


## Annex D. Overview of Performance Trends

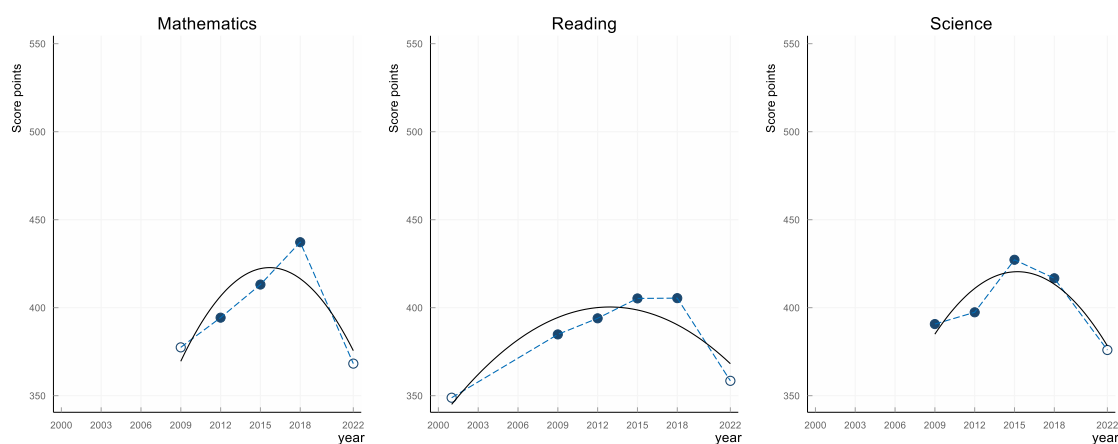
Table I.D.1. Overview of trends in mathematics, reading and science performance

Albania	Estonia	Latvia	Qatar
Argentina	Finland	Lithuania	Romania
Australia	France	Macao (China)	Saudi Arabia
Austria	Georgia	Malaysia	Serbia
Baku (Azerbaijan)	Germany	Malta	Singapore
Belgium	Greece	Mexico	Slovak Republic
Brazil	Guatemala	Moldova	Slovenia
Brunei Darussalam	Hong Kong (China)	Montenegro	Spain
Bulgaria	Hungary	Morocco	Sweden
Cambodia	Iceland	Netherlands	Switzerland
Canada	Indonesia	New Zealand	Chinese Taipei
Chile	Ireland	North Macedonia	Thailand
Colombia	Israel	Norway	Türkiye
Costa Rica	Italy	Panama	United Arab Emirates
Croatia	Japan	Paraguay	United Kingdom
Cyprus	Jordan	Peru	United States
Czech Republic	Kazakhstan	Philippines	Uruguay
Denmark	Korea	Poland	
Dominican Republic	Kosovo	Portugal	

StatLink  <https://stat.link/ygbp7i>

## Overview of performance trends in Albania

### Trends in mathematics, reading and science performance in Albania



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Albania

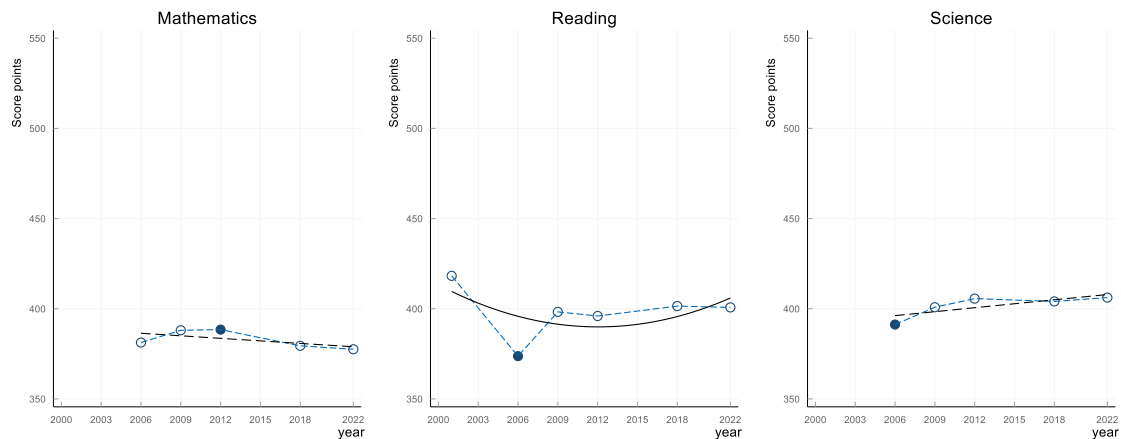
Mean performance	Mathematics	Reading	Science
PISA 2000		349	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	377	385*	391*
PISA 2012	394*	394*	397*
PISA 2015	413*	405*	427*
PISA 2018	437*	405*	417*
PISA 2022	368	358	376
Average 10-year trend in mean performance (2012 to 2022)	-21.1*	-35.1*	-25.6*
Short-term change in mean performance (2018 to 2022)	-69.0*	-47.0*	-40.8*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.1	-1.1*	-0.2
Percentage-point change in the share of low-performing students (below Level 2)	+13.3*	+21.4*	+14.3*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-62.1*	-45.2*	-28.7*
Average change among low-achieving students (10th percentile)	-66.8*	-43.4*	-48.2*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-56.7* / m	-51.3* / m	-37.1* / m
Performance among disadvantaged students (bottom quarter of ESCS)	-68.3* / m	-34.6* / m	-36.4* / m
Performance gap (top – bottom quarter)	stable / m	narrowing / m	stable / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Argentina

### Trends in mathematics, reading and science performance in Argentina



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Argentina

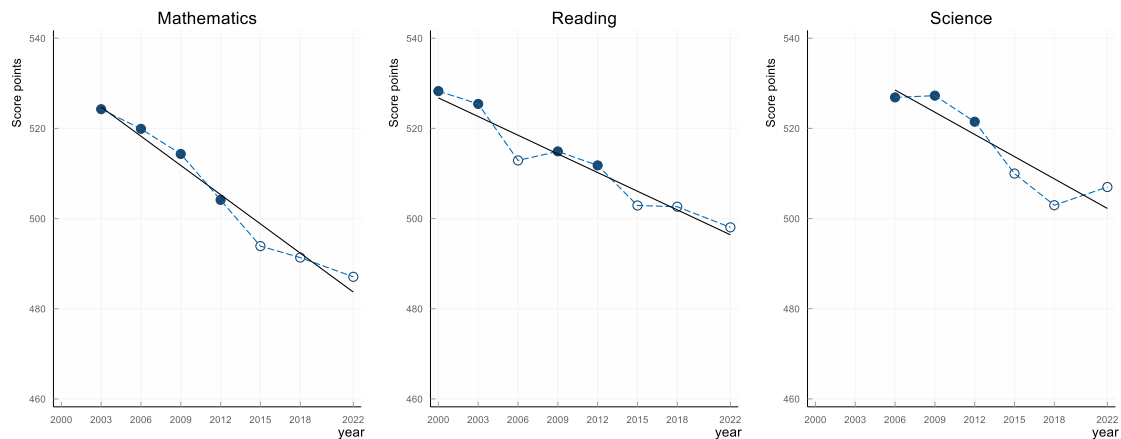
Mean performance	Mathematics	Reading	Science
PISA 2000		418	
PISA 2003	m	m	
PISA 2006	381	374*	391*
PISA 2009	388	398	401
PISA 2012	388*	396	406
PISA 2015	m	m	m
PISA 2018	379	402	404
PISA 2022	378	401	406
Average 10-year trend in mean performance (2012 to 2022)	-11.2*	+5.2	-0.0
Short-term change in mean performance (2018 to 2022)	-1.9	-0.8	+2.1
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.0	+0.4	+0.3
Percentage-point change in the share of low-performing students (below Level 2)	+6.4*	+0.9	+3.1
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-12.2*	-6.0	-1.5
Average change among low-achieving students (10th percentile)	+14.4*	+10.5*	+9.7
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-9.5 / -14.5*	-6.4 / +4.3	-6.1 / -5.8
Performance among disadvantaged students (bottom quarter of ESCS)	+11.8* / -10.2*	+10.0 / +5.9	+16.9* / +4.4
Performance gap (top – bottom quarter)	narrowing / stable	narrowing / stable	narrowing / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

Note: Argentina switched from paper to computer assessment in 2022.

## Overview of performance trends in Australia

### Trends in mathematics, reading and science performance in Australia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Australia

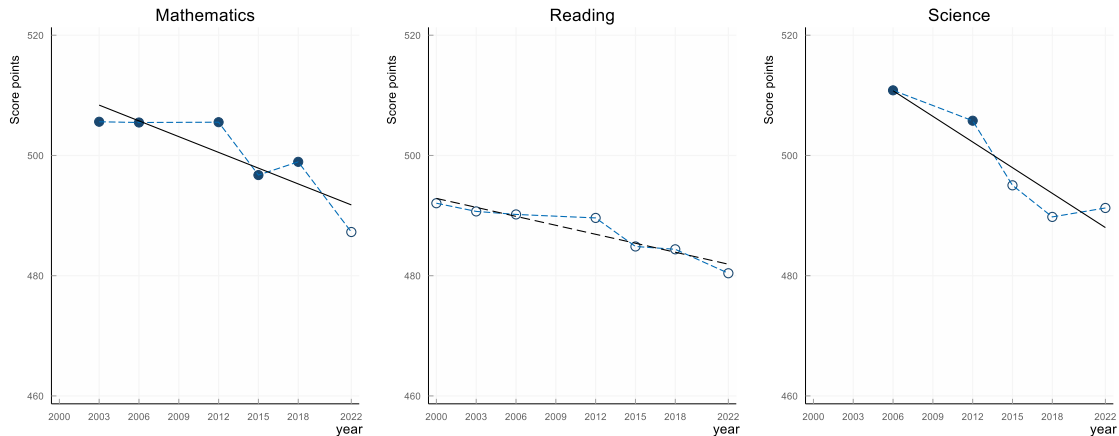
Mean performance	Mathematics	Reading	Science
PISA 2000		528*	
PISA 2003	524*	525*	
PISA 2006	520*	513	527*
PISA 2009	514*	515*	527*
PISA 2012	504*	512*	521*
PISA 2015	494	503	510
PISA 2018	491	503	503
PISA 2022	487	498	507
Average 10-year trend in mean performance (2012 to 2022)	-15.8*	-12.5	-14.4*
Short-term change in mean performance (2018 to 2022)	-4.3	-4.6	+4.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-2.5*	+0.6	-0.9
Percentage-point change in the share of low-performing students (below Level 2)	+6.7*	+7.0*	+5.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+9.8*	-2.2	+16.8*
Average change among low-achieving students (10th percentile)	-13.0*	-6.1	-4.5
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+7.2 / -14.2*	-1.3 / -12.9*	+16.2* / -12.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-12.5* / -19.9*	-7.1 / -13.5*	-3.5 / -15.8*
Performance gap (top – bottom quarter)	widening / stable	stable / stable	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, student response rates decreased with respect to PISA 2018. A technically sound non-response bias analysis was submitted; however, the strength of the evidence was limited by the fact that no external student-level achievement variables could be used in the analysis. Based on the available evidence and experience of other countries participating in PISA, a small residual upward bias could not be excluded even though non-response adjustments likely limited its severity.*

## Overview of performance trends in Austria

### Trends in mathematics, reading and science performance in Austria



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

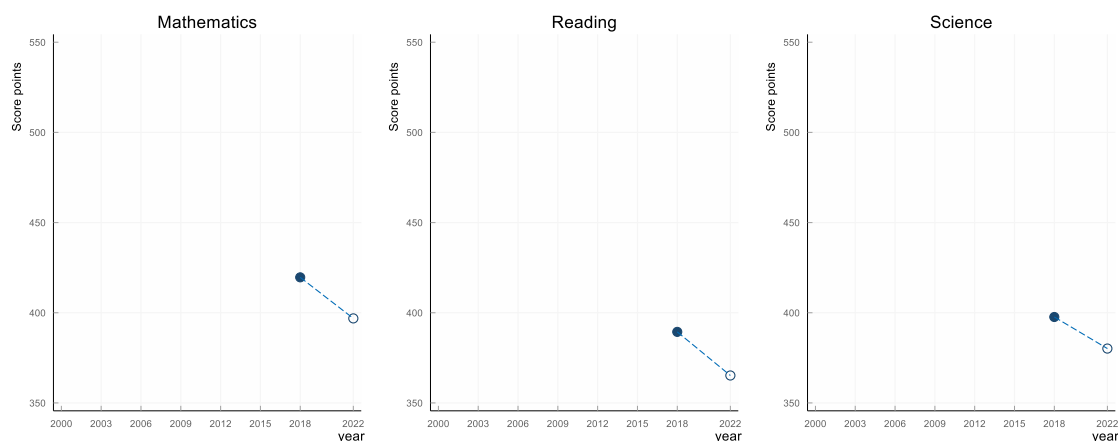
### Snapshot of mathematics, reading and science results for Austria

Mean performance	Mathematics	Reading	Science
PISA 2000		492	
PISA 2003	506*	491	
PISA 2006	505*	490	511*
PISA 2009	m	m	m
PISA 2012	506*	490	506*
PISA 2015	497*	485	495
PISA 2018	499*	484	490
PISA 2022	487	480	491
Average 10-year trend in mean performance (2012 to 2022)	-16.1*	-8.5	-14.3*
Short-term change in mean performance (2018 to 2022)	-11.7*	-4.0	+1.5
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-4.0*	+2.2	+0.0
Percentage-point change in the share of low-performing students (below Level 2)	+6.2*	+5.8*	+6.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-9.2	+0.9	+7.9
Average change among low-achieving students (10th percentile)	-11.4	-10.3	-5.6
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-5.5 / -8.4	+5.3 / +1.8	+13.7* / -3.8
Performance among disadvantaged students (bottom quarter of ESCS)	-20.0* / -18.1*	-14.9* / -13.9*	-15.0* / -23.8*
Performance gap (top – bottom quarter)	widening / stable	widening / widening	widening / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Baku (Azerbaijan)

### Trends in mathematics, reading and science performance in Baku (Azerbaijan)



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Baku (Azerbaijan)

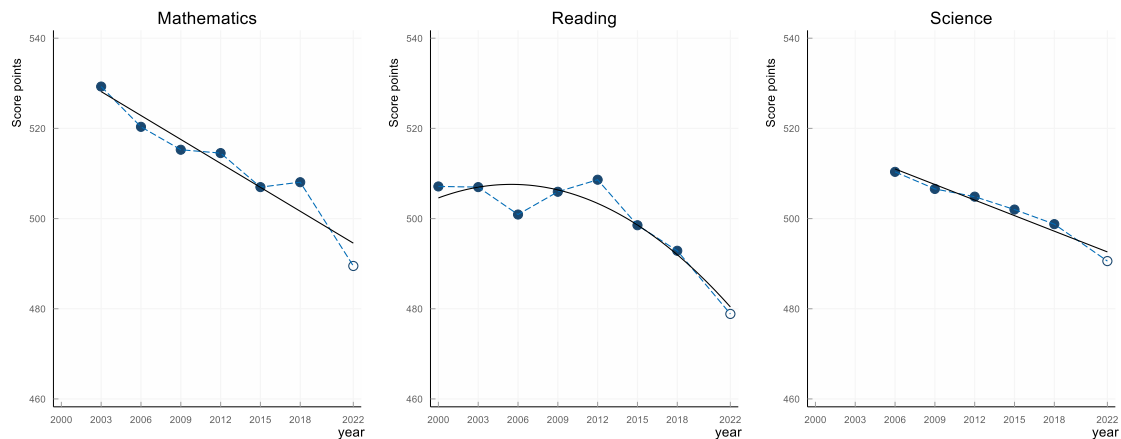
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	420*	389*	398*
PISA 2022	397	365	380
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	-22.8*	-24.2*	-17.5*
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.1*	-0.0	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	+11.1*	+8.7*	+8.0*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-24.0*	-6.9	-10.0
Average change among low-achieving students (10th percentile)	-15.7*	-37.4*	-22.2*
Gap in learning outcomes between high- and low-achieving students	stable gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-24.5* / m	-18.0* / m	-11.7 / m
Performance among disadvantaged students (bottom quarter of ESCS)	-25.1* / m	-28.7* / m	-25.0* / m
Performance gap (top – bottom quarter)	stable / m	stable / m	stable / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Belgium

### Trends in mathematics, reading and science performance in Belgium



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

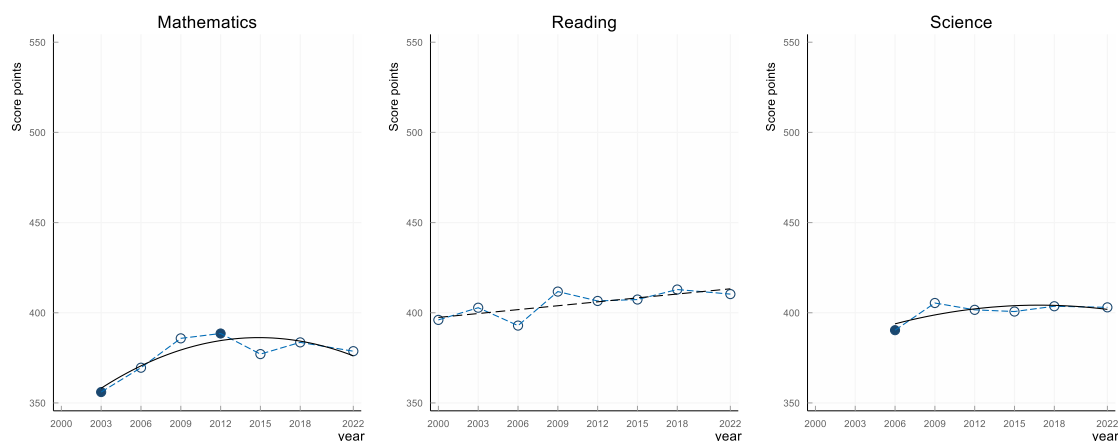
### Snapshot of mathematics, reading and science results for Belgium

Mean performance	Mathematics	Reading	Science
PISA 2000		507*	
PISA 2003	529*	507*	
PISA 2006	520*	501*	510*
PISA 2009	515*	506*	507*
PISA 2012	515*	509*	505*
PISA 2015	507*	499*	502*
PISA 2018	508*	493*	499*
PISA 2022	489	479	491
Average 10-year trend in mean performance (2012 to 2022)	-23.0*	-29.3*	-14.2*
Short-term change in mean performance (2018 to 2022)	-18.6*	-14.0*	-8.2*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-8.1*	-4.4*	-1.9
Percentage-point change in the share of low-performing students (below Level 2)	+6.0*	+9.2*	+4.7*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-14.7*	-13.0*	-5.4
Average change among low-achieving students (10th percentile)	-17.0*	-15.6*	-10.4
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-17.9* / -19.6*	-11.7* / -24.2*	-6.1 / -10.2*
Performance among disadvantaged students (bottom quarter of ESCS)	-18.8* / -24.4*	-15.1* / -30.9*	-10.3* / -17.4*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Brazil

### Trends in mathematics, reading and science performance in Brazil



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Brazil

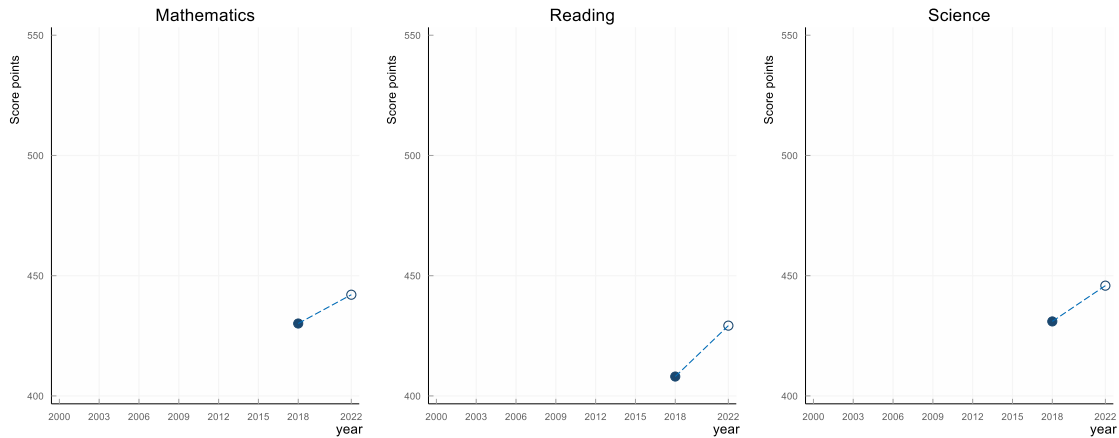
Mean performance	Mathematics	Reading	Science
PISA 2000		396	
PISA 2003	356*	403	
PISA 2006	370	393	390*
PISA 2009	386	412	405
PISA 2012	389*	407	402
PISA 2015	377	407	401
PISA 2018	384	413	404
PISA 2022	379	410	403
Average 10-year trend in mean performance (2012 to 2022)	-7.1	+5.0	+1.9
Short-term change in mean performance (2018 to 2022)	-4.9	-2.5	-0.6
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.1	+1.3*	+0.9*
Percentage-point change in the share of low-performing students (below Level 2)	+5.1*	-0.4	+0.2
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-18.7*	-4.6	+2.3
Average change among low-achieving students (10th percentile)	+11.8*	-1.9	-4.2
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-13.0* / -7.5	-7.1 / +13.9*	-3.2 / +11.9*
Performance among disadvantaged students (bottom quarter of ESCS)	-0.0 / -2.7	+1.1 / +2.1	-1.3 / -2.5
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Brunei Darussalam

