THE ECONOMIC RETURNS TO A GOOD TEACHER

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CERGE-EI Lecture
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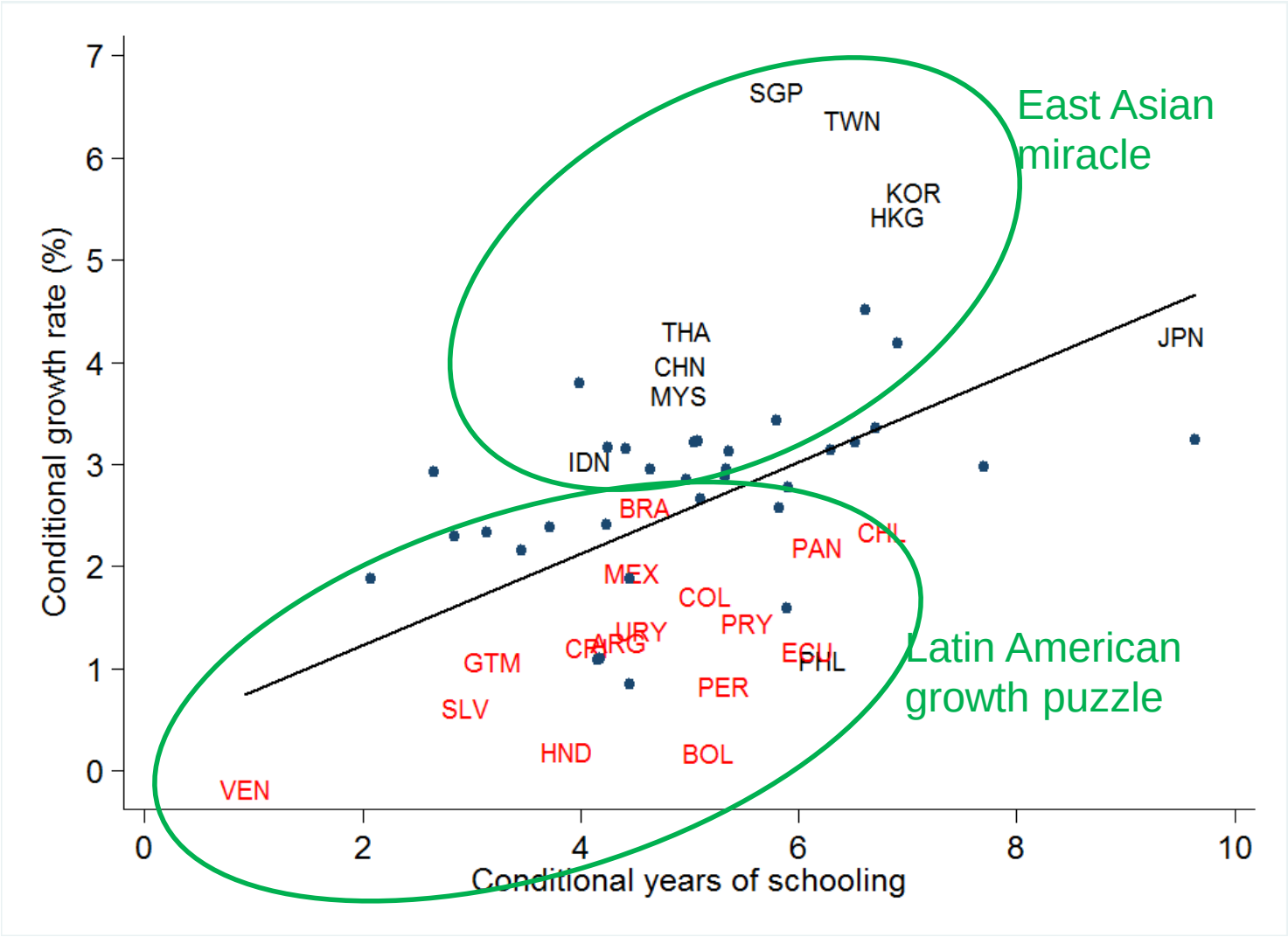
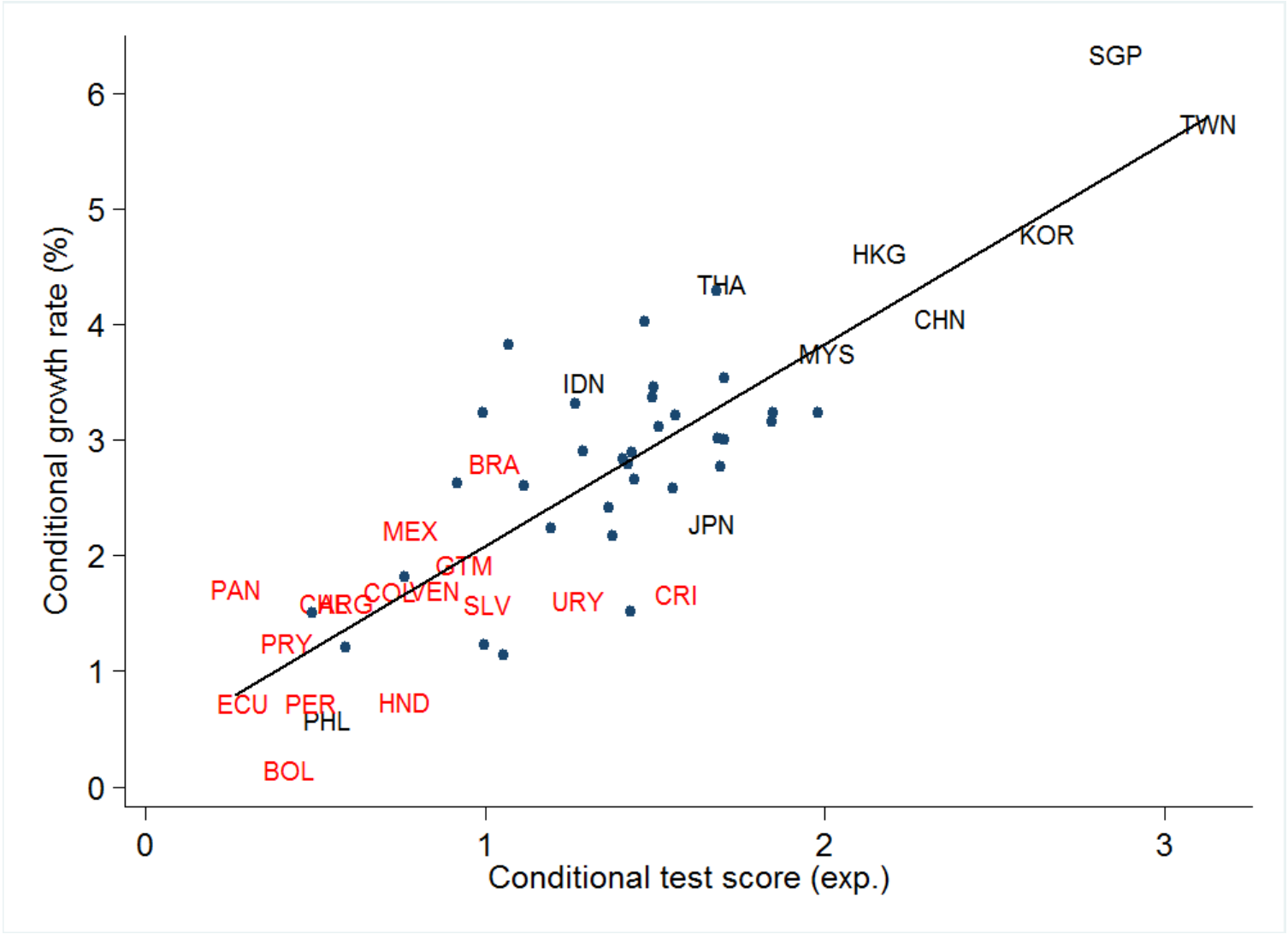
Introduction

