

High impact on outcomes

- A commitment to education and the belief that competencies can be learned and therefore all children can achieve
 - Universal educational standards and personalization as the approach to heterogeneity in the student body...
 - ... as opposed to a belief that students have different destinations to be met with different expectations, and selection/stratification as the approach to heterogeneity
 - Clear articulation who is responsible for ensuring student success and to whom

wins

structural
ms

High feasibility

incentive structures and
accountability

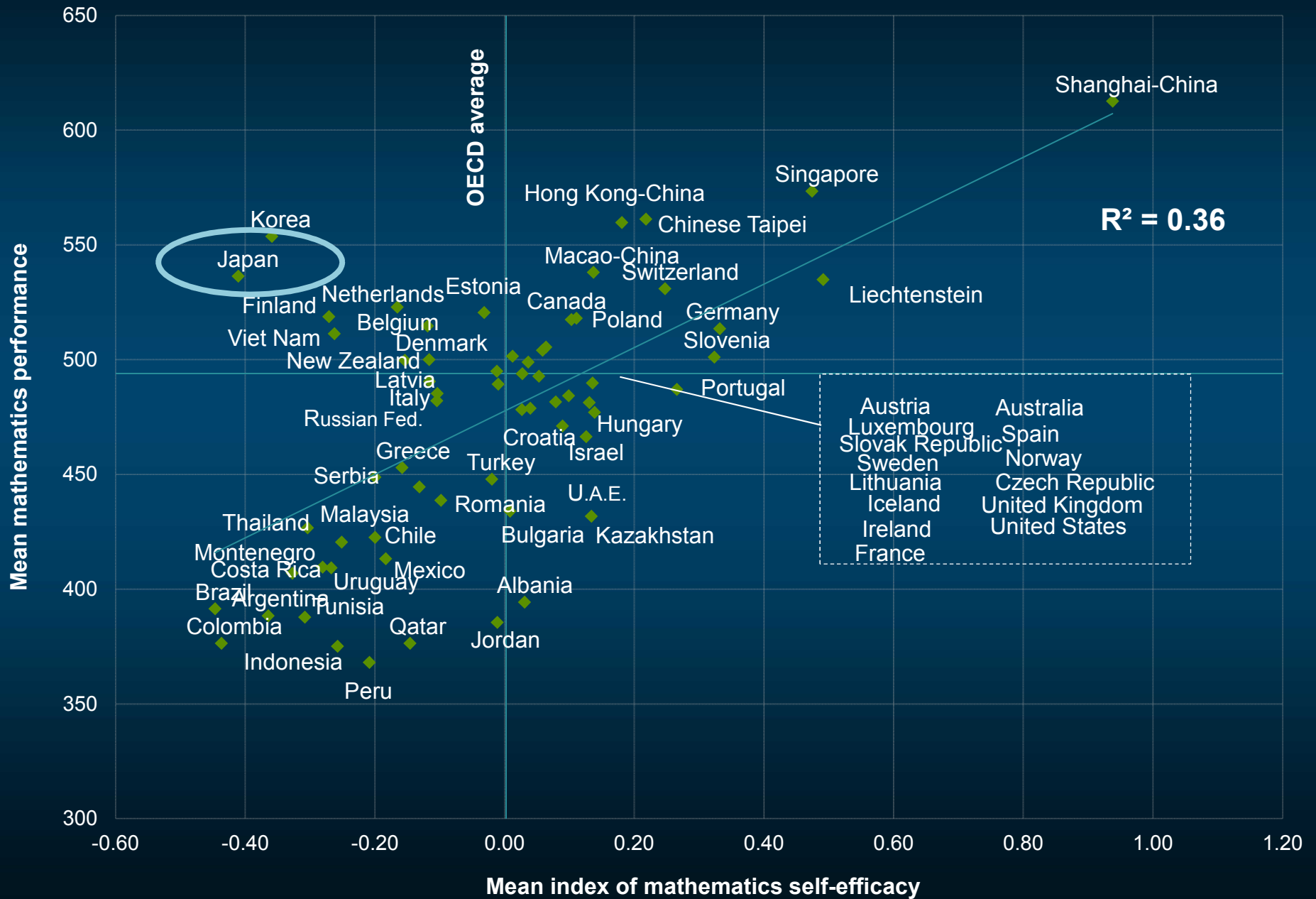
Money pits

Low hanging fruits

Low impact on outcomes

Countries where students have stronger beliefs in their abilities perform better in mathematics

Fig III.4.5



Percentage of students who reported "agree" or "strongly agree" with the following statements:

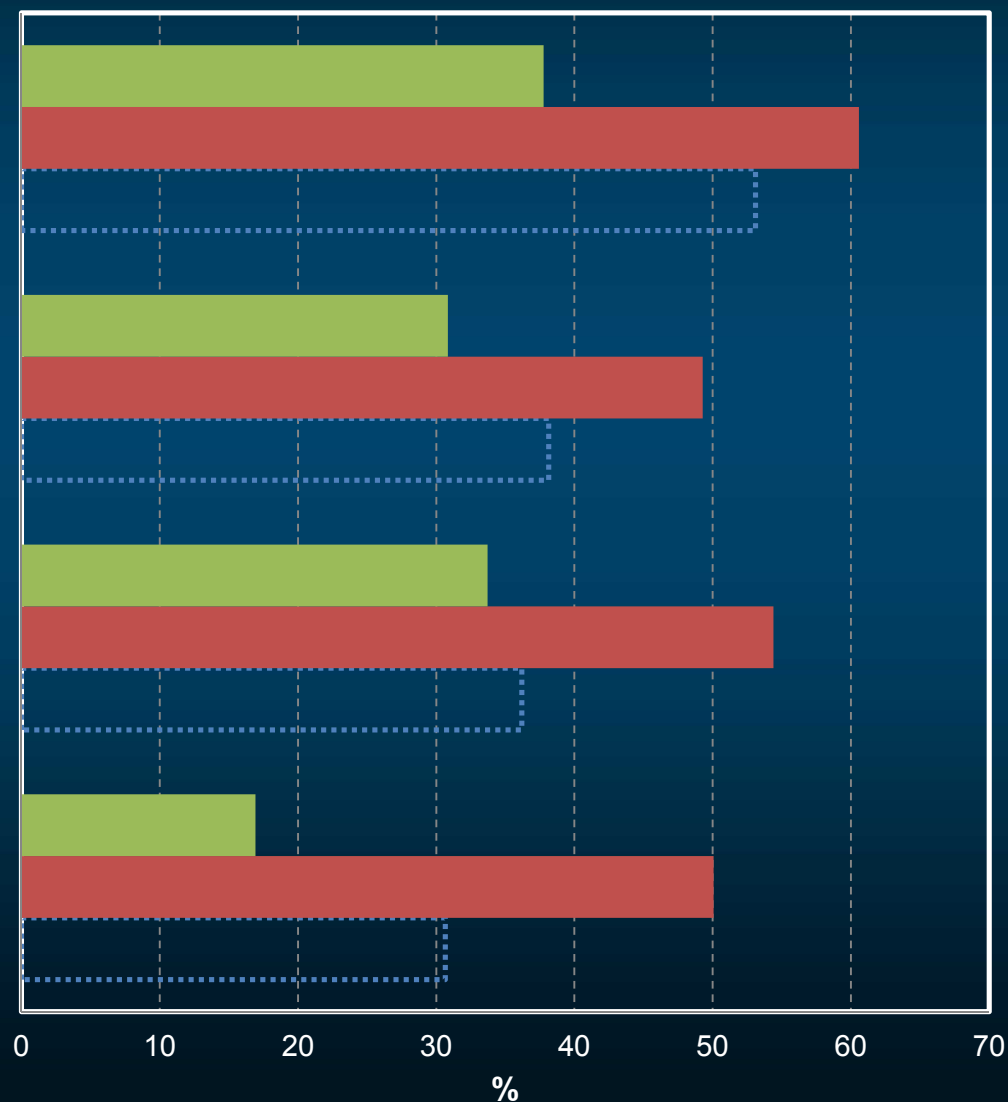
■ Japan ■ Shanghai-China ■ OECD average

I am interested in the things I learn in mathematics

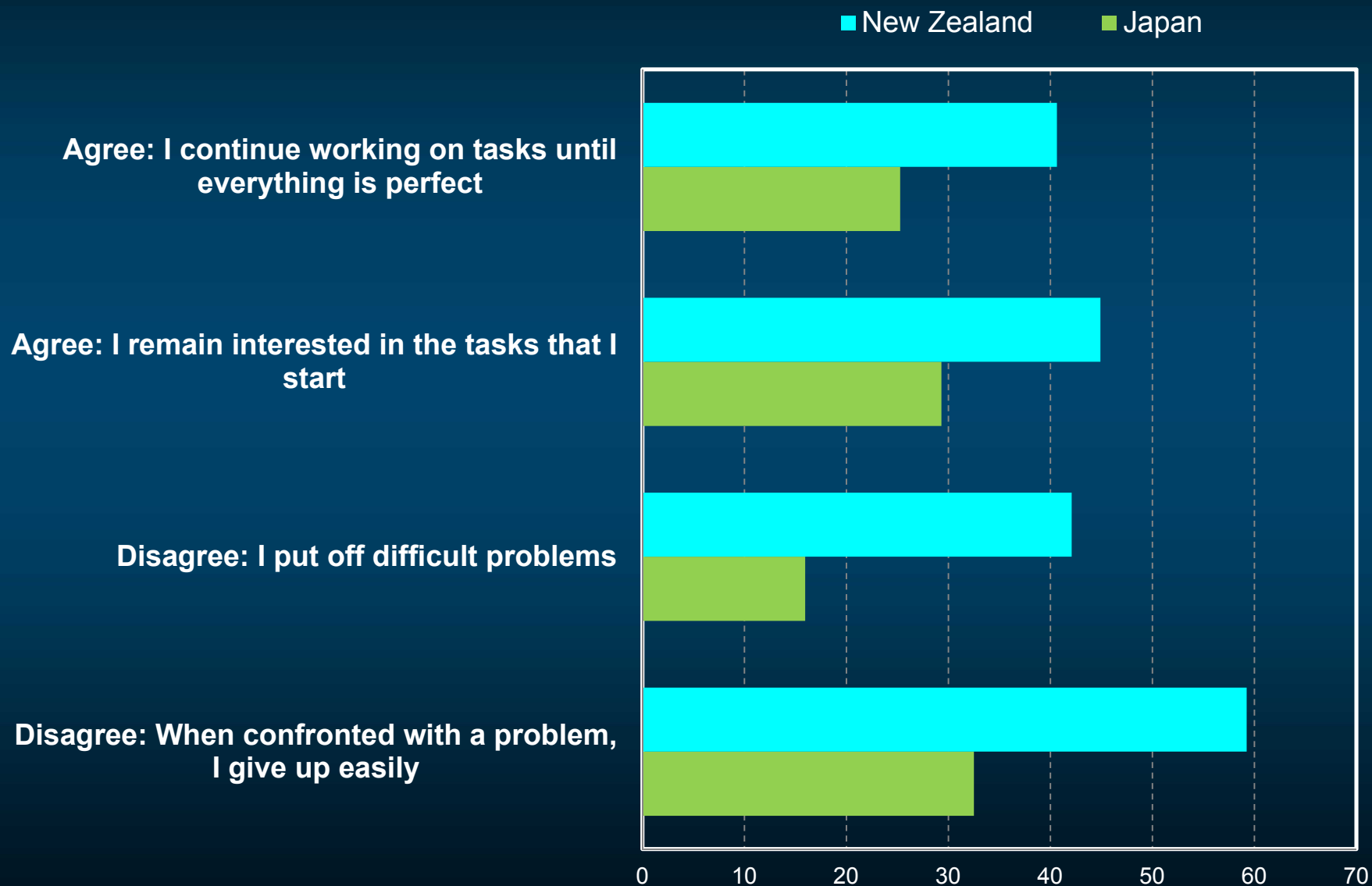
I do mathematics because I enjoy it

I look forward to my mathematics lessons

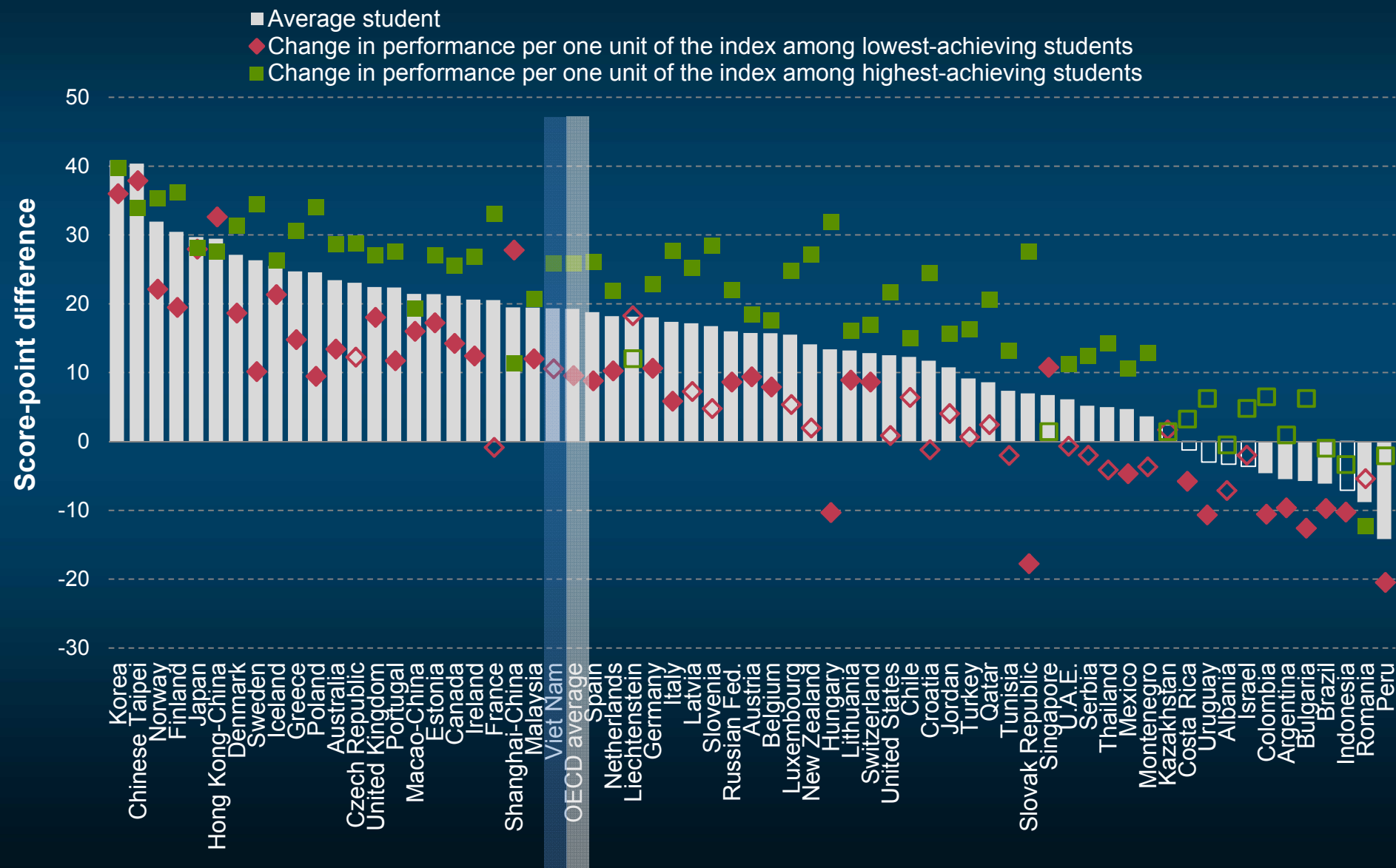
I enjoy reading about mathematics



