

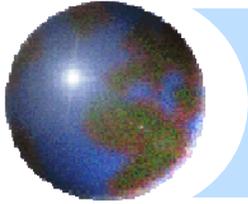
The Importance of Educational Outcomes and Some Thoughts on Improvement

Eric A. Hanushek
Stanford University

Socioeconomic Impact of Education

Taub Center

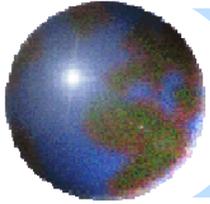
September 2011



Outline of Talk

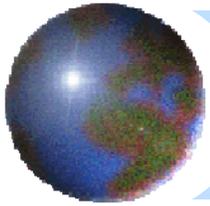
Three main ideas:

1. Quality education is very valuable
2. Teacher quality is most important aspect of schools
3. Institutions and incentives are key policy levers

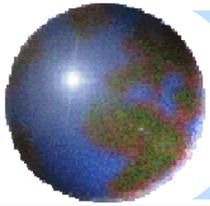


International Student Achievement Tests

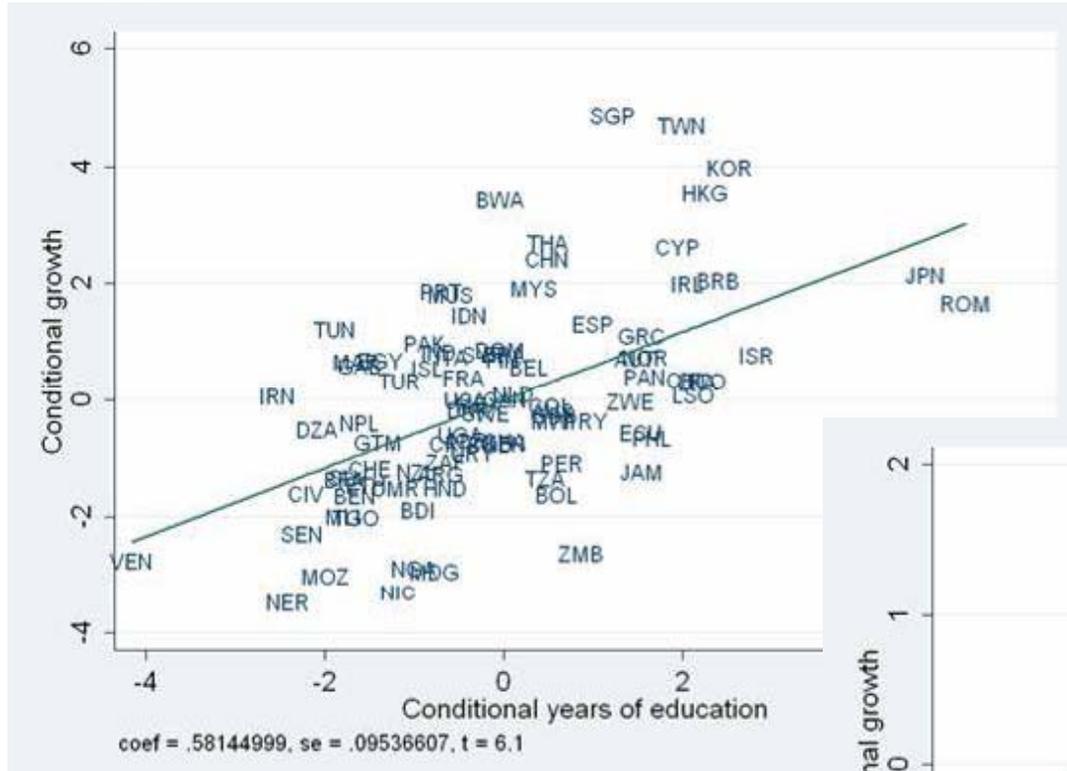
- Measuring knowledge, not sitting in the classroom
- International agencies have conducted many international tests of students' performance in cognitive skills since mid-1960s
 - 12 testing occasions, 36 separate test observations (age levels, subjects)