- Development = economic growth
- LR growth is not a secret: skills or human capital
- Importance of teachers and leaders

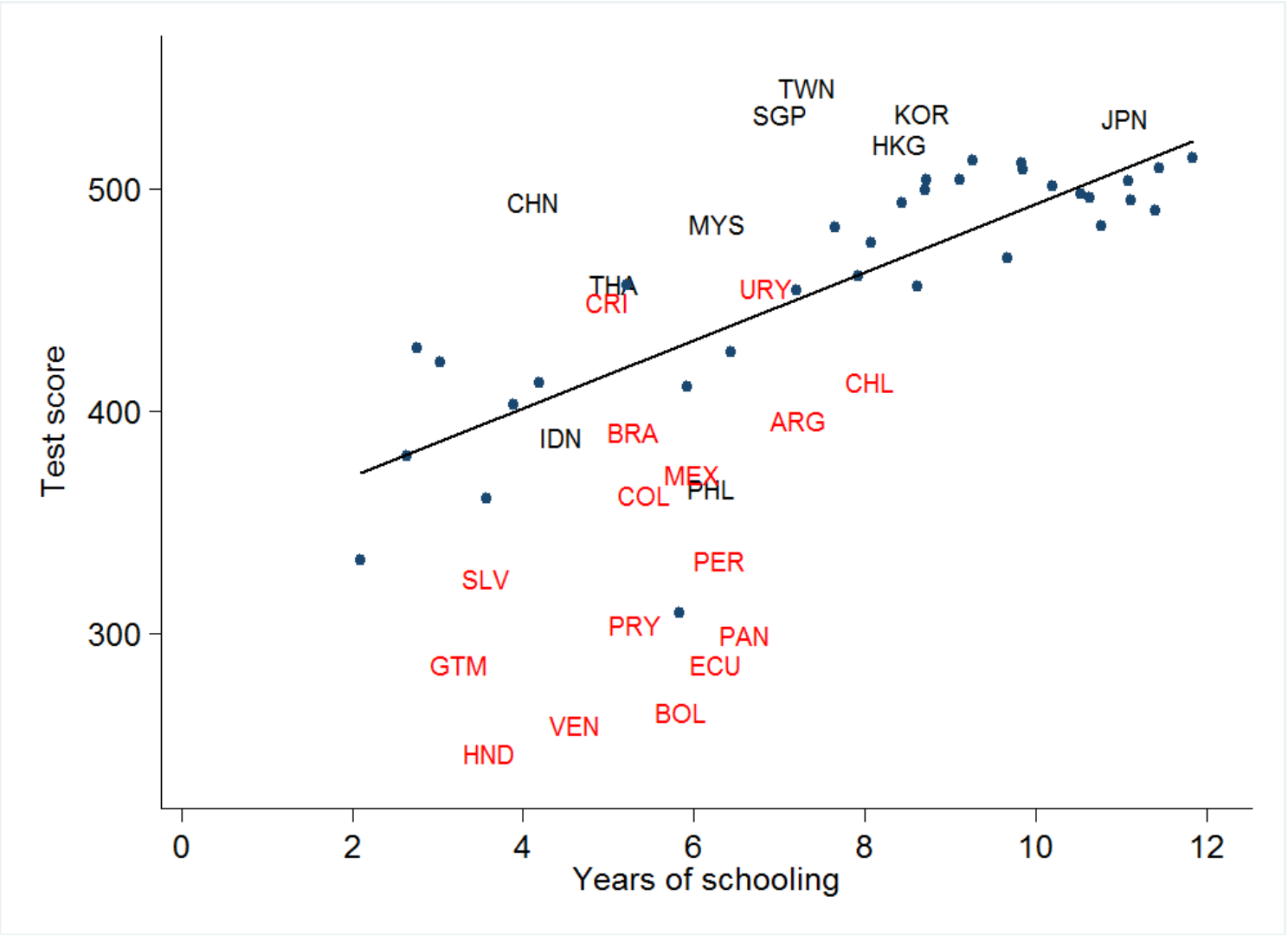
Growth and years of schooling



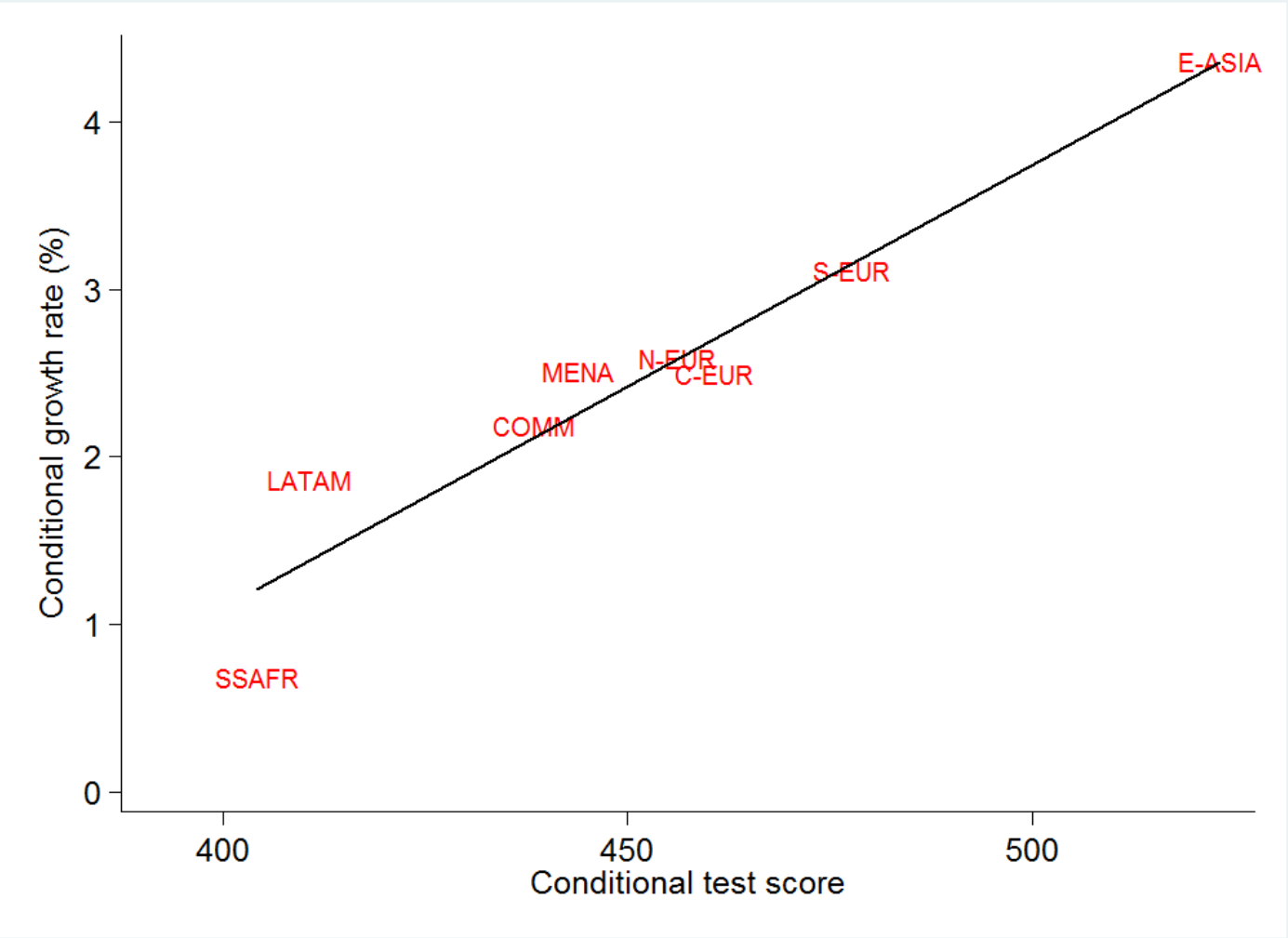
Growth and test scores



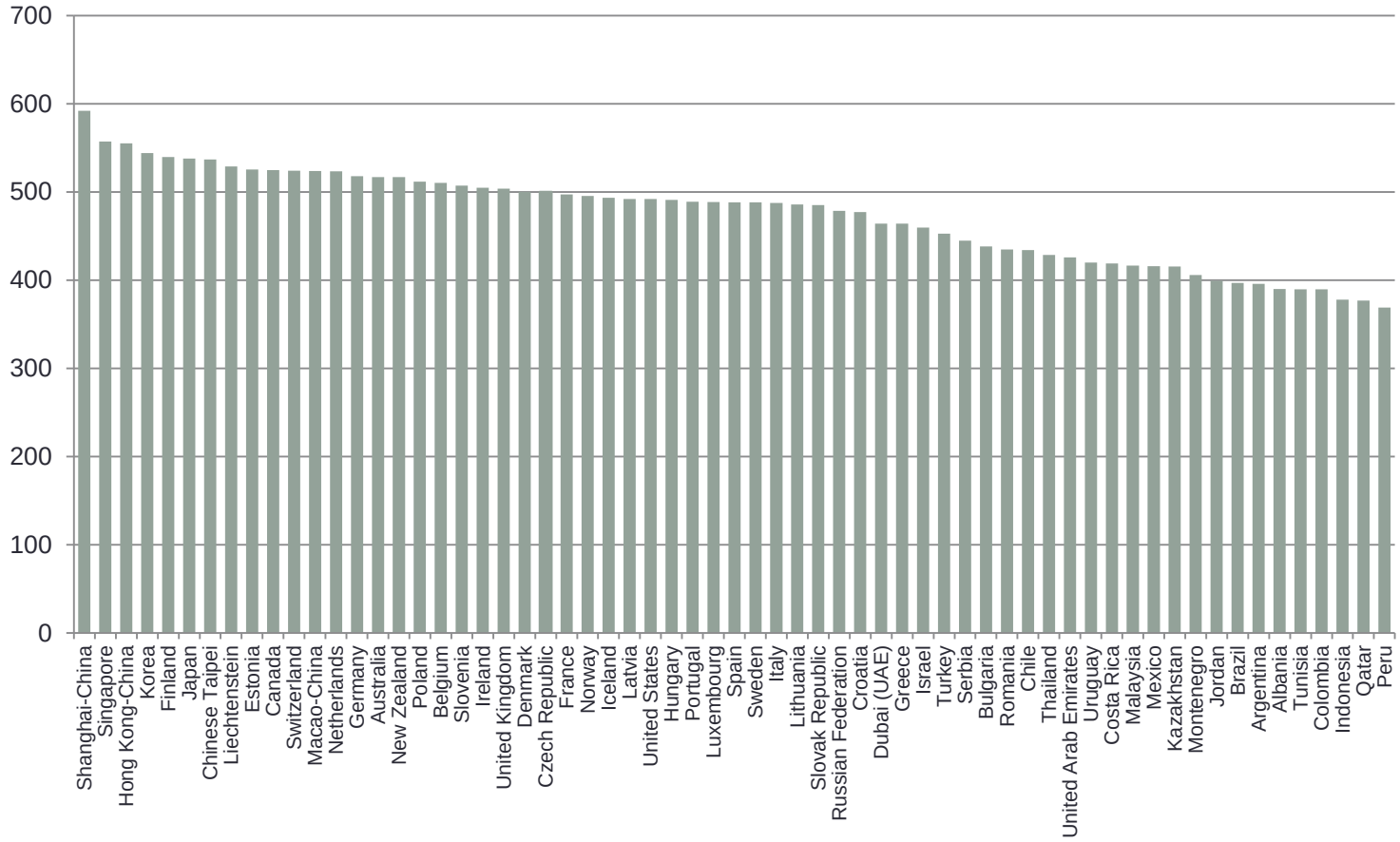