### Trends in mathematics, reading and science performance in Brunei Darussalam



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Brunei Darussalam

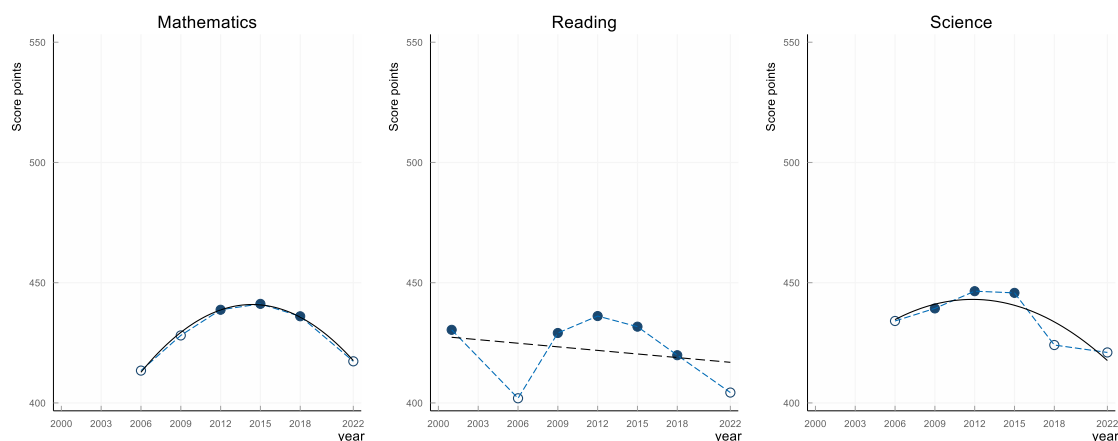
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	430*	408*	431*
PISA 2022	442	429	446
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+12.0*	+21.2*	+14.9*
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.0	+0.7*	+0.1
Percentage-point change in the share of low-performing students (below Level 2)	-6.0*	-9.6*	-8.6*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+0.6	+19.0*	+4.9
Average change among low-achieving students (10th percentile)	+21.1*	+15.8*	+11.8*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+13.6* / m	+26.1* / m	+16.6* / m
Performance among disadvantaged students (bottom quarter of ESCS)	+13.1* / m	+19.2* / m	+15.7* / m
Performance gap (top – bottom quarter)	stable / m	stable / m	stable / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Bulgaria

### Trends in mathematics, reading and science performance in Bulgaria



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

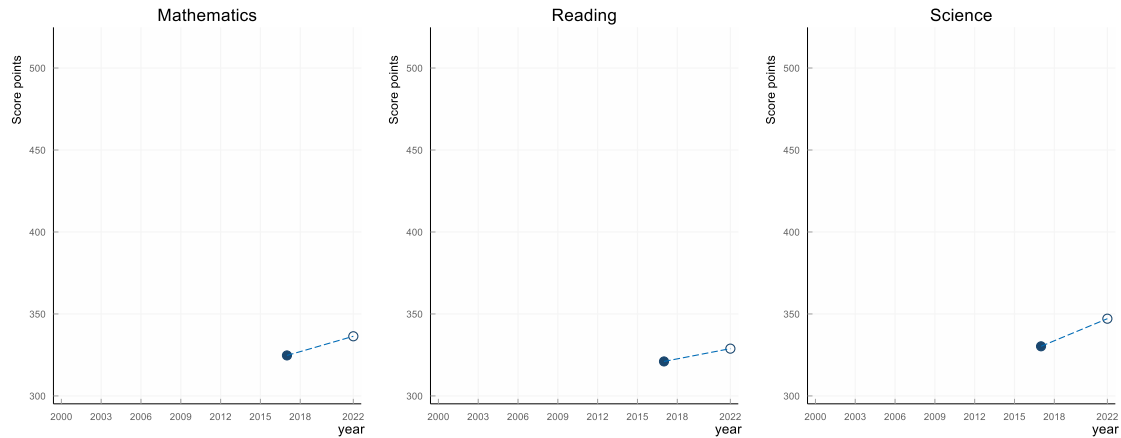
### Snapshot of mathematics, reading and science results for Bulgaria

Mean performance	Mathematics	Reading	Science
PISA 2000		430*	
PISA 2003	m	m	
PISA 2006	413	402	434
PISA 2009	428	429*	439*
PISA 2012	439*	436*	446*
PISA 2015	441*	432*	446*
PISA 2018	436*	420*	424
PISA 2022	417	404	421
Average 10-year trend in mean performance (2012 to 2022)	-21.8*	-32.8*	-29.6*
Short-term change in mean performance (2018 to 2022)	-18.7*	-15.5*	-3.1
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.9	-2.1*	-1.6*
Percentage-point change in the share of low-performing students (below Level 2)	+9.8*	+13.5*	+11.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-14.1	-7.4	-3.4
Average change among low-achieving students (10th percentile)	-13.6*	-22.1*	-3.3
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-15.6 / -26.6*	-9.2 / -43.9*	-1.6 / -40.5*
Performance among disadvantaged students (bottom quarter of ESCS)	-20.9* / -18.6*	-23.8* / -21.8*	-6.9 / -20.9*
Performance gap (top – bottom quarter)	stable / stable	stable / narrowing	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Cambodia

### Trends in mathematics, reading and science performance in Cambodia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Cambodia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	325*	321*	330*
PISA 2022	336	329	347
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+11.7*	+7.8*	+16.8*
Proficiency levels: Change between 2017 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	m	m	m
Percentage-point change in the share of low-performing students (below Level 2)	m	m	m
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+8.6	+2.0	+17.5*
Average change among low-achieving students (10th percentile)	+15.4*	+17.0*	+17.0*
Gap in learning outcomes between high- and low-achieving students	stable gap	narrowing gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	m / m	m / m	m / m
Performance among disadvantaged students (bottom quarter of ESCS)	m / m	m / m	m / m
Performance gap (top – bottom quarter)	m / m	m / m	m / m

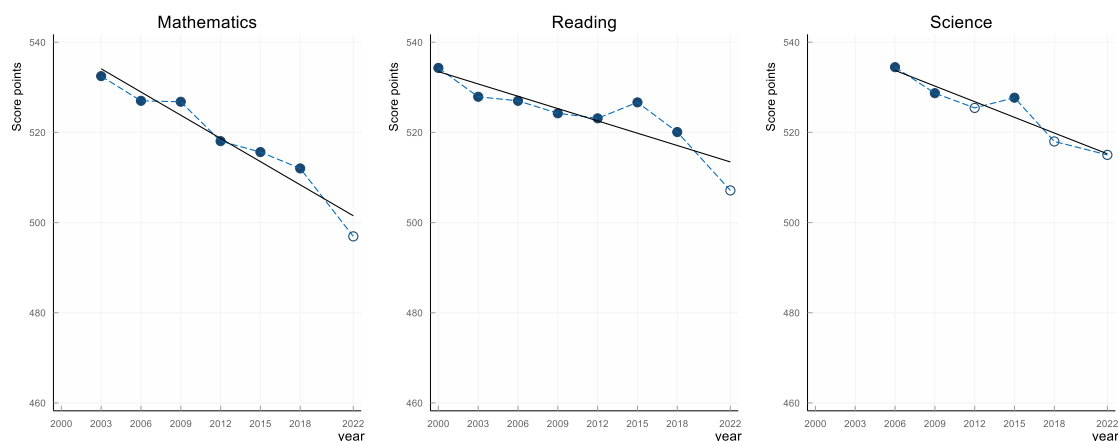
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: Results for 2018 refer to the results of the PISA for Development assessment, in 2017. The testing period (previously around December) was moved to around June in 2022.*

## Overview of performance trends in Canada

### Trends in mathematics, reading and science performance in Canada



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Canada

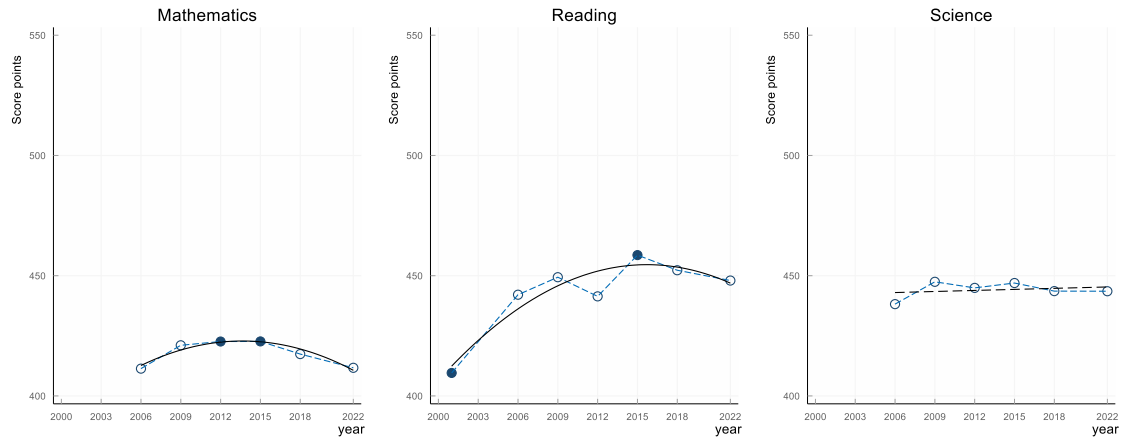
Mean performance	Mathematics	Reading	Science
PISA 2000		534*	
PISA 2003	532*	528*	
PISA 2006	527*	527*	534*
PISA 2009	527*	524*	529*
PISA 2012	518*	523*	525
PISA 2015	516*	527*	528*
PISA 2018	512*	520*	518
PISA 2022	497	507	515
Average 10-year trend in mean performance (2012 to 2022)	-20.6*	-17.0*	-12.8*
Short-term change in mean performance (2018 to 2022)	-15.1*	-13.0*	-3.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-3.9*	+0.7	+0.6
Percentage-point change in the share of low-performing students (below Level 2)	+7.8*	+7.2*	+4.8*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-10.3*	-3.1	+3.6
Average change among low-achieving students (10th percentile)	-16.6*	-22.3*	-9.3*
Gap in learning outcomes between high- and low-achieving students	stable gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-11.0* / -23.3*	-9.3* / -19.0*	+2.0 / -15.4*
Performance among disadvantaged students (bottom quarter of ESCS)	-18.0* / -23.6*	-12.9* / -19.7*	-5.6 / -16.2*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, student response rates decreased with respect to PISA 2018, and fell short of the target in 7 out of 10 provinces (all but New Brunswick, Prince Edward Island and Saskatchewan). School response rates also fell short of the target. The analyses clearly indicate that school non-response has not led to any appreciable bias, but student non-response has given rise to a small upwards bias. For more information, see the Reader's Guide in this Volume.*

## Overview of performance trends in Chile

### Trends in mathematics, reading and science performance in Chile



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

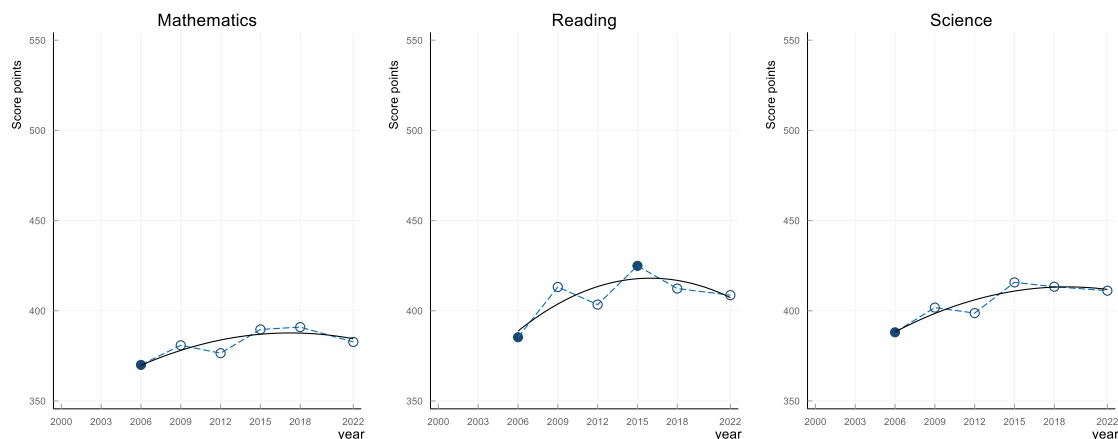
### Snapshot of mathematics, reading and science results for Chile

Mean performance	Mathematics	Reading	Science
PISA 2000		410*	
PISA 2003	m	m	
PISA 2006	411	442	438
PISA 2009	421	449	447
PISA 2012	423*	441	445
PISA 2015	423*	459*	447
PISA 2018	417	452	444
PISA 2022	412	448	444
Average 10-year trend in mean performance (2012 to 2022)	-11.7*	+3.7	-1.8
Short-term change in mean performance (2018 to 2022)	-5.7	-4.3	-0.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.9*	+1.9*	+0.8*
Percentage-point change in the share of low-performing students (below Level 2)	+4.2	+0.7	+1.9
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-14.8*	-4.0	+10.3*
Average change among low-achieving students (10th percentile)	+4.4	-2.4	-9.9*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-14.2* / -25.7*	-12.7* / -2.7	-1.3 / -8.0
Performance among disadvantaged students (bottom quarter of ESCS)	+6.7 / +6.4	-1.4 / +14.0*	+1.1 / +8.9
Performance gap (top – bottom quarter)	narrowing / narrowing	stable / narrowing	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Colombia

### Trends in mathematics, reading and science performance in Colombia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

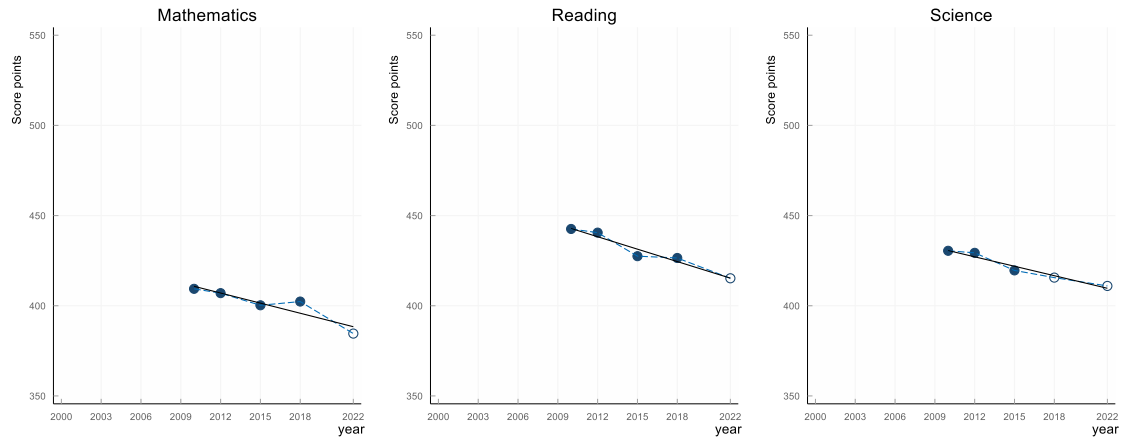
### Snapshot of mathematics, reading and science results for Colombia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	370*	385*	388*
PISA 2009	381	413	402
PISA 2012	376	403	399
PISA 2015	390	425*	416
PISA 2018	391	412	413
PISA 2022	383	409	411
Average 10-year trend in mean performance (2012 to 2022)	+4.7	+0.1	+10.0
Short-term change in mean performance (2018 to 2022)	-8.2	-3.6	-2.2
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0	+0.8*	+0.5*
Percentage-point change in the share of low-performing students (below Level 2)	-2.6	-0.1	-4.7
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-18.2*	+2.5	+3.9
Average change among low-achieving students (10th percentile)	+3.2	-9.3	-7.4
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-4.7 / +10.7	+9.0 / +12.3	+9.9 / +22.9*
Performance among disadvantaged students (bottom quarter of ESCS)	-7.0 / +6.1	-6.5 / -4.5	-6.2 / +5.7
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Costa Rica

### Trends in mathematics, reading and science performance in Costa Rica



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Costa Rica

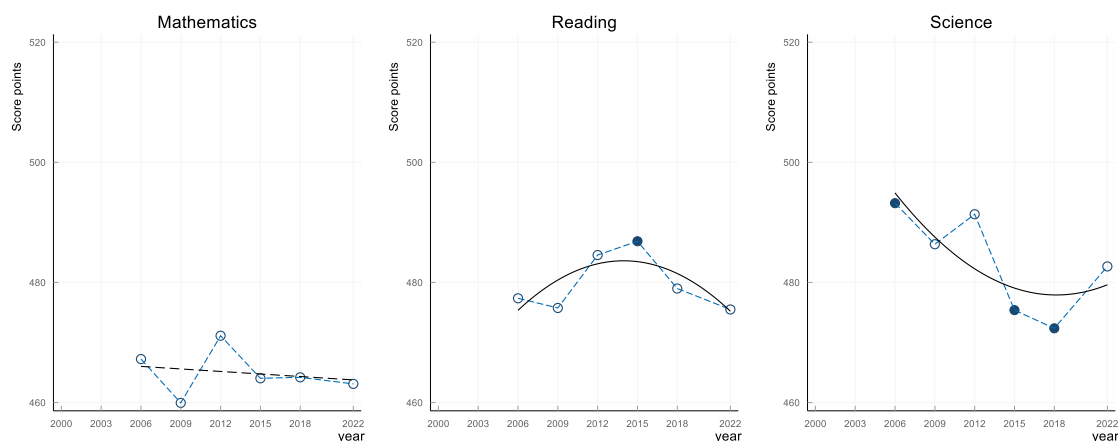
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	409*	443*	430*
PISA 2012	407*	441*	429*
PISA 2015	400*	427*	420*
PISA 2018	402*	426*	416
PISA 2022	385	415	411
Average 10-year trend in mean performance (2012 to 2022)	-20.3*	-23.2*	-17.5*
Short-term change in mean performance (2018 to 2022)	-17.8*	-11.3*	-4.6
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.4	+0.2	+0.2
Percentage-point change in the share of low-performing students (below Level 2)	+12.0*	+14.7*	+11.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-29.1*	-5.9	+3.6
Average change among low-achieving students (10th percentile)	-6.1	-17.3*	-14.3*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	m / m	m / m	m / m
Performance among disadvantaged students (bottom quarter of ESCS)	m / m	m / m	m / m
Performance gap (top – bottom quarter)	m / m	m / m	m / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Croatia

### Trends in mathematics, reading and science performance in Croatia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Croatia