Israel

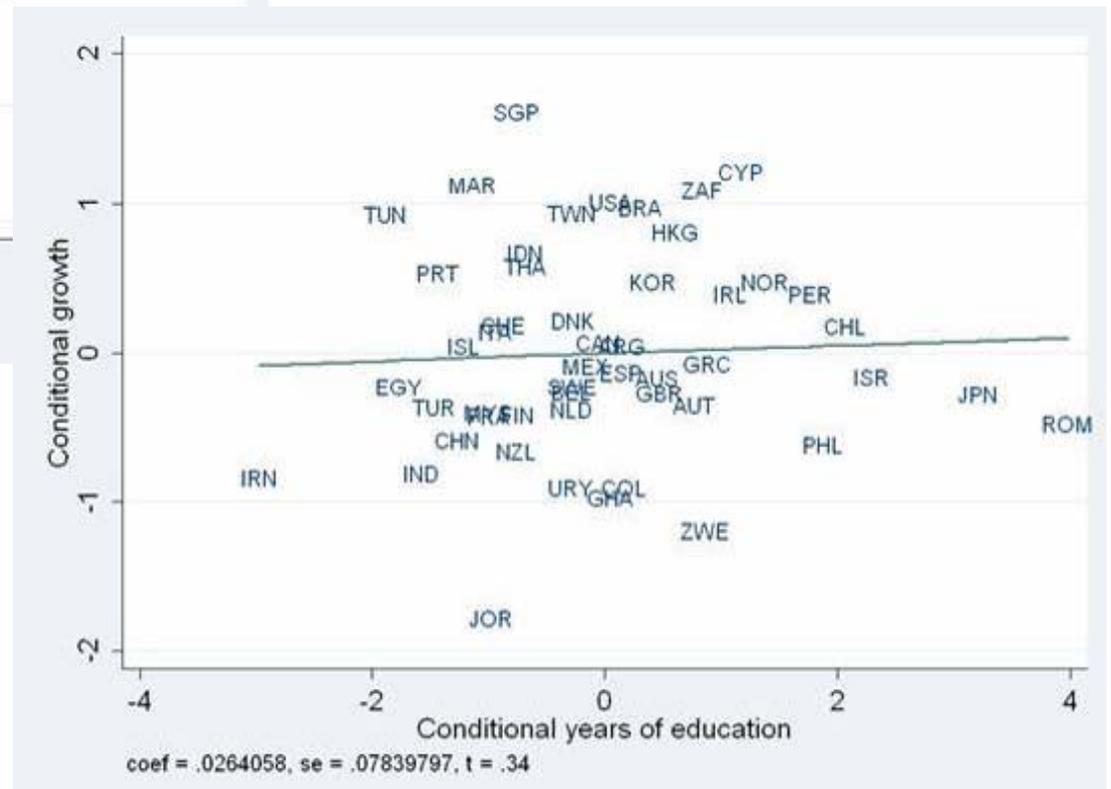


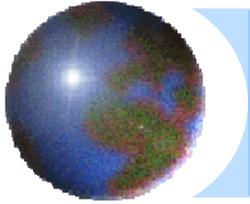
Years of Schooling and Economic Growth



Without quality control

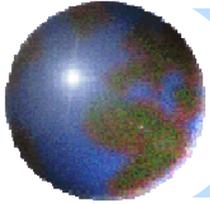
With quality control



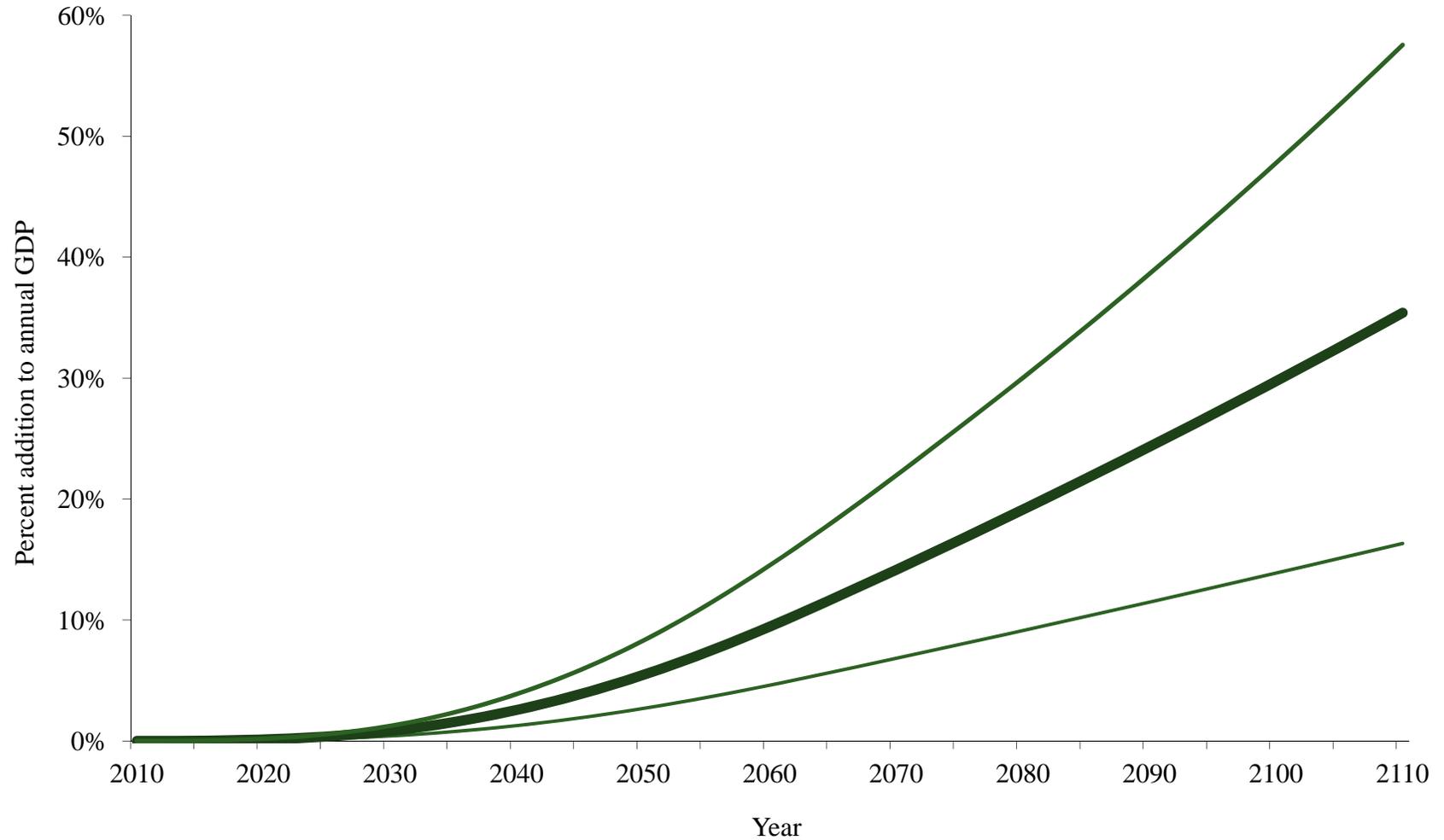


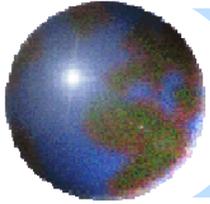
Growth Projections

- Scenario 1
 - Achievement improves by 25 points (1/4 s.d.)