Schooling and achievement (Latin America, East Asia, and the world)



Knowledge capital and economic growth rates (GDP per capita, 1960-2009)



PISA Math + Science, 2009+2012



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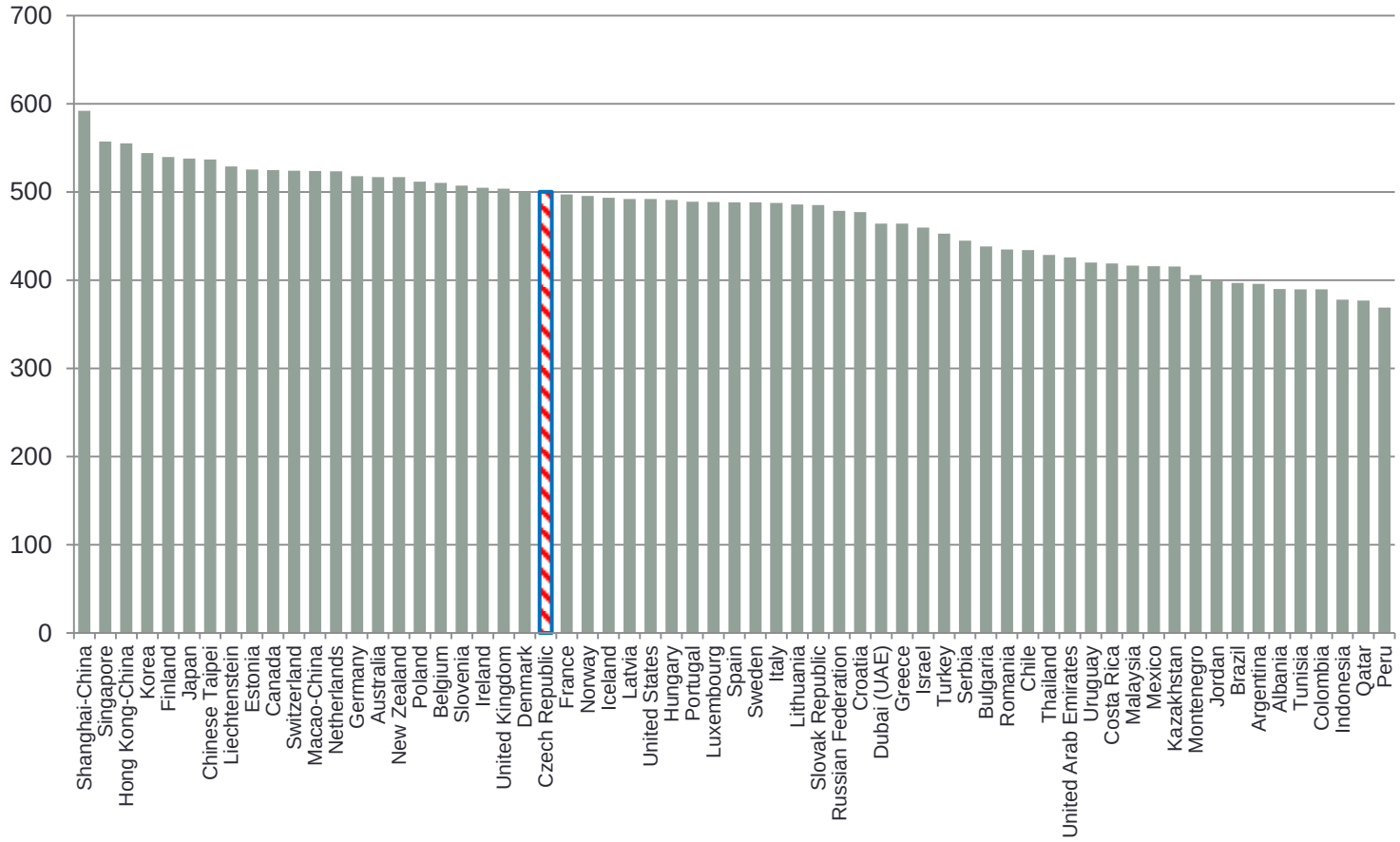

