OECD Programme for International Student Assessment (PISA)

The critical policy focus on learning

Seeing school systems through the prism of international comparisons

40th anniversary of CERI, 15 May 2008

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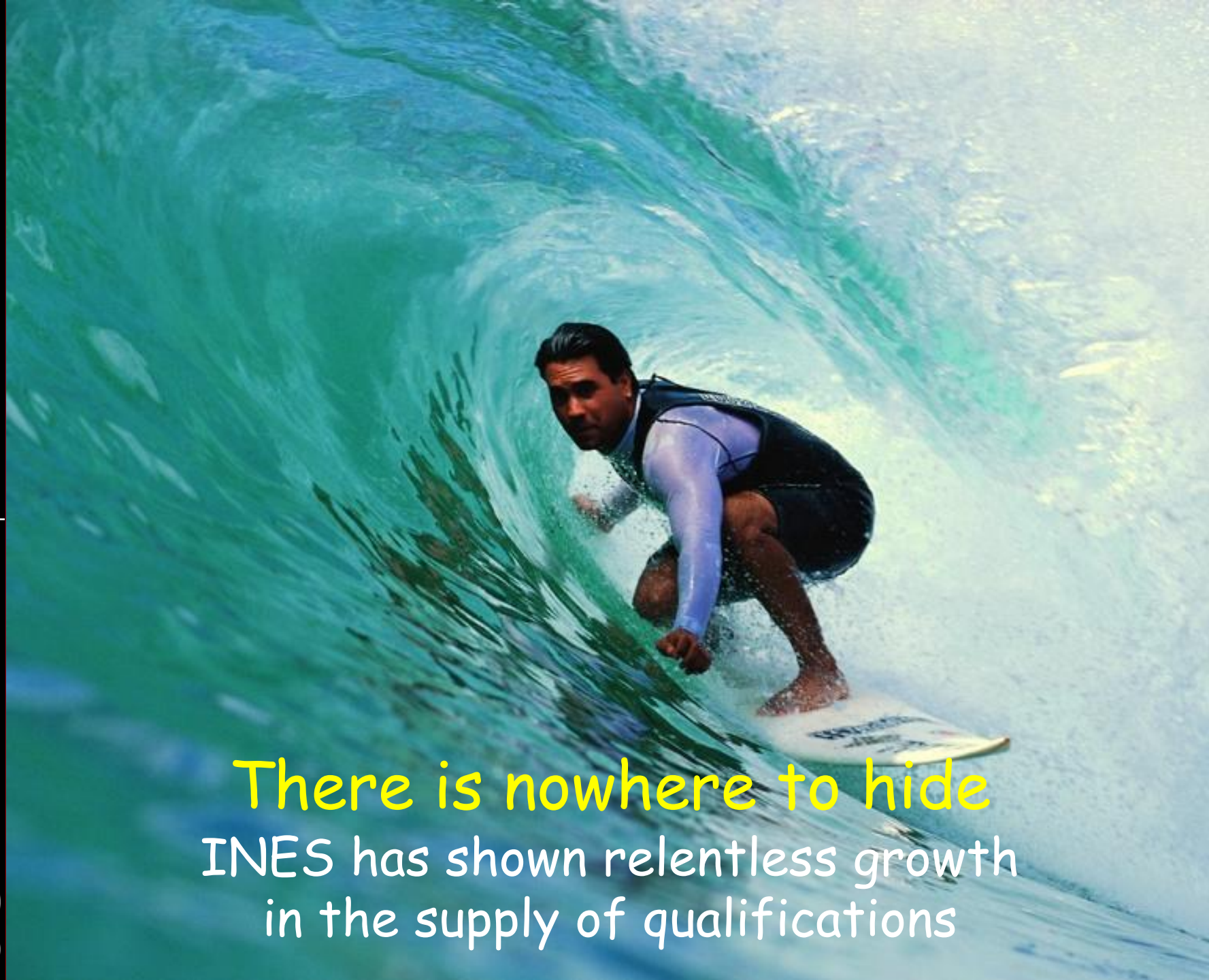
OECD Directorate for Education

The critical focus on learning

1. From humble beginnings in INES…
   - Approximating learning as the output of schooling
2. … through measuring learning outcomes in PISA…
   - Where countries stand in terms of quality and equity of literacy outcomes
   - What the best performing countries show can be achieved
3. … towards understanding the policy levers that drive learning outcomes
   - (the next 40 years of CERI) .

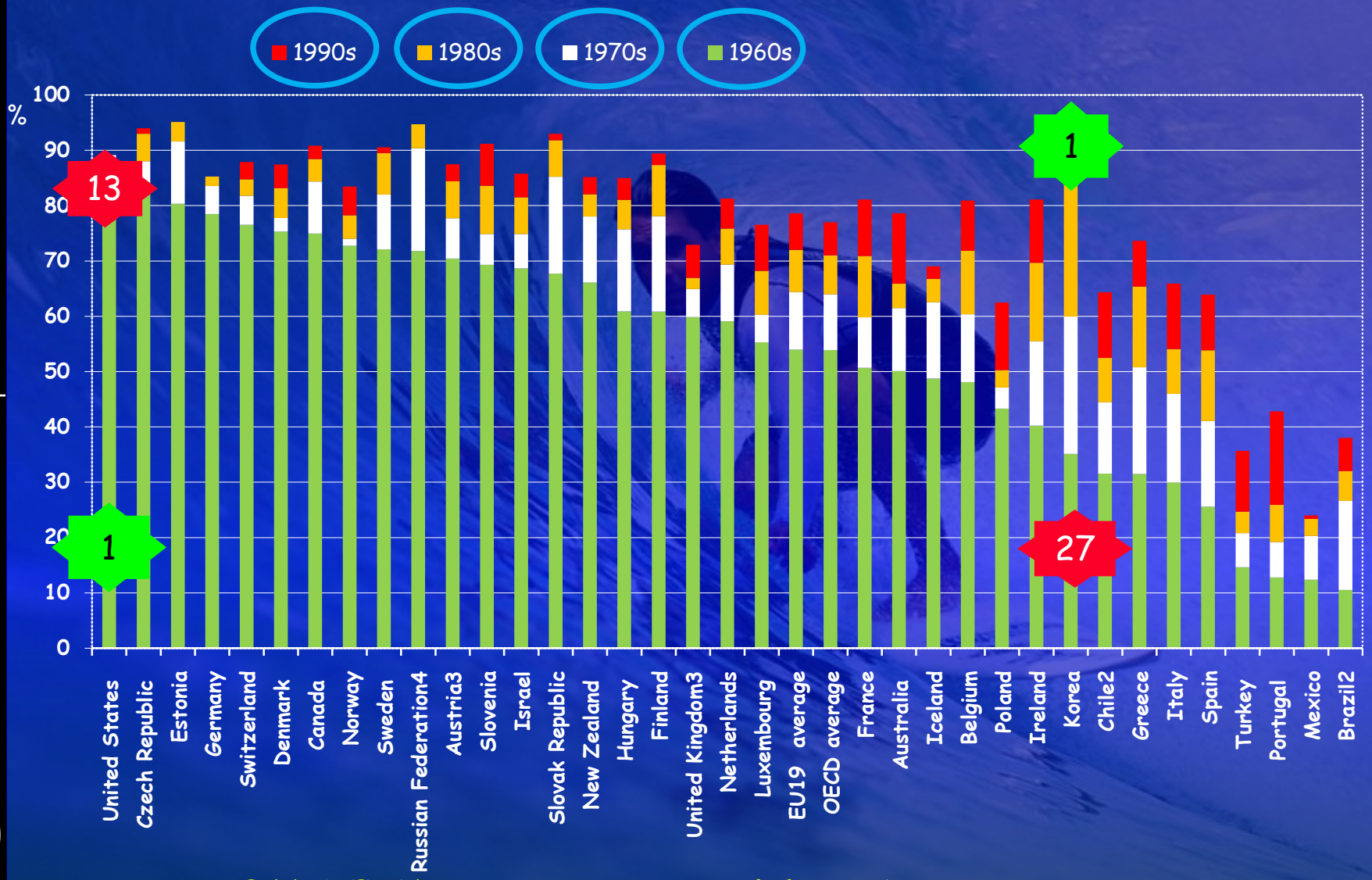


There is nowhere to hide

INES has shown relentless growth in the supply of qualifications

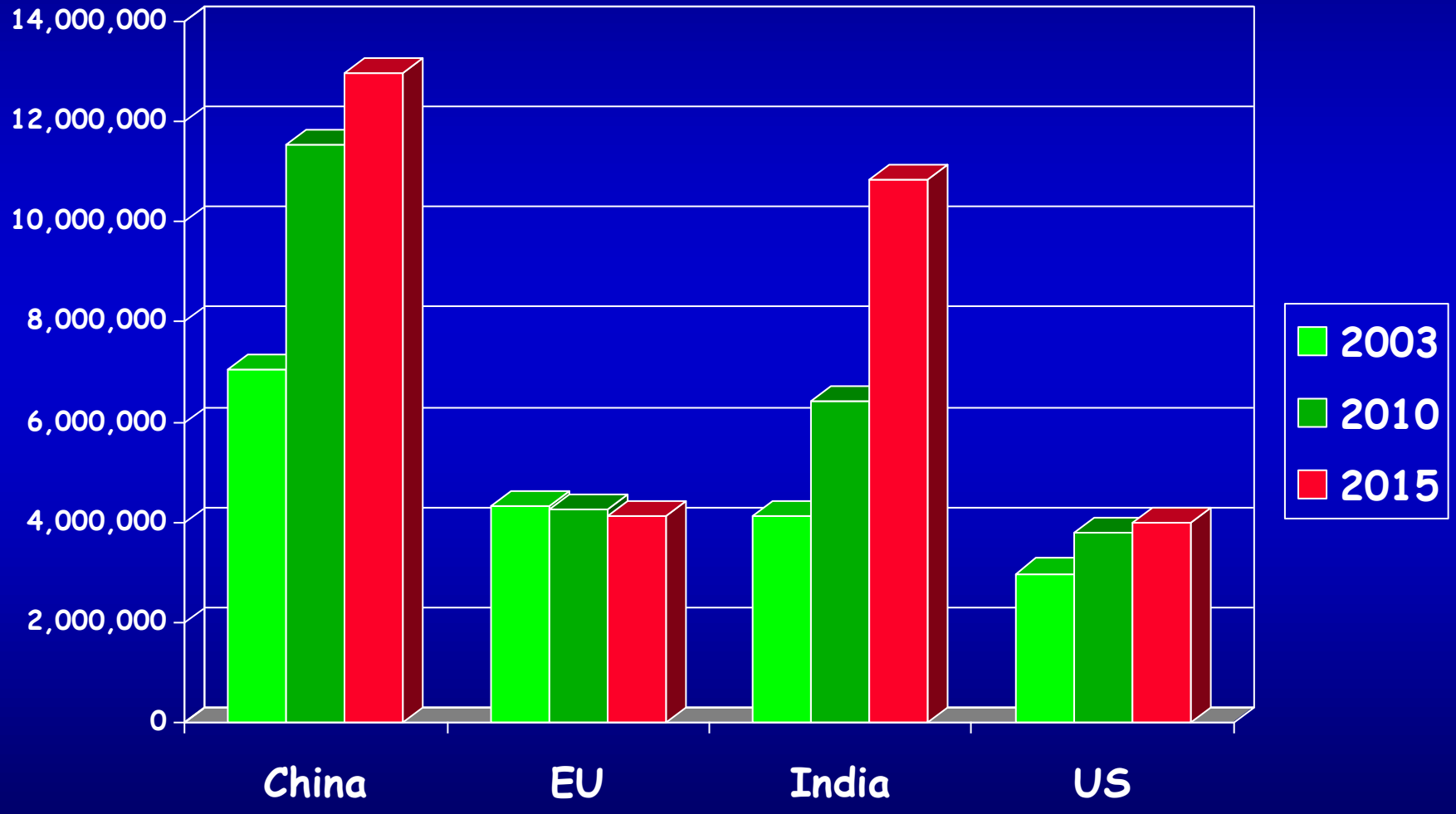
A world of change in baseline qualifications

Approximated by percentage of persons with high school or equivalent qualfications in the age groups 55-64, 45-55, 45-44 und 25-34 years



1. Excluding ISCED 3C short programmes
2. Year of reference 2004
3. Including some ISCED 3C short programmes
3. Year of reference 2003.