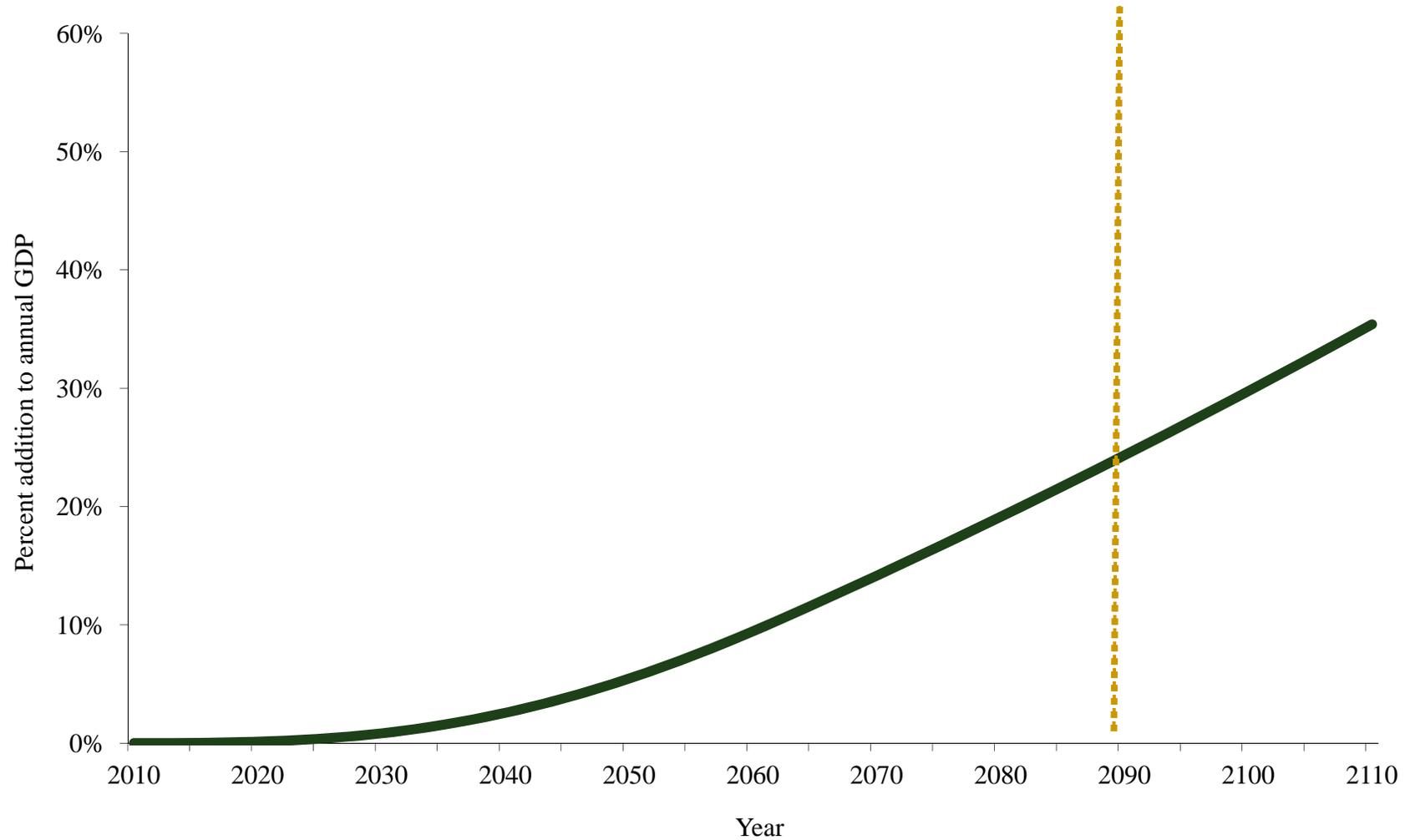


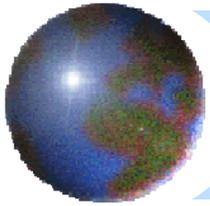
Annual Gains from 25 PISA-Points Improvement



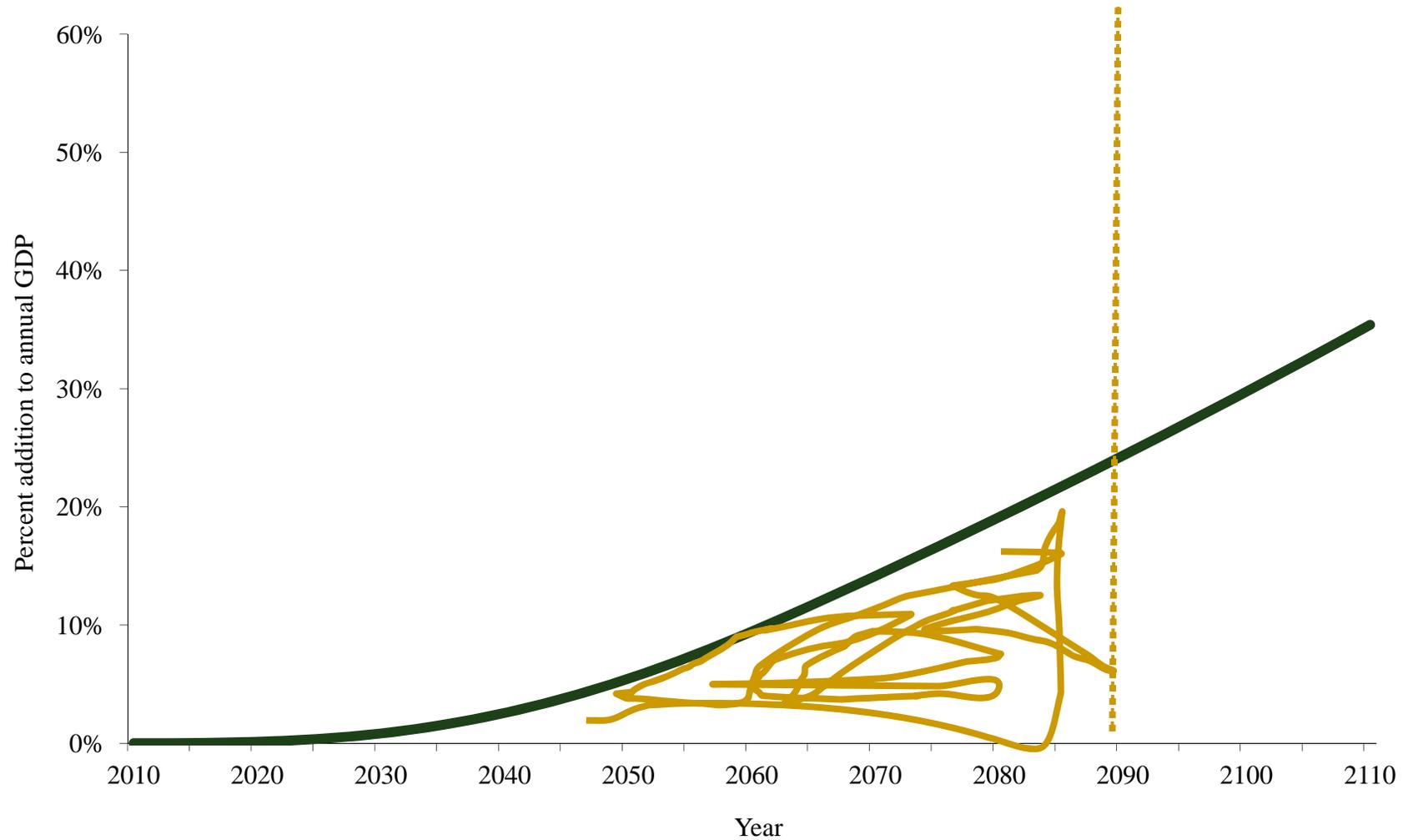


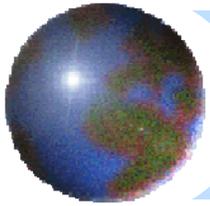
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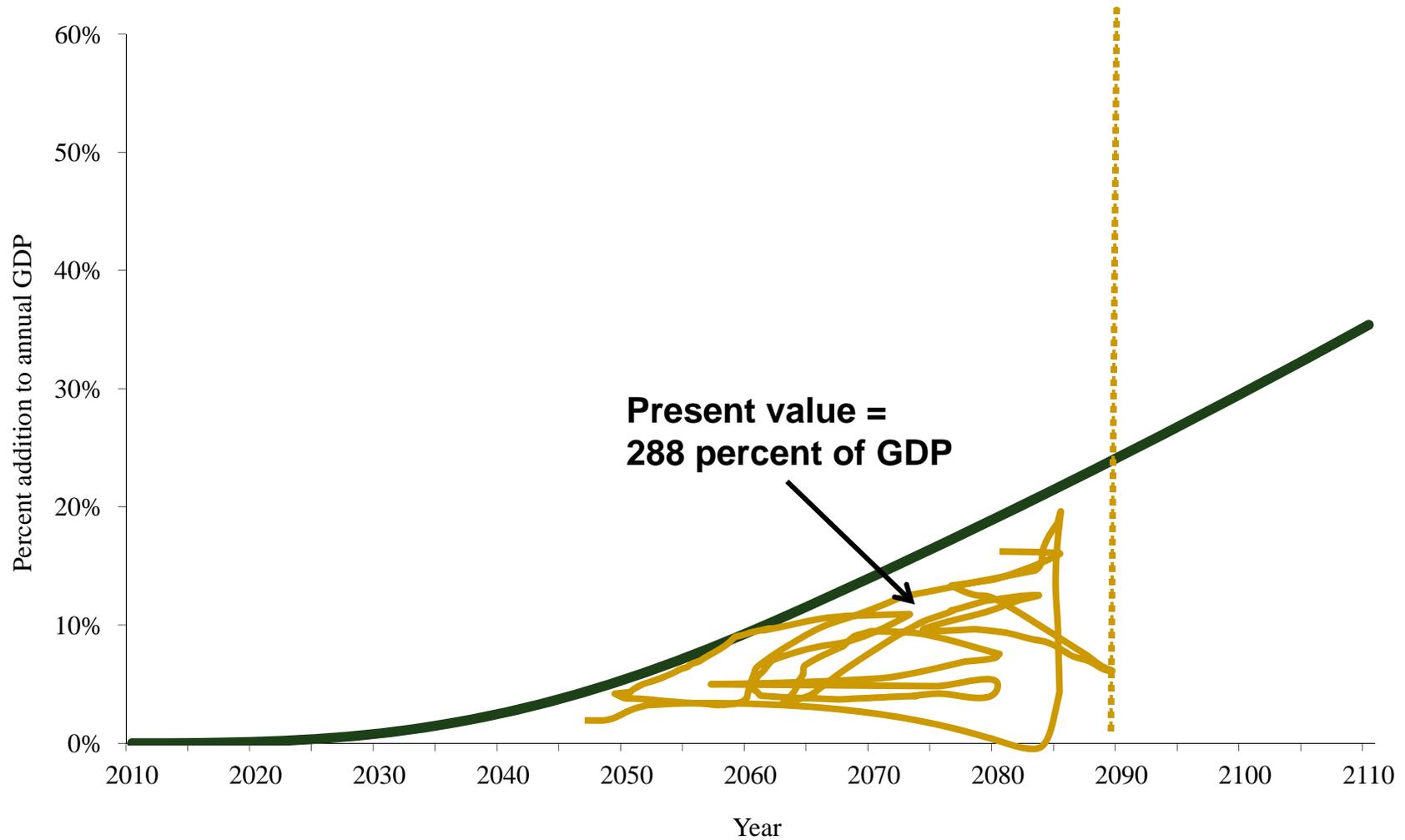


