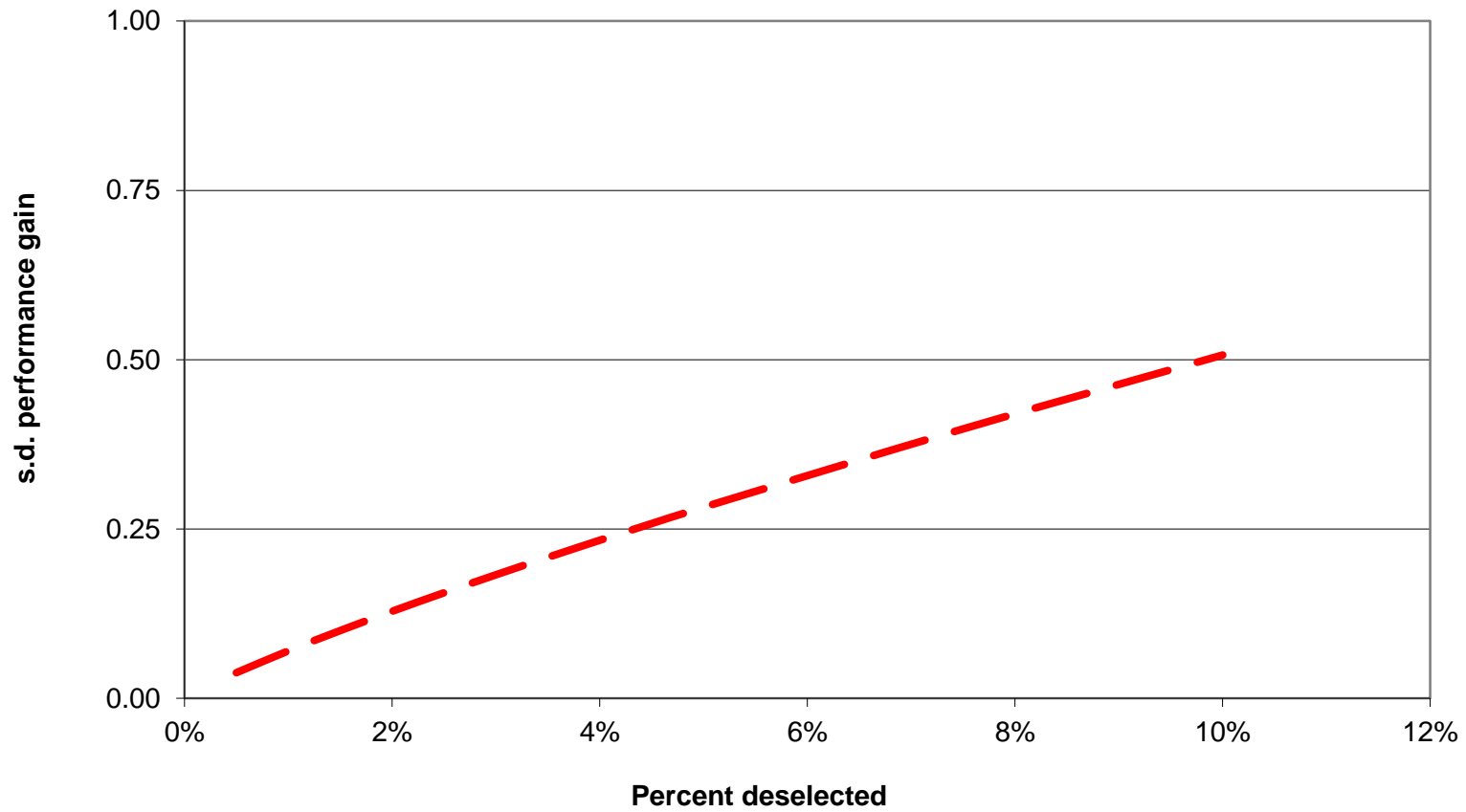
- No identifiable characteristics
  - *Master's degrees*
  - *Experience\**
  - *Certification*
  - *Preparation*
  - *Professional development*
- Observable through both student performance *and* supervisor ratings
- Cannot regulate and pay on characteristics