Percentage of students who reported that the following statements describe someone "very much like me" or "mostly like me" (*) or "not much like me" or "not at all like me" (**)



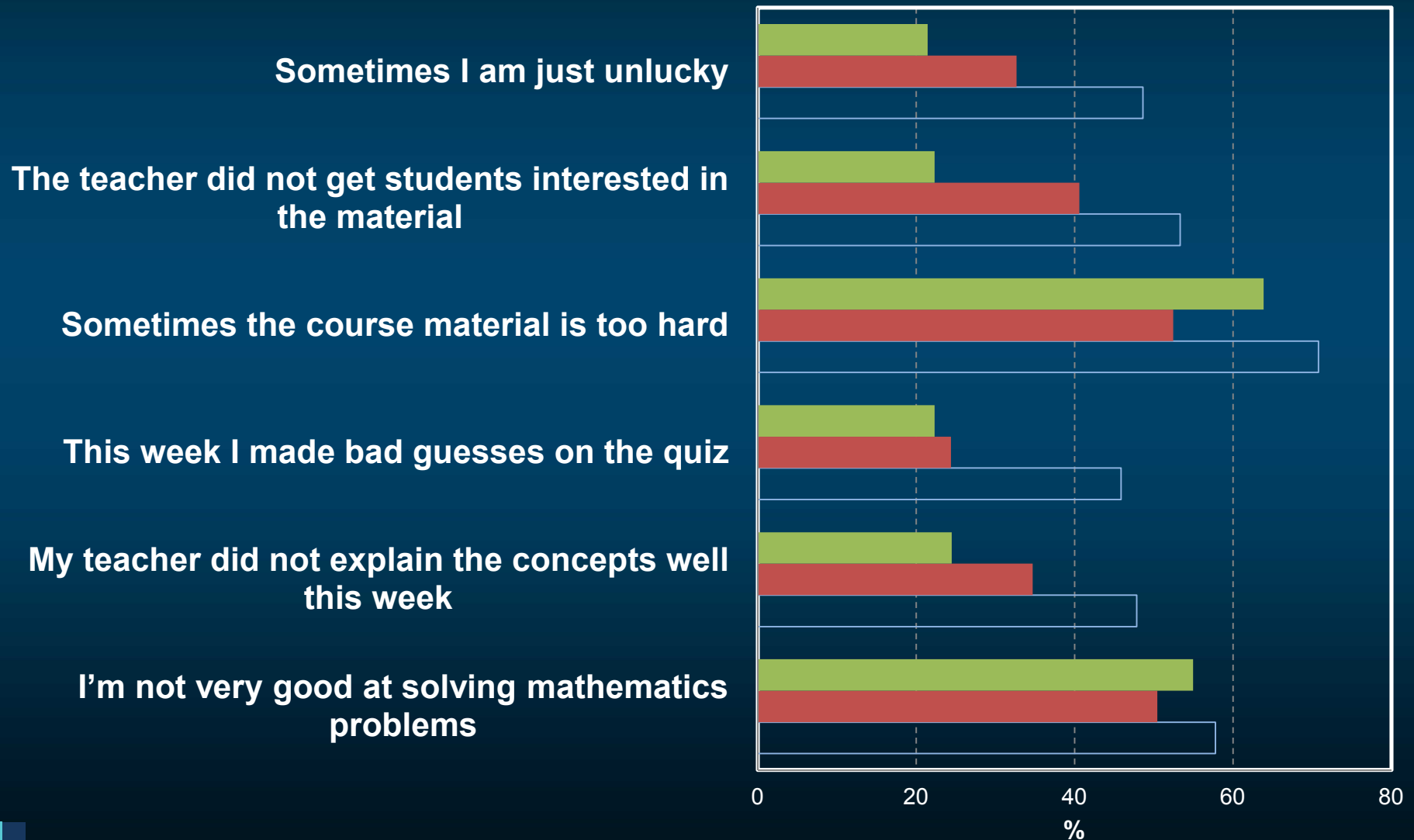
Score-point difference in mathematics associated with one unit of the index of intrinsic motivation to learn mathematics