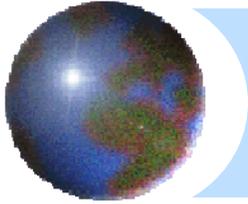
Annual Gains from 25 PISA-Points Improvement





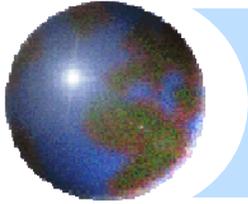
Annual Gains from 25 PISA-Points Improvement





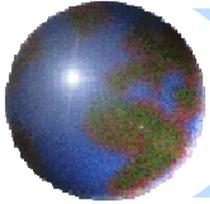
Growth Projections

- Scenario 1
 - Achievement improves by 25 points (1/4 s.d.)
 - PV = 288% of current GDP
 - \$123T for OECD
 - **\$628 billion for Israel**

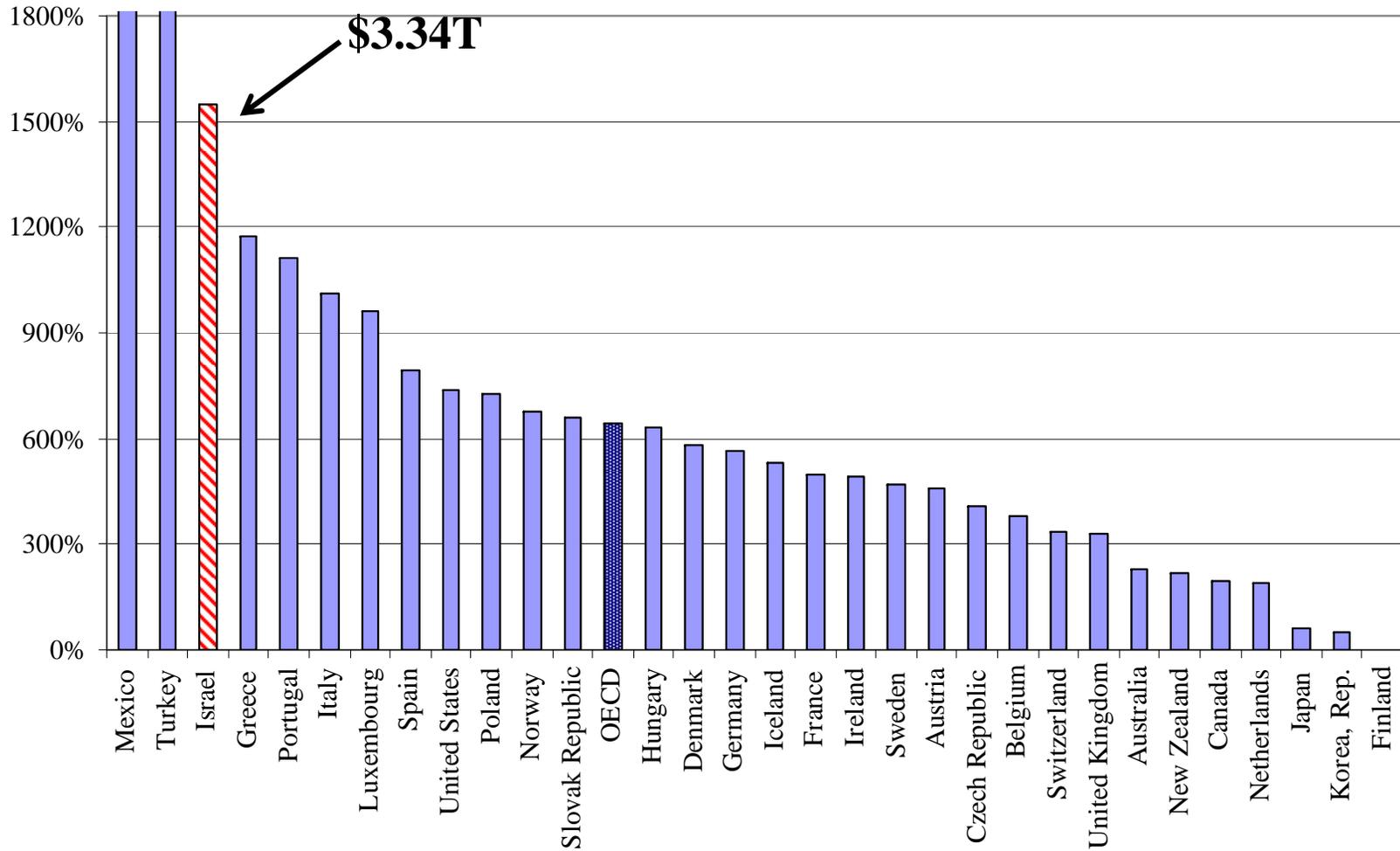


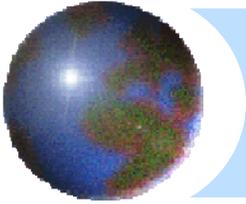
Growth Projections

- Scenario 1
 - Achievement improves by 25 points (1/4 s.d.)
- Scenario 2
 - Everybody Achieves at Level of Finland
 - PV = 645% of current GDP in OECD
 - \$275T for OECD
 - **\$3.37 trillion for Israel**
PV=1547% of current GDP in Israel



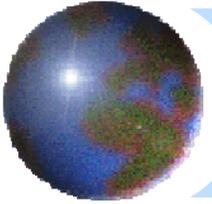
Everybody Achieves at Level of Finland





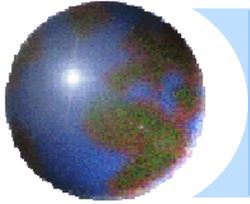
Growth Projections

- Scenario 1
 - Achievement improves by 25 points (1/4 s.d.)
- Scenario 2
 - Everybody Achieves at Level of Finland
- Scenario 3
 - All students to OECD mean (500 points)
 - **\$1.64 trillion for Israel**
 - **754% of current GDP**



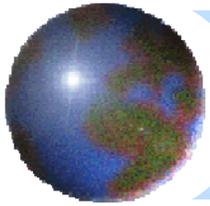
Rocket Scientists or Education for All?