Moving targets
Future supply of high school graduates

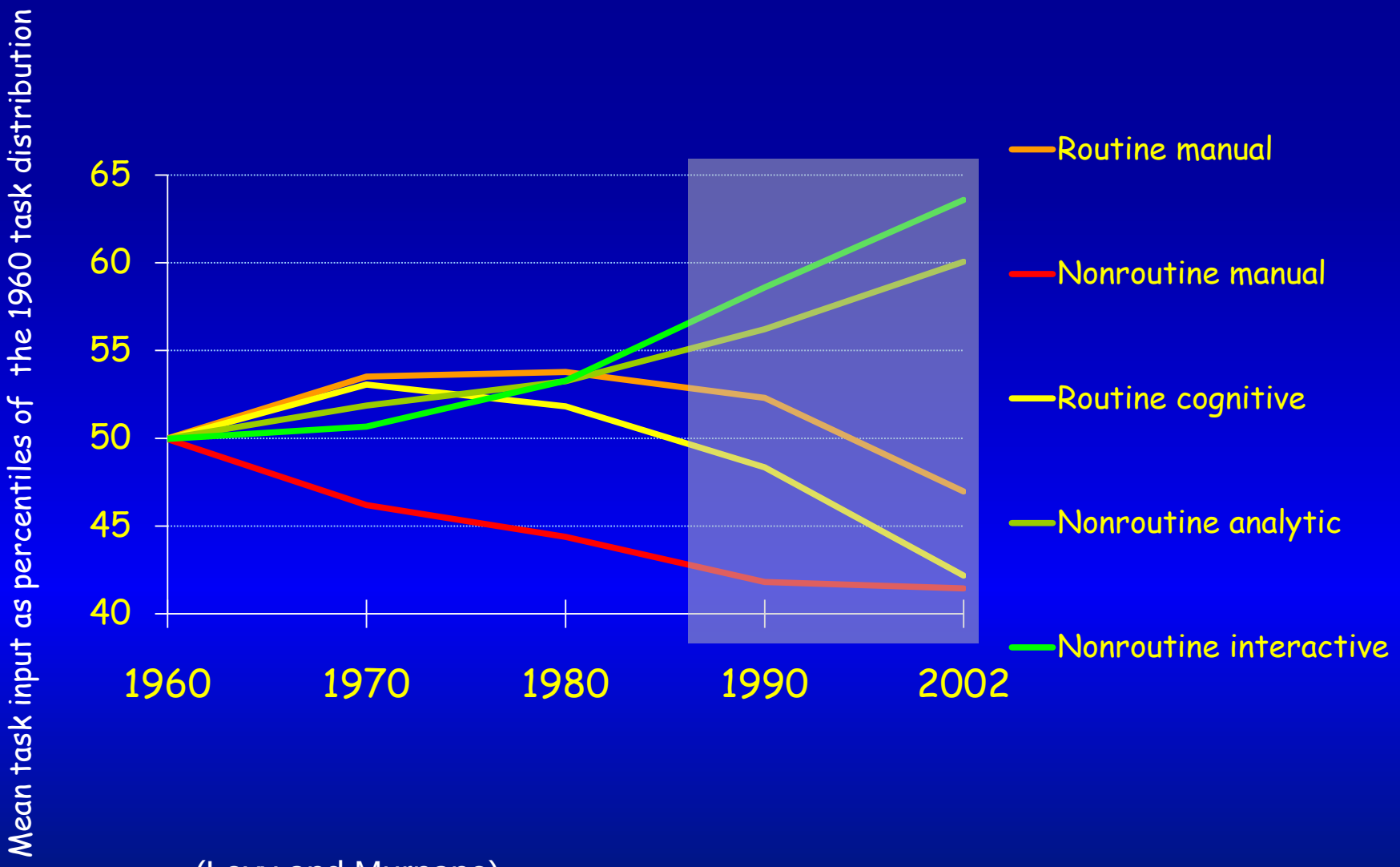


PISA: from counting graduates to measuring quality

Where we are – and where we can be

How the demand for skills has changed

Economy-wide measures of routine and non-routine task input (US)



(Levy and Murnane)

How the demand for skills has changed

Economy-wide measures of routine and non-routine task input (US)

To analyse, compare, contrast, and evaluate

To think imaginatively

OECD concept of literacy

Accessing, managing, integrating and evaluating written information

in order to develop ones knowledge and potential,

and to participate in, and contribute to, society

To apply knowledge in real-life situations

To communicate thoughts and ideas effectively

How the demand for skills has changed

To analyse, compare, contrast, and evaluate

To think imaginatively

Reading literacy

Using, interpreting and reflecting on written material

To apply knowledge in real-life situations

To communicate thoughts and ideas effectively

How the demand for skills has changed

manual
nual
ve
lytic
eractive

To analyse, compare, contrast, and evaluate

To think imaginatively

Mathematical literacy

Emphasis is on mathematical knowledge put into functional use in a multitude of different situations in varied, reflective and insight-based ways

To apply knowledge in real-life situations

To communicate thoughts and ideas effectively

How the demand for skills has changed

To analyse, compare, contrast, and evaluate

To think imaginatively

Scientific literacy

Using scientific knowledge, identifying scientific questions, and drawing evidence-based conclusions to understand and make decisions about the natural world

To apply knowledge in real-life situations

To communicate thoughts and ideas effectively

Deciding what to assess...

looking back at what students were expected to have learned

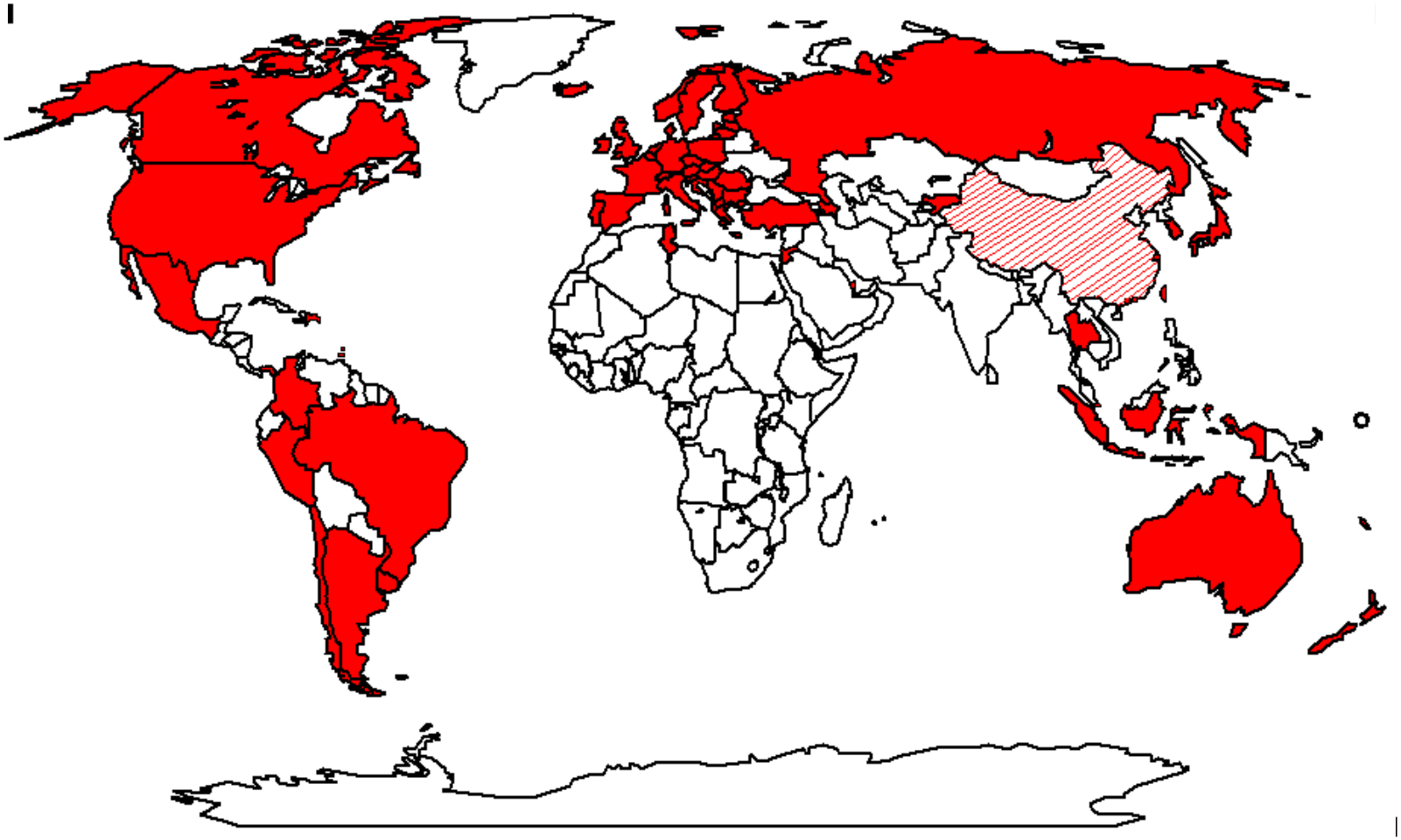
...or...

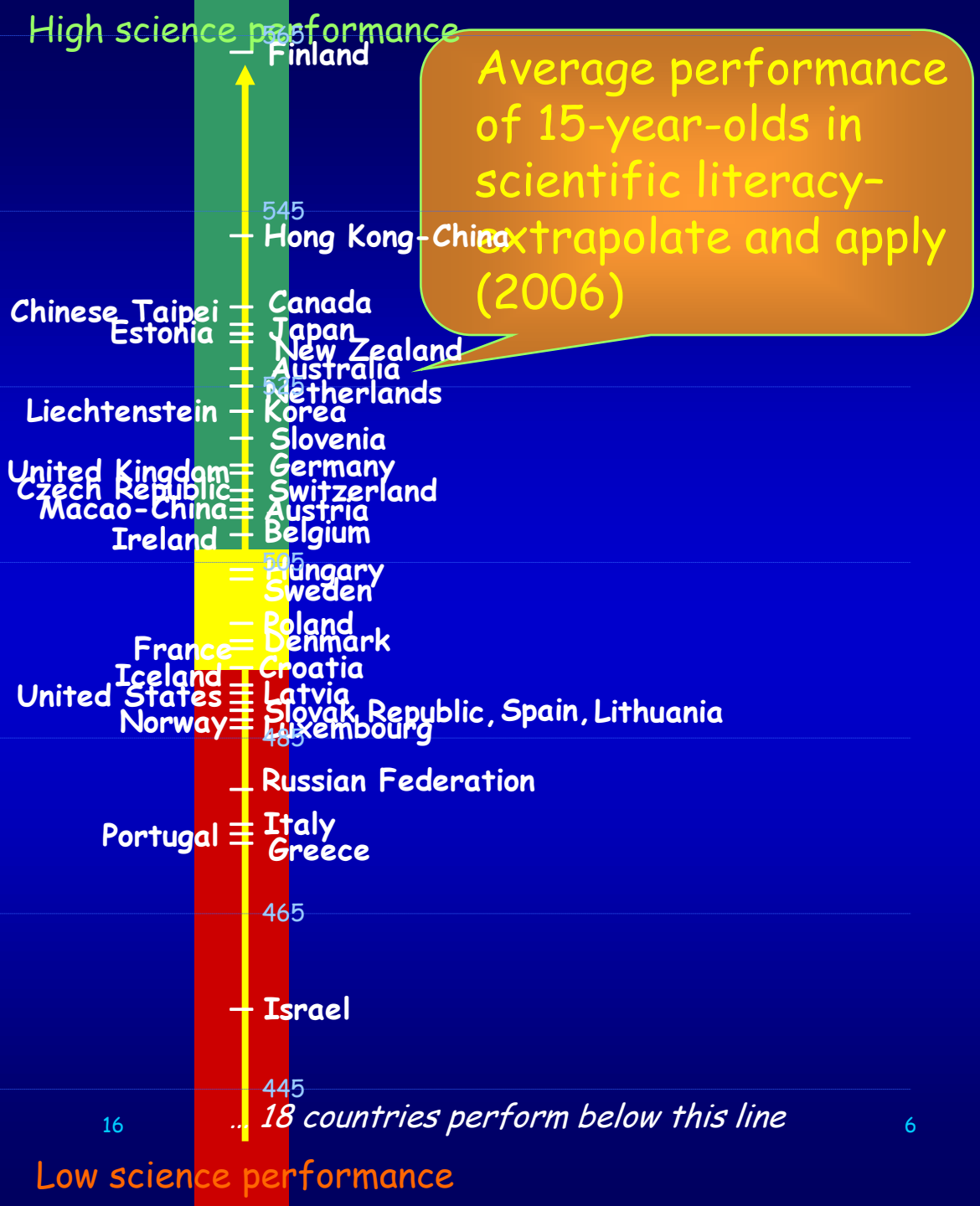
looking ahead to how well they can extrapolate from what they have learned and apply their knowledge and skills in novel settings.