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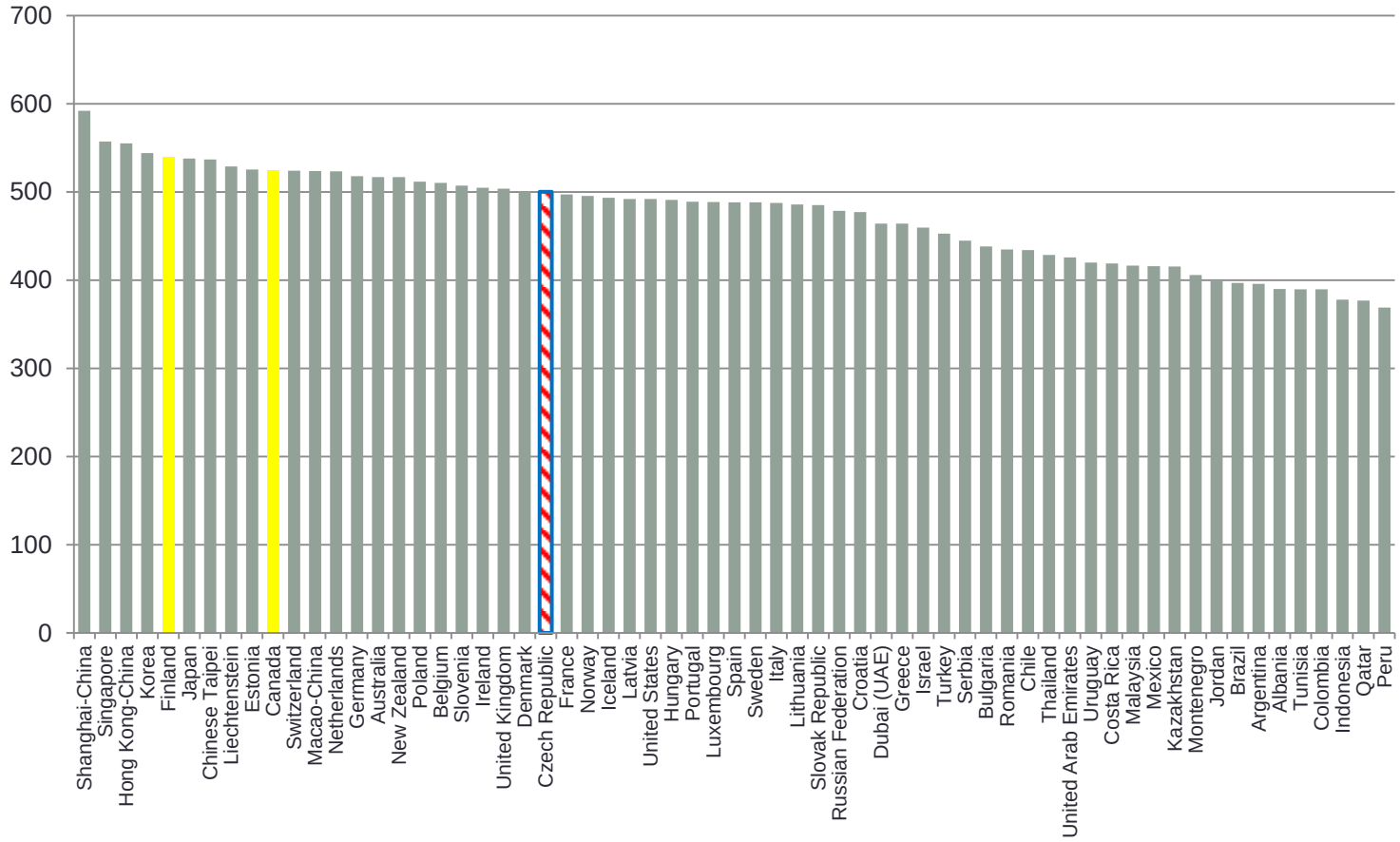
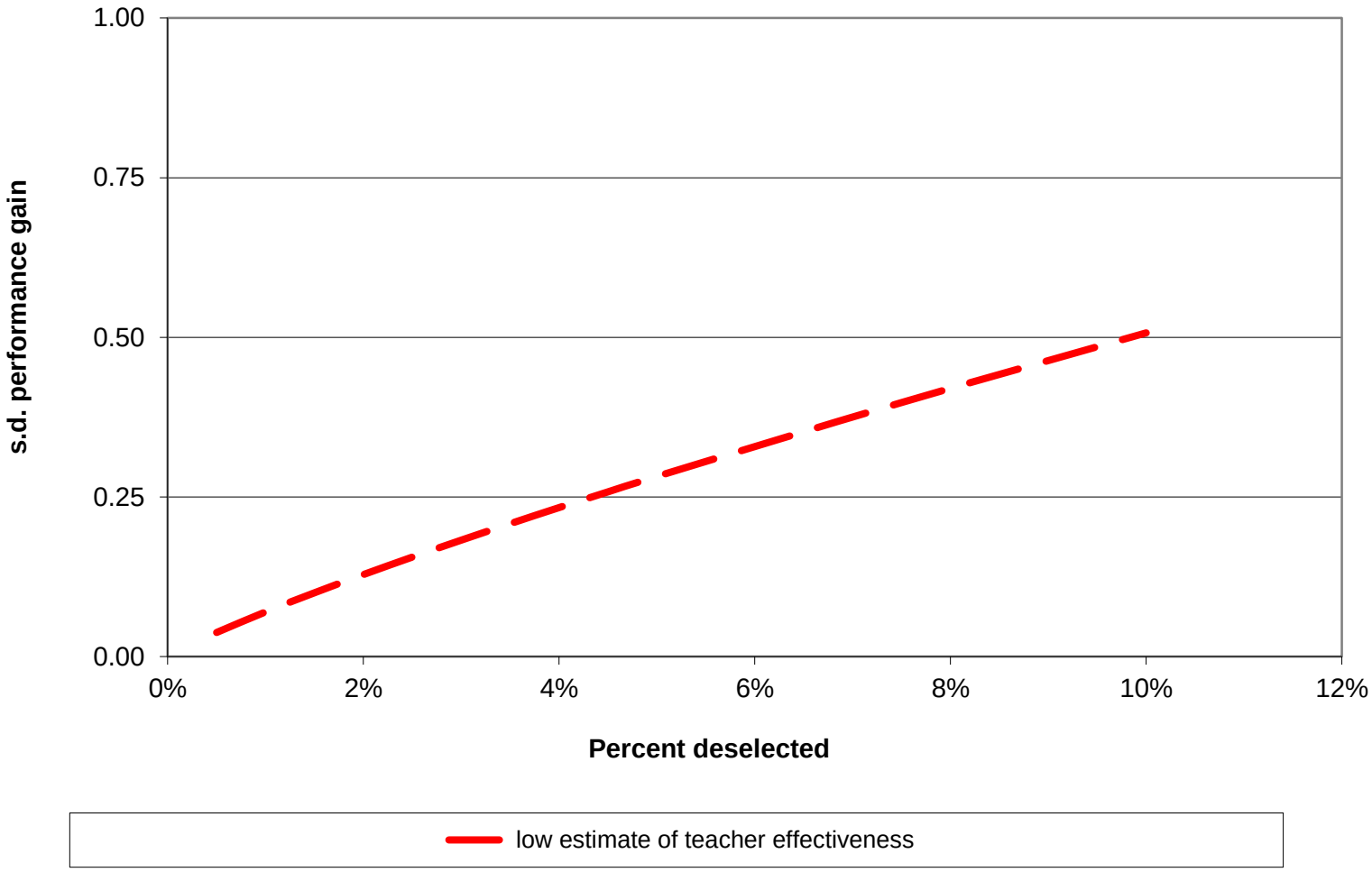