- Should schooling policy concentrate attention at lowest or highest achievers?
 - Egalitarian vs. elitist school systems
 - BOTH seem important
 - Rocket scientists more important for developing countries



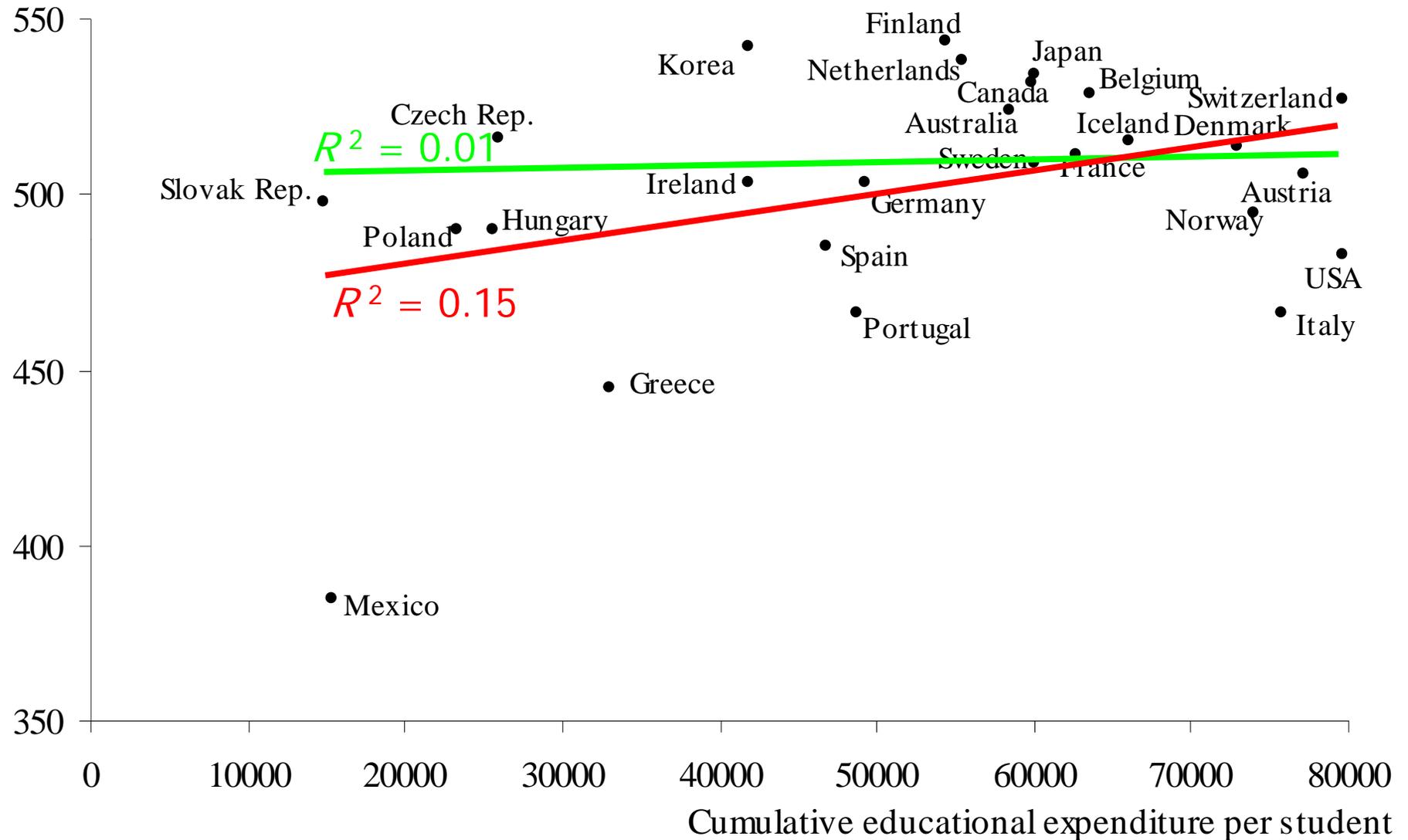
Policy options

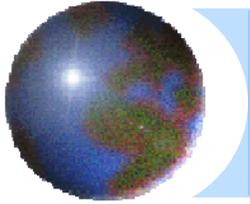
- **Spending**



Resources and Performance across Countries

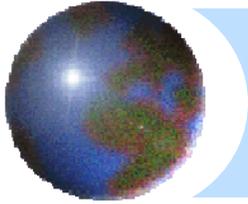
Math performance in PISA 2003





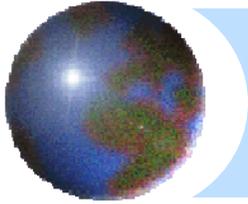
Policy options

- **Spending**
- **Teacher quality**



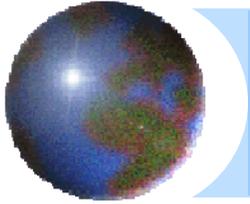
Teacher Quality

- Strongest evidence on systematic effects
- Not related to common measures
- Observable through both student performance *and* supervisor ratings



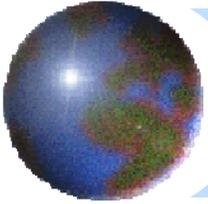
Value-Added Measurement

- Need to separate teacher effects from other things
- Look at growth in achievement, statistically adjust for other factors
- Shows impact of improving teacher quality
- Permits evaluations and performance rewards