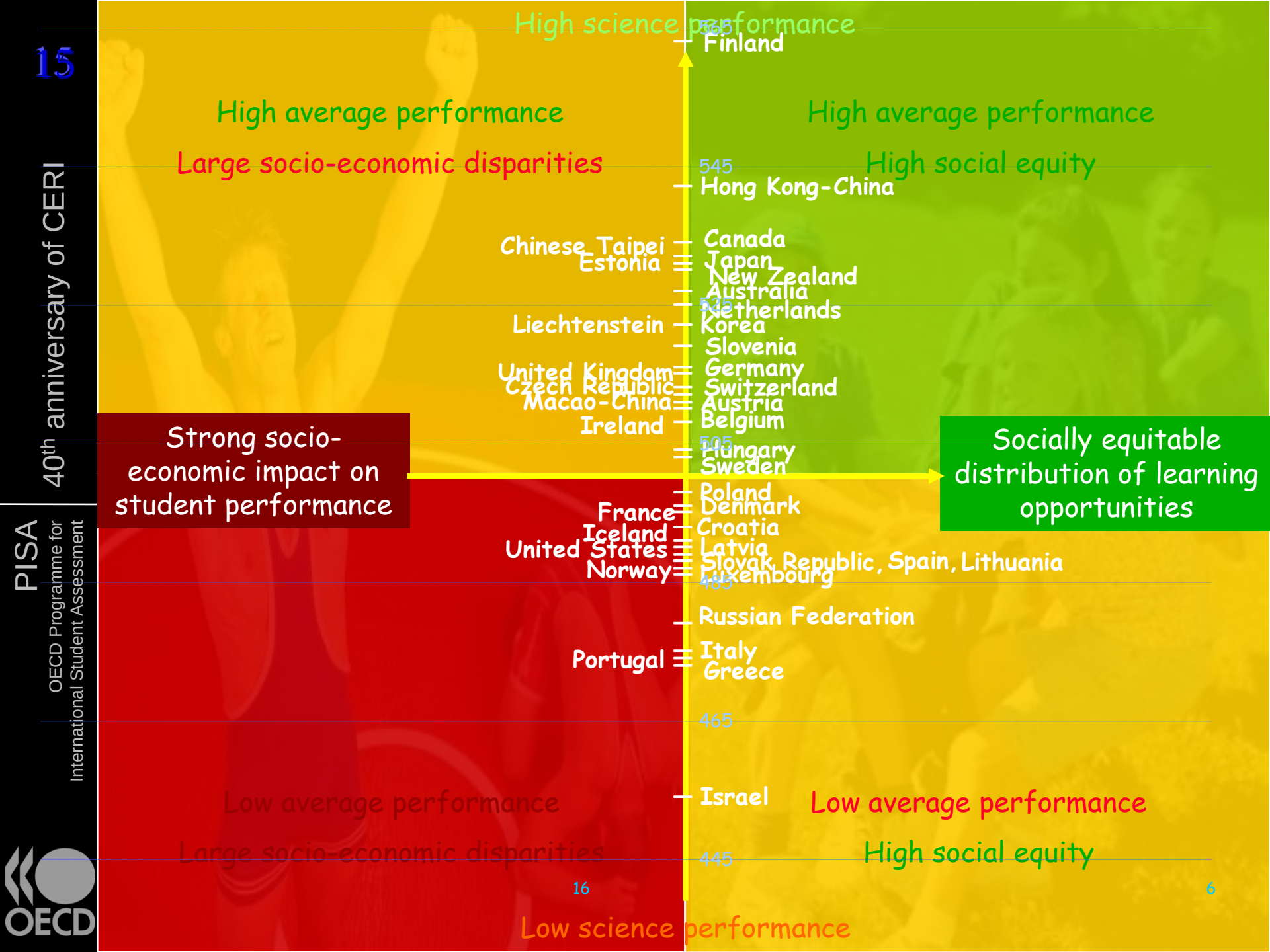
For PISA, the OECD countries chose the latter.

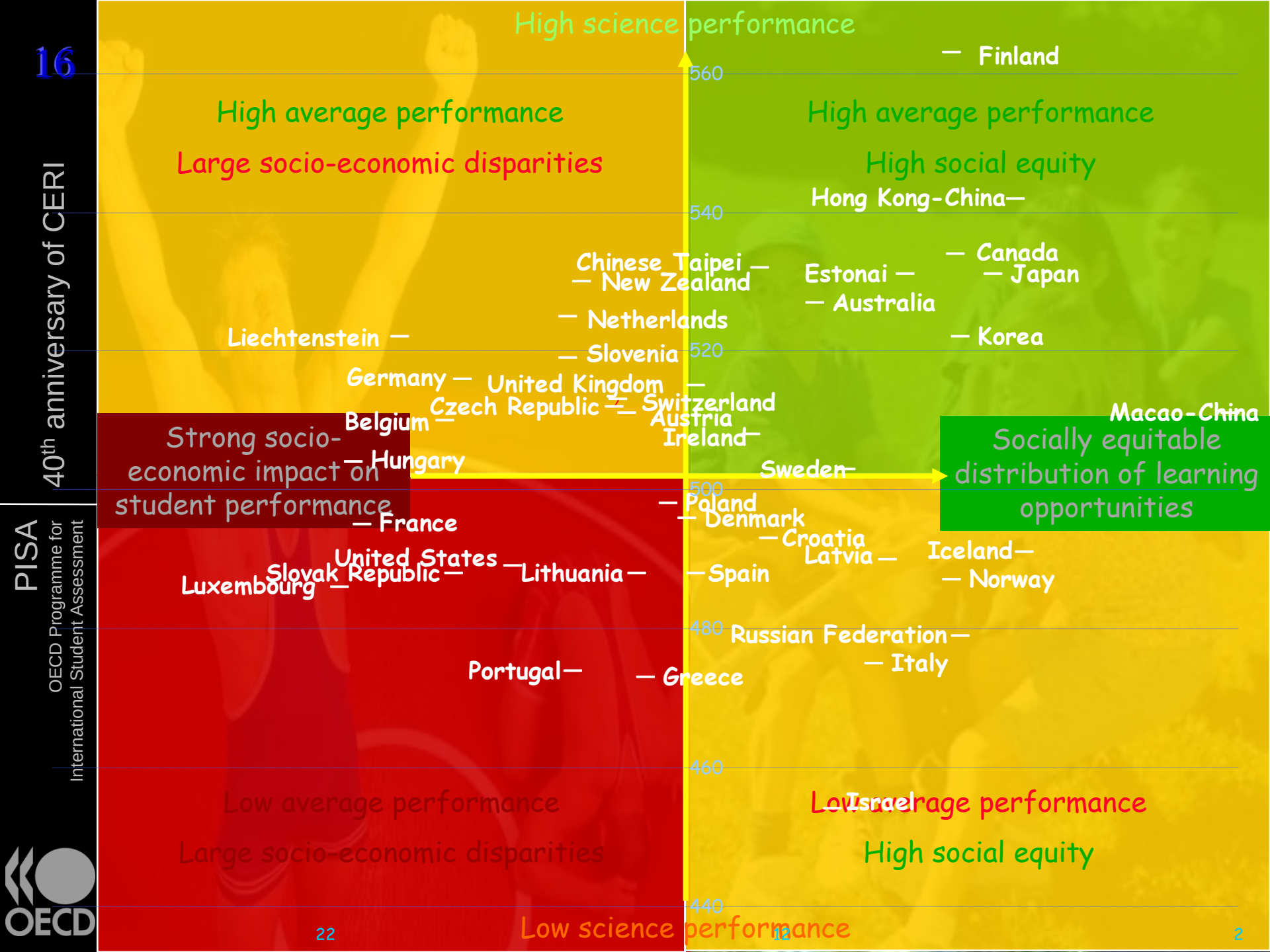
PISA countries in 2009

Coverage of world economy 87%




High science performance
Finland
Average performance of 15-year-olds in scientific literacy- extrapolate and apply (2006)
545
Hong Kong-China
Chinese Taipei
Canada
Estonia
Japan
New Zealand
Australia
Liechtenstein
Netherlands
Korea
Slovenia
United Kingdom
Germany
Czech Republic
Switzerland
Macao-China
Austria
Ireland
Belgium
Hungary
Sweden
Poland
France
Denmark
Iceland
Croatia
United States
Latvia
Norway
Slovak Republic, Spain, Lithuania
Luxembourg
Russian Federation
Portugal
Italy
Greece
465
Israel
445
18 countries perform below this line
Low science performance