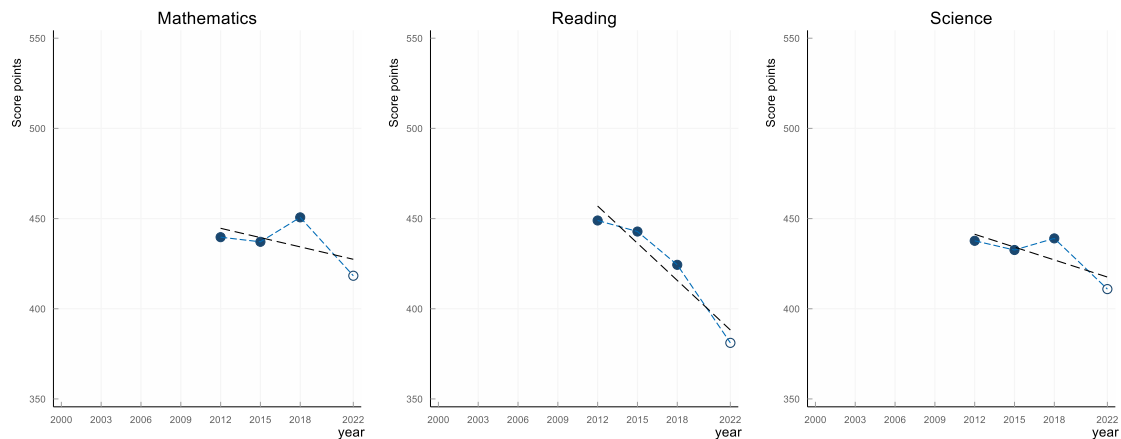
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	467	477	493*
PISA 2009	460	476	486
PISA 2012	471	485	491
PISA 2015	464	487*	475*
PISA 2018	464	479	472*
PISA 2022	463	475	483
Average 10-year trend in mean performance (2012 to 2022)	-6.5	-10.9	-7.5
Short-term change in mean performance (2018 to 2022)	-1.1	-3.5	+10.3*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.1	-0.2	+0.9
Percentage-point change in the share of low-performing students (below Level 2)	+3.1	+4.0	+5.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+4.9	-4.2	+14.3*
Average change among low-achieving students (10th percentile)	-1.7	-4.3	+6.4
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+2.3 / -7.1	-1.7 / -14.8*	+11.0 / -7.3
Performance among disadvantaged students (bottom quarter of ESCS)	-10.0 / -9.5*	-12.3* / -11.2*	+4.6 / -10.2*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Cyprus

### Trends in mathematics, reading and science performance in Cyprus



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Cyprus

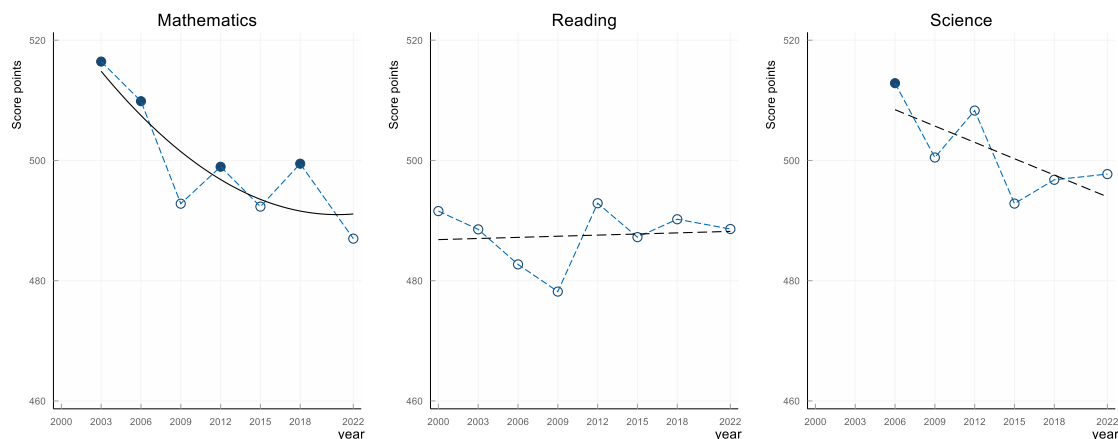
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	440*	449*	438*
PISA 2015	437*	443*	433*
PISA 2018	451*	424*	439*
PISA 2022	418	381	411
Average 10-year trend in mean performance (2012 to 2022)	-16.8*	-68.9*	-23.5*
Short-term change in mean performance (2018 to 2022)	-32.4*	-43.3*	-28.1*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.2	-2.6*	+0.1
Percentage-point change in the share of low-performing students (below Level 2)	+11.1*	+27.9*	+13.7*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-15.3*	-26.9*	-9.6*
Average change among low-achieving students (10th percentile)	-31.2*	-49.4*	-38.3*
Gap in learning outcomes between high- and low-achieving students	widening gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-18.0* / -19.3*	-31.3* / -72.4*	-20.8* / -33.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-35.2* / -16.0*	-44.6* / -68.3*	-25.7* / -21.1*
Performance gap (top – bottom quarter)	widening / stable	stable / stable	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Czech Republic

### Trends in mathematics, reading and science performance in Czech Republic



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

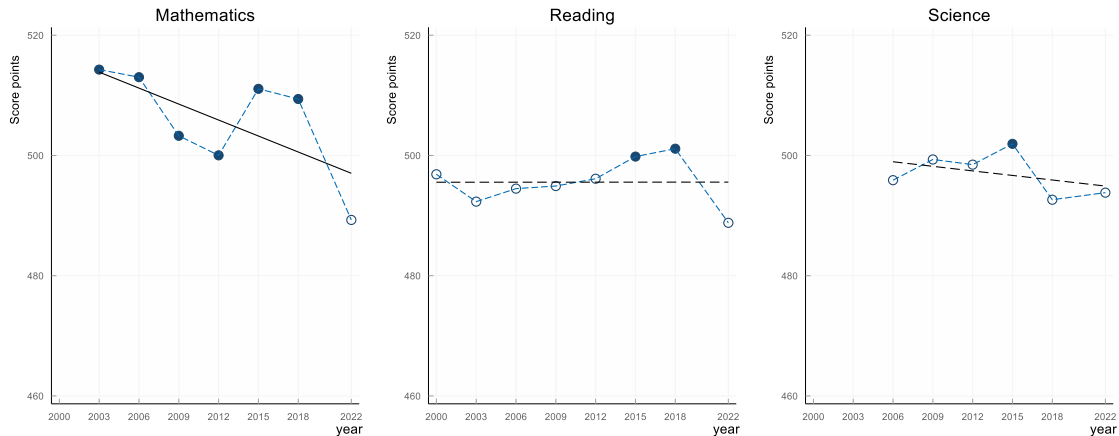
### Snapshot of mathematics, reading and science results for Czech Republic

Mean performance	Mathematics	Reading	Science
PISA 2000		492	
PISA 2003	516*	489	
PISA 2006	510*	483	513*
PISA 2009	493	478	500
PISA 2012	499*	493	508
PISA 2015	492	487	493
PISA 2018	499*	490	497
PISA 2022	487	489	498
Average 10-year trend in mean performance (2012 to 2022)	-9.2	-3.1	-7.7
Short-term change in mean performance (2018 to 2022)	-12.5*	-1.6	+1.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-2.3	+2.0	+1.3
Percentage-point change in the share of low-performing students (below Level 2)	+4.6*	+4.5	+6.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-8.9	-1.5	+8.0
Average change among low-achieving students (10th percentile)	-12.2*	-2.9	-4.8
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-9.4 / -7.7	-0.3 / +1.6	+4.8 / +0.3
Performance among disadvantaged students (bottom quarter of ESCS)	-17.6* / -15.3*	-4.9 / -11.5*	-7.4 / -22.3*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Denmark

### Trends in mathematics, reading and science performance in Denmark



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Denmark

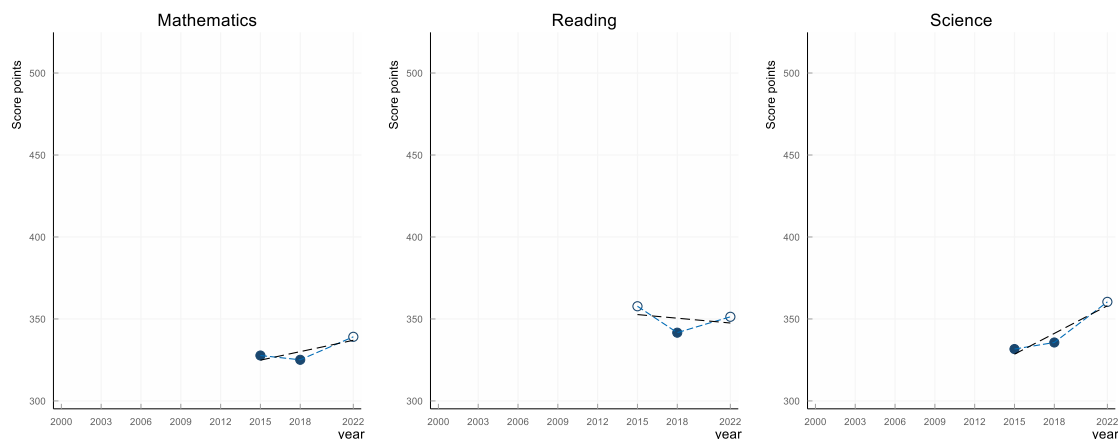
Mean performance	Mathematics	Reading	Science
PISA 2000		497	
PISA 2003	514*	492	
PISA 2006	513*	494	496
PISA 2009	503*	495	499
PISA 2012	500*	496	498
PISA 2015	511*	500*	502*
PISA 2018	509*	501*	493
PISA 2022	489	489	494
Average 10-year trend in mean performance (2012 to 2022)	-11.9*	-7.1	-7.1
Short-term change in mean performance (2018 to 2022)	-20.1*	-12.3*	+1.2
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-2.3*	+0.9	+0.2
Percentage-point change in the share of low-performing students (below Level 2)	+3.6*	+4.3*	+2.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-18.0*	-12.8*	+6.8
Average change among low-achieving students (10th percentile)	-17.9*	-12.6*	-2.3
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-19.3* / -20.1*	-17.7* / -18.1*	-1.8 / -16.6*
Performance among disadvantaged students (bottom quarter of ESCS)	-22.6* / -8.7*	-12.7* / -4.0	-0.0 / -3.8
Performance gap (top – bottom quarter)	stable / narrowing	stable / narrowing	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, exclusions from the sample exceeded the acceptable rate by a large margin and showed a marked increase with respect to 2018. High levels of student exclusions may bias performance results upwards. In Denmark, a major reason for the rise appears to be the increased share of students with diagnosed dyslexia and the fact that more of these students are using electronic assistive devices to help them read on the screen, including during exams. The lack of such an accommodation in PISA led schools to exclude many of these students.*

## Overview of performance trends in Dominican Republic

### Trends in mathematics, reading and science performance in Dominican Republic



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

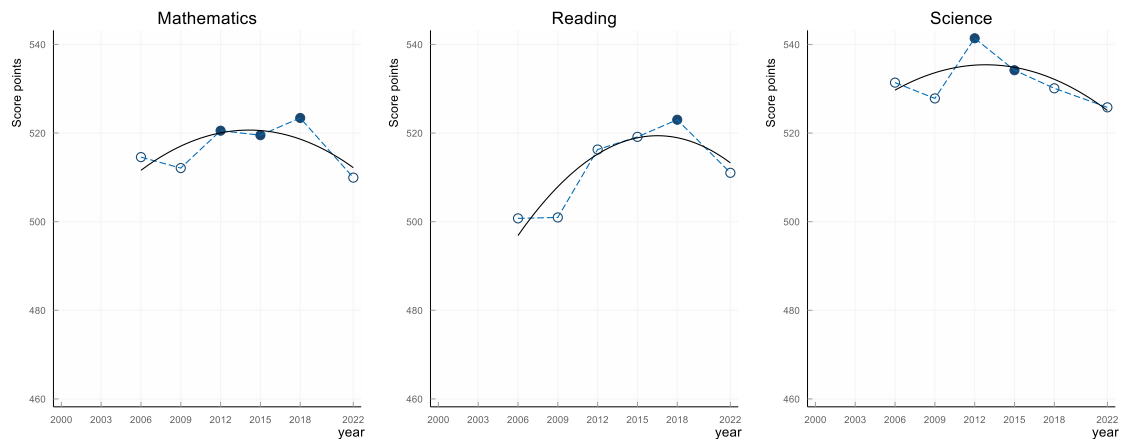
### Snapshot of mathematics, reading and science results for Dominican Republic

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	328*	358	332*
PISA 2018	325*	342*	336*
PISA 2022	339	351	360
Average 10-year trend in mean performance (2015 to 2022)	+17.2*	-7.0	+41.5*
Short-term change in mean performance (2018 to 2022)	+14.0*	+9.7*	+24.8*
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0*	+0.0	+0.0
Percentage-point change in the share of low-performing students (below Level 2)	+1.9	+3.3	-9.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.0	+10.7	+21.4*
Average change among low-achieving students (10th percentile)	+36.4*	+7.5	+25.0*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+6.4 / +4.8	+12.9 / -12.4	+21.1* / +29.3*
Performance among disadvantaged students (bottom quarter of ESCS)	+17.4* / +20.1*	+7.0 / -3.7	+26.5* / +48.2*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Estonia

### Trends in mathematics, reading and science performance in Estonia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

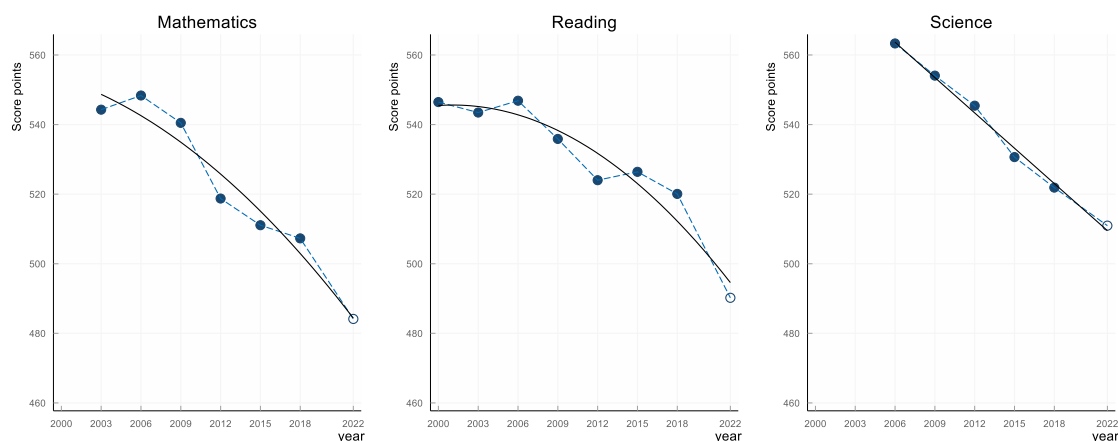
### Snapshot of mathematics, reading and science results for Estonia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	515	501	531
PISA 2009	512	501	528
PISA 2012	521*	516	541*
PISA 2015	520*	519	534*
PISA 2018	523*	523*	530
PISA 2022	510	511	526
Average 10-year trend in mean performance (2012 to 2022)	-8.9*	-3.7	-15.4*
Short-term change in mean performance (2018 to 2022)	-13.5*	-12.0*	-4.3
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.5	+2.3	-1.2
Percentage-point change in the share of low-performing students (below Level 2)	+4.4*	+4.7*	+5.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.3	-14.9*	-3.0
Average change among low-achieving students (10th percentile)	-17.7*	-13.7*	-7.7
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-5.6 / -1.7	-9.7 / +2.4	-0.8 / -8.2*
Performance among disadvantaged students (bottom quarter of ESCS)	-23.1* / -22.6*	-21.1* / -18.0*	-14.2* / -29.8*
Performance gap (top – bottom quarter)	widening / widening	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Finland

### Trends in mathematics, reading and science performance in Finland



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

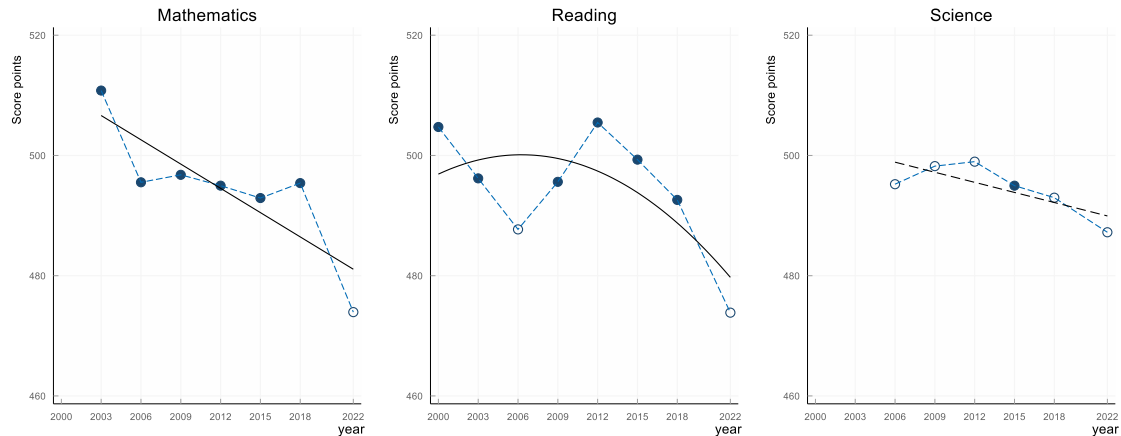
### Snapshot of mathematics, reading and science results for Finland

Mean performance	Mathematics	Reading	Science
PISA 2000		546*	
PISA 2003	544*	543*	
PISA 2006	548*	547*	563*
PISA 2009	541*	536*	554*
PISA 2012	519*	524*	545*
PISA 2015	511*	526*	531*
PISA 2018	507*	520*	522*
PISA 2022	484	490	511
Average 10-year trend in mean performance (2012 to 2022)	-33.2*	-34.0*	-34.1*
Short-term change in mean performance (2018 to 2022)	-23.2*	-29.9*	-10.9*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-6.7*	-4.7*	-4.4*
Percentage-point change in the share of low-performing students (below Level 2)	+12.6*	+10.1*	+10.3*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-12.2*	-23.5*	+3.9
Average change among low-achieving students (10th percentile)	-33.3*	-36.9*	-23.5*
Gap in learning outcomes between high- and low-achieving students	widening gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-16.0* / -25.8*	-24.4* / -25.2*	-3.7 / -22.6*
Performance among disadvantaged students (bottom quarter of ESCS)	-26.5* / -40.4*	-32.8* / -41.2*	-14.5* / -43.3*
Performance gap (top – bottom quarter)	widening / widening	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in France

### Trends in mathematics, reading and science performance in France



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

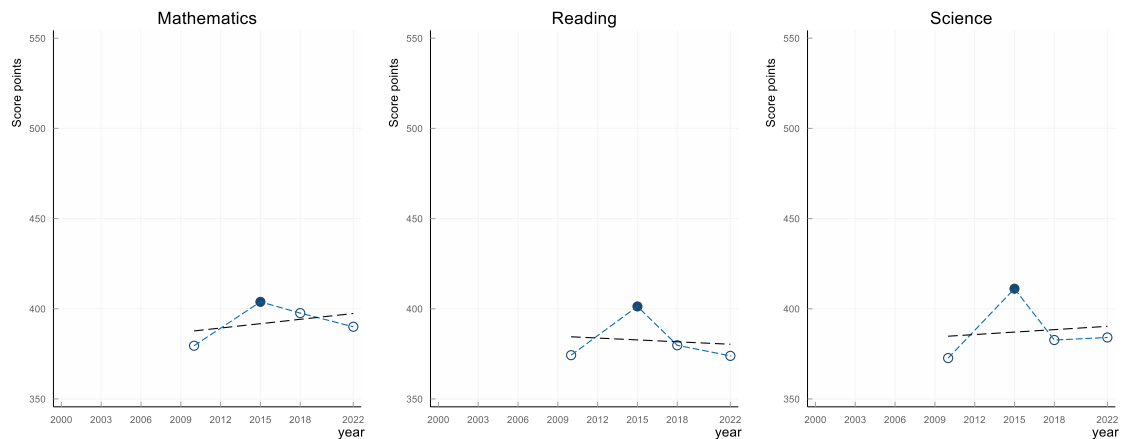
### Snapshot of mathematics, reading and science results for France