# Align Pay and Performance

- Evaluation
- Reward success
- Zero option

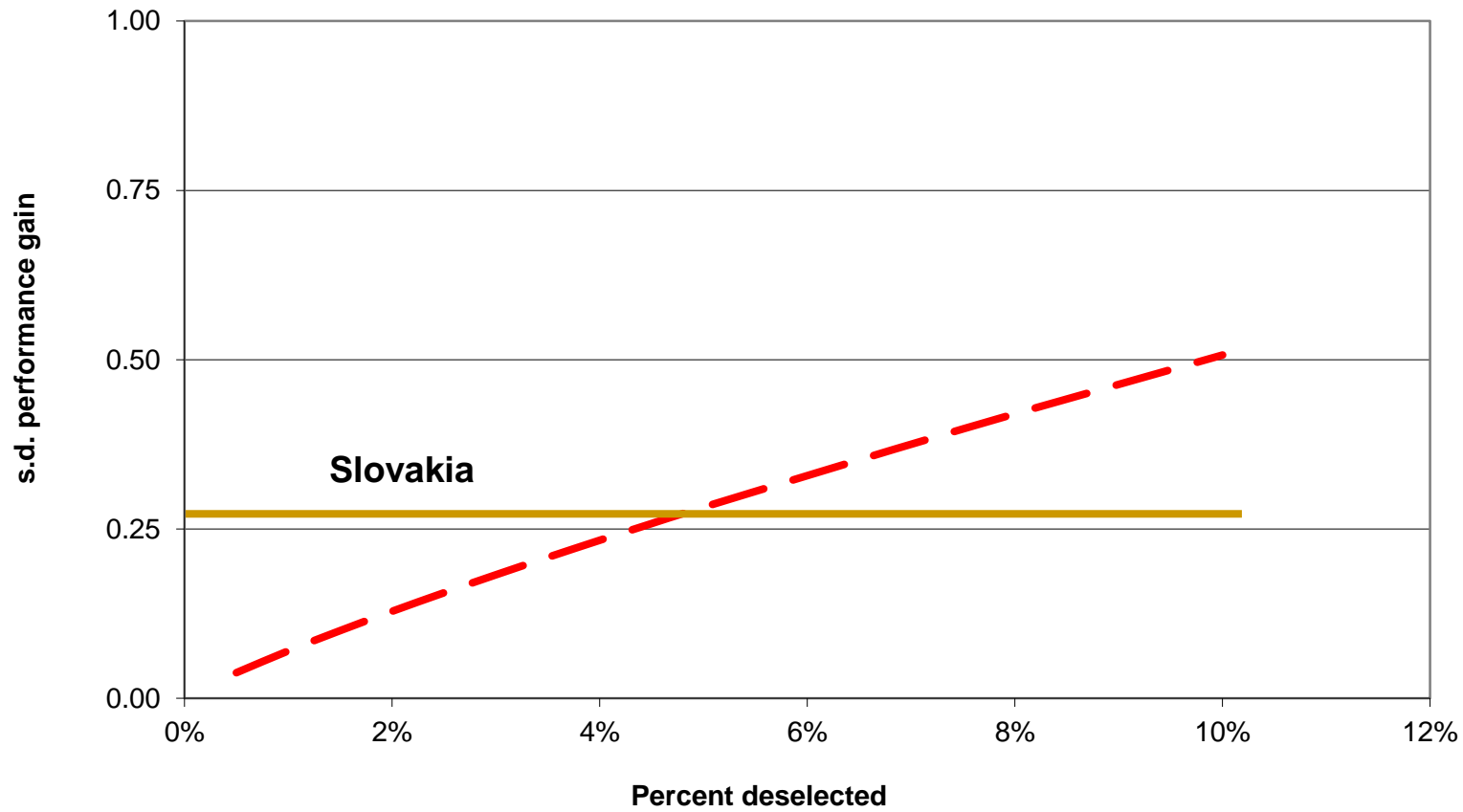


# Estimates of Least Effective