15
40th anniversary of CERI
PISA
OECD Programme for International Student Assessment
High science performance
Low science performance
High average performance
Large socio-economic disparities
High average performance
High social equity
Low average performance
Large socio-economic disparities
Low average performance
High social equity
Strong socio-economic impact on student performance
Socially equitable distribution of learning opportunities
565
545
525
505
485
465
445
Finland
Hong Kong-China
Canada
Chinese Taipei
Japan
Estonia
New Zealand
Australia
Netherlands
Liechtenstein
Korea
Slovenia
Germany
United Kingdom
Switzerland
Czech Republic
Macao-China
Austria
Belgium
Ireland
Hungary
Sweden
Poland
Denmark
France
Croatia
Iceland
Latvia
United States
Slovak Republic, Spain, Lithuania
Norway
Luxembourg
Russian Federation
Italy
Portugal
Greece
Israel
16
6
OECD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560
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Korea
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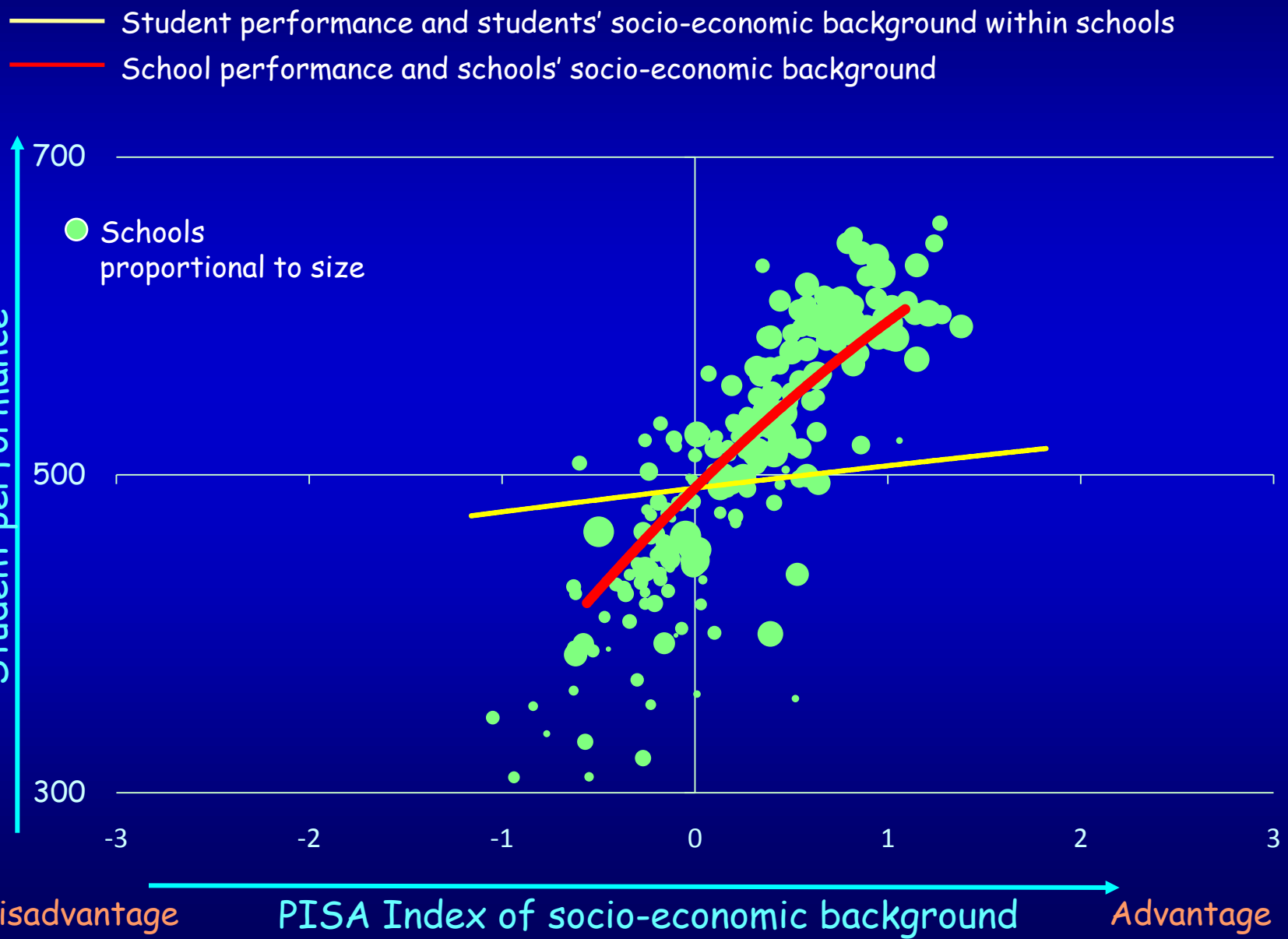
Hungary
Sweden
Poland
Denmark
France
Croatia
Latvia
Iceland
United States
Slovak Republic
Lithuania
Spain
Luxembourg
Norway
Russian Federation
Italy
Portugal
Greece
Israel
22
12
2

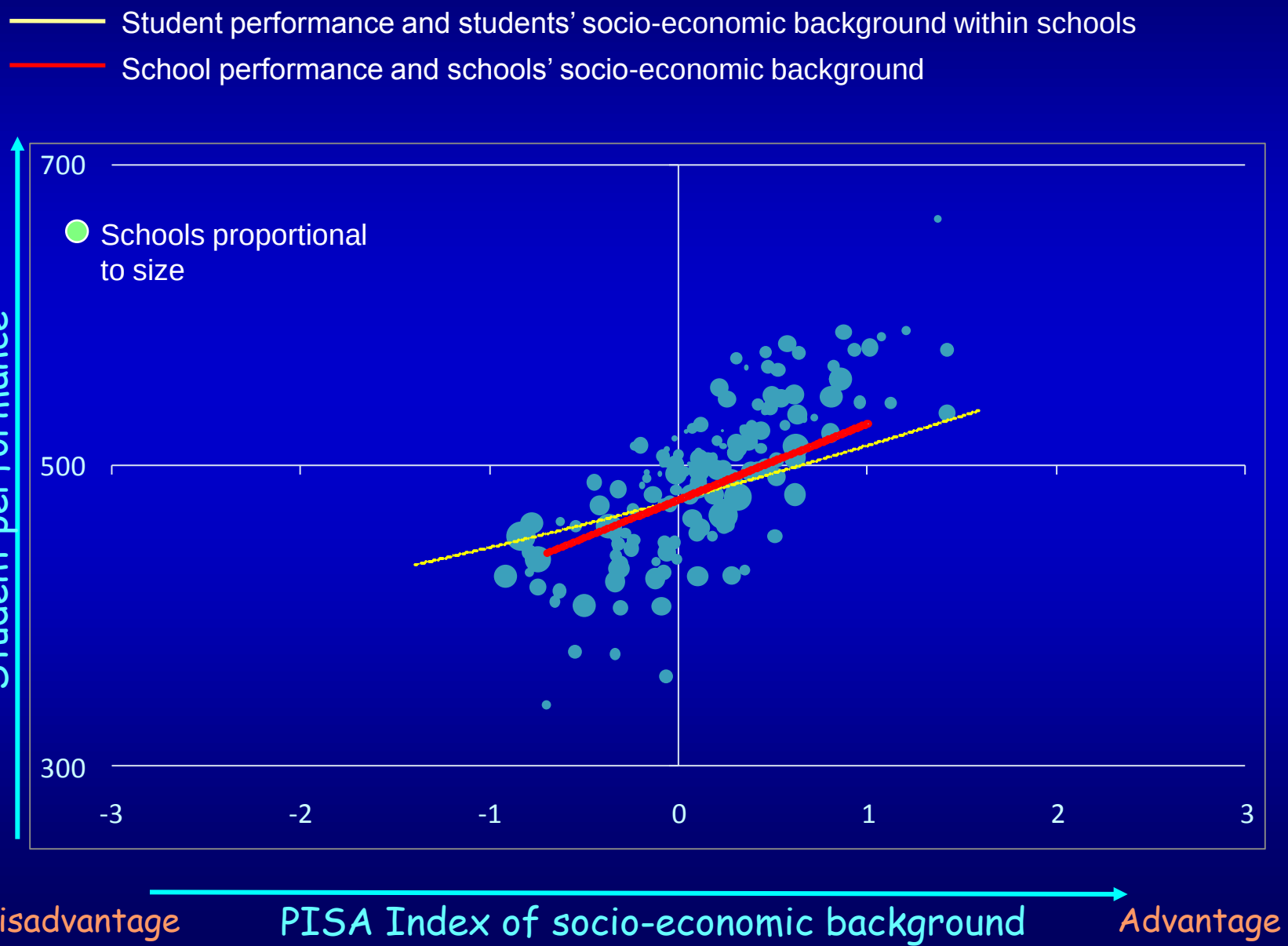
School performance and socio-economic background

Germany



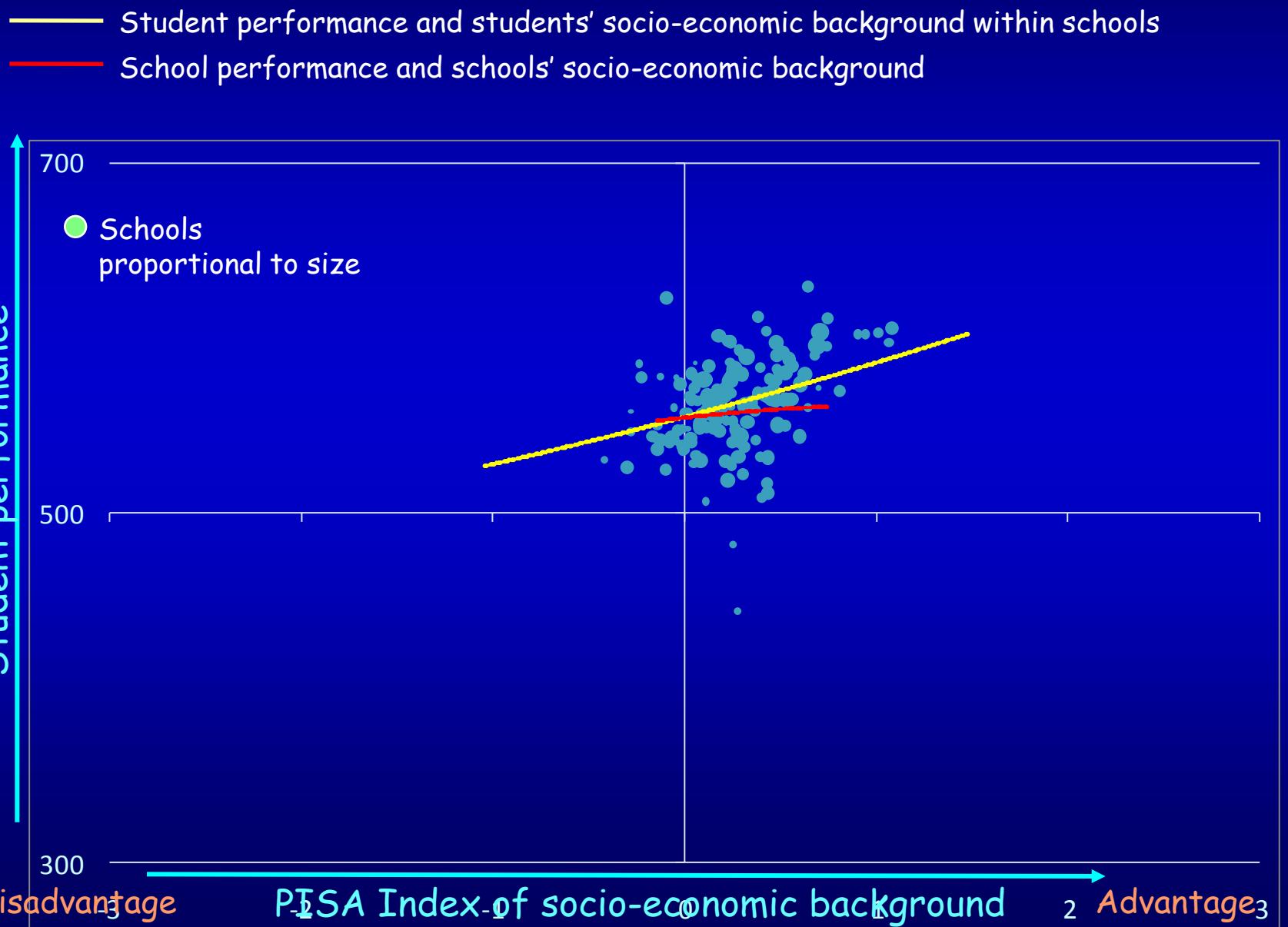
School performance and socio-economic background