Mean performance	Mathematics	Reading	Science
PISA 2000		505*	
PISA 2003	511*	496*	
PISA 2006	496*	488	495
PISA 2009	497*	496*	498
PISA 2012	495*	505*	499
PISA 2015	493*	499*	495*
PISA 2018	495*	493*	493
PISA 2022	474	474	487
Average 10-year trend in mean performance (2012 to 2022)	-19.7*	-31.2*	-11.5
Short-term change in mean performance (2018 to 2022)	-21.5*	-18.8*	-5.8
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-5.5*	-5.8*	-0.2
Percentage-point change in the share of low-performing students (below Level 2)	+6.5*	+8.0*	+5.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-18.5*	-13.9*	+5.0
Average change among low-achieving students (10th percentile)	-16.7*	-24.6*	-14.3*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-16.3* / -25.0*	-13.4* / -39.6*	+0.6 / -14.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-21.8* / -17.7*	-23.8* / -26.3*	-12.9* / -13.5*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Georgia

### Trends in mathematics, reading and science performance in Georgia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Georgia

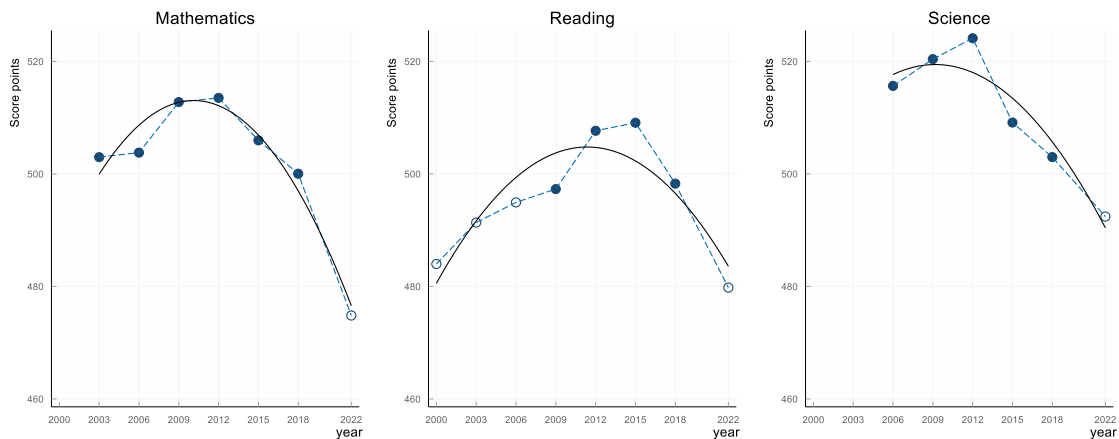
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	379	374	373
PISA 2012	m	m	m
PISA 2015	404*	401*	411*
PISA 2018	398	380	383
PISA 2022	390	374	384
Average 10-year trend in mean performance (2015 to 2022)	-19.8*	-37.6*	-35.9*
Short-term change in mean performance (2018 to 2022)	-7.6	-5.9	+1.4
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.4	-1.0*	-0.6*
Percentage-point change in the share of low-performing students (below Level 2)	+9.4*	+15.2*	+13.8*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-12.1	-7.6	+0.6
Average change among low-achieving students (10th percentile)	+1.9	-4.4	+3.5
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-13.0 / -34.4*	-8.5 / -55.9*	+4.2 / -40.4*
Performance among disadvantaged students (bottom quarter of ESCS)	-1.1 / +3.1	-7.4 / -17.6*	-0.3 / -28.3*
Performance gap (top – bottom quarter)	stable / narrowing	stable / narrowing	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Germany

### Trends in mathematics, reading and science performance in Germany



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

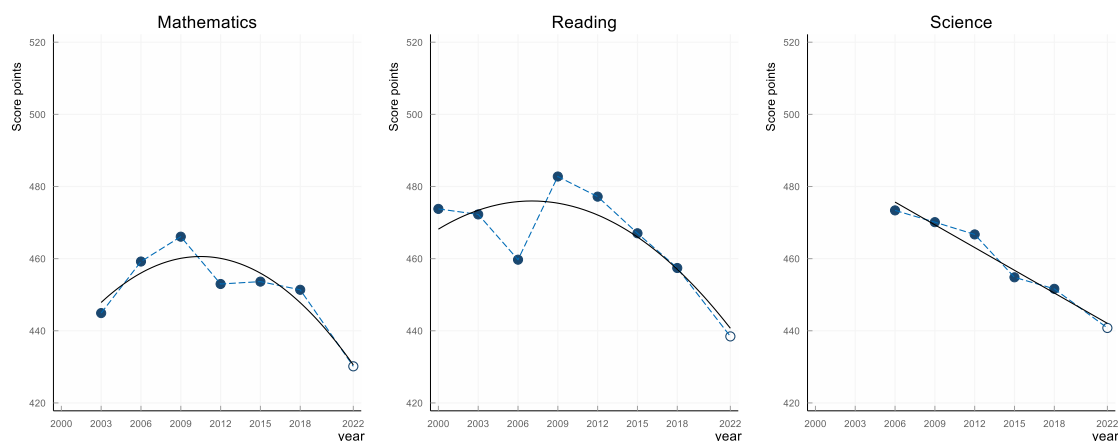
### Snapshot of mathematics, reading and science results for Germany

Mean performance	Mathematics	Reading	Science
PISA 2000		484	
PISA 2003	503*	491	
PISA 2006	504*	495	516*
PISA 2009	513*	497*	520*
PISA 2012	514*	508*	524*
PISA 2015	506*	509*	509*
PISA 2018	500*	498*	503*
PISA 2022	475	480	492
Average 10-year trend in mean performance (2012 to 2022)	-38.0*	-29.9*	-30.6*
Short-term change in mean performance (2018 to 2022)	-25.2*	-18.5*	-10.6*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-8.9*	-0.8	-2.5
Percentage-point change in the share of low-performing students (below Level 2)	+11.8*	+11.0*	+10.7*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-21.6*	-16.7*	-1.8
Average change among low-achieving students (10th percentile)	-22.2*	-14.1*	-11.2
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-18.5* / -28.7*	-16.2* / -13.3*	-2.2 / -16.2*
Performance among disadvantaged students (bottom quarter of ESCS)	-25.5* / -35.0*	-16.6* / -31.7*	-8.9 / -30.9*
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Greece

### Trends in mathematics, reading and science performance in Greece



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

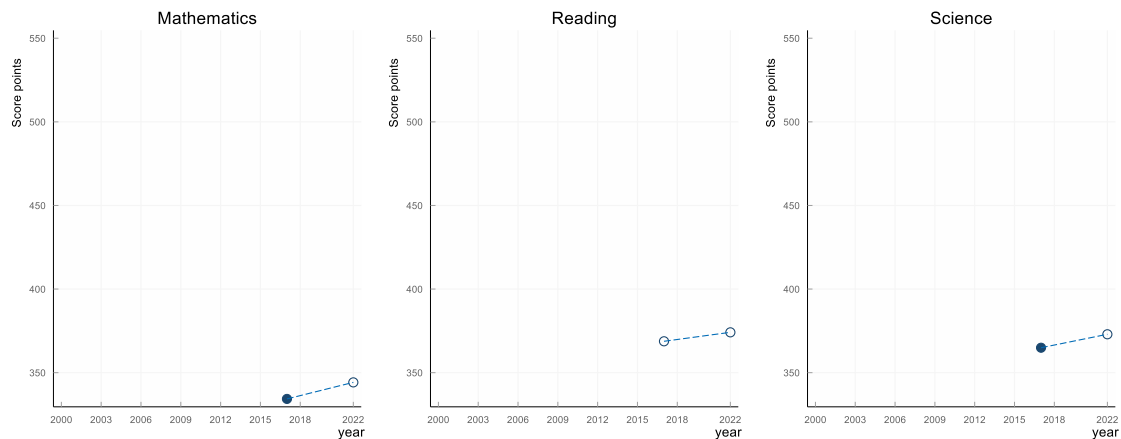
### Snapshot of mathematics, reading and science results for Greece

Mean performance	Mathematics	Reading	Science
PISA 2000		474*	
PISA 2003	445*	472*	
PISA 2006	459*	460*	473*
PISA 2009	466*	483*	470*
PISA 2012	453*	477*	467*
PISA 2015	454*	467*	455*
PISA 2018	451*	457*	452*
PISA 2022	430	438	441
Average 10-year trend in mean performance (2012 to 2022)	-22.5*	-38.5*	-24.2*
Short-term change in mean performance (2018 to 2022)	-21.2*	-19.0*	-10.8*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.9*	-3.2*	-1.0
Percentage-point change in the share of low-performing students (below Level 2)	+11.5*	+15.0*	+11.8*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-22.9*	-22.2*	-1.8
Average change among low-achieving students (10th percentile)	-8.2	-10.7	-15.0*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-21.3* / -28.2*	-17.6* / -41.6*	-3.8 / -27.1*
Performance among disadvantaged students (bottom quarter of ESCS)	-15.5* / -14.2*	-16.3* / -29.9*	-12.0* / -18.1*
Performance gap (top – bottom quarter)	stable / narrowing	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Guatemala

### Trends in mathematics, reading and science performance in Guatemala



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Guatemala

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	334*	369	365*
PISA 2022	344	374	373
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+9.9*	+5.4	+8.0*
Proficiency levels: Change between 2017 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	m	m	m
Percentage-point change in the share of low-performing students (below Level 2)	m	m	m
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+9.2	+3.5	+10.8
Average change among low-achieving students (10th percentile)	+8.8	+10.0	+5.5
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	m / m	m / m	m / m
Performance among disadvantaged students (bottom quarter of ESCS)	m / m	m / m	m / m
Performance gap (top – bottom quarter)	m / m	m / m	m / m

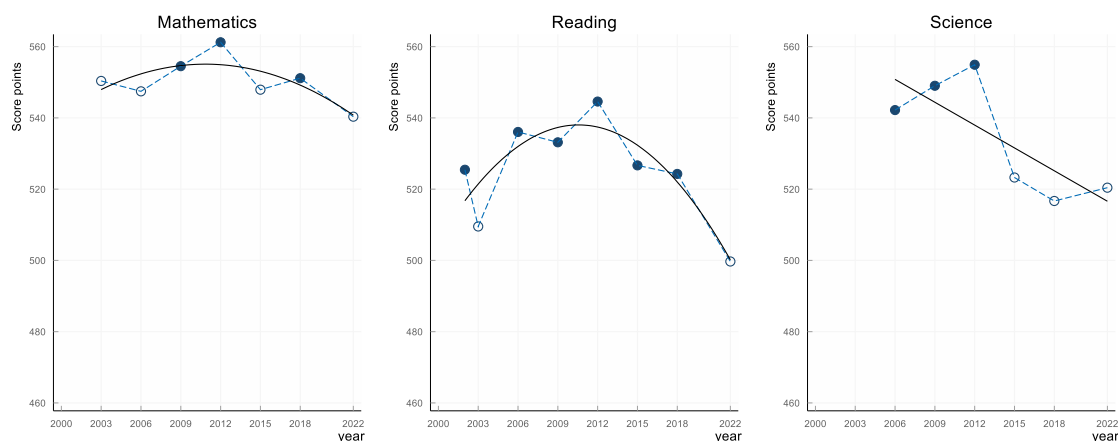
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

Note: Results for 2018 refer to the results of the PISA for Development assessment in 2017.

## Overview of performance trends in Hong Kong (China)

### Trends in mathematics, reading and science performance in Hong Kong (China)



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Hong Kong (China)

Mean performance	Mathematics	Reading	Science
PISA 2000		525*	
PISA 2003	550	510	
PISA 2006	547	536*	542*
PISA 2009	555*	533*	549*
PISA 2012	561*	545*	555*
PISA 2015	548	527*	523
PISA 2018	551*	524*	517
PISA 2022	540	500	520
Average 10-year trend in mean performance (2012 to 2022)	-17.8*	-41.5*	-31.3*
Short-term change in mean performance (2018 to 2022)	-10.8*	-24.6*	+3.7
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-6.5*	-7.8*	-6.0*
Percentage-point change in the share of low-performing students (below Level 2)	+5.3*	+10.7*	+7.3*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+5.5	-23.8*	+13.2*
Average change among low-achieving students (10th percentile)	-27.2*	-23.9*	-6.4
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-5.2 / -22.1*	-31.9* / -46.5*	+1.6 / -31.1*
Performance among disadvantaged students (bottom quarter of ESCS)	-12.6 / -19.8*	-19.4* / -42.3*	+3.9 / -31.3*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

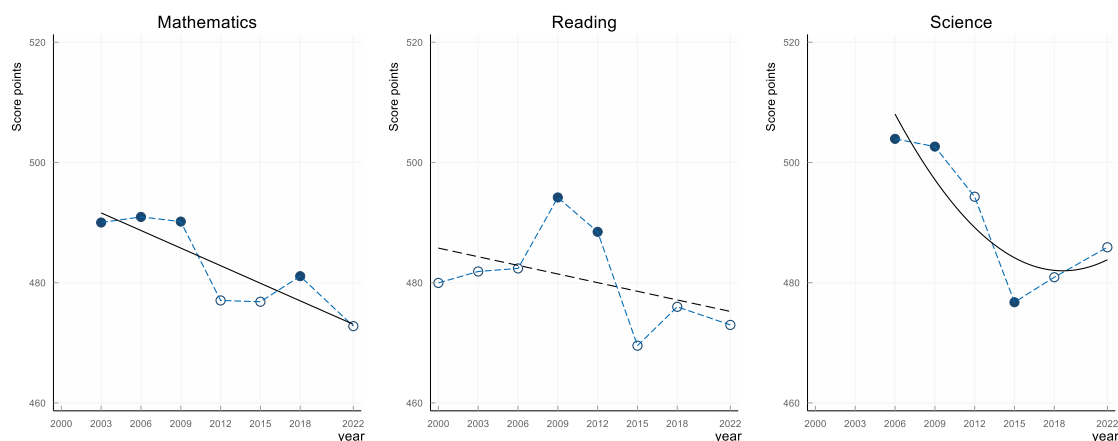
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, student response rates decreased with respect to PISA 2018. School response rates also fell short of the target (as they did in 2018). At the school level, the risk of bias due to non-response is limited due to the sampling design. A non-response bias analysis was submitted; however, the strength of the evidence was limited by the fact that no external student-level achievement variables could be used in the analysis (only student grade information, already used in non-response adjustments, was available). Reassuringly, the proxies for school and student achievement (school size and*

*student grade) that were used in the analyses showed no or very limited relationship with participation rates. Nevertheless, based on the available evidence, and on the experience of other countries participating in PISA, a small residual upward bias could not be excluded, even though non-response adjustments likely limited its severity.*

## Overview of performance trends in Hungary

### Trends in mathematics, reading and science performance in Hungary



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

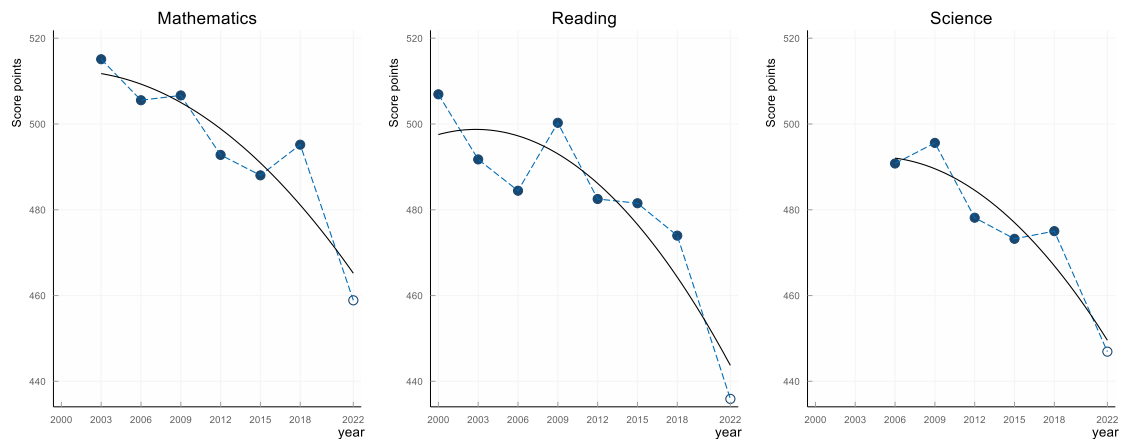
### Snapshot of mathematics, reading and science results for Hungary

Mean performance	Mathematics	Reading	Science
PISA 2000		480	
PISA 2003	490*	482	
PISA 2006	491*	482	504*
PISA 2009	490*	494*	503*
PISA 2012	477	488*	494
PISA 2015	477	470	477*
PISA 2018	481*	476	481
PISA 2022	473	473	486
Average 10-year trend in mean performance (2012 to 2022)	-2.9	-11.7	-5.5
Short-term change in mean performance (2018 to 2022)	-8.3*	-3.0	+5.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.4	-0.2	+0.2
Percentage-point change in the share of low-performing students (below Level 2)	+1.4	+6.2*	+4.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-2.6	-2.3	+9.0
Average change among low-achieving students (10th percentile)	-12.6*	-10.1	+0.6
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-5.0 / -2.5	+3.0 / -4.6	+11.2 / -1.4
Performance among disadvantaged students (bottom quarter of ESCS)	-11.8* / -7.2	-10.5 / -19.9*	-2.9 / -14.7*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Iceland

### Trends in mathematics, reading and science performance in Iceland



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Iceland

Mean performance	Mathematics	Reading	Science
PISA 2000		507*	
PISA 2003	515*	492*	
PISA 2006	506*	484*	491*
PISA 2009	507*	500*	496*
PISA 2012	493*	483*	478*
PISA 2015	488*	482*	473*
PISA 2018	495*	474*	475*
PISA 2022	459	436	447
Average 10-year trend in mean performance (2012 to 2022)	-30.5*	-46.1*	-29.1*
Short-term change in mean performance (2018 to 2022)	-36.3*	-38.1*	-28.1*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-6.3*	-3.1*	-2.9*
Percentage-point change in the share of low-performing students (below Level 2)	+12.6*	+18.7*	+11.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-34.4*	-39.4*	-23.0*
Average change among low-achieving students (10th percentile)	-29.6*	-33.3*	-30.1*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-33.7* / -29.5*	-33.1* / -36.6*	-23.8* / -23.3*
Performance among disadvantaged students (bottom quarter of ESCS)	-35.5* / -42.1*	-42.4* / -65.6*	-33.9* / -49.4*
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

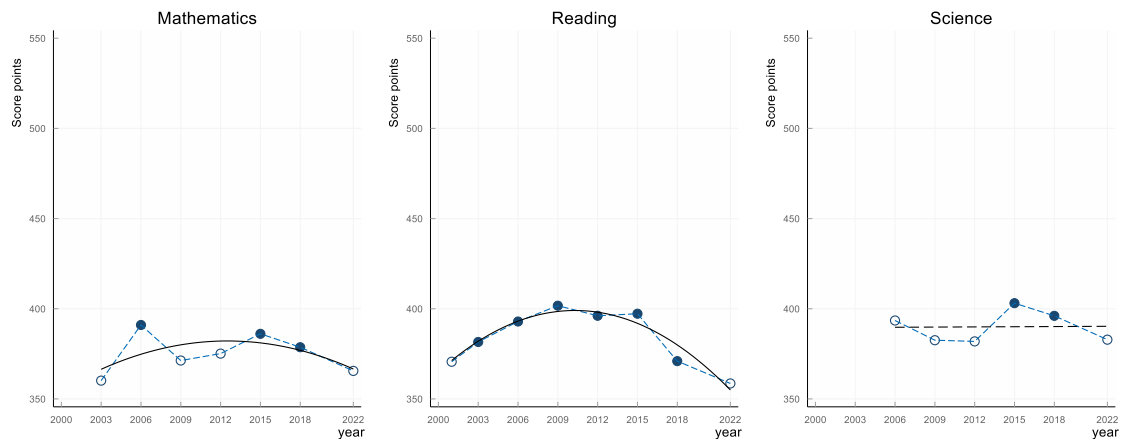
*Note: In 2022, Iceland relied on a server-based administration (using Chromebooks) in some schools. Students in these schools experienced difficulties moving through the cognitive assessment early in the testing period. Further investigation traced the problem back to overload on the PISA contractor's server. The problem was rapidly solved for students who were tested later and did not affect other countries that used a server-based administration. In Iceland, it affected at most 13% of the final sample (438 students). During data adjudication, these data were thoroughly reviewed, and considered to be fit*

*for reporting: the responses of students who were potentially affected did show good fit with the model, and were not remarkably different from the performance of students in other schools (see Annex A4). Furthermore, analyses conducted by the PISA National Centre for Iceland (where, due to the census nature of the survey, schools' results in PISA could be tracked over time) confirmed that the issue affected only students' ability to complete the test but not the way in which these students responded to the parts that they completed: performance changes were very similar in affected and non-affected schools.*