Focus on Teachers

- Substantial evidence on teacher effectiveness
  - Not easily regulated (degrees, experience, certification)
  - U.S. debate: evaluations and teacher contracts (e.g., DC)
- Teachers are most important input of schools
- Growing evidence on importance of school leaders

Teacher Impact through Aggregate Improvement

Estimates of Least Effective Teachers on Student Achievement (US)



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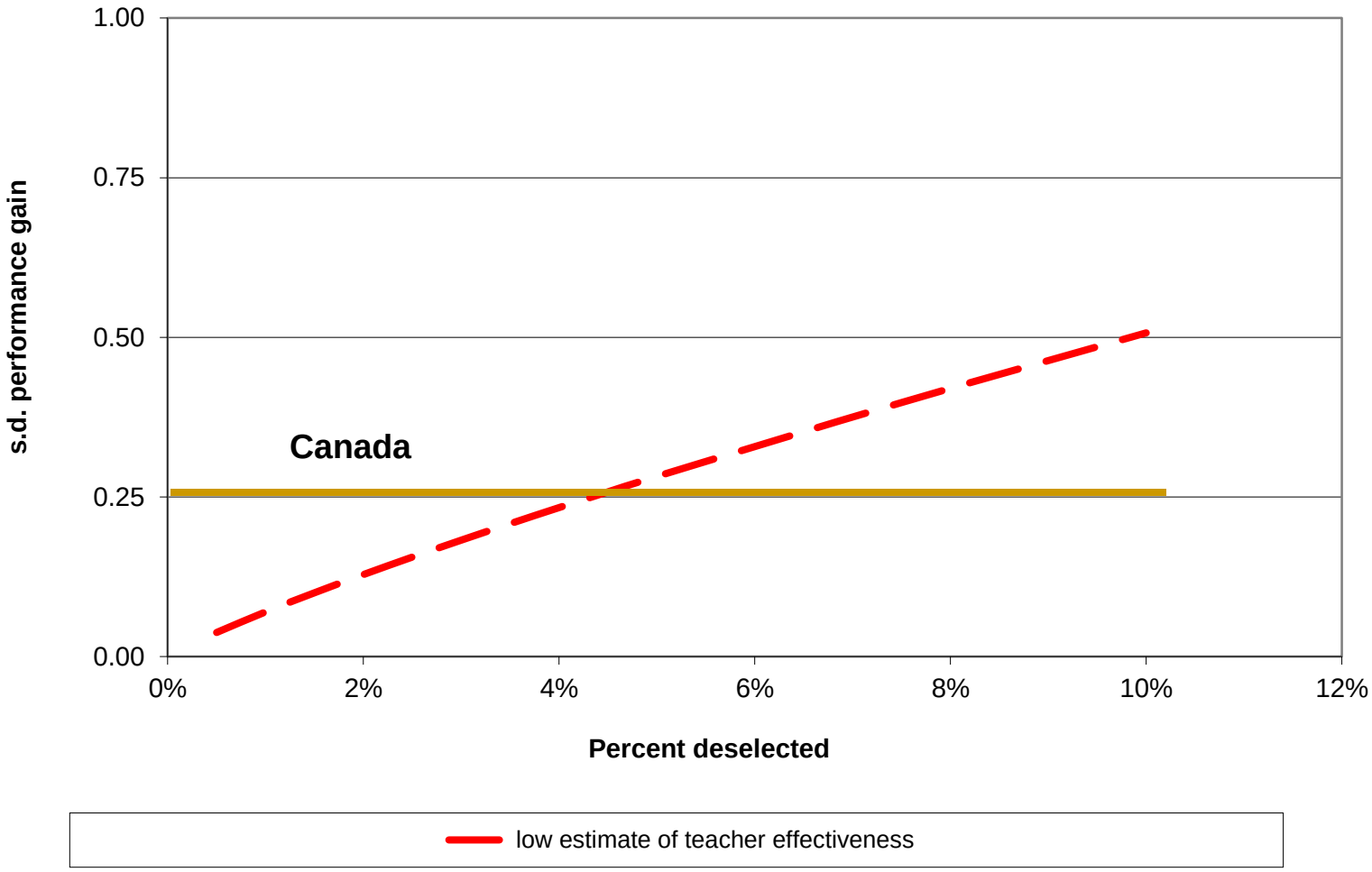

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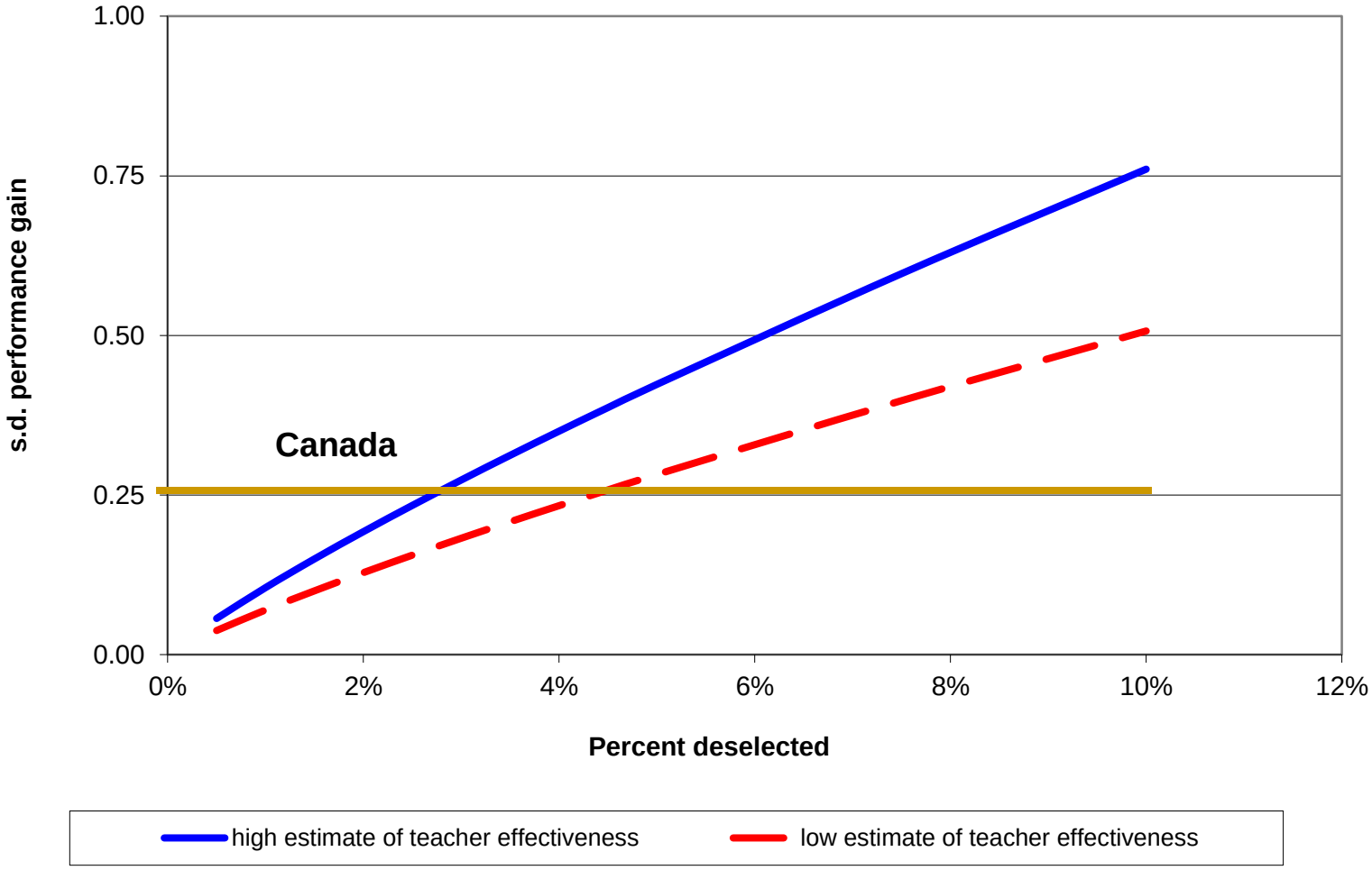