United States

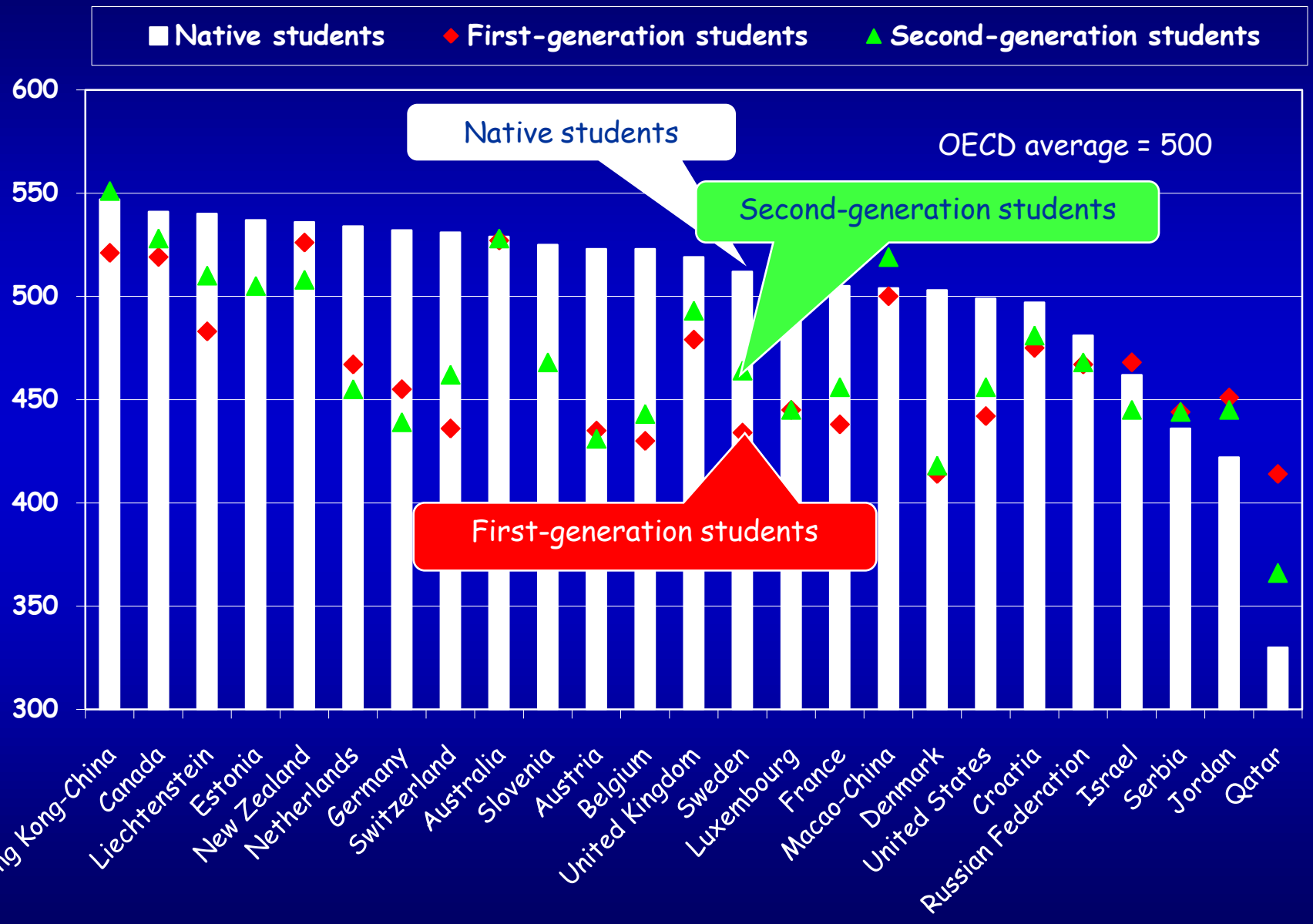


School performance and socio-economic background

Finland

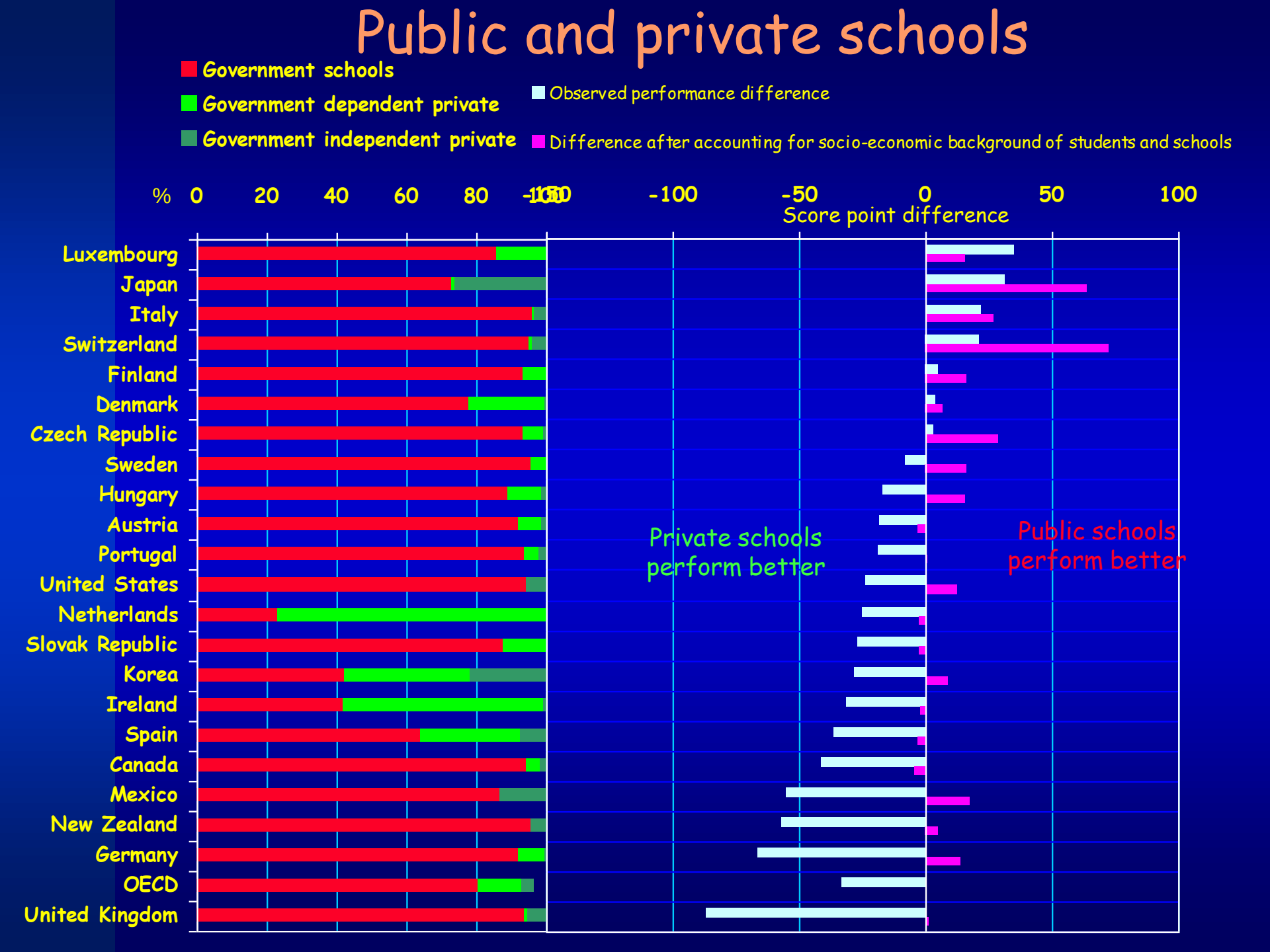


Immigrants and science performance

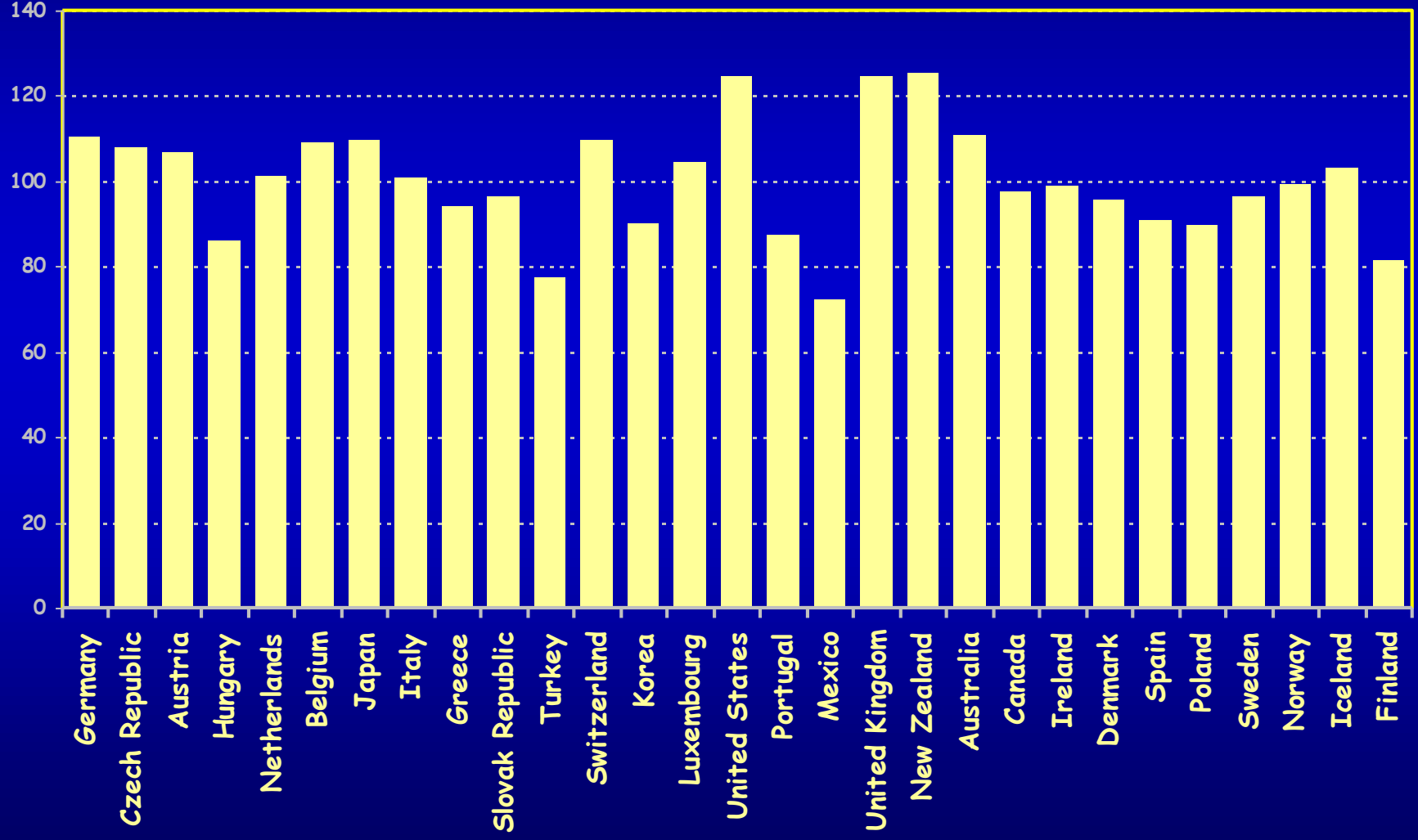


PISA 2006: Science Competencies for Tomorrow's World, Figure 4.2a.