## Overview of performance trends in Indonesia

### Trends in mathematics, reading and science performance in Indonesia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

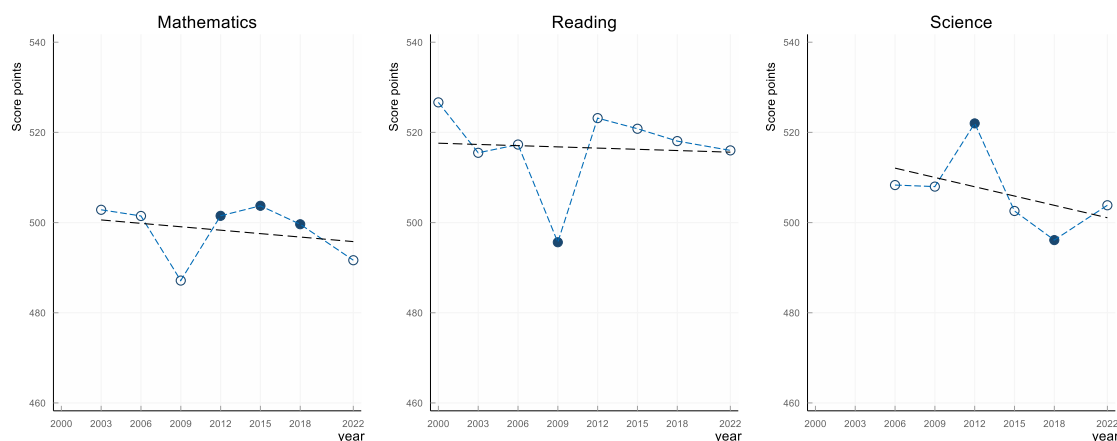
### Snapshot of mathematics, reading and science results for Indonesia

Mean performance	Mathematics	Reading	Science
PISA 2000		371	
PISA 2003	360	382*	
PISA 2006	391*	393*	393
PISA 2009	371	402*	383
PISA 2012	375	396*	382
PISA 2015	386*	397*	403*
PISA 2018	379*	371*	396*
PISA 2022	366	359	383
Average 10-year trend in mean performance (2012 to 2022)	-11.8*	-42.1*	-2.8
Short-term change in mean performance (2018 to 2022)	-13.1*	-12.4*	-13.2*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.2	-0.1	+0.0
Percentage-point change in the share of low-performing students (below Level 2)	+6.0*	+19.3*	-0.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-31.9*	-12.6	-13.4*
Average change among low-achieving students (10th percentile)	+8.9	-12.7*	-15.2*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-22.8* / -28.8*	-16.3 / -47.2*	-21.7* / -14.1
Performance among disadvantaged students (bottom quarter of ESCS)	-5.7 / -2.7	-7.2 / -38.2*	-7.5 / +3.3
Performance gap (top – bottom quarter)	stable / narrowing	stable / stable	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Ireland

### Trends in mathematics, reading and science performance in Ireland



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Ireland

Mean performance	Mathematics	Reading	Science
PISA 2000		527	
PISA 2003	503	515	
PISA 2006	501	517	508
PISA 2009	487	496*	508
PISA 2012	501*	523	522*
PISA 2015	504*	521	503
PISA 2018	500*	518	496*
PISA 2022	492	516	504
Average 10-year trend in mean performance (2012 to 2022)	-10.4*	-7.1	-17.1*
Short-term change in mean performance (2018 to 2022)	-8.0*	-2.1	+7.7*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-3.4*	-1.2	-3.2*
Percentage-point change in the share of low-performing students (below Level 2)	+2.1	+1.9	+4.5*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-5.0	-7.8	+11.0*
Average change among low-achieving students (10th percentile)	-10.7*	+1.8	+3.9
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-3.0 / -17.3*	-1.2 / -14.2*	+11.9* / -23.6*
Performance among disadvantaged students (bottom quarter of ESCS)	-9.8* / -2.8	-3.3 / -1.5	+7.1 / -8.8
Performance gap (top – bottom quarter)	stable / narrowing	stable / narrowing	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

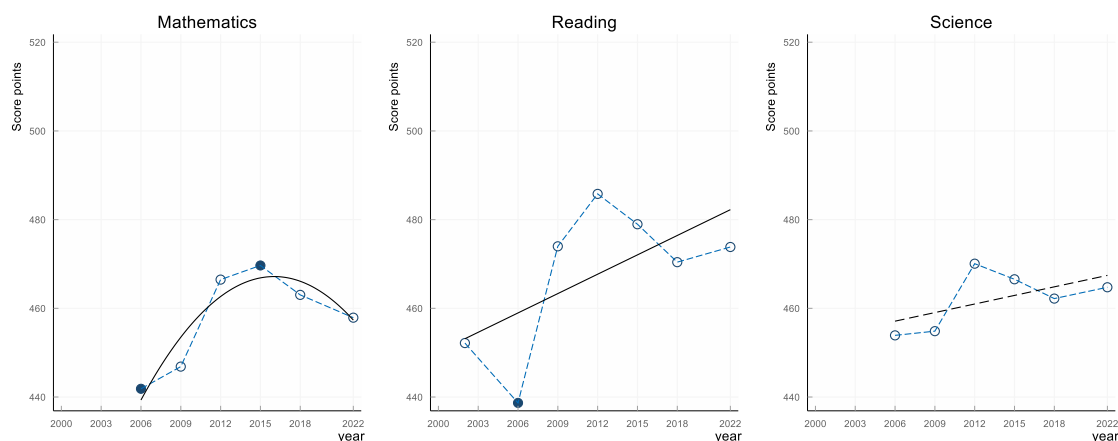
*Notes: In 2022, student response rates decreased with respect to PISA 2018 and fell short of the target. A thorough non-response bias analysis was submitted using external achievement data at student level as auxiliary information. The analysis provided evidence to suggest a residual upwards bias of about 0.1 standard deviations, after non-response adjustments are taken into account. On the PISA scale, considering that the standard deviation in Ireland ranged (in 2018) from 78 score points in mathematics to 91 score points in reading, this could translate into an estimated bias of*

*approximately eight or nine points. The bias associated with trend and cross-country comparisons, however, might be smaller if past data or data for other countries are biased in the same direction.*

*The testing period changed from March-April (in earlier PISA assessments) to October-December (in PISA 2022).*

## Overview of performance trends in Israel

### Trends in mathematics, reading and science performance in Israel



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

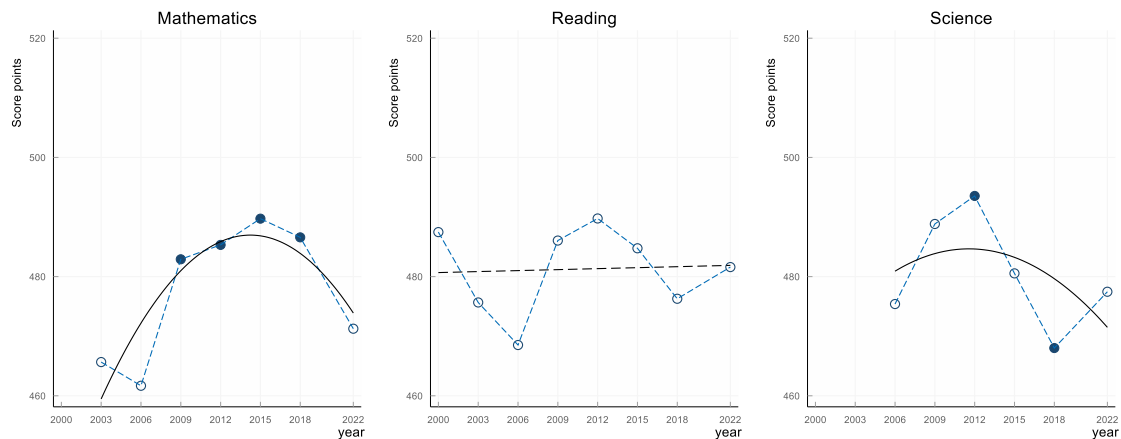
### Snapshot of mathematics, reading and science results for Israel

Mean performance	Mathematics	Reading	Science
PISA 2000		452	
PISA 2003	m	m	
PISA 2006	442*	439*	454
PISA 2009	447	474	455
PISA 2012	466	486	470
PISA 2015	470*	479	467
PISA 2018	463	470	462
PISA 2022	458	474	465
Average 10-year trend in mean performance (2012 to 2022)	-9.7	-13.4	-5.1
Short-term change in mean performance (2018 to 2022)	-5.1	+3.4	+2.6
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.0	+0.9	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	+3.8	+6.1*	+3.2
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-3.7	+0.6	-1.8
Average change among low-achieving students (10th percentile)	+1.3	+9.8	+6.4
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+6.9 / -6.8	+8.9 / -7.1	+9.8 / -4.6
Performance among disadvantaged students (bottom quarter of ESCS)	-10.6 / -9.2	+0.5 / -21.9*	-1.3 / -6.8
Performance gap (top – bottom quarter)	widening / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Italy

### Trends in mathematics, reading and science performance in Italy



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

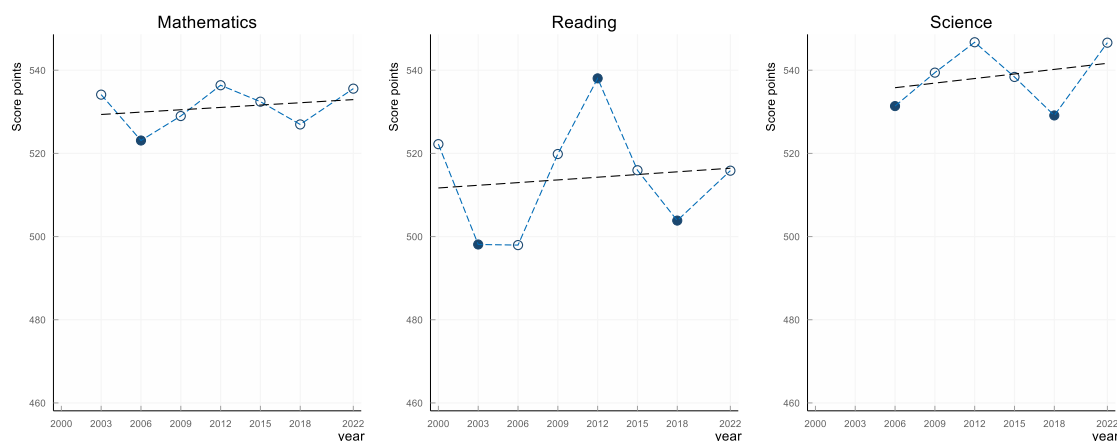
### Snapshot of mathematics, reading and science results for Italy

Mean performance	Mathematics	Reading	Science
PISA 2000		487	
PISA 2003	466	476	
PISA 2006	462	469	475
PISA 2009	483*	486	489
PISA 2012	485*	490	494*
PISA 2015	490*	485	481
PISA 2018	487*	476	468*
PISA 2022	471	482	477
Average 10-year trend in mean performance (2012 to 2022)	-14.4*	-9.1	-17.4*
Short-term change in mean performance (2018 to 2022)	-15.3*	+5.3	+9.5*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-3.0*	-1.7	-1.8*
Percentage-point change in the share of low-performing students (below Level 2)	+4.9*	+1.9	+5.2*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-15.5*	-1.2	+14.0*
Average change among low-achieving students (10th percentile)	-6.1	+11.6	+8.0
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-11.2 / -8.5	+10.1 / -8.9	+21.9* / -11.5*
Performance among disadvantaged students (bottom quarter of ESCS)	-14.9* / -15.3*	+5.9 / -7.3	+2.9 / -19.9*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Japan

### Trends in mathematics, reading and science performance in Japan



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

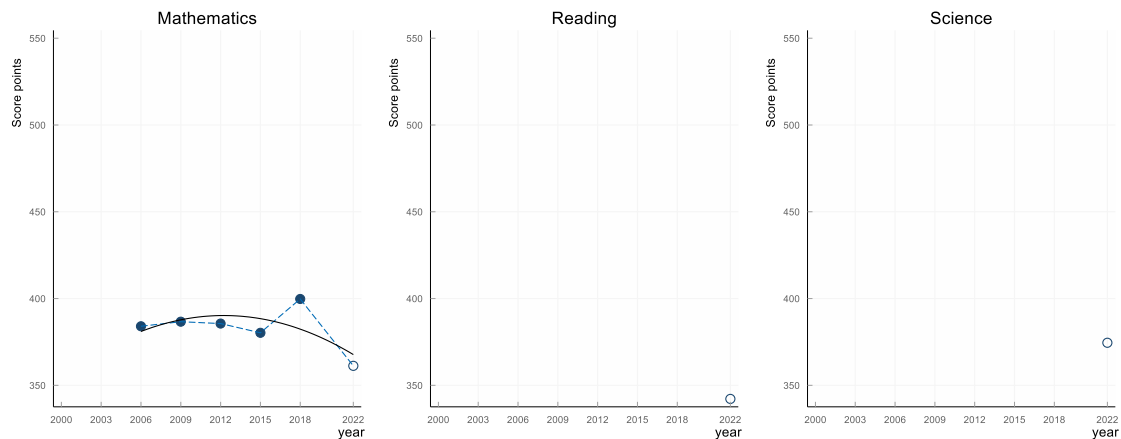
### Snapshot of mathematics, reading and science results for Japan

Mean performance	Mathematics	Reading	Science
PISA 2000		522	
PISA 2003	534	498*	
PISA 2006	523*	498	531*
PISA 2009	529	520	539
PISA 2012	536	538*	547
PISA 2015	532	516	538
PISA 2018	527	504*	529*
PISA 2022	536	516	547
Average 10-year trend in mean performance (2012 to 2022)	-1.6	-22.2*	-1.2
Short-term change in mean performance (2018 to 2022)	+8.6	+12.0*	+17.5*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.7	-6.1*	-0.2
Percentage-point change in the share of low-performing students (below Level 2)	+0.9	+4.0*	-0.4
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+16.0*	+9.0	+16.9*
Average change among low-achieving students (10th percentile)	-2.6	+12.8	+16.7*
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+17.7* / -5.7	+13.8* / -28.7*	+22.2* / -5.9
Performance among disadvantaged students (bottom quarter of ESCS)	+5.1 / -4.3	+13.1* / -25.0*	+18.1* / -1.4
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Jordan

### Trends in mathematics, reading and science performance in Jordan



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Jordan

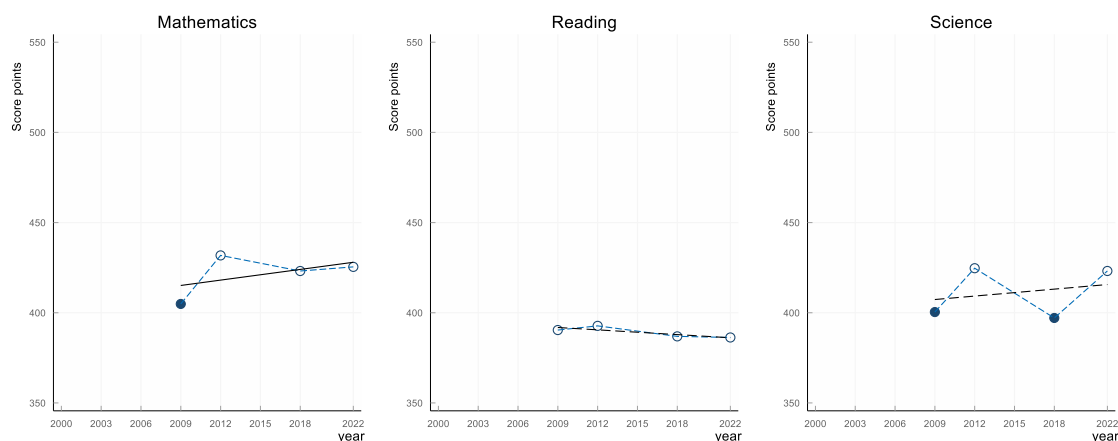
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	384*	m	m
PISA 2009	387*	m	m
PISA 2012	386*	m	m
PISA 2015	380*	m	m
PISA 2018	400*	m	m
PISA 2022	361	342	375
Average 10-year trend in mean performance (2012 to 2022)	-18.6*	m	m
Short-term change in mean performance (2018 to 2022)	-38.5*	m	m
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.6	m	m
Percentage-point change in the share of low-performing students (below Level 2)	+14.3*	m	m
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-66.2*	m	m
Average change among low-achieving students (10th percentile)	-7.9	m	m
Gap in learning outcomes between high- and low-achieving students	narrowing gap		
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-47.3* / -34.1*	m / m	m / m
Performance among disadvantaged students (bottom quarter of ESCS)	-32.3* / -3.4	m / m	m / m
Performance gap (top – bottom quarter)	stable / narrowing	m / m	m / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: Jordan switched from paper to computer assessment in 2022. Past reading and science scores were computed on a scale that was only weakly linked to the international scale; for this reason, this volume does not report trends in reading and science for Jordan and limits trend reporting to mathematics.*

## Overview of performance trends in Kazakhstan

### Trends in mathematics, reading and science performance in Kazakhstan



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Kazakhstan

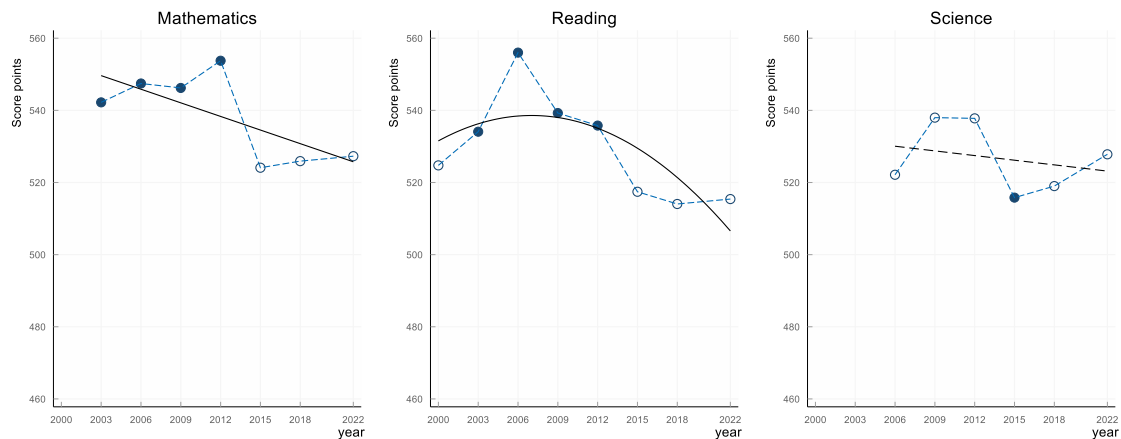
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	405*	390	400*
PISA 2012	432	393	425
PISA 2015	m	m	m
PISA 2018	423	387	397*
PISA 2022	425	386	423
Average 10-year trend in mean performance (2012 to 2022)	-7.0	-6.5	-5.1
Short-term change in mean performance (2018 to 2022)	+2.3	-0.6	+26.1*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.6	+0.5*	+0.7*
Percentage-point change in the share of low-performing students (below Level 2)	+4.3	+6.7*	+3.2
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-5.7	+4.9	+26.5*
Average change among low-achieving students (10th percentile)	+14.8*	-5.2	+22.6*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	widening gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+7.4 / -9.0	+1.9 / -11.8*	+30.1* / -8.8*
Performance among disadvantaged students (bottom quarter of ESCS)	-0.4 / +1.6	-1.4 / +9.5*	+25.2* / +8.2
Performance gap (top – bottom quarter)	stable / stable	stable / narrowing	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Korea