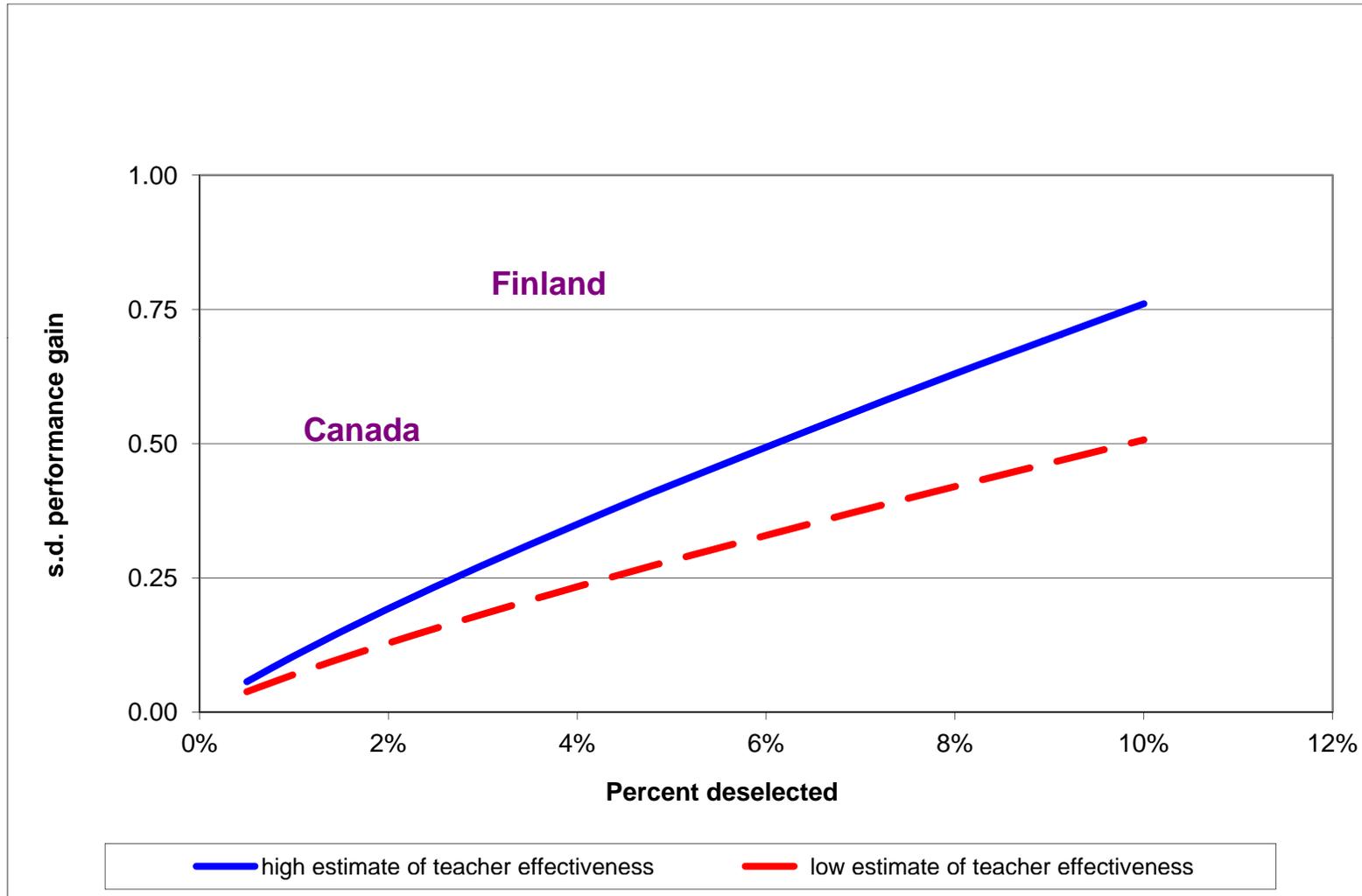


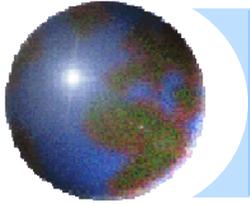
U.S. Evidence on Value-Added of Teachers

- Large area of current research
- Consistent estimates of impacts
 - One year of learning more from good teacher
 - Overcome family background with 3-5 years of a good teacher
- Increasingly used in states and school districts
 - Race to the Top
 - Washington, DC; Denver; Florida



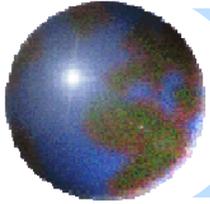
Alternative Estimates of Least Effective U.S. Teachers on Student Achievement





Policy options

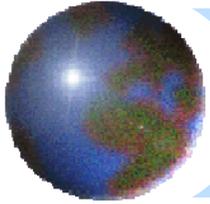
- **Spending**
- **Teacher quality**
- **Institutional changes**
 1. Competition and choice (private schools)
 2. Accountability (central exit exams)
 3. Autonomy
 4. Tracking
 5. Teacher performance pay
 6. Pre-primary education system



How Autonomy Affects Student Performance — *Depending on Given Incentives* —

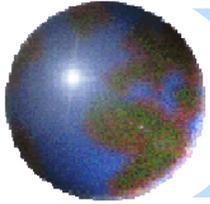
- School autonomy
 1. Use of superior local knowledge
 2. Opportunistic behavior