Public and private schools

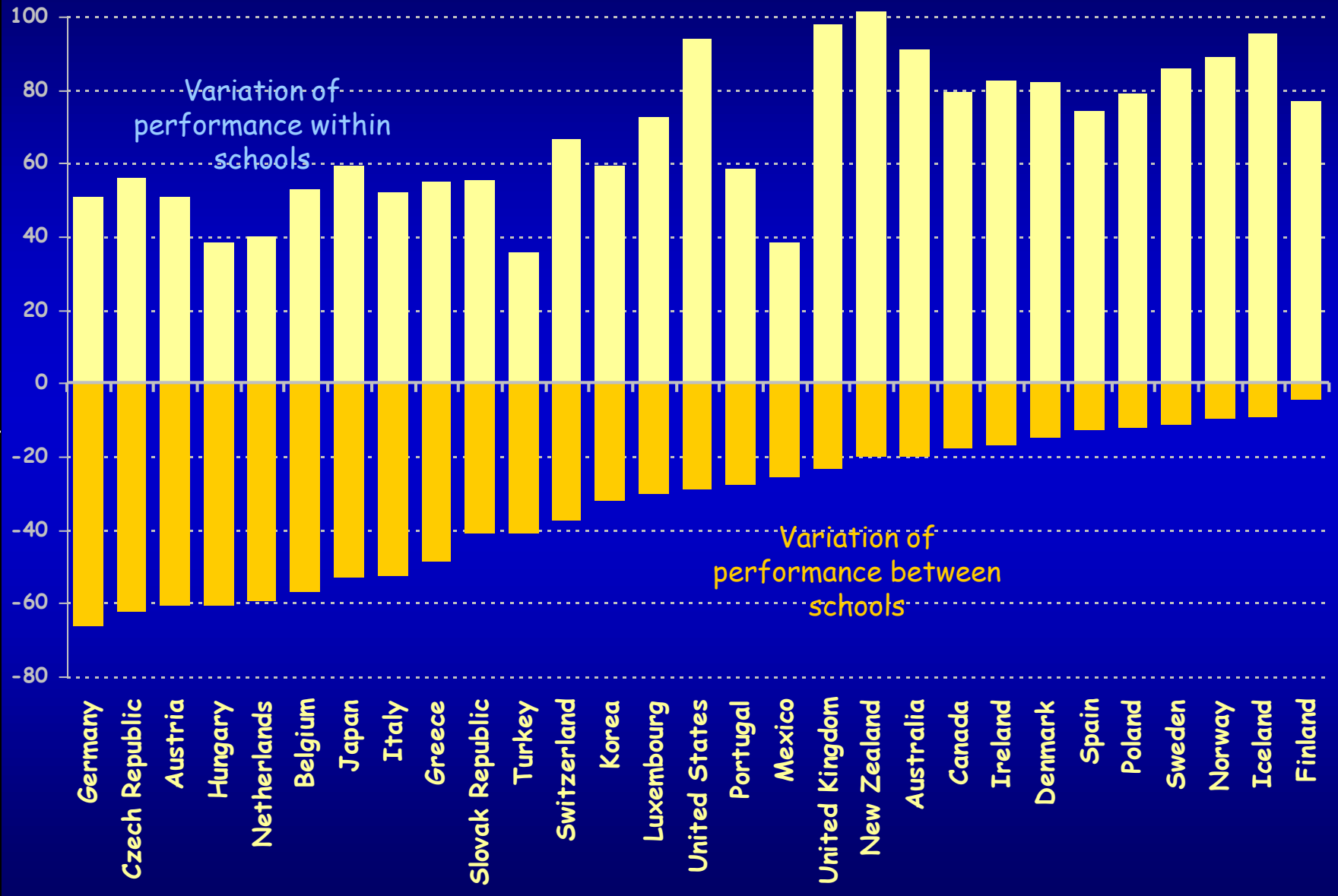


Variation in student performance



OECD (2007), *Learning for tomorrow's world: First results from PISA 2006*, Table 4.1a

Variation in student performance

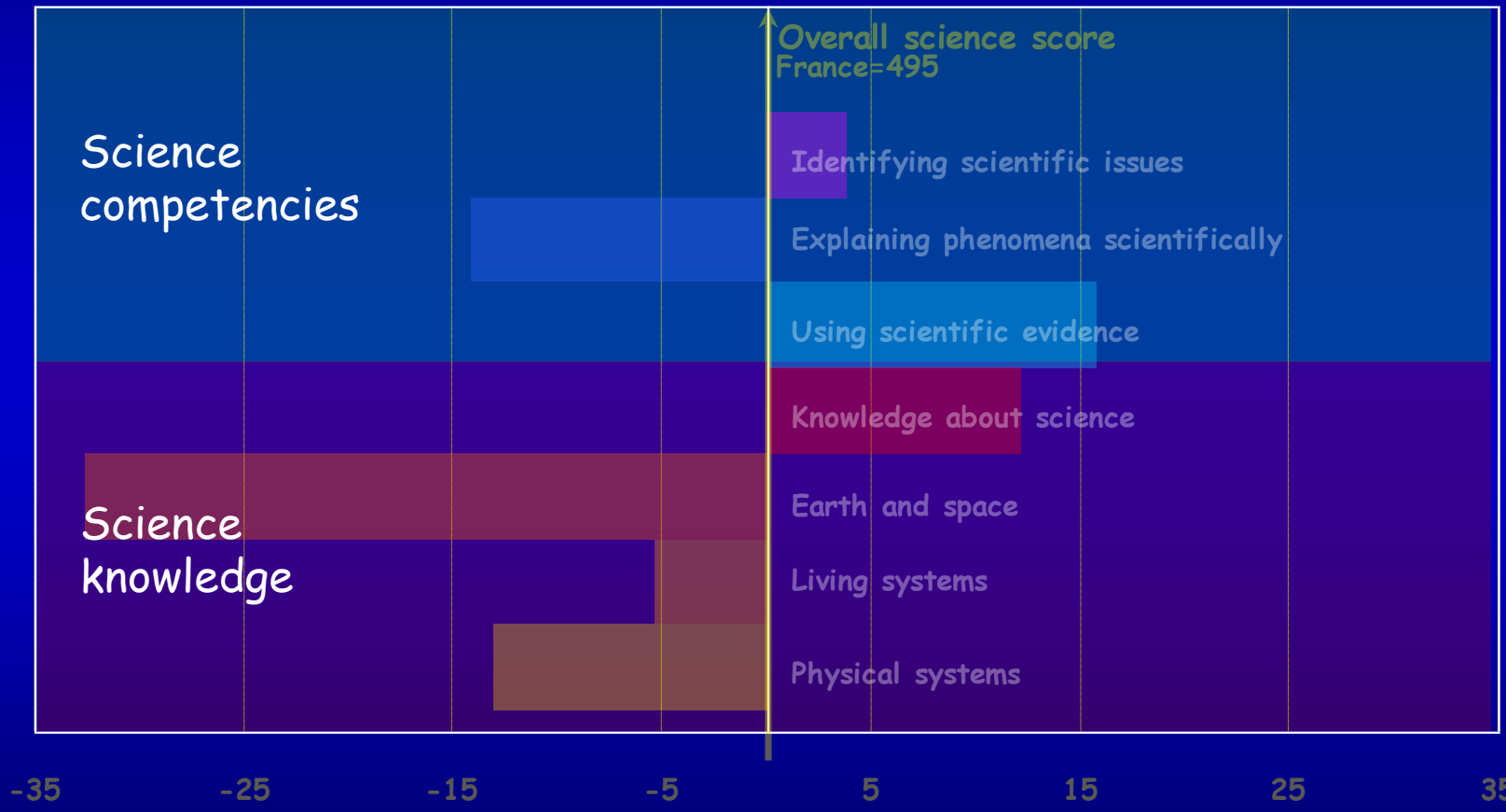


OECD (2004), *Learning for tomorrow's world: First results from PISA 2003*, Table 4.1a

Strengths and weaknesses of countries in science

relative to their overall performance

France

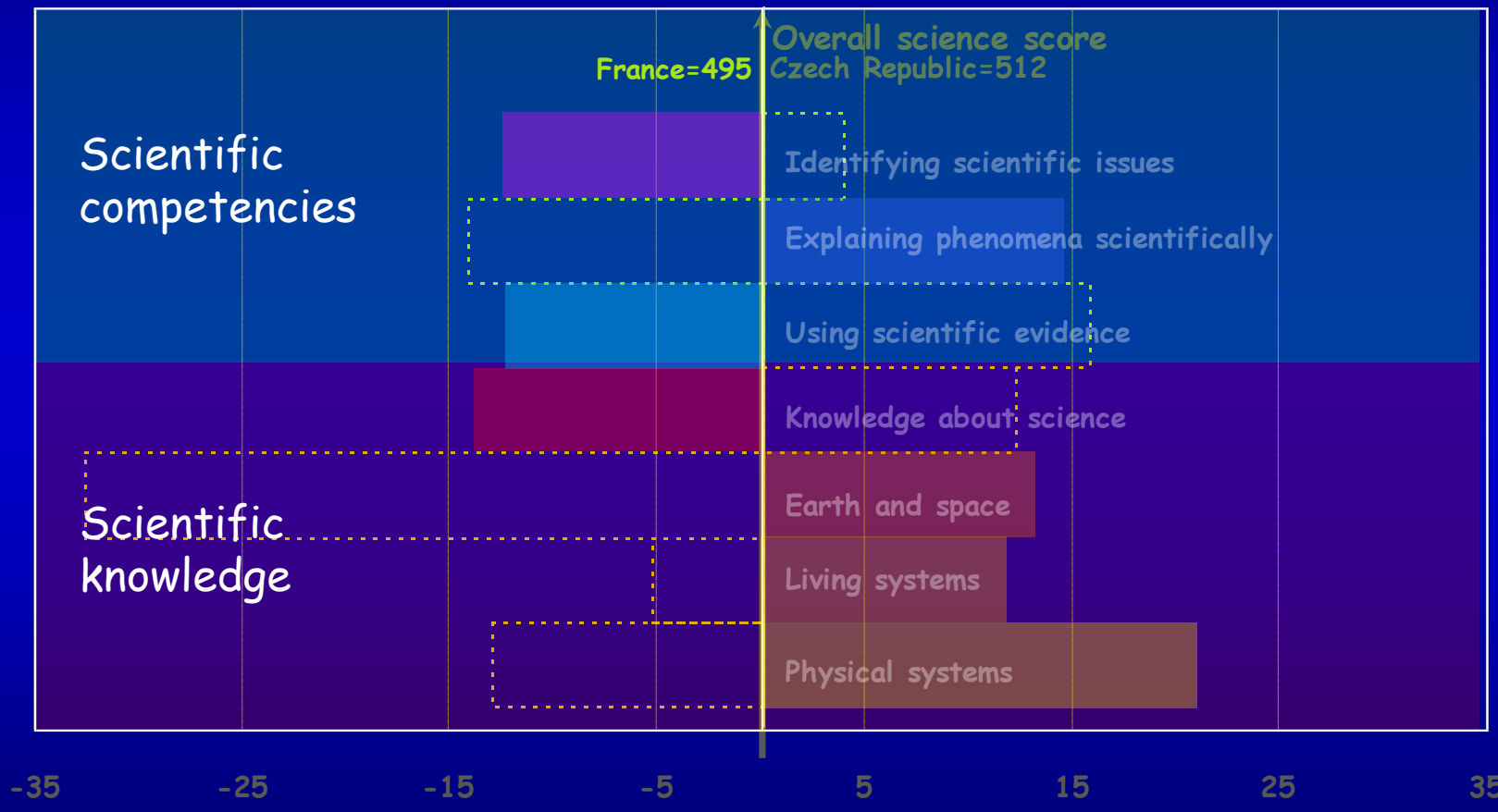


OECD (2007), *PISA 2006 – Science Competencies for Tomorrow's World*, Figure 2.13