### Trends in mathematics, reading and science performance in Korea



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

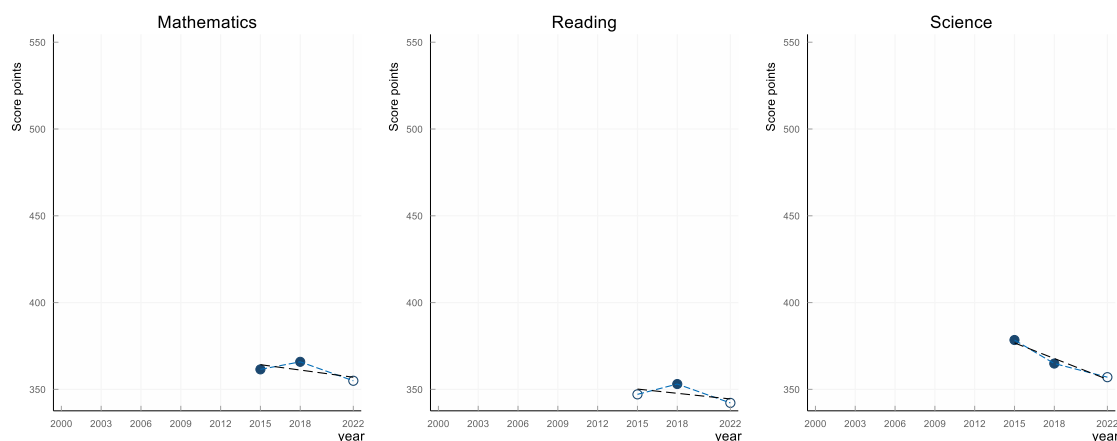
### Snapshot of mathematics, reading and science results for Korea

Mean performance	Mathematics	Reading	Science
PISA 2000		525	
PISA 2003	542*	534*	
PISA 2006	547*	556*	522
PISA 2009	546*	539*	538
PISA 2012	554*	536*	538
PISA 2015	524	517	516*
PISA 2018	526	514	519
PISA 2022	527	515	528
Average 10-year trend in mean performance (2012 to 2022)	-22.6*	-18.5*	-7.0
Short-term change in mean performance (2018 to 2022)	+1.4	+1.4	+8.8
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-8.0*	-0.8	+4.0*
Percentage-point change in the share of low-performing students (below Level 2)	+7.1*	+7.0*	+7.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+8.3	+1.4	+15.5*
Average change among low-achieving students (10th percentile)	-5.5	+2.0	-0.2
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+5.2 / -17.3*	+5.5 / -8.5	+16.1* / +7.8
Performance among disadvantaged students (bottom quarter of ESCS)	-4.1 / -29.7*	-5.6 / -31.4*	+1.4 / -20.3*
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Kosovo<sup>†</sup>

### Trends in mathematics, reading and science performance in Kosovo



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Kosovo

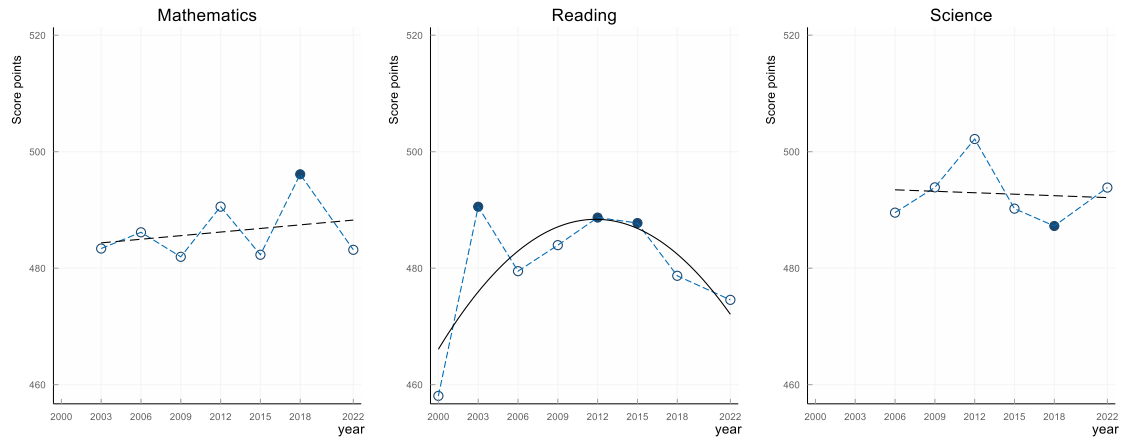
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	362*	347	378*
PISA 2018	366*	353*	365*
PISA 2022	355	342	357
Average 10-year trend in mean performance (2015 to 2022)	-9.5*	-7.9	-29.4*
Short-term change in mean performance (2018 to 2022)	-10.9*	-10.9*	-7.9*
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0	+0.0	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	+7.4*	+6.2*	+11.5*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-27.0*	-10.0*	-4.2
Average change among low-achieving students (10th percentile)	+11.1*	-6.0	-7.4*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-11.5* / -11.5	-11.4* / -9.1	-5.6 / -30.6*
Performance among disadvantaged students (bottom quarter of ESCS)	-7.7 / +2.0	-9.3* / +0.9	-8.1* / -26.4*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

<sup>†</sup> This designation is without prejudice to positions on status, and is in line with United Nations Security Council Resolution 1244/99 and the Advisory Opinion of the International Court of Justice on Kosovo's declaration of independence.

## Overview of performance trends in Latvia

### Trends in mathematics, reading and science performance in Latvia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Latvia

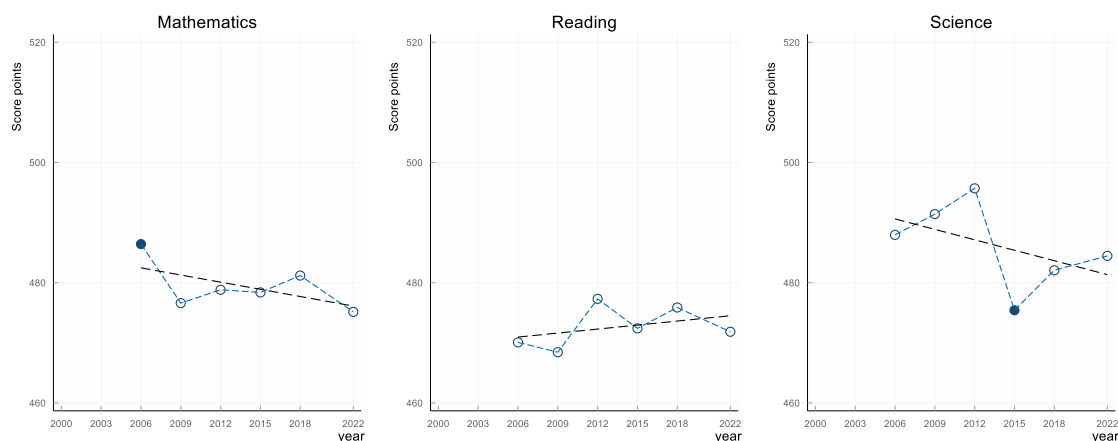
Mean performance	Mathematics	Reading	Science
PISA 2000		458	
PISA 2003	483	491*	
PISA 2006	486	479	490
PISA 2009	482	484	494
PISA 2012	491	489*	502
PISA 2015	482	488*	490
PISA 2018	496*	479	487*
PISA 2022	483	475	494
Average 10-year trend in mean performance (2012 to 2022)	-2.7	-15.4*	-8.1
Short-term change in mean performance (2018 to 2022)	-13.0*	-4.1	+6.6*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.5	+0.1	+0.8
Percentage-point change in the share of low-performing students (below Level 2)	+2.2	+5.8*	+4.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-12.3*	-4.2	+8.8*
Average change among low-achieving students (10th percentile)	-11.9*	-2.4	+8.2
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-10.1* / -2.9	+3.2 / -13.3*	+12.6* / -4.3
Performance among disadvantaged students (bottom quarter of ESCS)	-15.8* / -1.6	-10.3* / -12.2*	+2.7 / -10.0*
Performance gap (top – bottom quarter)	stable / stable	widening / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, exclusions from the sample exceeded the acceptable rate by a large margin and showed a marked increase, with respect to 2018. High levels of student exclusions may bias performance results upwards.*

## Overview of performance trends in Lithuania

### Trends in mathematics, reading and science performance in Lithuania



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

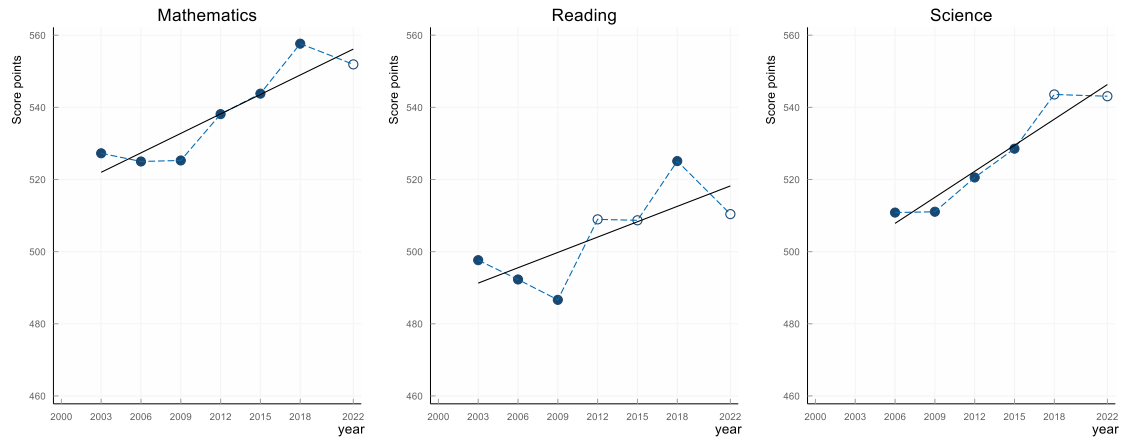
### Snapshot of mathematics, reading and science results for Lithuania

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	486*	470	488
PISA 2009	477	468	491
PISA 2012	479	477	496
PISA 2015	478	472	475*
PISA 2018	481	476	482
PISA 2022	475	472	484
Average 10-year trend in mean performance (2012 to 2022)	-2.5	-4.1	-7.3
Short-term change in mean performance (2018 to 2022)	-6.0	-4.0	+2.4
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.9	+1.4	+0.4
Percentage-point change in the share of low-performing students (below Level 2)	+1.8	+3.7	+5.7*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.5	-5.1	+6.5
Average change among low-achieving students (10th percentile)	+1.7	-3.0	+0.2
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-1.9 / +5.2	-1.9 / +5.3	+6.8 / +2.0
Performance among disadvantaged students (bottom quarter of ESCS)	-4.0 / -5.3	+0.8 / -8.1	+4.0 / -11.3*
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Macao (China)

### Trends in mathematics, reading and science performance in Macao (China)



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

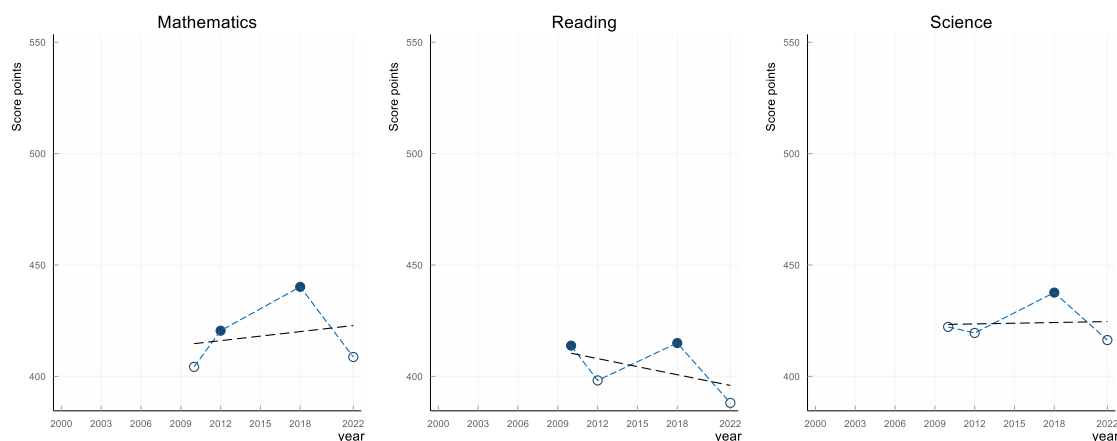
### Snapshot of mathematics, reading and science results for Macao (China)

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	527*	498*	
PISA 2006	525*	492*	511*
PISA 2009	525*	487*	511*
PISA 2012	538*	509	521*
PISA 2015	544*	509	529*
PISA 2018	558*	525*	544
PISA 2022	552	510	543
Average 10-year trend in mean performance (2012 to 2022)	+15.7*	+4.4	+24.2*
Short-term change in mean performance (2018 to 2022)	-5.7*	-14.7*	-0.5
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+4.2*	+1.9	+8.0*
Percentage-point change in the share of low-performing students (below Level 2)	-2.3*	+1.2	-1.3
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+11.0*	-20.3*	+3.1
Average change among low-achieving students (10th percentile)	-23.2*	-9.6*	-7.9
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+6.3 / +24.2*	-10.6* / +12.0*	+2.0 / +28.0*
Performance among disadvantaged students (bottom quarter of ESCS)	-13.7* / +5.6	-16.1* / +0.4	-6.4 / +18.7*
Performance gap (top – bottom quarter)	widening / widening	stable / widening	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Malaysia

### Trends in mathematics, reading and science performance in Malaysia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

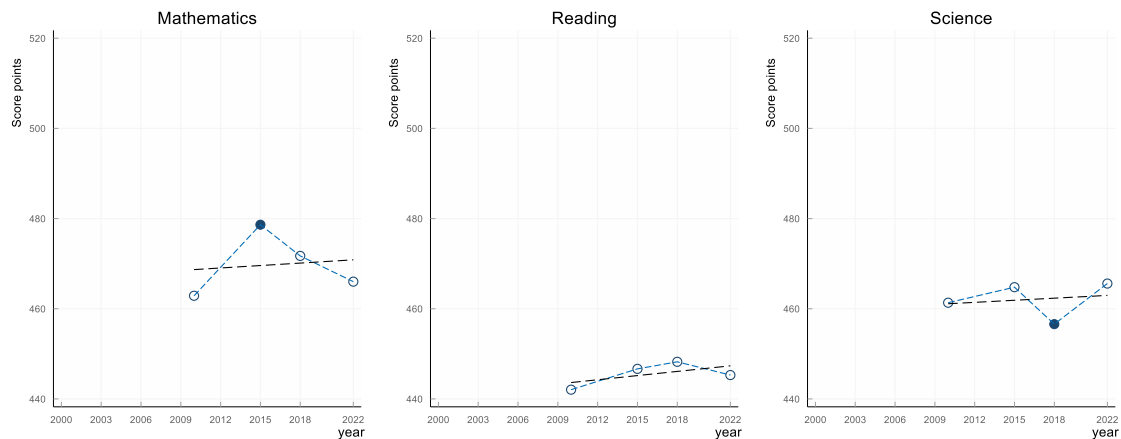
### Snapshot of mathematics, reading and science results for Malaysia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	404	414*	422
PISA 2012	421*	398	420
PISA 2015	m	m	m
PISA 2018	440*	415*	438*
PISA 2022	409	388	416
Average 10-year trend in mean performance (2012 to 2022)	-8.4	-7.1	-0.4
Short-term change in mean performance (2018 to 2022)	-31.5*	-26.9*	-21.3*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.2	+0.1	+0.2
Percentage-point change in the share of low-performing students (below Level 2)	+7.2*	+5.4	+2.4
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-40.2*	-24.8*	-19.0*
Average change among low-achieving students (10th percentile)	-18.7*	-27.5*	-22.2*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-31.3* / -2.2	-30.3* / +6.4	-21.6* / +8.5
Performance among disadvantaged students (bottom quarter of ESCS)	-26.2* / -9.1*	-20.4* / -13.5*	-16.6* / -4.1
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Malta

### Trends in mathematics, reading and science performance in Malta



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

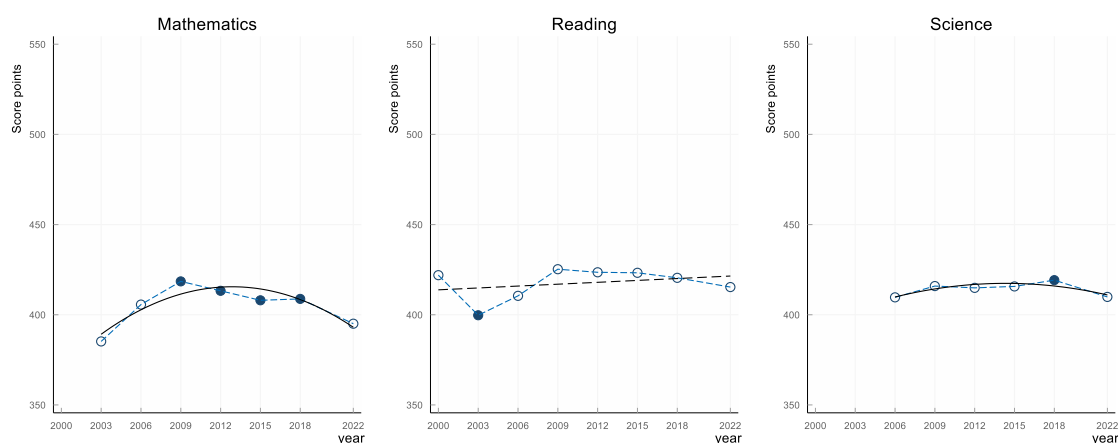
### Snapshot of mathematics, reading and science results for Malta

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	463	442	461
PISA 2012	m	m	m
PISA 2015	479*	447	465
PISA 2018	472	448	457*
PISA 2022	466	445	466
Average 10-year trend in mean performance (2015 to 2022)	-17.1*	-2.2	+2.5
Short-term change in mean performance (2018 to 2022)	-5.7	-2.9	+9.0*
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-4.6*	-1.2	-3.1*
Percentage-point change in the share of low-performing students (below Level 2)	+3.5*	+0.8	-2.2
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.2	-5.4	+3.5
Average change among low-achieving students (10th percentile)	-1.5	-2.0	+14.1*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-9.7 / -27.7*	+3.5 / -15.0*	+12.2* / -18.0*
Performance among disadvantaged students (bottom quarter of ESCS)	-0.9 / -0.2	-4.5 / +11.6	+11.0* / +20.0*
Performance gap (top – bottom quarter)	stable / narrowing	stable / narrowing	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Mexico

### Trends in mathematics, reading and science performance in Mexico



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Mexico

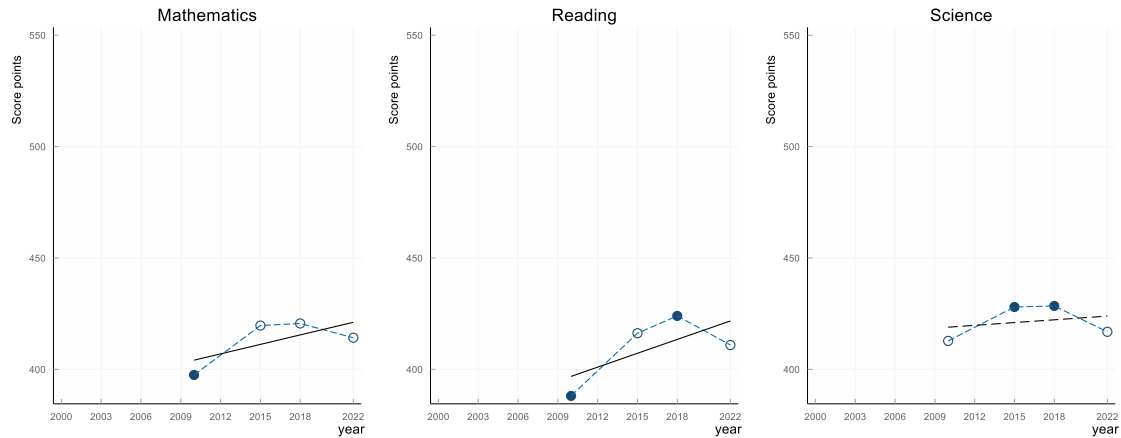
Mean performance	Mathematics	Reading	Science
PISA 2000		422	
PISA 2003	385	400*	
PISA 2006	406	410	410
PISA 2009	419*	425	416
PISA 2012	413*	424	415
PISA 2015	408*	423	416
PISA 2018	409*	420	419*
PISA 2022	395	415	410
Average 10-year trend in mean performance (2012 to 2022)	-16.9*	-8.5	-4.0
Short-term change in mean performance (2018 to 2022)	-13.8*	-5.1	-9.3*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.4*	+0.2	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	+11.1*	+5.9*	+3.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-22.1*	-4.2	-9.7
Average change among low-achieving students (10th percentile)	-1.5	-5.9	-10.8*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-16.9* / -16.0*	-4.5 / -0.0	-8.6 / +2.6
Performance among disadvantaged students (bottom quarter of ESCS)	-8.5 / -13.8*	-4.2 / -11.5*	-8.4 / -5.6
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Moldova