Teachers on Student Achievement



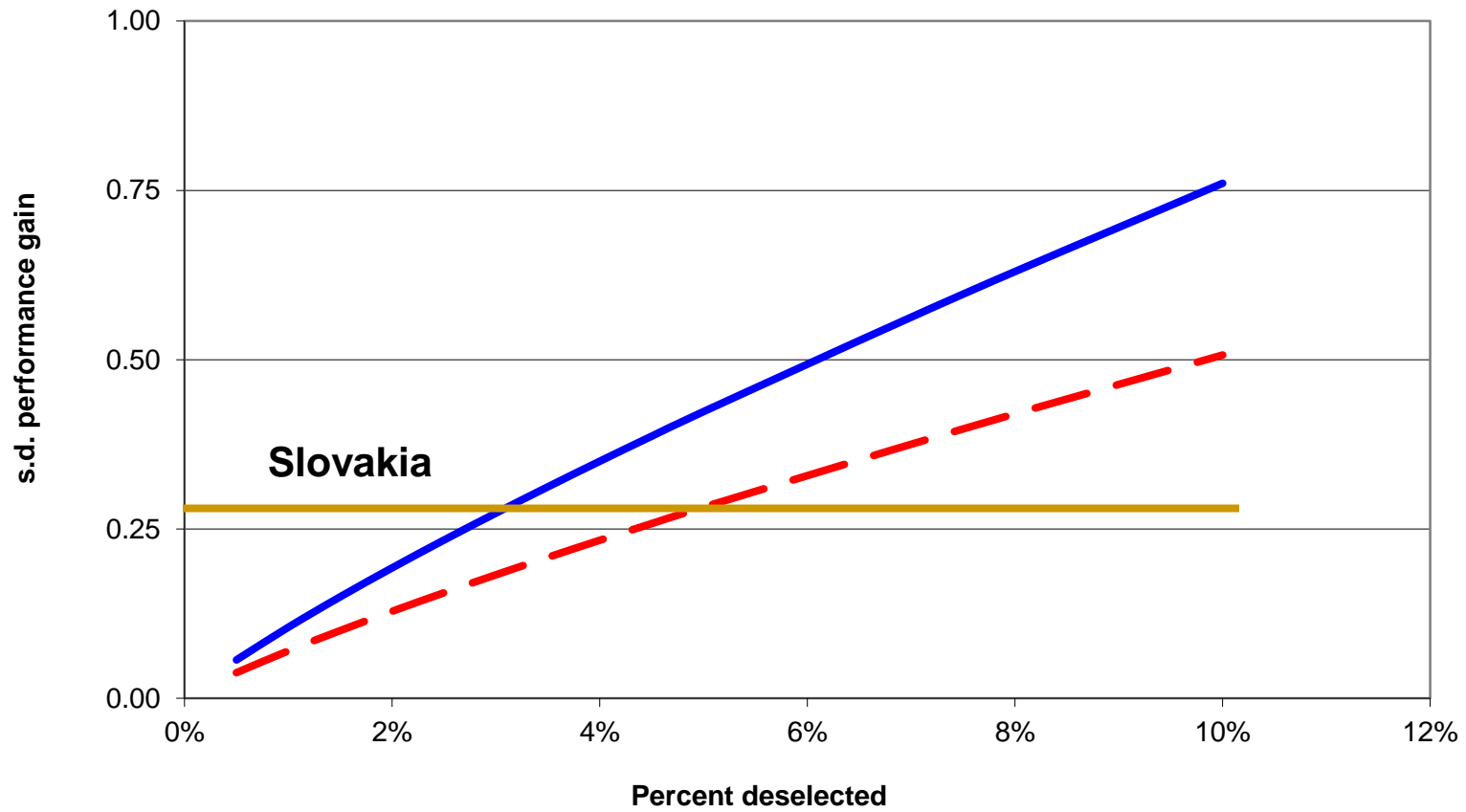
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