Perceived self-responsibility for failure in mathematics

Percentage of students who reported "agree" or "strongly agree" with the following statements:

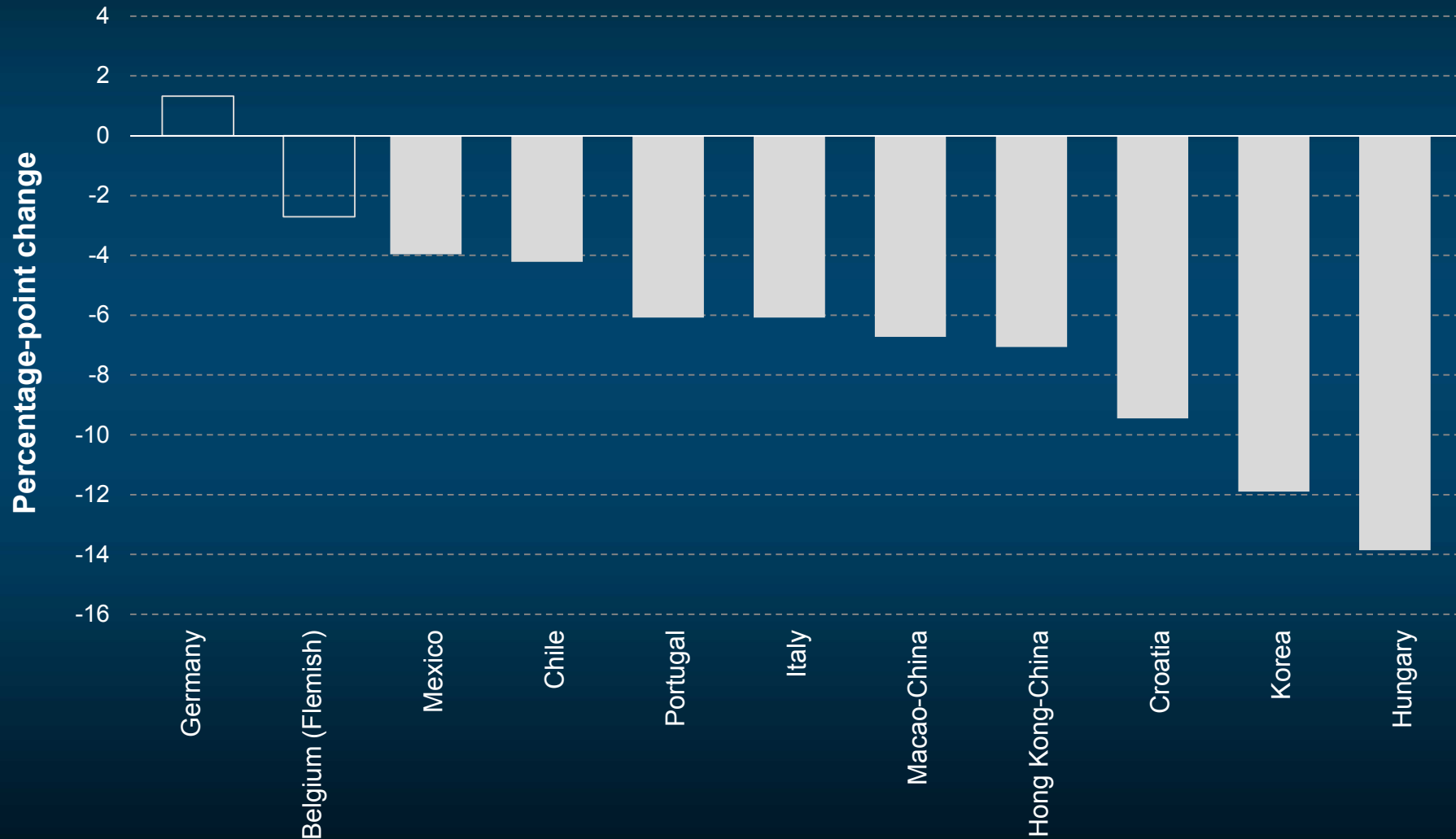
■ Japan ■ Shanghai-China □ OECD average



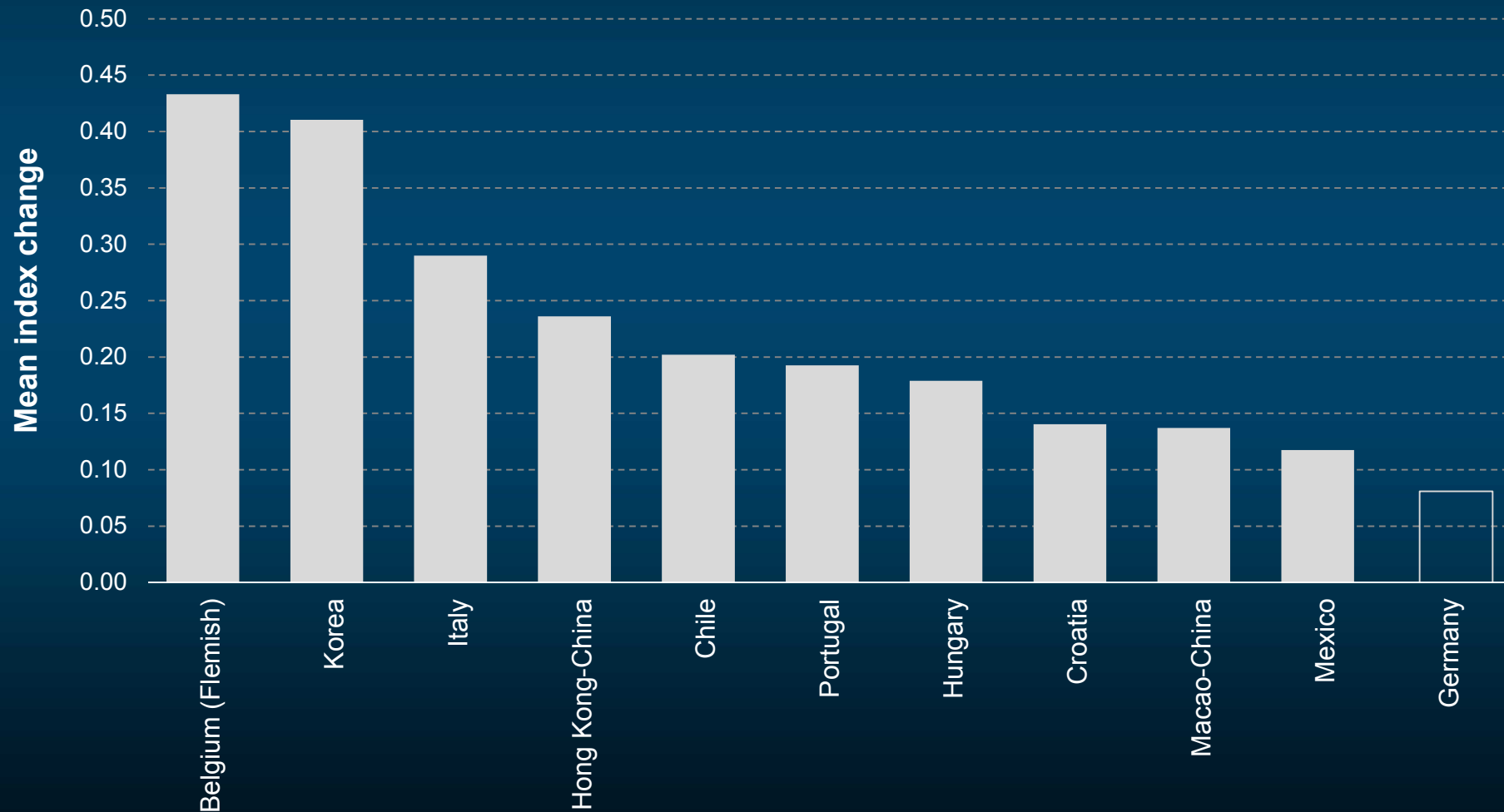
The parent factor

Students whose **parents have high educational expectations for them** tend to report more perseverance, greater