- School autonomy may be good or bad

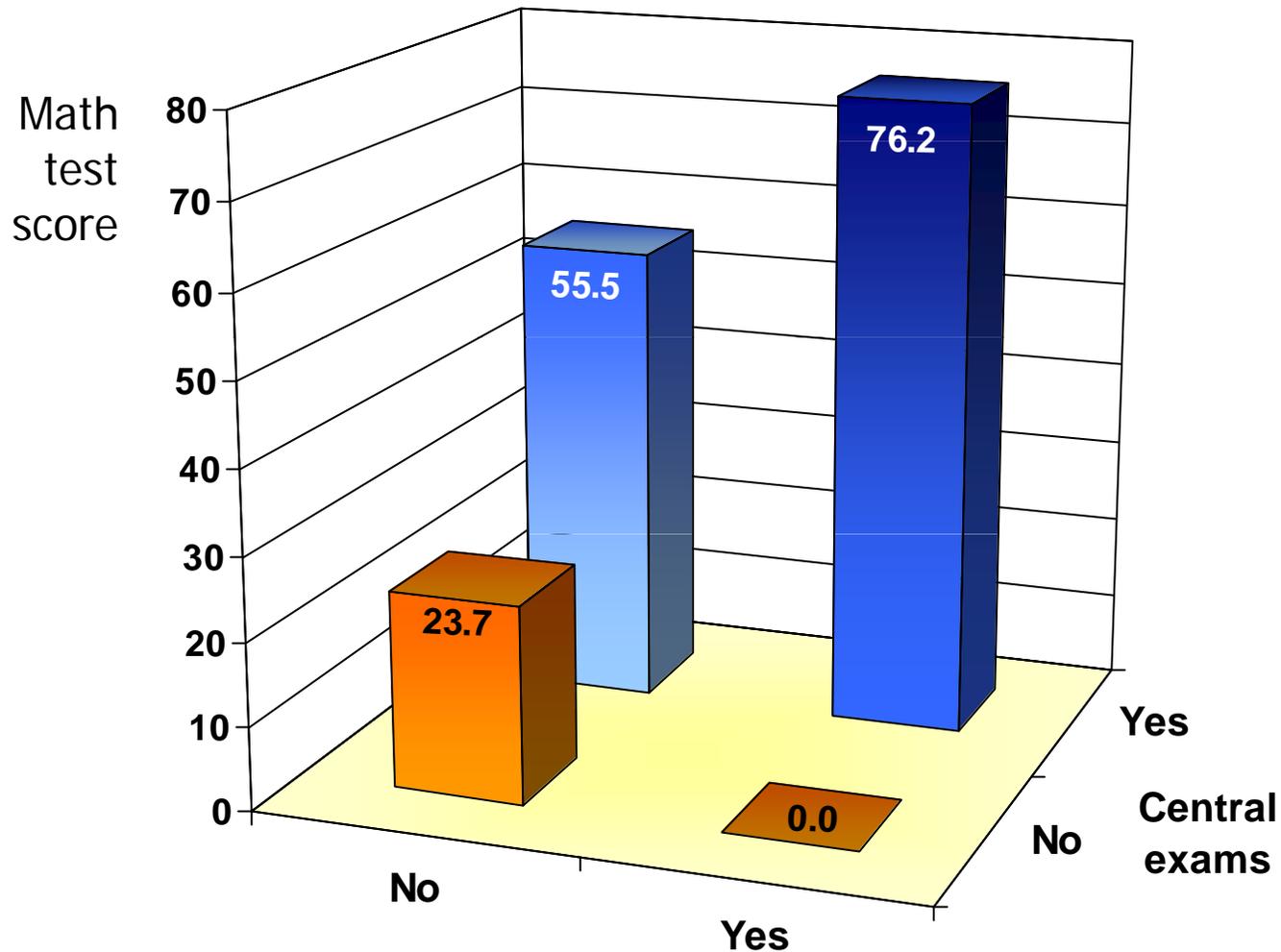


How Central Exams Change Behavior — *Thus Changing the Effects of Autonomy* —

- Central exams provide *information*
- Central exams ease the monitoring
- By introducing accountability, central exams ease the “bad” effects of autonomy, ensuring a “good” net effect