### Trends in mathematics, reading and science performance in Moldova



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

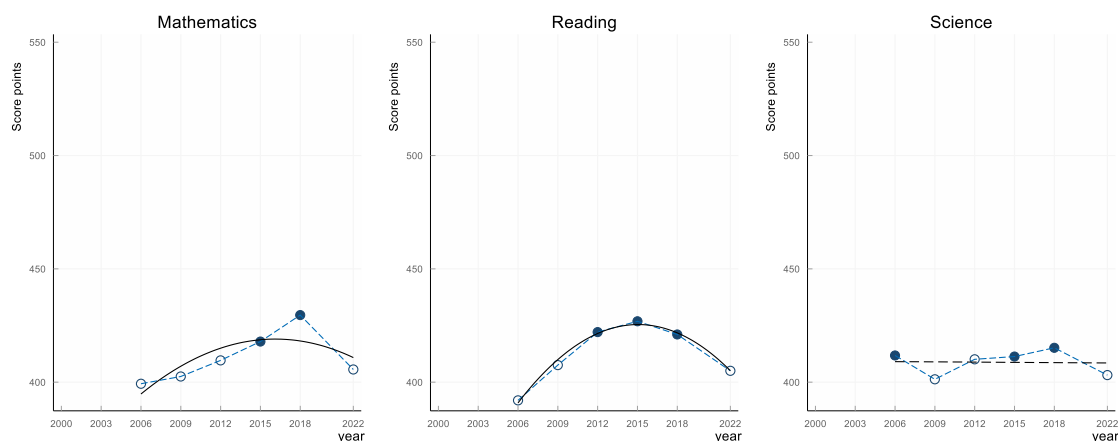
### Snapshot of mathematics, reading and science results for Moldova

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	397*	388*	413
PISA 2012	m	m	m
PISA 2015	420	416	428*
PISA 2018	421	424*	428*
PISA 2022	414	411	417
Average 10-year trend in mean performance (2015 to 2022)	-8.0	-8.8	-16.5*
Short-term change in mean performance (2018 to 2022)	-6.4	-13.1*	-11.6*
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.5	-0.7*	-0.3
Percentage-point change in the share of low-performing students (below Level 2)	+5.5*	+3.0	+6.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-21.9*	-18.9*	-17.8*
Average change among low-achieving students (10th percentile)	+16.9*	-3.8	-0.2
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	narrowing gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-12.4 / -2.2	-13.3 / -7.5	-12.5 / -11.5
Performance among disadvantaged students (bottom quarter of ESCS)	+3.2 / -0.4	-8.4* / +1.4	-5.5 / -11.0*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Montenegro

### Trends in mathematics, reading and science performance in Montenegro



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

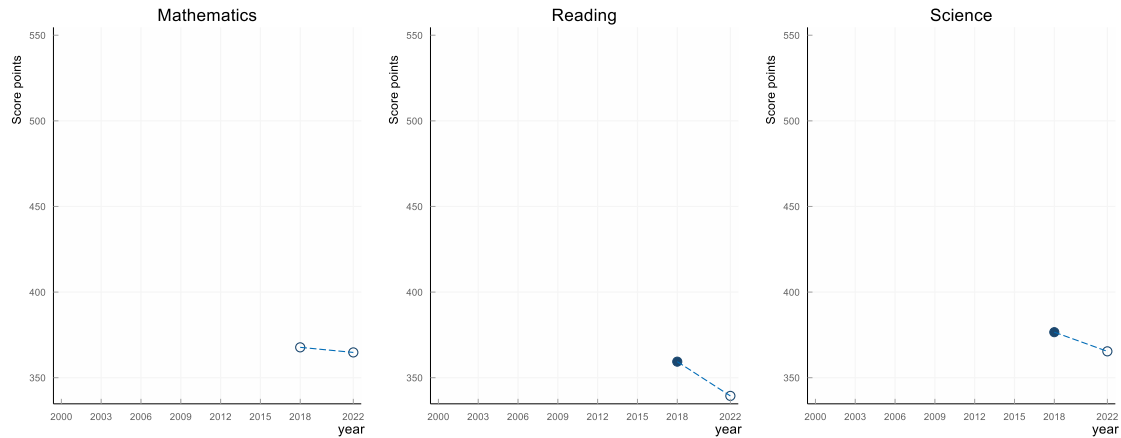
### Snapshot of mathematics, reading and science results for Montenegro

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	399	392	412*
PISA 2009	403	408	401
PISA 2012	410	422*	410
PISA 2015	418*	427*	411*
PISA 2018	430*	421*	415*
PISA 2022	406	405	403
Average 10-year trend in mean performance (2012 to 2022)	-1.7	-17.9*	-5.8
Short-term change in mean performance (2018 to 2022)	-24.0*	-16.0*	-12.0*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.1	-0.4	-0.1
Percentage-point change in the share of low-performing students (below Level 2)	+2.9	+9.6*	+4.2
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-21.4*	-9.3*	-8.1*
Average change among low-achieving students (10th percentile)	-18.0*	-17.1*	-12.7*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-19.2* / -5.8	-11.1* / -26.4*	-3.0 / -8.5*
Performance among disadvantaged students (bottom quarter of ESCS)	-29.0* / +1.1	-23.5* / -13.1*	-23.5* / -5.9*
Performance gap (top – bottom quarter)	stable / stable	widening / narrowing	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Morocco

### Trends in mathematics, reading and science performance in Morocco



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Morocco

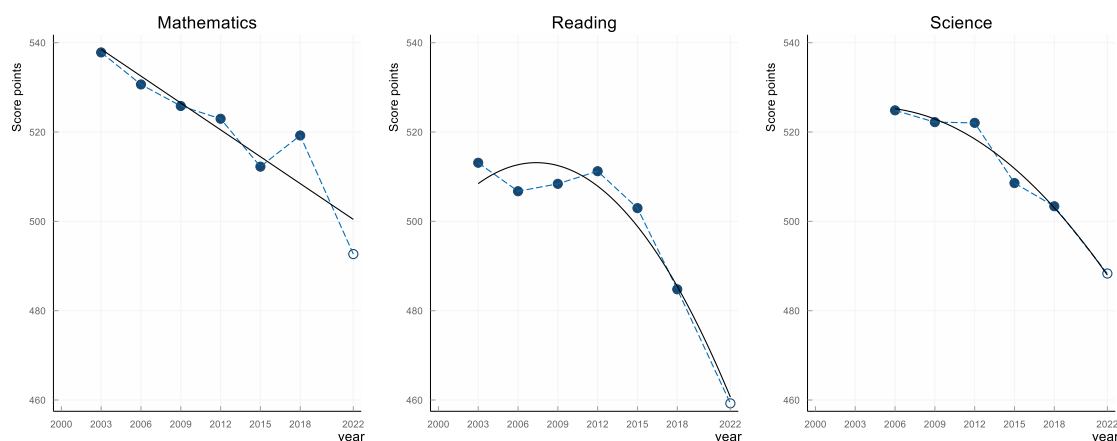
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	368	359*	377*
PISA 2022	365	339	365
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	-3.0	-20.0*	-11.2*
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.1*	-0.0	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	+5.9*	+7.8*	+6.0*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-20.1*	-19.5*	-11.6
Average change among low-achieving students (10th percentile)	+15.7*	-20.1*	-9.7*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-6.8 / m	-26.7* / m	-9.9 / m
Performance among disadvantaged students (bottom quarter of ESCS)	+1.0 / m	-12.0* / m	-5.6 / m
Performance gap (top – bottom quarter)	stable / m	stable / m	stable / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Netherlands

### Trends in mathematics, reading and science performance in Netherlands



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Netherlands

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	538*	513*	
PISA 2006	531*	507*	525*
PISA 2009	526*	508*	522*
PISA 2012	523*	511*	522*
PISA 2015	512*	503*	509*
PISA 2018	519*	485*	503*
PISA 2022	493	459	488
Average 10-year trend in mean performance (2012 to 2022)	-26.6*	-53.0*	-32.4*
Short-term change in mean performance (2018 to 2022)	-26.6*	-25.5*	-15.1*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-3.9*	-2.8*	-1.3
Percentage-point change in the share of low-performing students (below Level 2)	+12.6*	+20.6*	+14.2*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.9	-12.8*	-0.1
Average change among low-achieving students (10th percentile)	-46.7*	-39.3*	-23.7*
Gap in learning outcomes between high- and low-achieving students	widening gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-17.6* / -9.4	-20.2* / -38.2*	-8.8 / -15.9*
Performance among disadvantaged students (bottom quarter of ESCS)	-34.1* / -34.8*	-33.2* / -57.2*	-19.8* / -37.1*
Performance gap (top – bottom quarter)	stable / widening	stable / widening	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

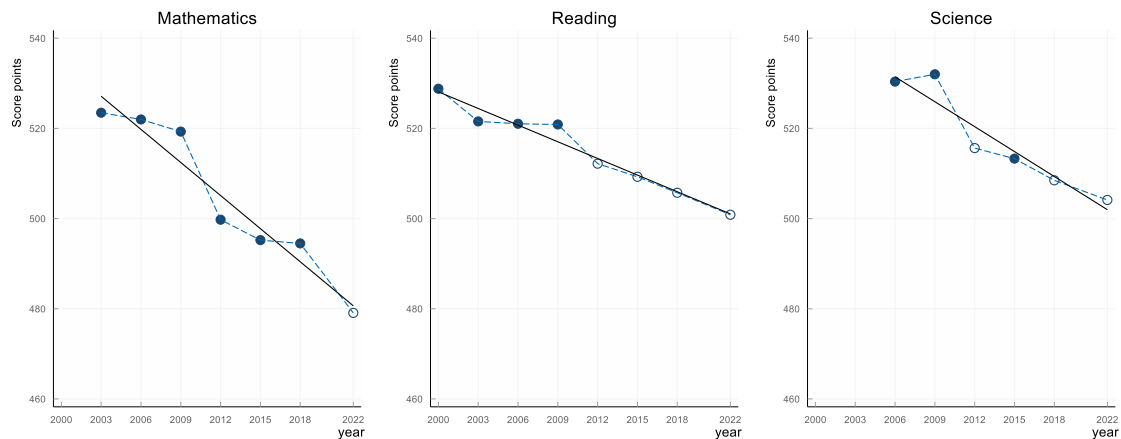
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Notes: In 2022, overall exclusions from the sample (at the student or school level) exceeded the acceptable rate by a large margin and showed a marked increase with respect to 2018. High levels of student exclusions may bias performance results upwards.*

*In the Netherlands, the testing period changed from March-April (in earlier PISA assessments) to October-December (in PISA 2022).*

## Overview of performance trends in New Zealand

### Trends in mathematics, reading and science performance in New Zealand



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for New Zealand

Mean performance	Mathematics	Reading	Science
PISA 2000		529*	
PISA 2003	523*	522*	
PISA 2006	522*	521*	530*
PISA 2009	519*	521*	532*
PISA 2012	500*	512	516
PISA 2015	495*	509	513*
PISA 2018	494*	506	508
PISA 2022	479	501	504
Average 10-year trend in mean performance (2012 to 2022)	-19.5*	-11.2	-11.6*
Short-term change in mean performance (2018 to 2022)	-15.4*	-4.9	-4.4
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-4.7*	-0.9	-1.4
Percentage-point change in the share of low-performing students (below Level 2)	+6.1*	+4.5*	+4.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-5.6	+0.5	+3.4
Average change among low-achieving students (10th percentile)	-21.9*	-8.2	-8.8
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-8.6 / -25.8*	-8.6 / -19.9*	-2.9 / -19.4*
Performance among disadvantaged students (bottom quarter of ESCS)	-23.2* / -10.4*	-6.6 / +2.4	-11.9* / -1.4
Performance gap (top – bottom quarter)	widening / narrowing	stable / narrowing	stable / narrowing

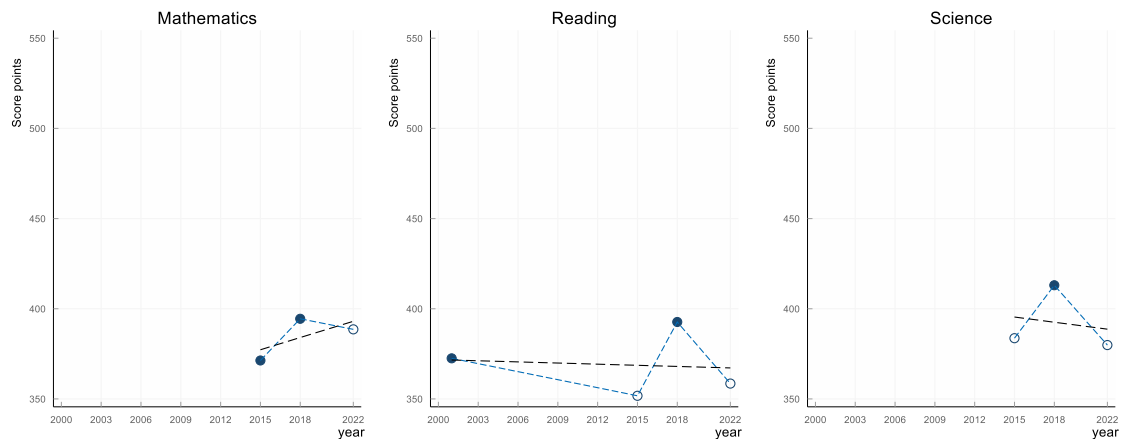
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, student response rates decreased with respect to PISA 2018 and fell short of the target. School response rates also fell short of the target. A thorough and detailed non-response bias analysis was submitted using external achievement data at student level but also information on chronic absenteeism as auxiliary information along with demographic characteristics. The analysis provided evidence to suggest a residual upwards bias of about 0.1 standard deviations, after non-response adjustments are taken into account, driven entirely by student non-response (school non-*

participation did not result in significant bias, in contrast). The analysis also suggests that chronically absent students are over-represented among non-respondents in PISA. On the PISA scale, considering that the standard deviation in New Zealand ranged (in 2018) from 93 score points in mathematics to 106 score points in reading, this could translate into an estimated bias of approximately 10 points. The bias associated with trend and cross-country comparisons, however, might be smaller if past data or data for other countries are biased in the same direction.

## Overview of performance trends in North Macedonia

### Trends in mathematics, reading and science performance in North Macedonia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

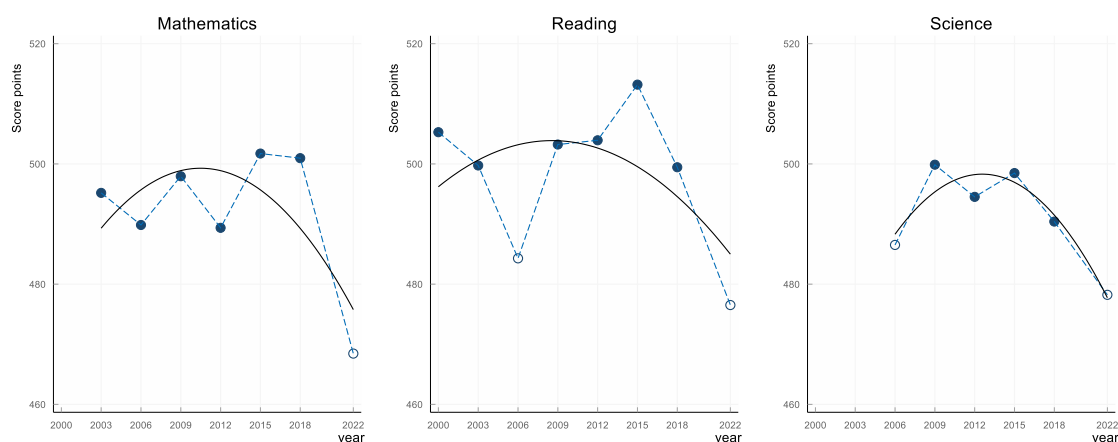
### Snapshot of mathematics, reading and science results for North Macedonia

Mean performance	Mathematics	Reading	Science
PISA 2000		373*	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	371*	352	384
PISA 2018	394*	393*	413*
PISA 2022	389	359	380
Average 10-year trend in mean performance (2015 to 2022)	+22.7*	+4.4	-10.0*
Short-term change in mean performance (2018 to 2022)	-5.9*	-34.1*	-33.2*
Proficiency levels: Change between 2015 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.2	-0.2	-0.1
Percentage-point change in the share of low-performing students (below Level 2)	-4.0*	+3.0	+2.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-15.6*	-53.7*	-42.8*
Average change among low-achieving students (10th percentile)	+11.9*	-4.4	-16.4*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	narrowing gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-12.1* / +31.1*	-45.0* / +7.2	-36.0* / +4.9
Performance among disadvantaged students (bottom quarter of ESCS)	-4.9 / +29.4*	-27.6* / +17.8*	-32.4* / -13.3*
Performance gap (top – bottom quarter)	stable / stable	narrowing / stable	stable / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Norway

### Trends in mathematics, reading and science performance in Norway



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Norway

Mean performance	Mathematics	Reading	Science
PISA 2000		505*	
PISA 2003	495*	500*	
PISA 2006	490*	484	487
PISA 2009	498*	503*	500*
PISA 2012	489*	504*	495*
PISA 2015	502*	513*	498*
PISA 2018	501*	499*	490*
PISA 2022	468	477	478
Average 10-year trend in mean performance (2012 to 2022)	-21.3*	-30.3*	-18.0*
Short-term change in mean performance (2018 to 2022)	-32.5*	-22.9*	-12.2*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-2.5*	-1.5	-0.5
Percentage-point change in the share of low-performing students (below Level 2)	+9.2*	+11.3*	+8.0*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-27.6*	-13.4*	-1.3
Average change among low-achieving students (10th percentile)	-35.5*	-33.0*	-18.8*
Gap in learning outcomes between high- and low-achieving students	stable gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-19.2* / -12.1*	-8.1 / -17.0*	+1.5 / -7.1
Performance among disadvantaged students (bottom quarter of ESCS)	-31.3* / -29.7*	-24.9* / -47.8*	-13.7* / -30.2*
Performance gap (top – bottom quarter)	stable / widening	widening / widening	widening / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

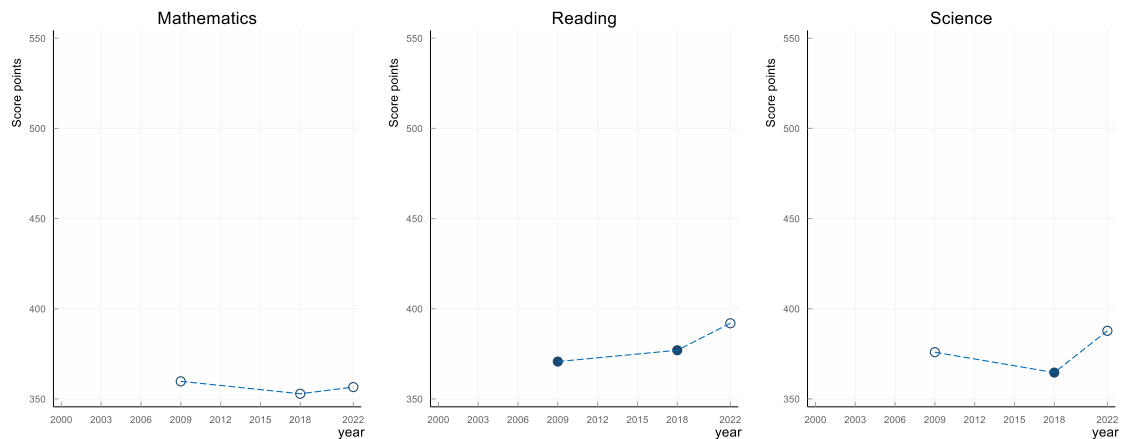
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, Norway relied on a server-based administration (using Chromebooks) in some schools. Students in these schools experienced difficulties moving through the cognitive assessment early in the testing period. Further investigation traced the problem back to overload on the PISA contractor's server. The problem was rapidly solved for students who were tested later and did not affect other countries that used a server-based administration. In Norway, it affected at most 9% of the final sample (584 students). During data adjudication, these data were thoroughly reviewed, and considered to be fit for reporting: the responses of students who were potentially affected did show good fit with the model, and were not remarkably different from the performance of students in other schools (see Annex A4).*