intrinsic motivation to learn mathematics, and more confidence in their own ability to solve mathematics problems than students of similar background and academic performance, whose parents hold less ambitious expectations for them.

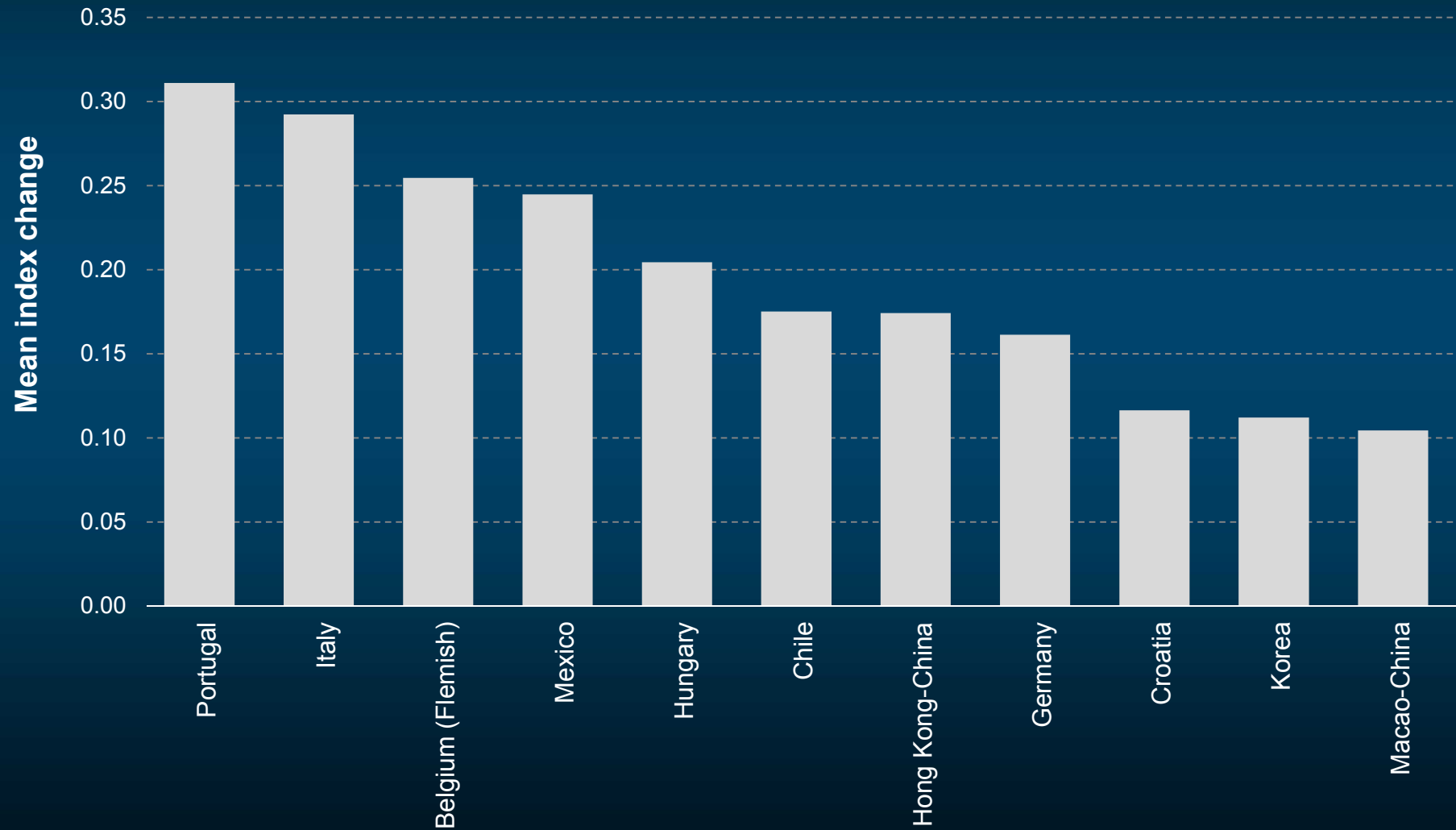
Percentage-point change in arriving late for school that is associated with parents expecting the child to complete a university degree