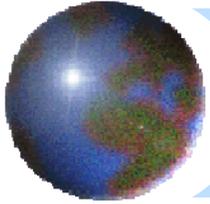


Central Exams, School Autonomy, and Student Performance

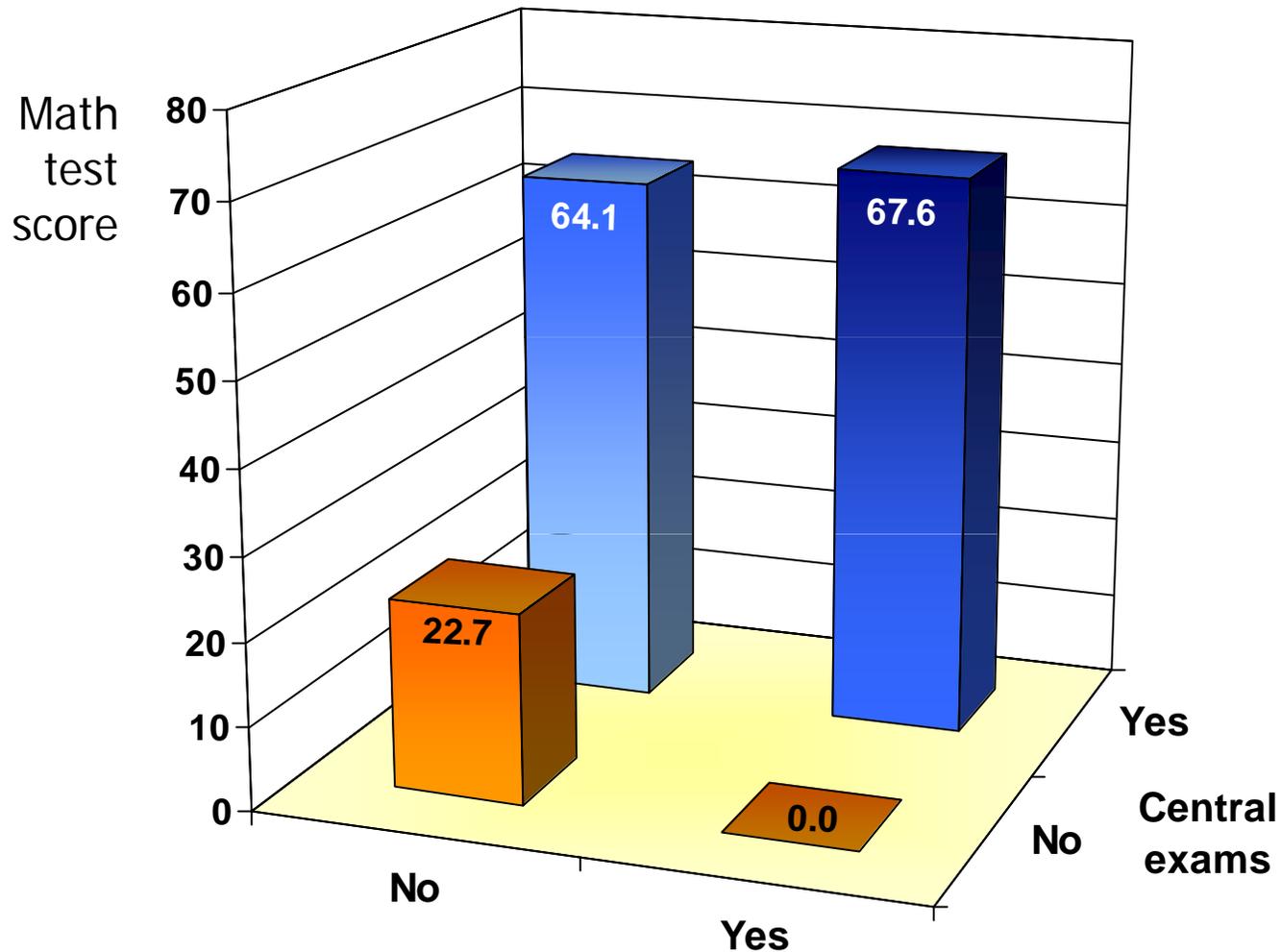


**School autonomy
over teacher salaries**

TIMSS + TIMSS-R

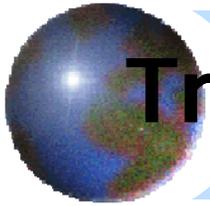


Central Exams, School Autonomy, and Student Performance

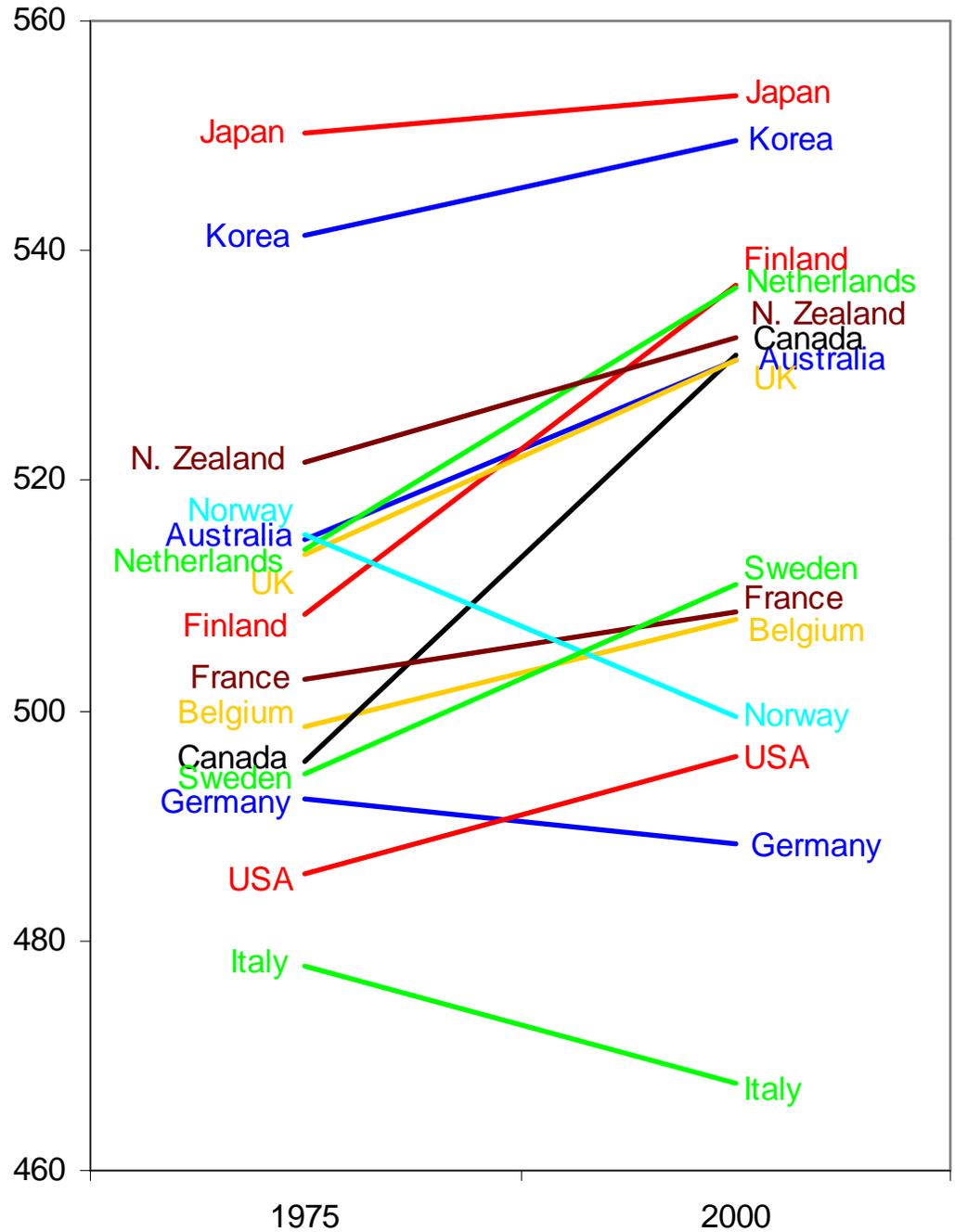


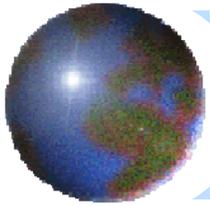
**Teacher influence
on resource funding**

TIMSS + TIMSS-R

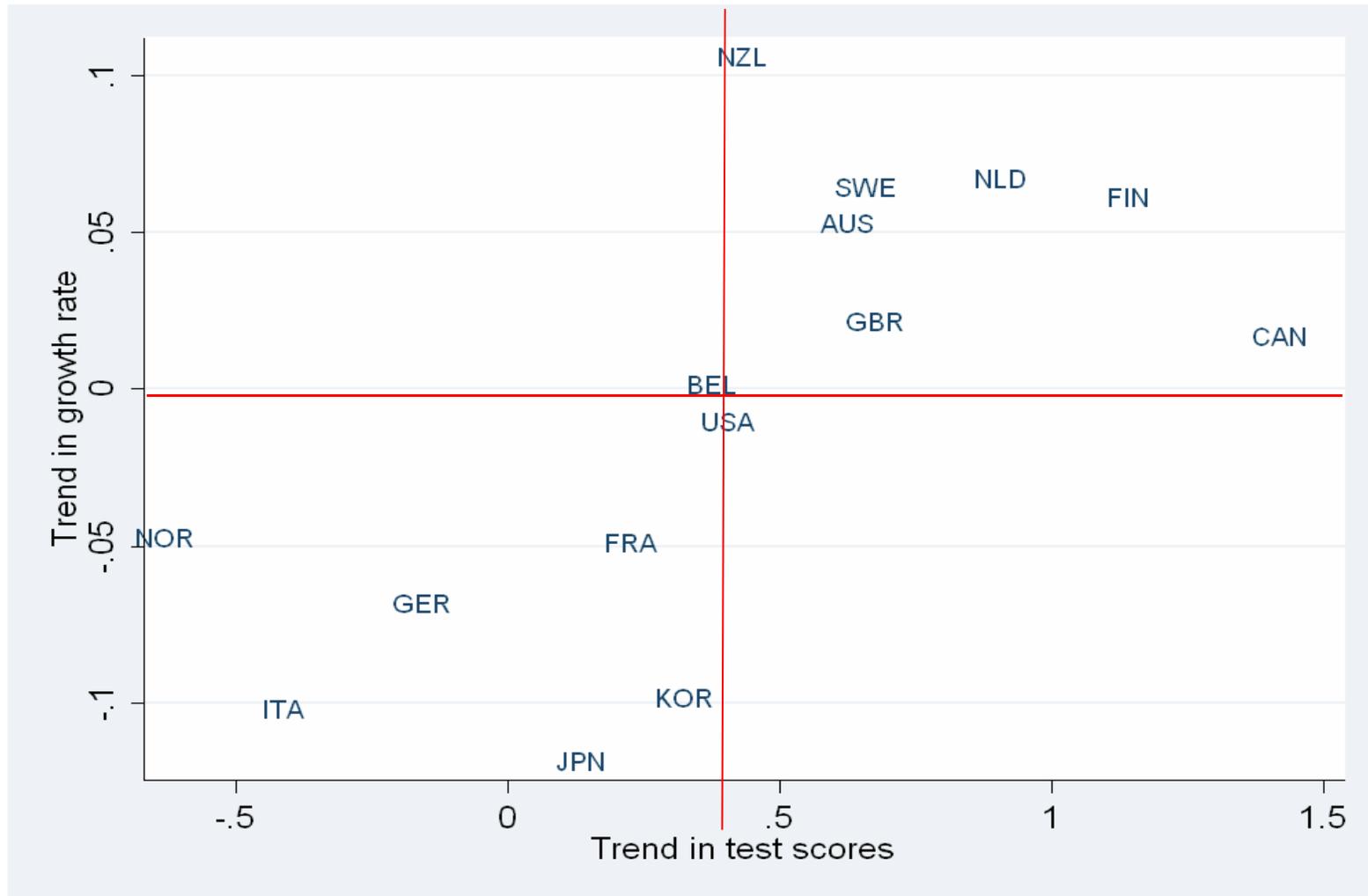


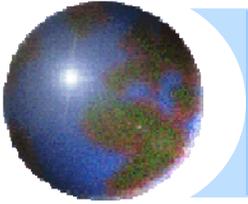
Trends in Test Scores





Trends in Growth Rates vs. Trends in Test Scores





Conclusions

Three main ideas:

1. Quality education is very valuable
2. Teacher quality is most important aspect of schools
3. Institutions and incentives are key policy levers