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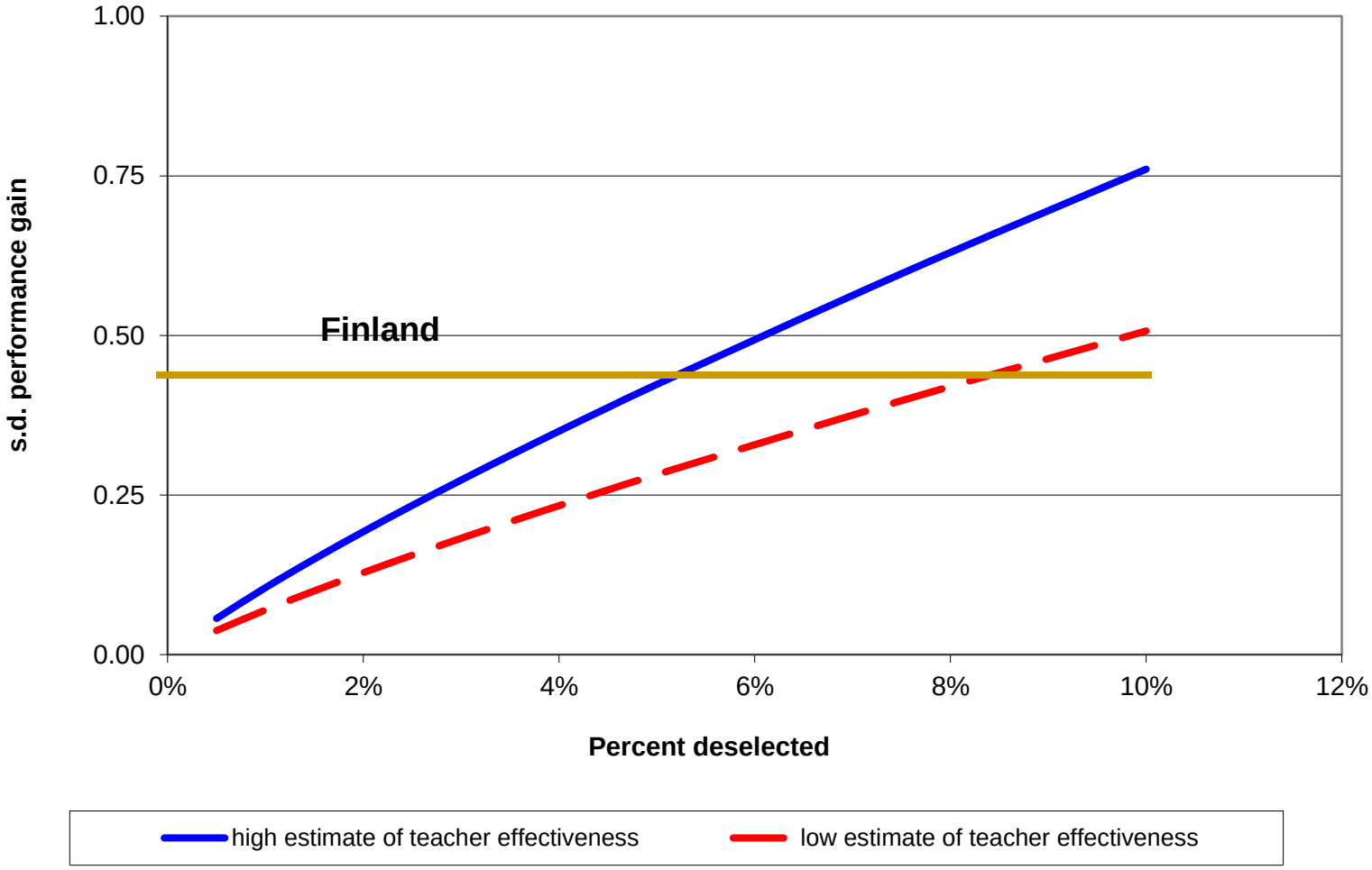

Value of Improvement – Czech Republic

- Historical growth relationships
- School improvement within 20 years
- Present value over 80 years

	Added GDP (billion €)	**% future GDP**	**Wage growth**
Canada or Netherlands	585	6	12

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Canada or Netherlands	585	6	12
Finland or Korea	1100	12	24