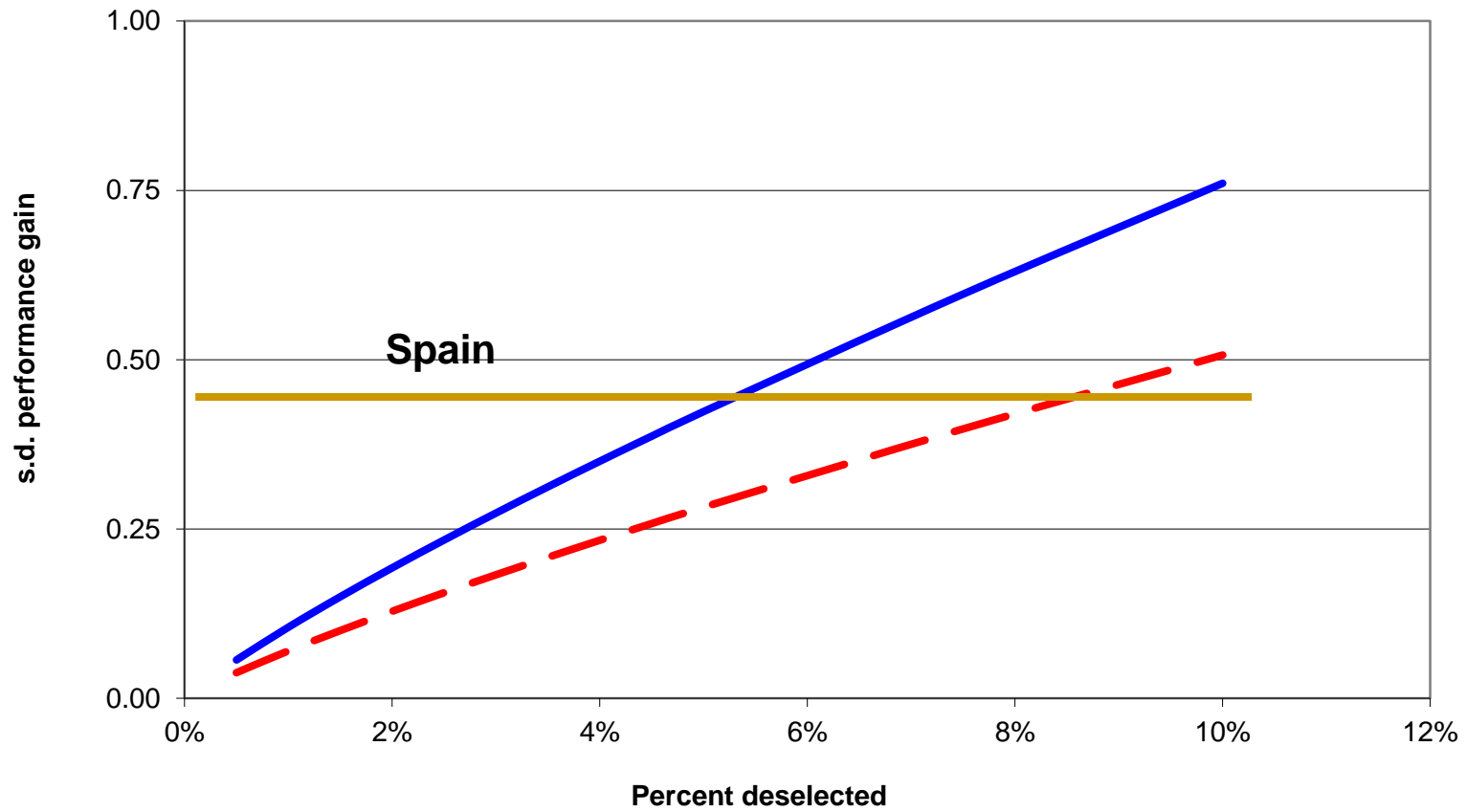
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# Estimates of Least Effective Teachers on Student Achievement