Strengths and weaknesses of countries in science

relative to their overall performance

Czech Republic

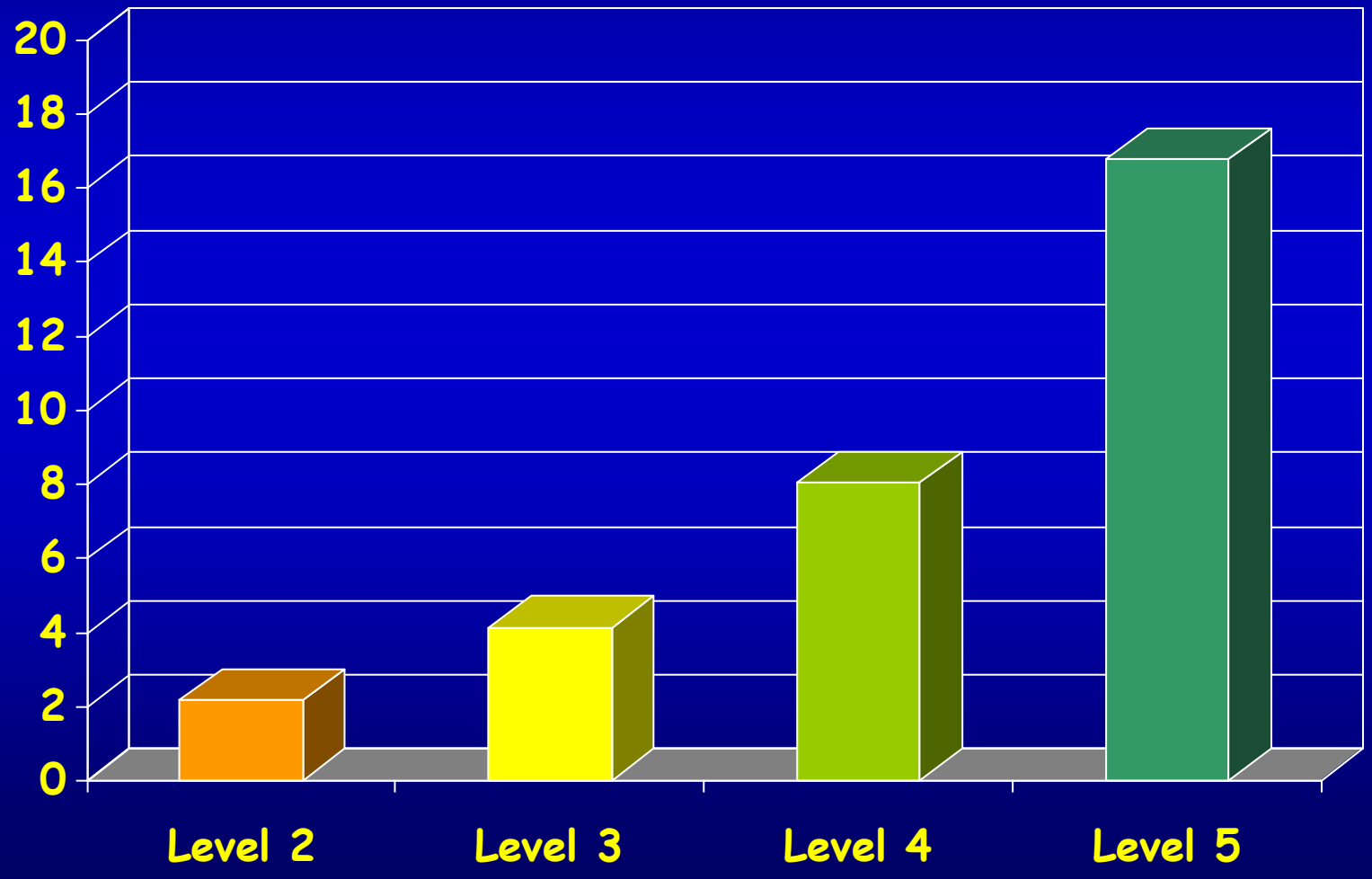


OECD (2007), *PISA 2006 – Science Competencies for Tomorrow's World*, Figure 2.13

Increased likelihood of postsec. particip. at age 19 associated with reading proficiency at age 15 (Canada)

after accounting for school engagement, gender, mother tongue, place of residence, parental, education and family income

(reference group Level 1)

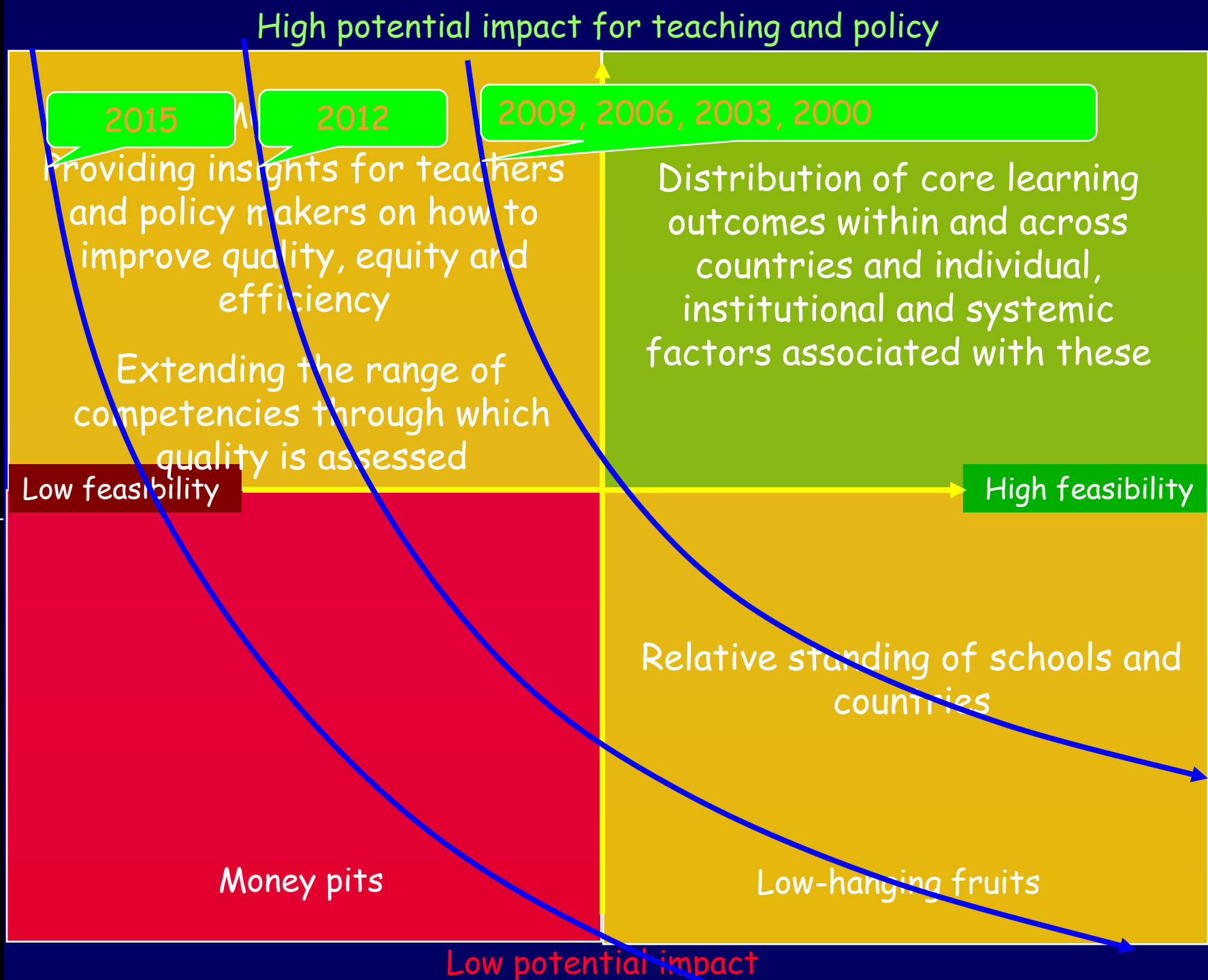


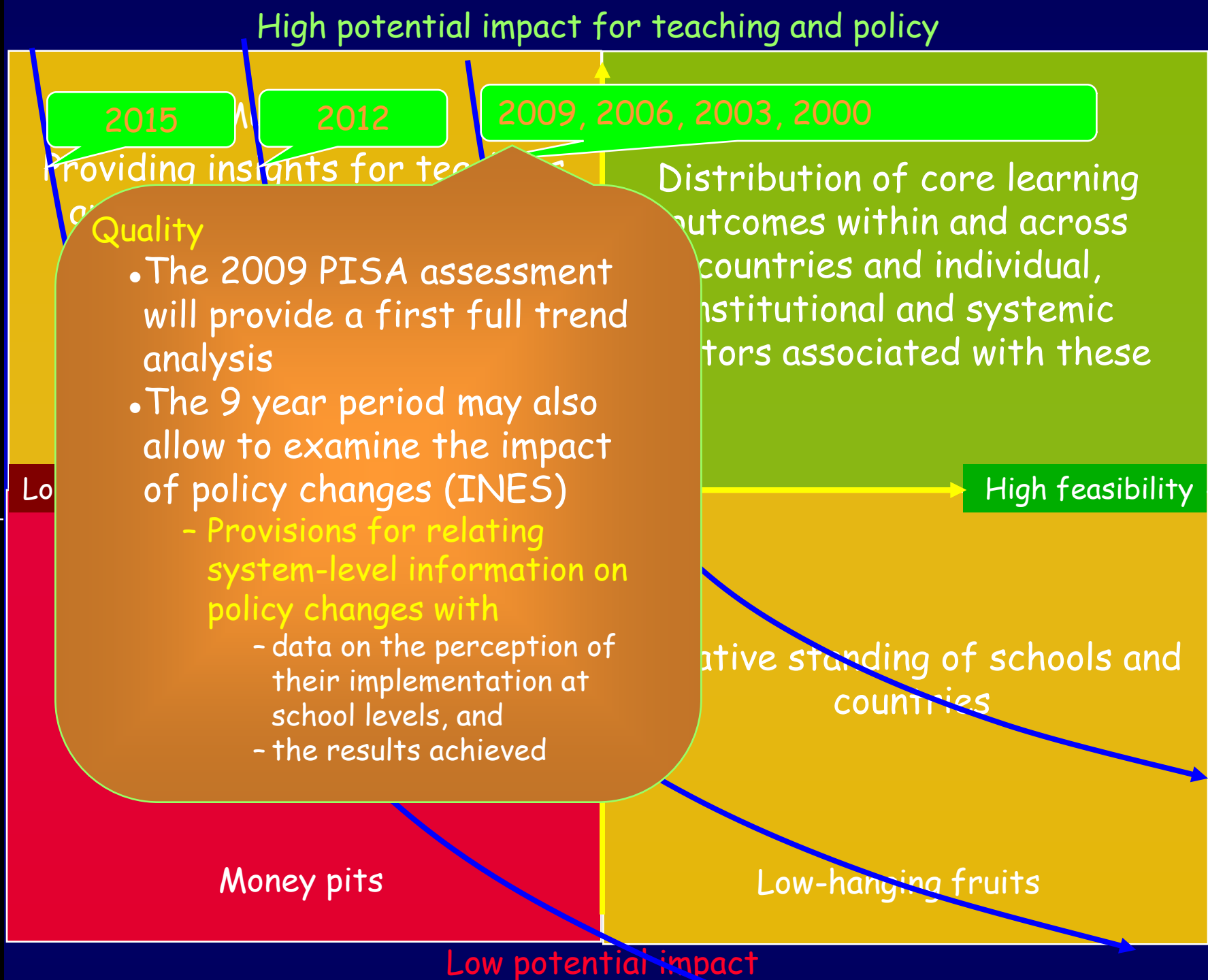
Understanding the policy levers that drive learning outcomes

The next 40 years of CERI

Some myths

- No relationship between size of countries and average performance
- No relationship between proportion of immigrants and average performance
- Few difference in students' reported test motivation
- Limited impact of national item preferences .