Teacher Impact through Individual Earnings

Some Key Parameters

- Impact of teacher on achievement

$$A_{it} = (1-\theta)A_{it-1} + \delta_j + \beta X_i + \nu_{it}$$

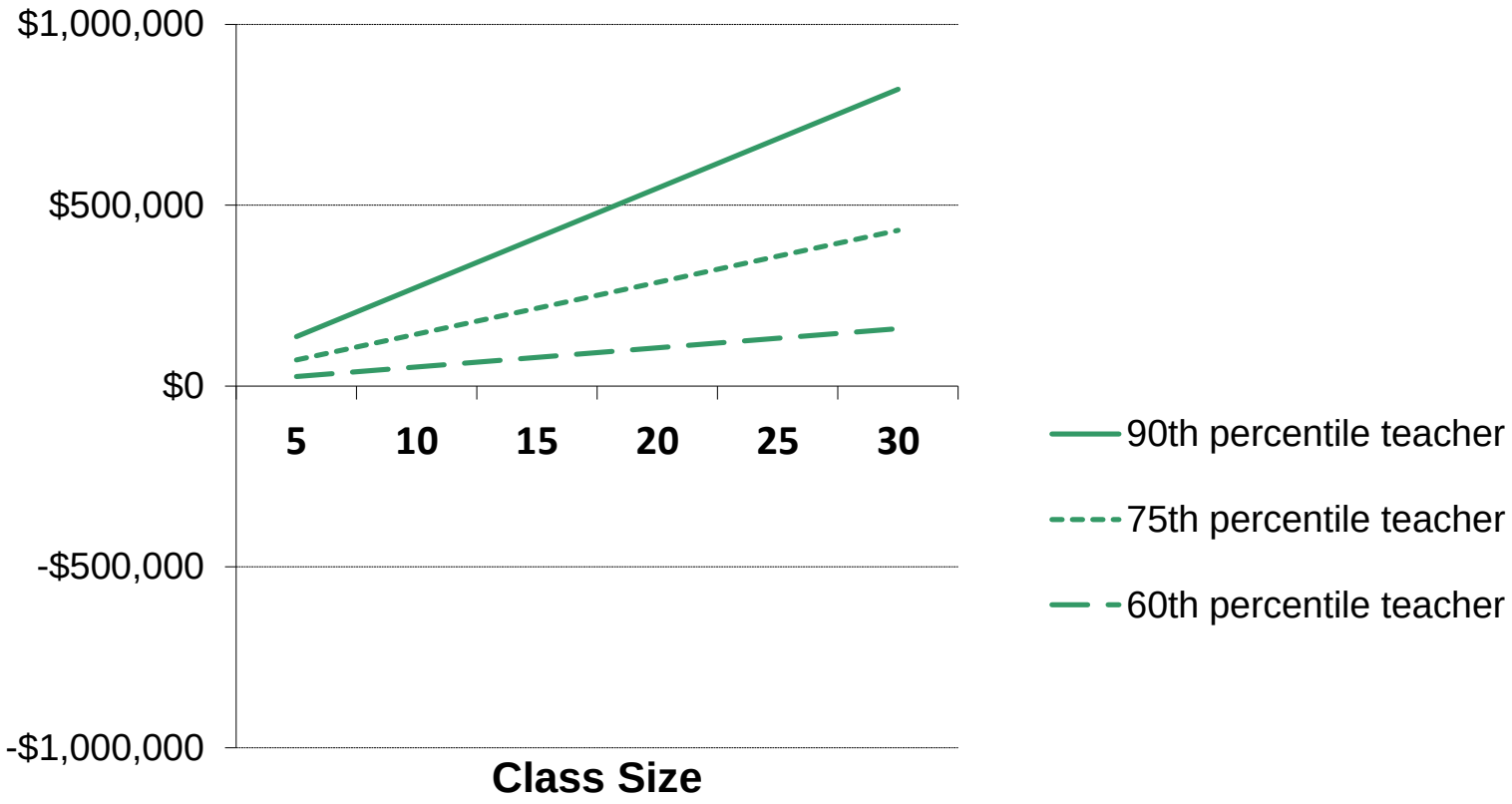
- Impact of higher achievement on earnings

$$\ln Y_i = \alpha_0 + rS_i + \alpha_1 Exper_i + \alpha_2 Exper_i^2 + \phi A_i + \varepsilon_i$$

- Scope of teacher influence

Impact on Student Lifetime Incomes by Class Size

(compared to average teacher)



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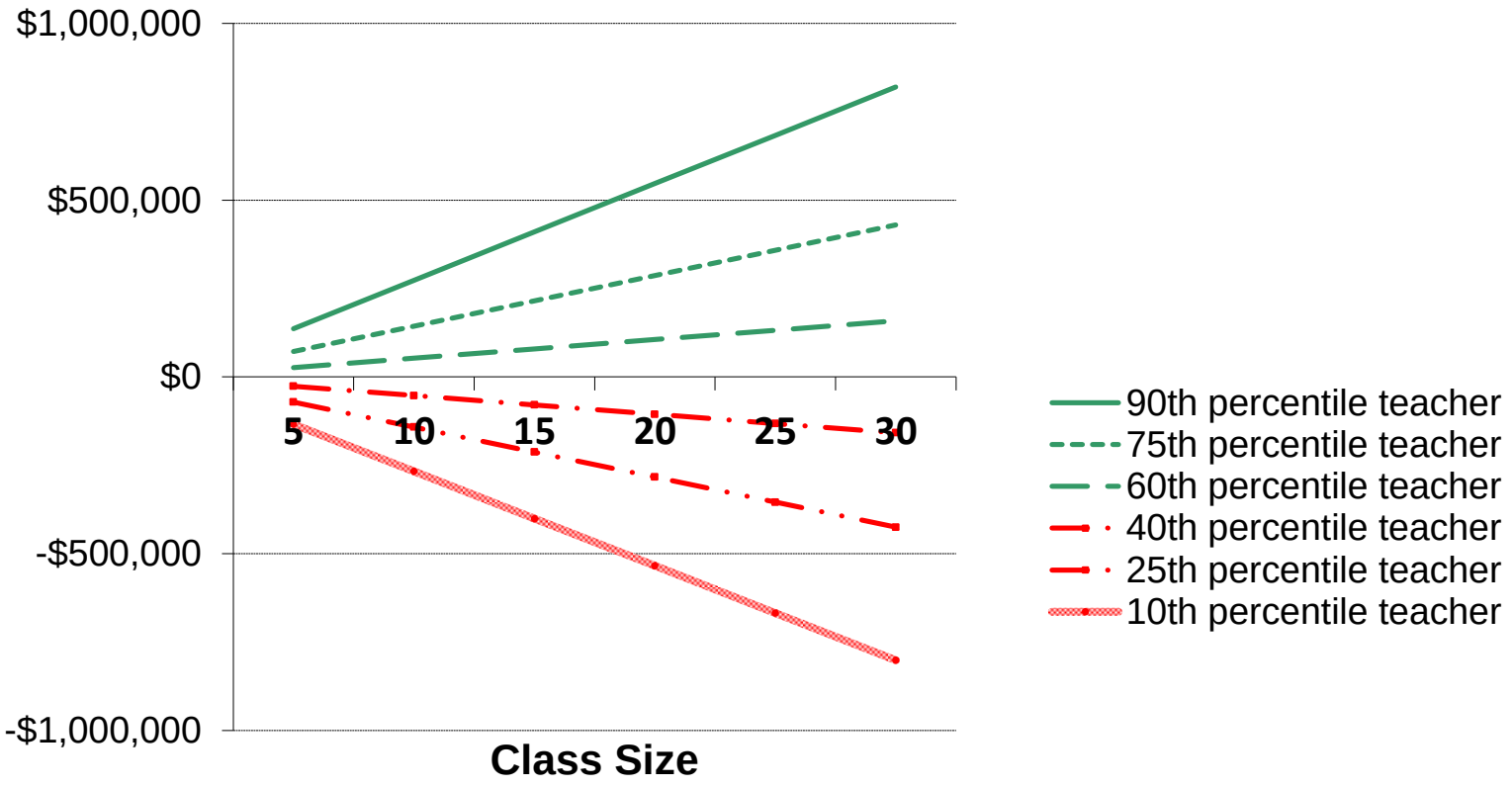