— high estimate of teacher effectiveness      - - - low estimate of teacher effectiveness

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# Institutional Reforms

- **Incentives**

- *Incentives to focus on improving student outcomes*

→ **Institutional framework**

- *Accountability*
- *Autonomy*
- *Choice and competition*

# Conclusions

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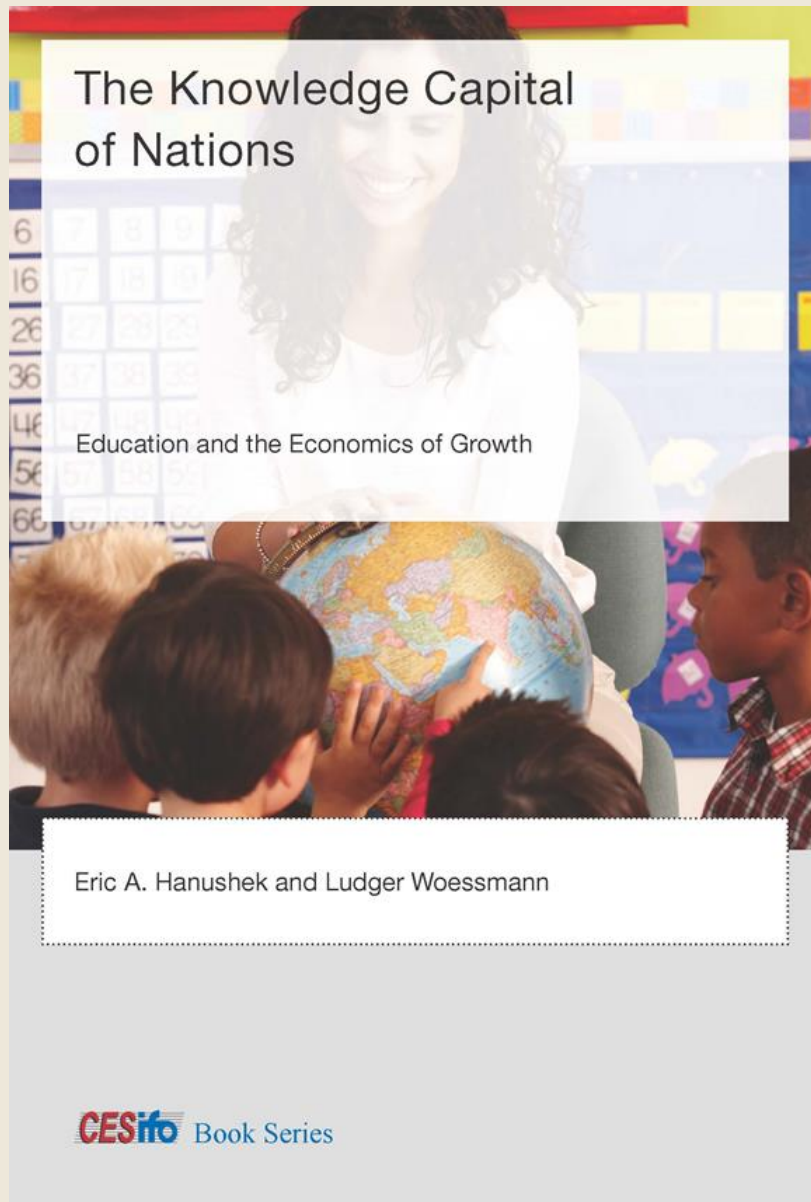
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■ <http://hanushek.stanford.edu/>