High potential impact for teaching and policy
2015
2012
2009, 2006, 2003, 2000
Providing insights for teachers and policy makers on how to improve quality, equity and efficiency
Extending the range of competencies through which quality is assessed
Distribution of core learning outcomes within and across countries and individual, institutional and systemic factors associated with these
Low feasibility
High feasibility
Relative standing of schools and countries
Money pits
Low-hanging fruits
Low potential impact


High potential impact for teaching and policy
2015
2012
2009, 2006, 2003, 2000
roviding insights for tea
Distribution of core learning
utcomes within and across
countries and individual,
nstitutional and systemic
tors associated with these
Quality
• The 2009 PISA assessment will provide a first full trend analysis
• The 9 year period may also allow to examine the impact of policy changes (INES)
– Provisions for relating system-level information on policy changes with
– data on the perception of their implementation at school levels, and
– the results achieved
Lo
High feasibility
ative standing of schools and countries
Money pits
Low-hanging fruits
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High potential impact for teaching and policy

2015

2012

2009, 2006, 2003, 2000

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Distribution of core learning outcomes within and across countries and individual, institutional and systemic factors associated with these

Equity

- A link between 15-year-olds and 9-year-olds could allow to assess to what extent socio-economic inequalities grow or are moderated
- A nine-year gap would allow for an analysis to what extent the distribution in learning outcomes and the impact of socio-economic background have changed

High feasibility

standing of schools and countries

Money pits

Low-hanging fruits

Low potential impact

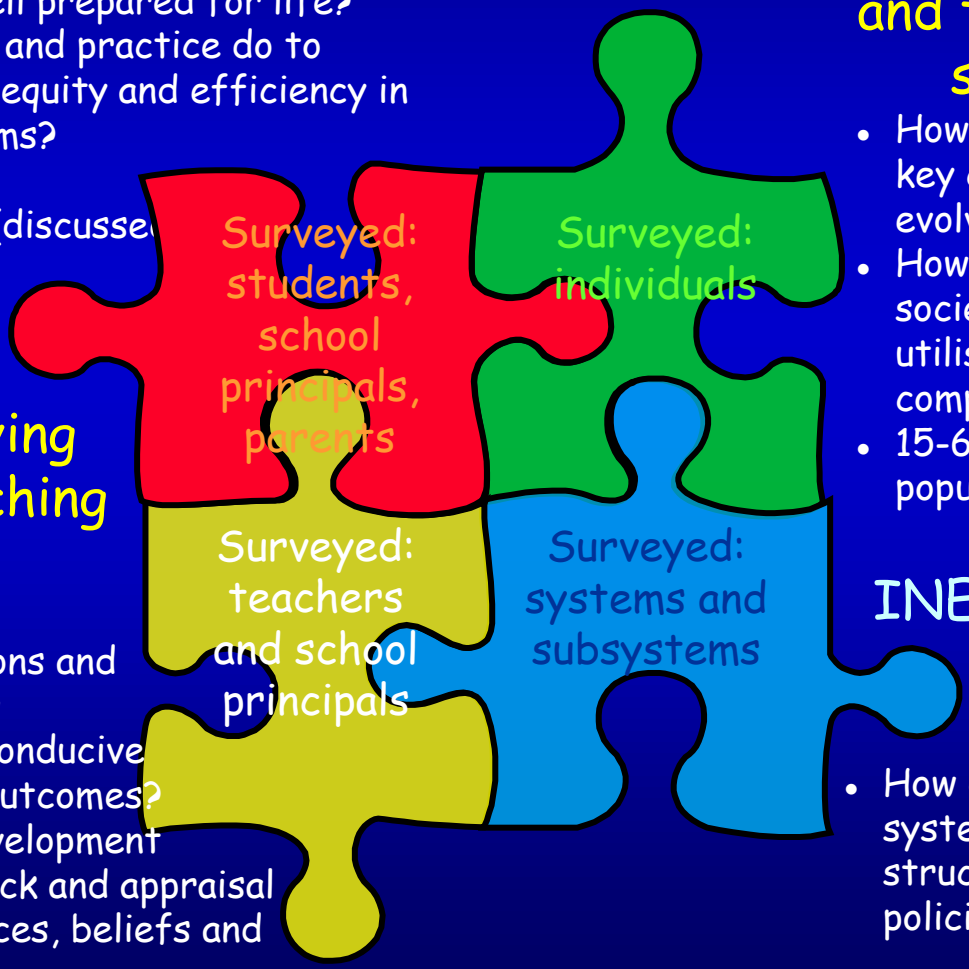
A strategy

PISA Measuring student learning outcomes

- Are students well prepared for life?
- What can policy and practice do to improve quality, equity and efficiency in education systems?
- 15-year-olds
- 9/12-year-olds (discusse
- Longitudinal follow-up

TALIS Surveying teachers, teaching and learning

- What student learning conditions and teacher working conditions are conducive to high quality outcomes?
- Professional development
- Teacher feedback and appraisal
- Teaching practices, beliefs and attitudes



PIAAC Measuring adult competencies and their impact on social outcomes

- How is the demand of key competencies evolving?
- How effectively are societies generating and utilising key competencies?
- 15-64-year-old adult population

INES Institutional and systemic factors

- How do institutions and systems differ in structures, resources and policies?

- www.oecd.org; www.pisa.oecd.org
  - All national and international publications
  - The complete micro-level database
- email: pisa@oecd.org
- Andreas.Schleicher@OECD.org

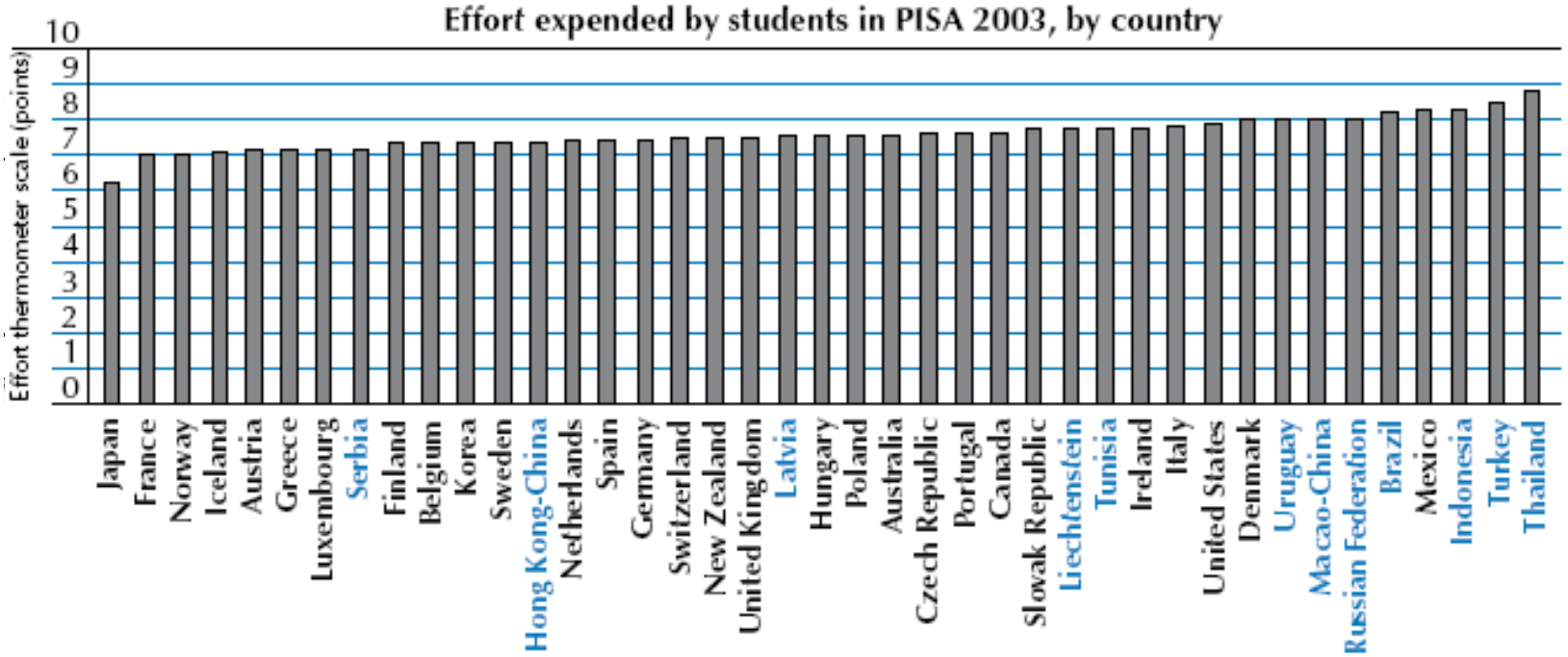
Thank you !

… and remember:

Without data, you are just another person with an opinion

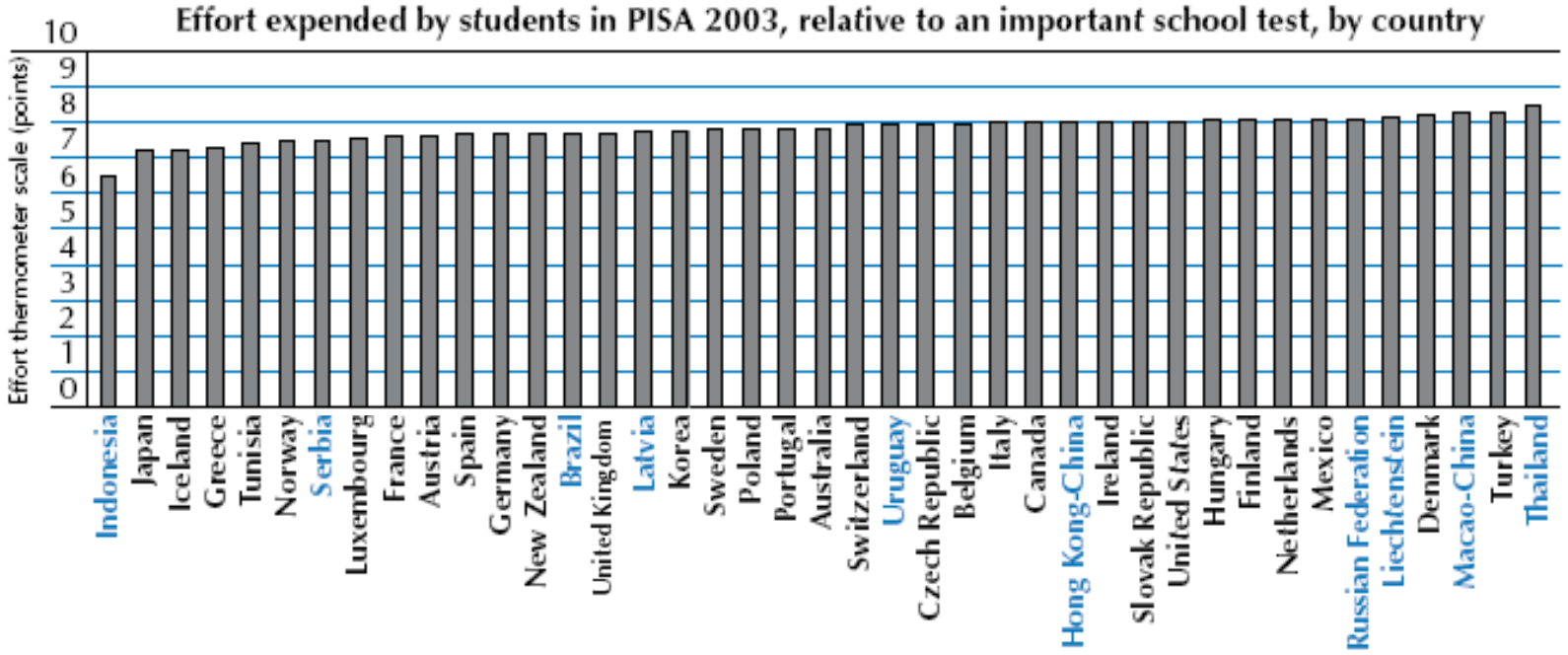
Backup slides

Effort expended by students in PISA 2003



(Butler and Adams, 2007)

Effort expended by students in PISA 2003, relative to an important school test



(Butler and Adams, 2007)

Ranks comparisons: Overall vs favourites