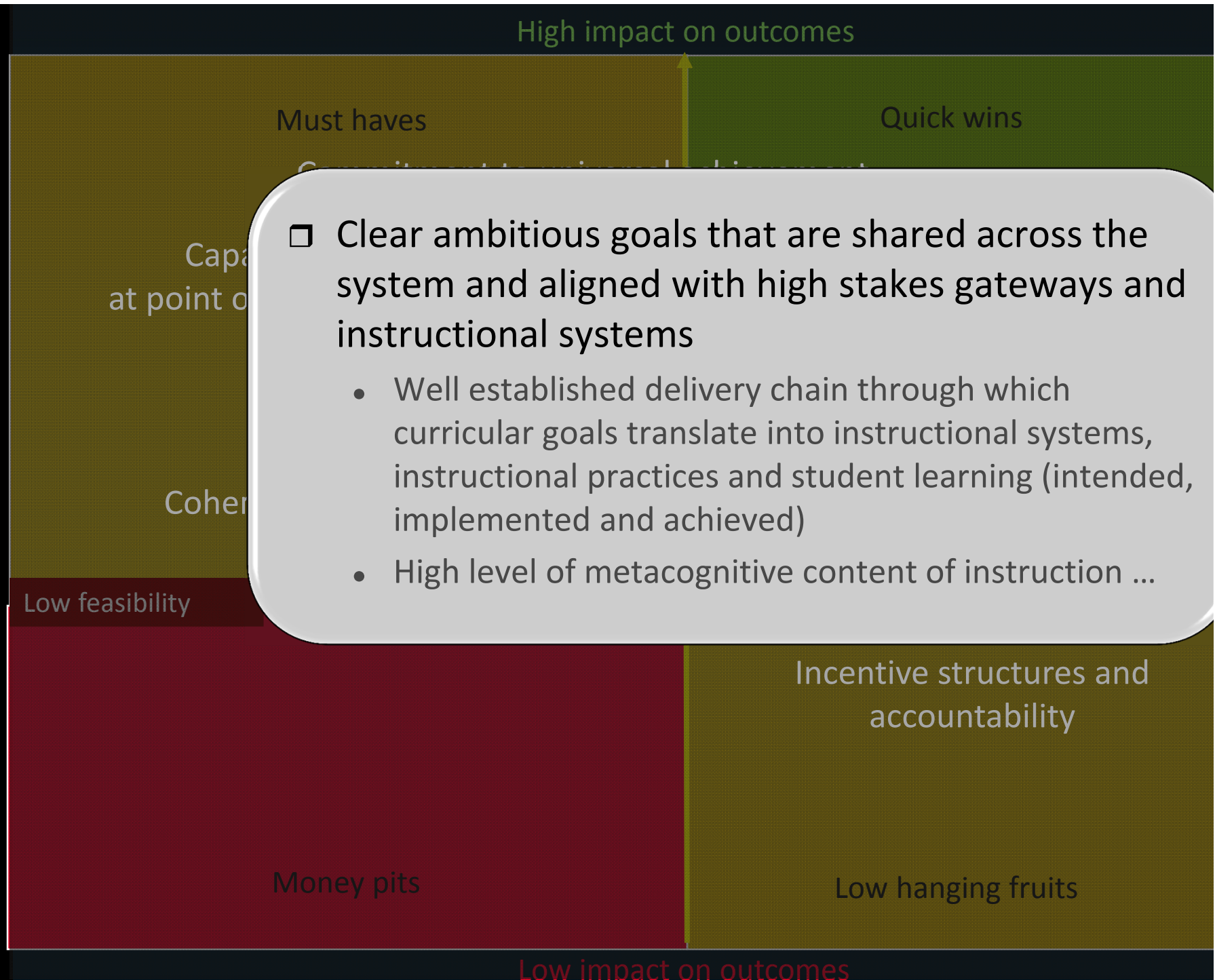


Change in the index of intrinsic motivation to learn mathematics that is associated with parents expecting the child to complete a university degree



Change in the index of perseverance that is associated with parents expecting the child to complete a university degree





High impact on outcomes

Capacity at the point of delivery

- Attracting, developing and retaining high quality teachers and school leaders and a work organisation in which they can use their potential
- Instructional leadership and human resource management in schools
- Keeping teaching an attractive profession
- System-wide career development ...