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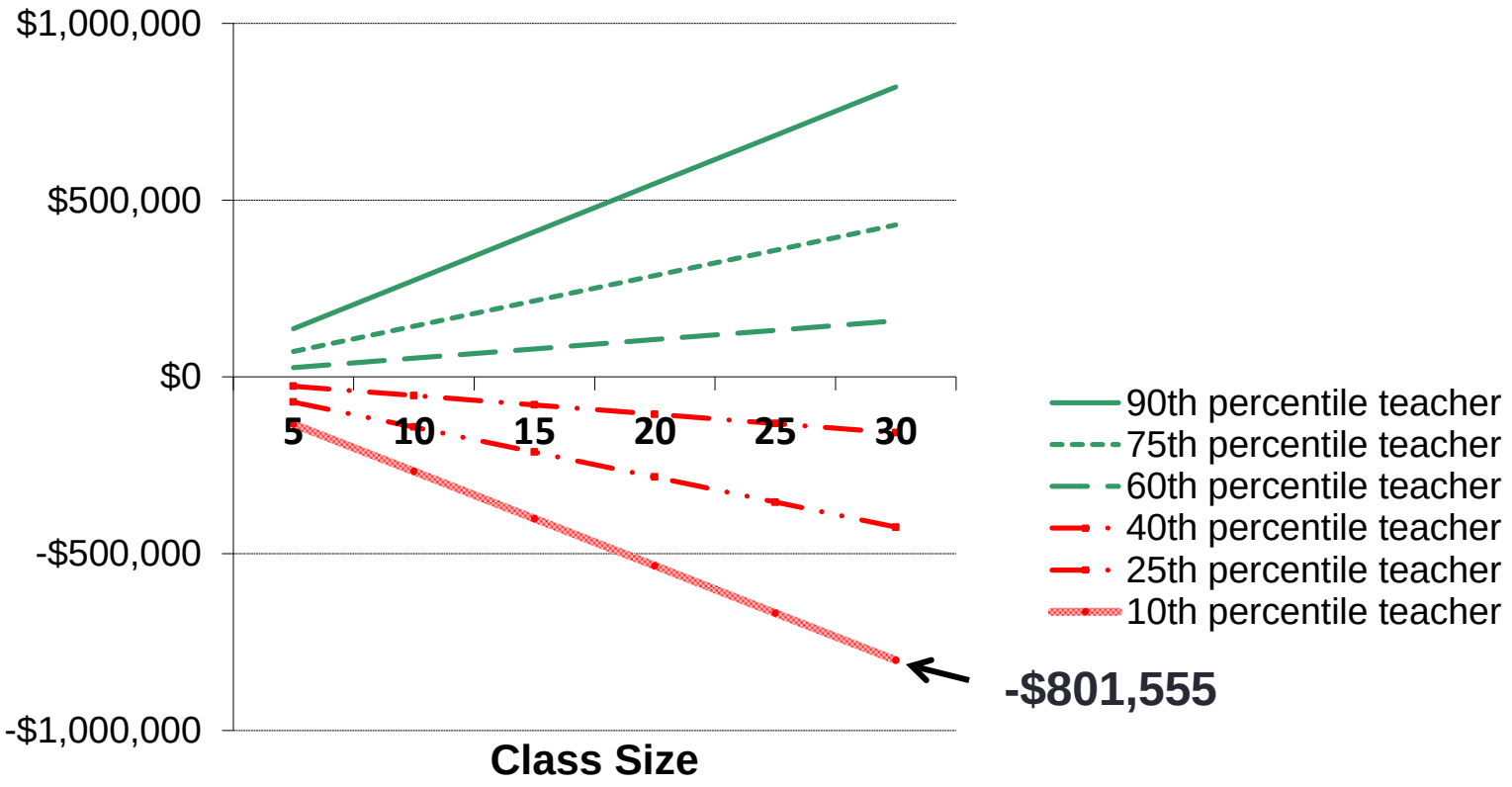
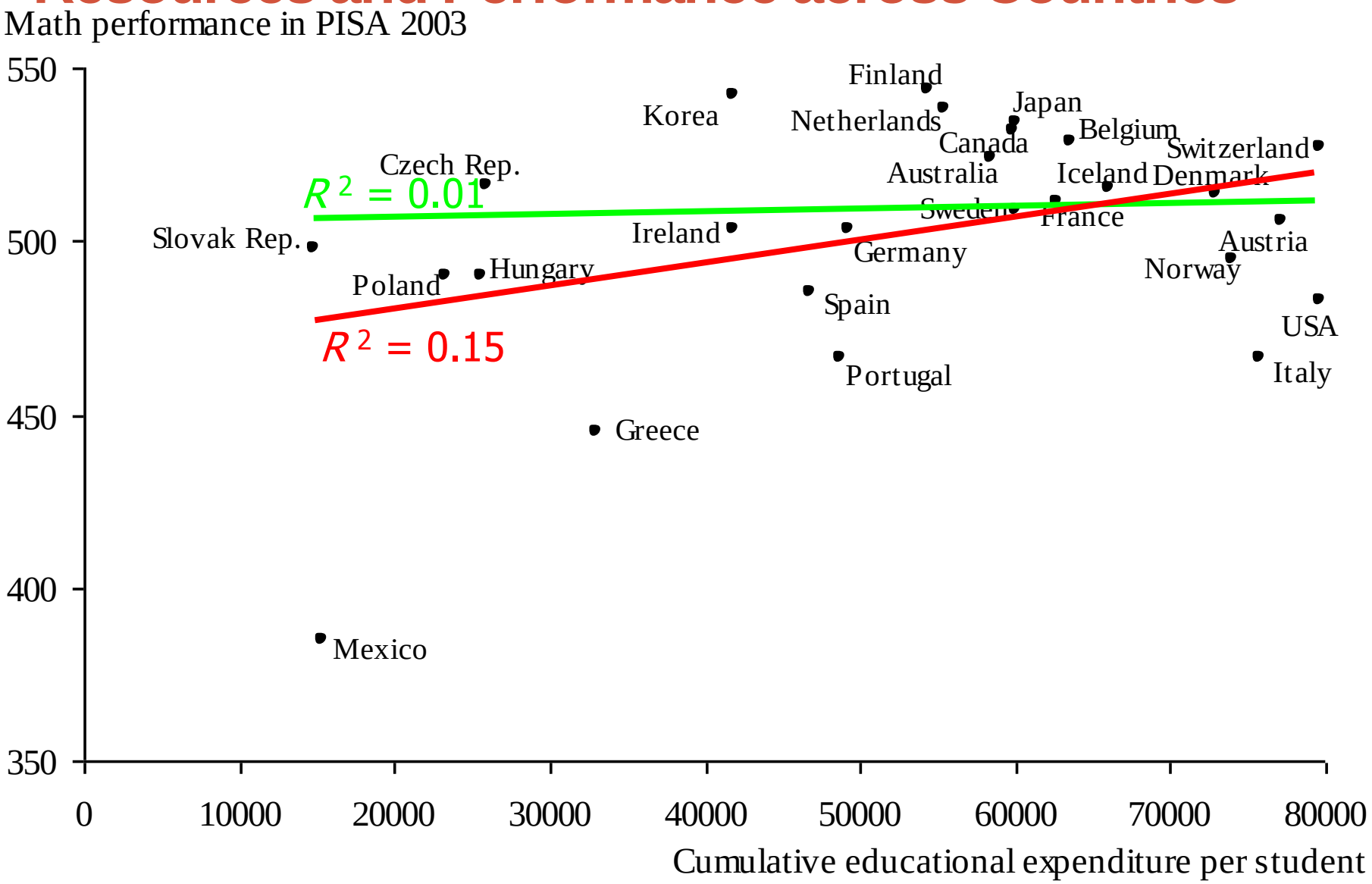


Resource Policies

- Little evidence of success
  - Cross country evidence
  - Within country – developed
  - Within country – developing

Resources and Performance across Countries



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- Does not say “resources never have effect”
- Does not say “resources cannot have effect”

No expectation within current incentive structure

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

Key Elements – Incentives and Outcomes

- Input policies ineffective (spending, attendance, iPads, etc)
- Cash transfers and demand side
  - “success” unclear
- Must measure outcomes

Incentives and institutions

- Accountability
- Competition and choice
  - Urban markets
  - Private options
- Performance rewards

- Autonomy (??)

Technology and Improvement

- Differing views
  - Substitute for teachers (technology)
  - Improve teachers
  - Replace teachers
- Do not understand incentive structure well
  - Getting teacher buy-in
  - Getting policy maker support
- Potential importance of local circumstances
- Importance of evaluation

Conclusions

- Must focus on achievement and outcomes
- Long run economic future linked to skills
- Improvements are possible
- Improvements are difficult

- Key is teachers and leaders

- Need evaluation to promote continuous improvement