FIN

Work wins

..., instructional systems

Conference

A learning system

Low feasibility

High feasibility

Incentive structures and accountability

Money pits

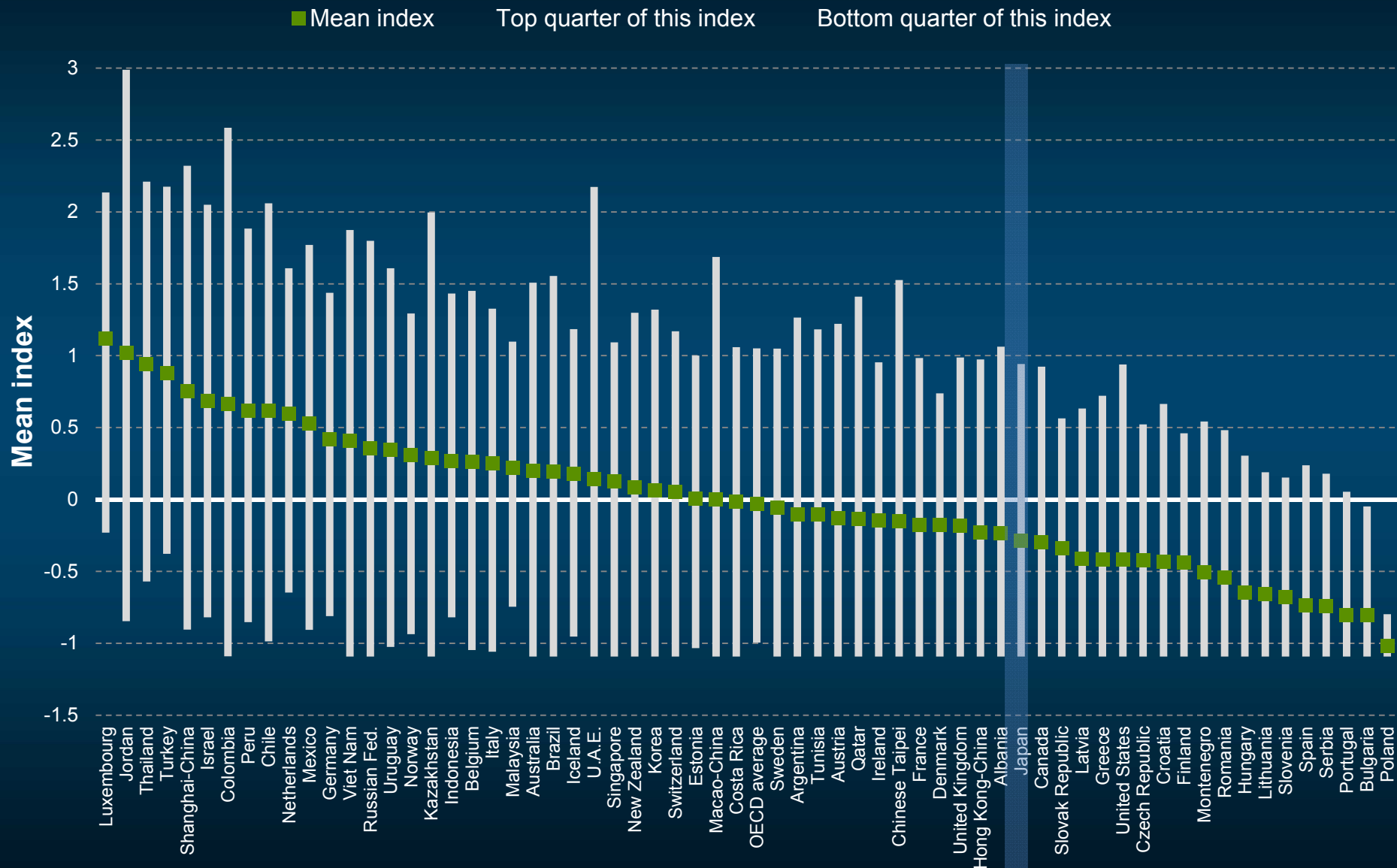
Low hanging fruits

Low impact on outcomes

Lessons from high

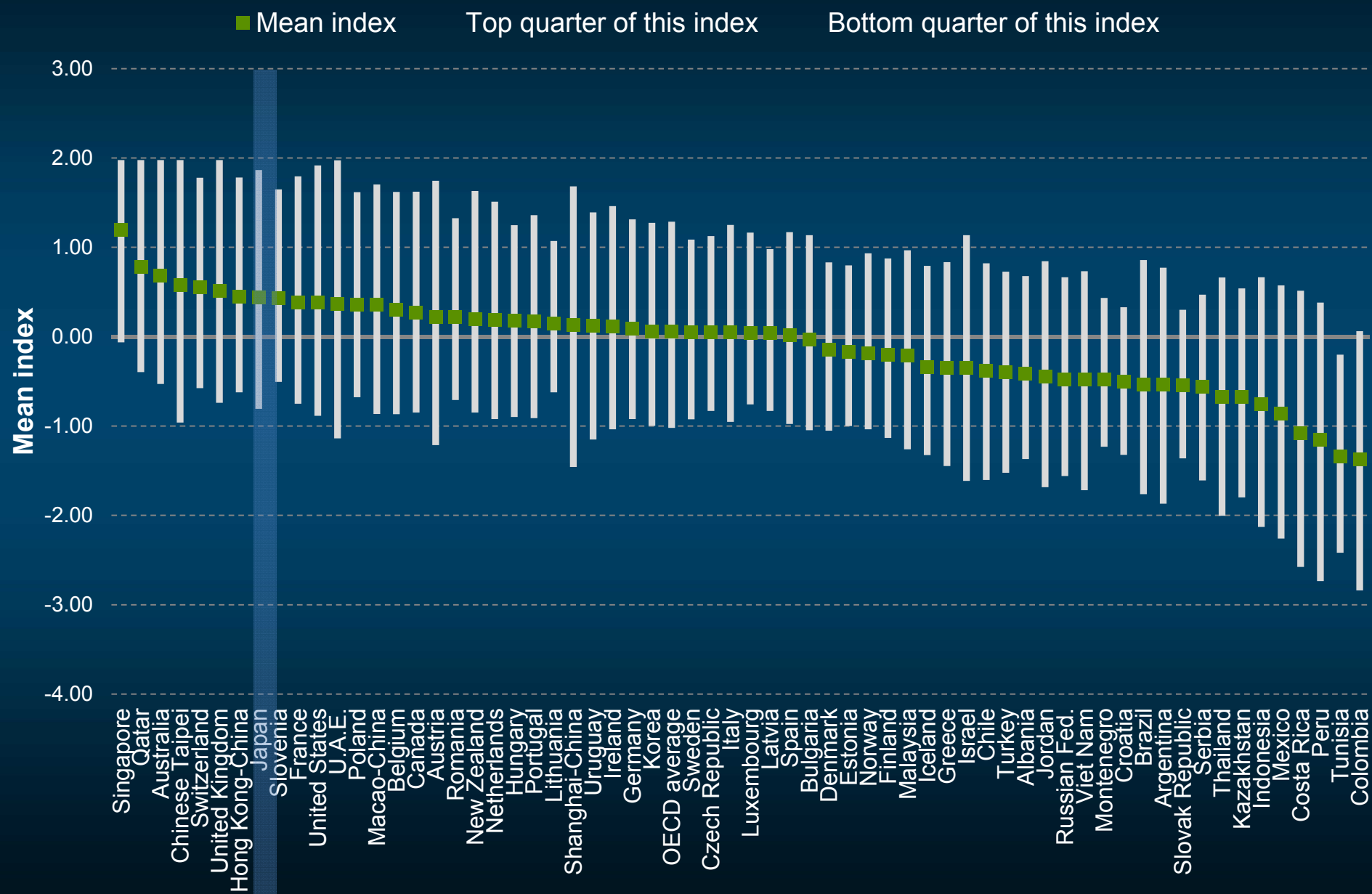
Teacher shortage

Fig IV.3.5



Adequacy of educational resources

Fig IV.3.8

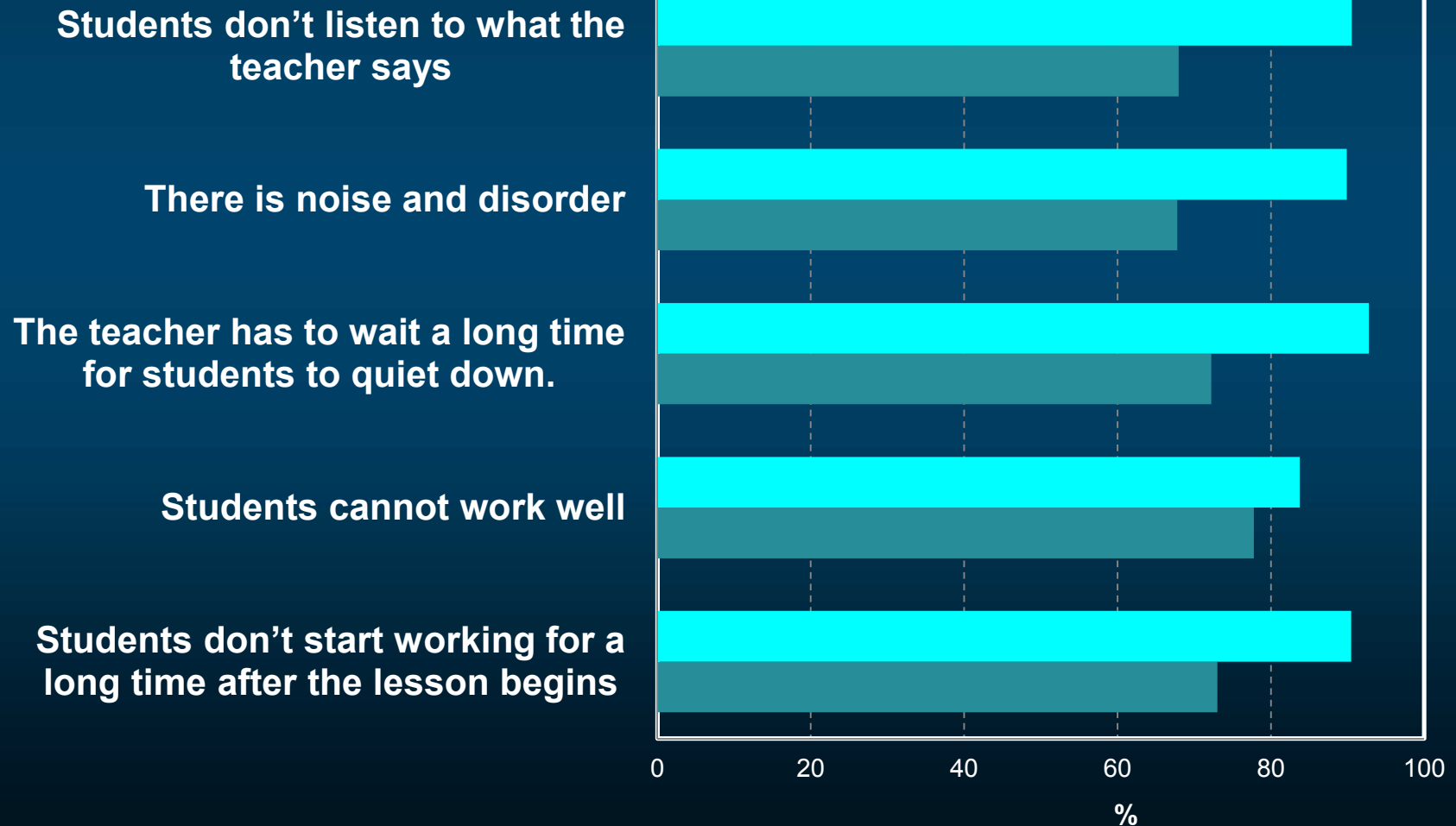


Disciplinary climate improved

Teacher-student relations improved between 2003 and 2012 in all but one country; and disciplinary climate also improved during the period, on average across OECD countries and in 27 individual countries

Percentage of students who reported that the following phenomena occur "never or hardly ever" or "in some lessons":

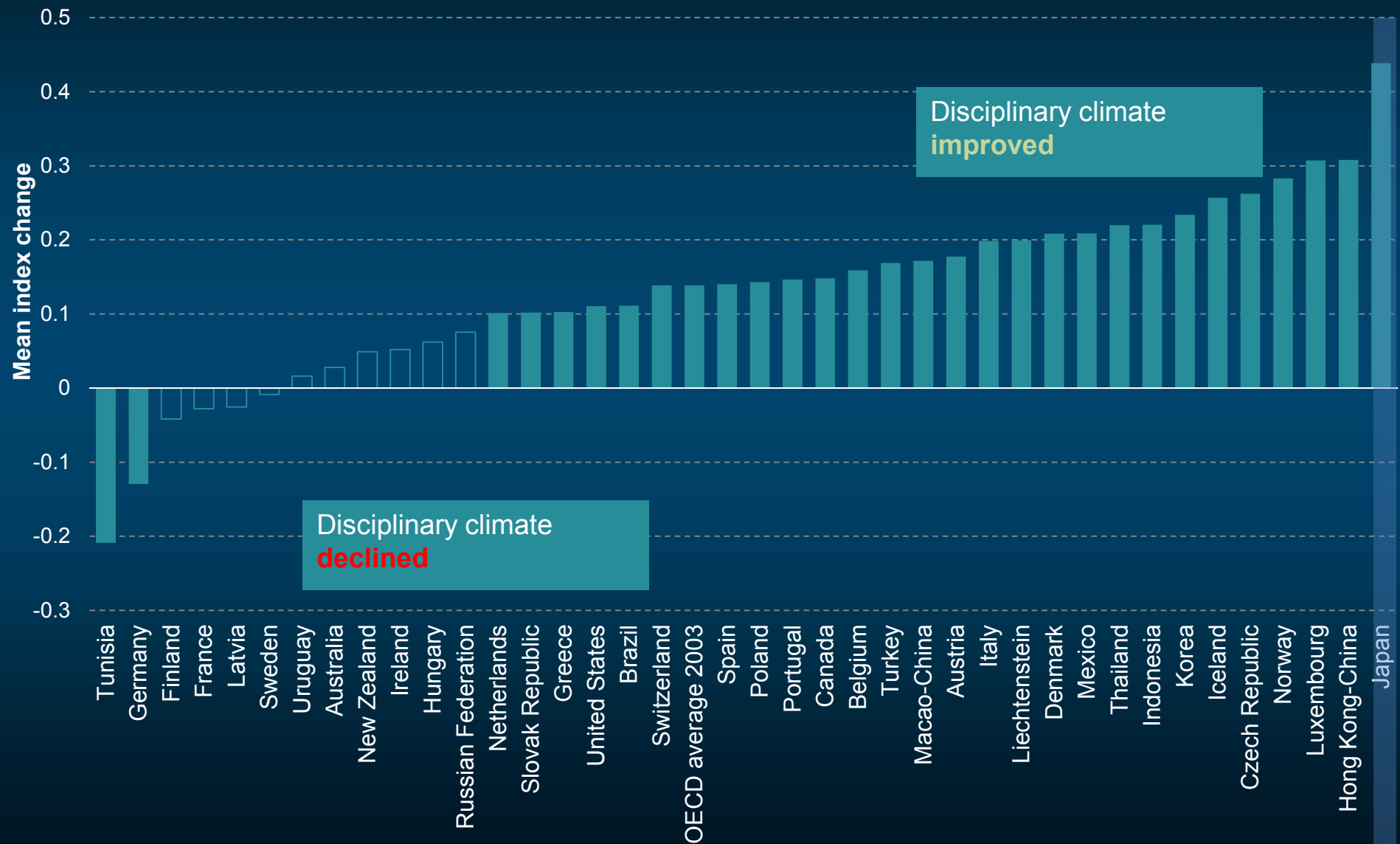
■ Japan ■ OECD average



In most countries and economies, the disciplinary climate in schools improved between 2003 and 2012

Fig IV.5.13

Change between 2003 and 2012 in disciplinary climate in schools



□ Incentives, accountability, knowledge management

• Aligned incentive structures

For students

- How gateways affect the strength, direction, clarity and nature of the incentives operating on students at each stage of their education
- Degree to which students have incentives to take tough courses and study hard
- Opportunity costs for staying in school and performing well

For teachers

- Make innovations in pedagogy and/or organisation
- Improve their own performance and the performance of their colleagues
- Pursue professional development opportunities that lead to stronger pedagogical practices
- A balance between vertical and lateral accountability
- Effective instruments to manage and share knowledge and spread innovation – communication within the system and with stakeholders around it
- A capable centre with authority and legitimacy to act

Countries that grant schools autonomy over curricula and assessments tend to perform better in mathematics



Fig IV.1.15