## Overview of performance trends in Panama

### Trends in mathematics, reading and science performance in Panama



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Panama

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	360	371*	376
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	353	377*	365*
PISA 2022	357	392	388
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+3.7	+15.0*	+23.1*
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0	+0.6*	+0.4
Percentage-point change in the share of low-performing students (below Level 2)	+2.7	-6.6*	-9.2*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-10.9	+23.1*	+26.4*
Average change among low-achieving students (10th percentile)	+22.8*	+8.8	+22.3*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+2.2 / m	+17.3* / m	+29.4* / m
Performance among disadvantaged students (bottom quarter of ESCS)	+7.3 / m	+8.2 / m	+16.7* / m
Performance gap (top – bottom quarter)	stable / m	stable / m	stable / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

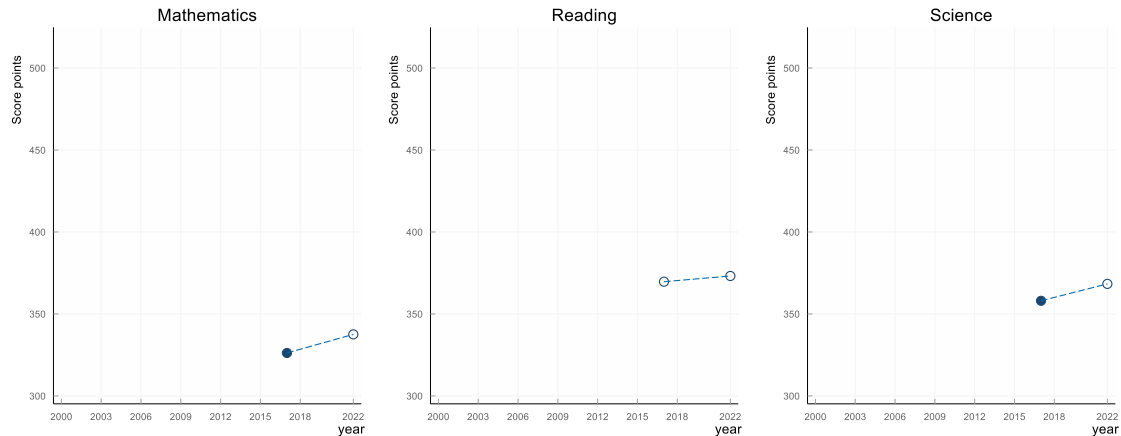
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In the challenging circumstances surrounding schooling in Panama in 2022 (teacher strikes, road blockades, and student absenteeism), student response rates decreased markedly from 90% with respect to PISA 2018 and fell short of the standard. No non-response bias analysis was submitted; the PISA national centre explained that non-response was potentially related to the agitated school climate students found themselves in when returning to their schools after the strikes. A comparison of respondent characteristics (both before and after non-response adjustment) to characteristics of*

*the full eligible sample of students suggests that (before non-response adjustments were taken into account), non-response was related to students' grade level and special-needs status. Based on the available information, it is not possible to exclude the possibility of bias; considering the analyses on student non-response conducted in other countries, the residual bias after non-response adjustments are taken into account is likely to correspond to an upward bias.*

## Overview of performance trends in Paraguay

### Trends in mathematics, reading and science performance in Paraguay



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Paraguay

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	326*	370	358*
PISA 2022	338	373	368
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+11.4*	+3.5	+10.3*
Proficiency levels: Change between 2017 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	m	m	m
Percentage-point change in the share of low-performing students (below Level 2)	m	m	m
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+25.4*	+4.2	+17.5*
Average change among low-achieving students (10th percentile)	+1.9	+3.8	+6.1
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	m / m	m / m	m / m
Performance among disadvantaged students (bottom quarter of ESCS)	m / m	m / m	m / m
Performance gap (top – bottom quarter)	m / m	m / m	m / m

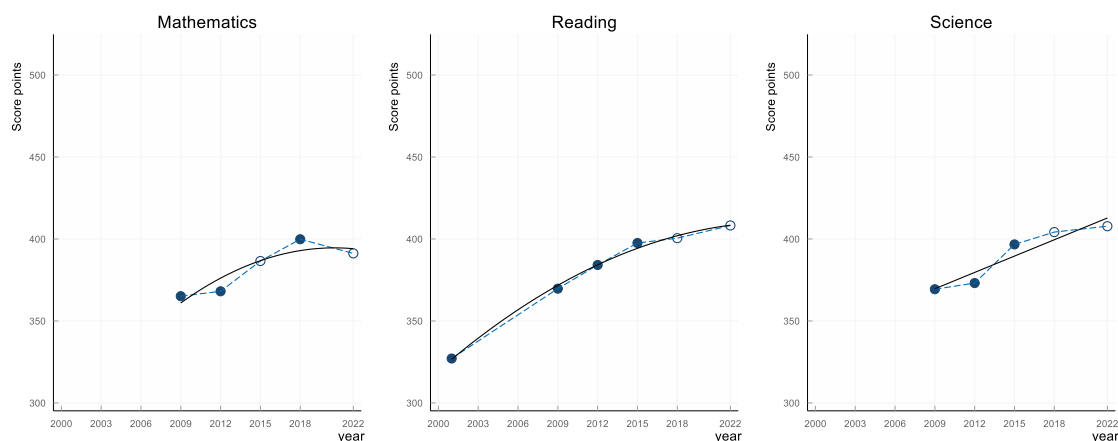
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

Note: Results for 2018 refer to the results of the PISA for Development assessment, in 2017.

## Overview of performance trends in Peru

### Trends in mathematics, reading and science performance in Peru



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

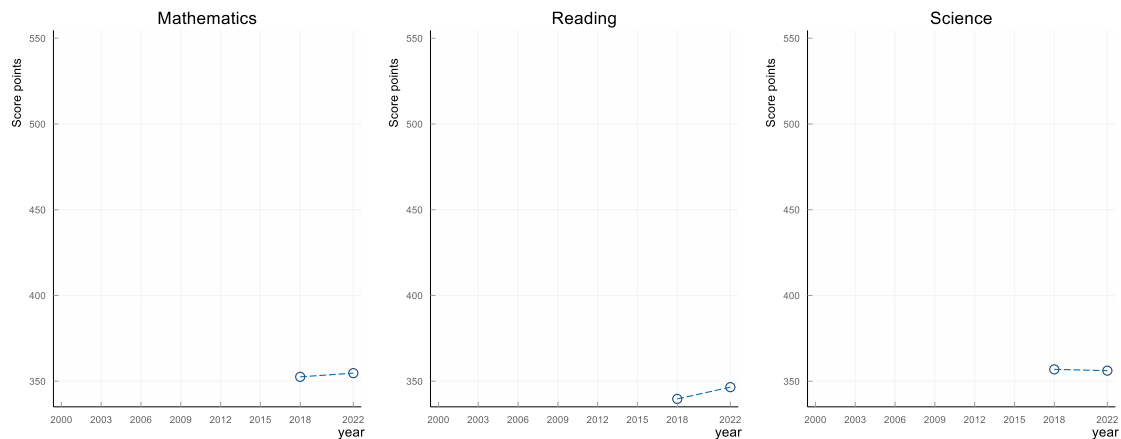
### Snapshot of mathematics, reading and science results for Peru

Mean performance	Mathematics	Reading	Science
PISA 2000		327*	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	365*	370*	369*
PISA 2012	368*	384*	373*
PISA 2015	387	398*	397*
PISA 2018	400*	401	404
PISA 2022	391	408	408
Average 10-year trend in mean performance (2012 to 2022)	+23.9*	+22.2*	+32.9*
Short-term change in mean performance (2018 to 2022)	-8.6*	+7.7	+3.6
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.1	+0.2	+0.5*
Percentage-point change in the share of low-performing students (below Level 2)	-8.4*	-9.5*	-15.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-14.4*	+5.5	+11.1
Average change among low-achieving students (10th percentile)	+1.6	+7.5	-4.3
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-13.2* / +13.2*	-0.0 / +9.7	+2.0 / +30.9*
Performance among disadvantaged students (bottom quarter of ESCS)	-2.0 / +33.7*	+10.5* / +32.8*	+4.9 / +37.9*
Performance gap (top – bottom quarter)	stable / narrowing	stable / narrowing	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Philippines

### Trends in mathematics, reading and science performance in Philippines



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Philippines

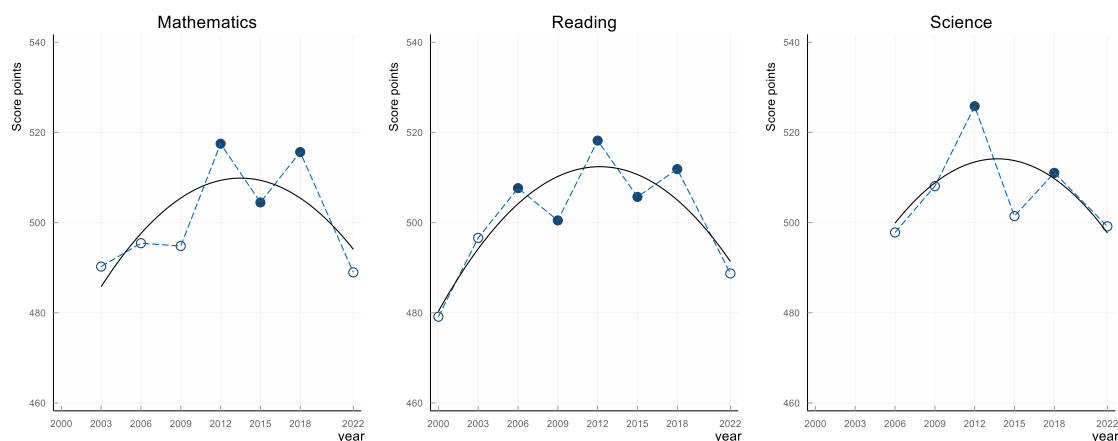
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	353	340	357
PISA 2022	355	347	356
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+2.2	+6.9	-0.8
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0	+0.0	+0.1
Percentage-point change in the share of low-performing students (below Level 2)	+3.3	-4.3*	-0.7
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-13.0	+12.7	+2.4
Average change among low-achieving students (10th percentile)	+23.3*	-2.6	-3.2
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-18.4* / m	-12.3 / m	-12.5 / m
Performance among disadvantaged students (bottom quarter of ESCS)	+20.0* / m	+23.2* / m	+11.3* / m
Performance gap (top – bottom quarter)	narrowing / m	narrowing / m	narrowing / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Poland

### Trends in mathematics, reading and science performance in Poland



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

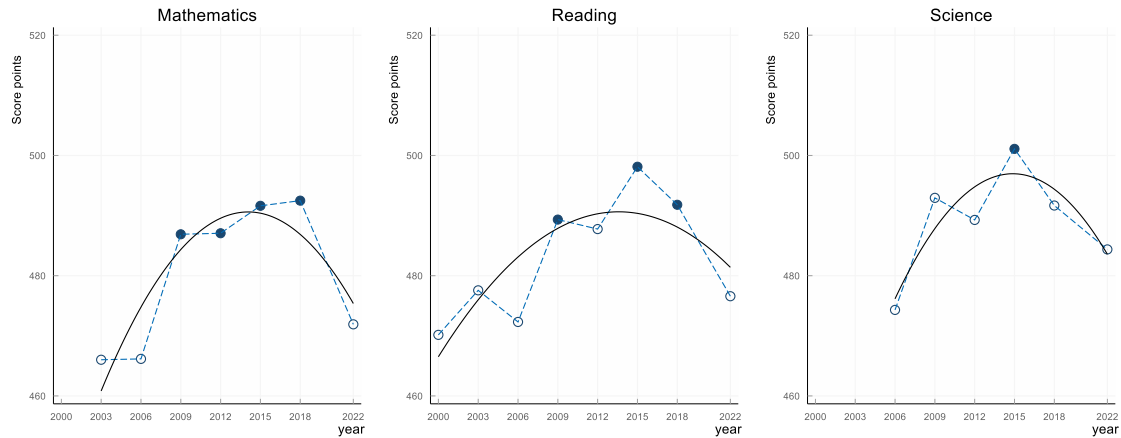
### Snapshot of mathematics, reading and science results for Poland

Mean performance	Mathematics	Reading	Science
PISA 2000		479	
PISA 2003	490	497	
PISA 2006	495	508*	498
PISA 2009	495	500*	508
PISA 2012	518*	518*	526*
PISA 2015	504*	506*	501
PISA 2018	516*	512*	511*
PISA 2022	489	489	499
Average 10-year trend in mean performance (2012 to 2022)	-23.7*	-25.8*	-21.4*
Short-term change in mean performance (2018 to 2022)	-26.7*	-23.1*	-11.9*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-7.3*	-1.2	-2.8*
Percentage-point change in the share of low-performing students (below Level 2)	+8.6*	+11.6*	+9.6*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-26.5*	-16.9*	-7.1
Average change among low-achieving students (10th percentile)	-27.9*	-37.0*	-22.0*
Gap in learning outcomes between high- and low-achieving students	stable gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-24.4* / -22.6*	-17.6* / -17.9*	-8.3 / -20.0*
Performance among disadvantaged students (bottom quarter of ESCS)	-29.4* / -26.9*	-28.4* / -33.8*	-17.0* / -27.5*
Performance gap (top – bottom quarter)	stable / stable	stable / widening	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Portugal

### Trends in mathematics, reading and science performance in Portugal



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Portugal

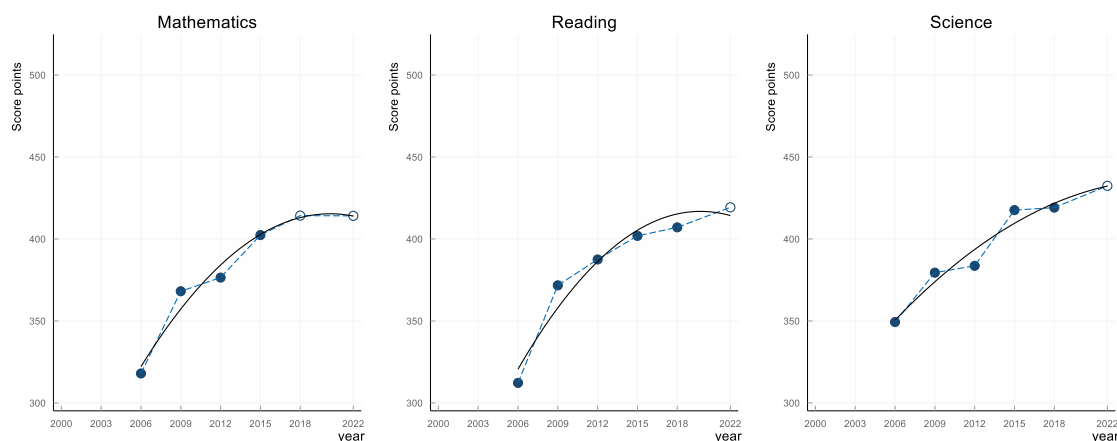
Mean performance	Mathematics	Reading	Science
PISA 2000		470	
PISA 2003	466	478	
PISA 2006	466	472	474
PISA 2009	487*	489*	493
PISA 2012	487*	488	489
PISA 2015	492*	498*	501*
PISA 2018	492*	492*	492
PISA 2022	472	477	484
Average 10-year trend in mean performance (2012 to 2022)	-14.6*	-12.8	-7.3
Short-term change in mean performance (2018 to 2022)	-20.6*	-15.2*	-7.3
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-4.0*	-1.1	+0.3
Percentage-point change in the share of low-performing students (below Level 2)	+4.8*	+4.3	+2.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-24.7*	-18.2*	-5.7
Average change among low-achieving students (10th percentile)	-5.8	-10.4	-4.1
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-19.8* / -17.8*	-15.6* / -14.8*	-8.3 / -8.8*
Performance among disadvantaged students (bottom quarter of ESCS)	-17.0* / -10.0	-11.2 / -4.8	-2.4 / -1.1
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2018, Portugal did not meet the student-response rate standard: response rates dropped between 2015 and 2018 but then returned to higher levels in 2022. The non-response-bias analysis submitted for 2018 implies a small upward bias for PISA 2018 performance results in Portugal.*

## Overview of performance trends in Qatar

### Trends in mathematics, reading and science performance in Qatar



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Qatar

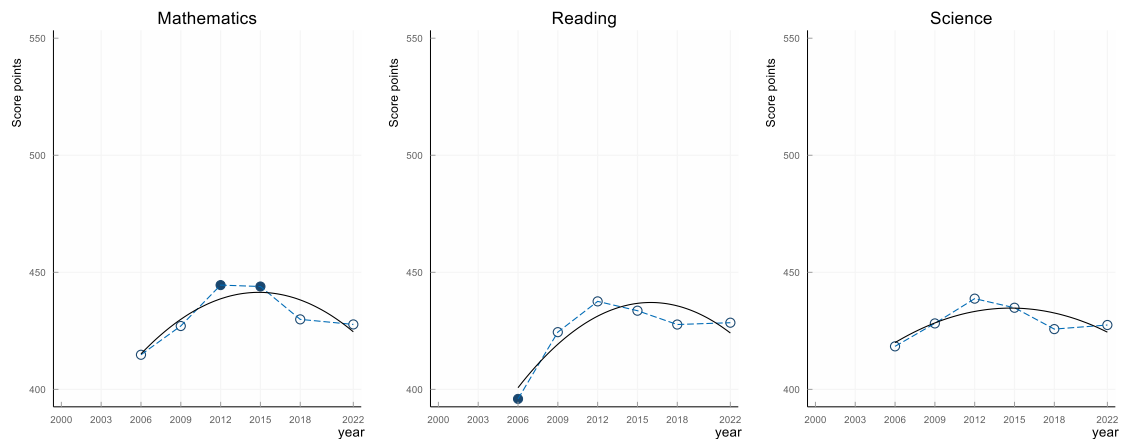
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	318*	312*	349*
PISA 2009	368*	372*	379*
PISA 2012	376*	388*	384*
PISA 2015	402*	402*	418*
PISA 2018	414	407*	419*
PISA 2022	414	419	432
Average 10-year trend in mean performance (2012 to 2022)	+36.1*	+30.6*	+44.2*
Short-term change in mean performance (2018 to 2022)	-0.1	+12.2*	+13.3*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.6	+1.2*	+1.3*
Percentage-point change in the share of low-performing students (below Level 2)	-13.1*	-9.8*	-18.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.8	+8.9*	+6.5
Average change among low-achieving students (10th percentile)	+17.0*	+20.6*	+23.6*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	narrowing gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-4.9 / +37.7*	+7.7 / +34.0*	+8.0* / +45.5*
Performance among disadvantaged students (bottom quarter of ESCS)	+3.9 / +38.8*	+13.9* / +32.2*	+13.3* / +47.6*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Romania

### Trends in mathematics, reading and science performance in Romania



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

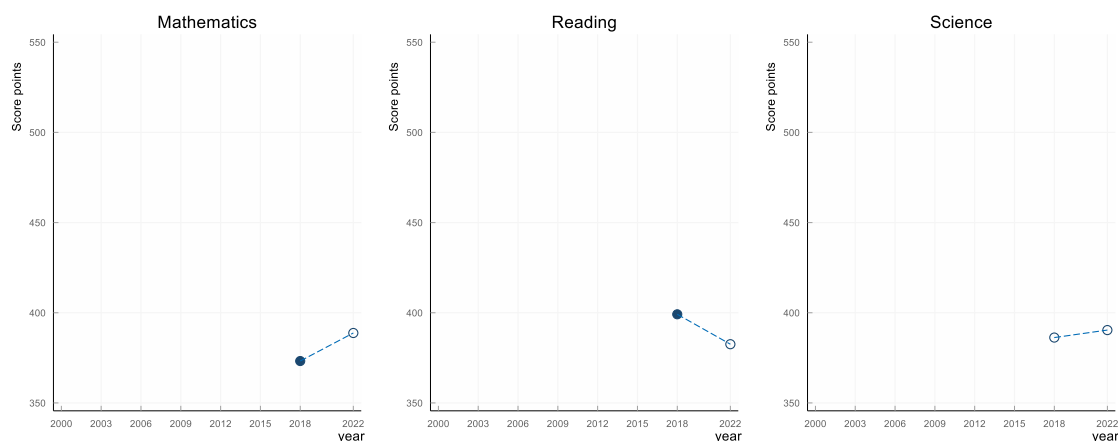
### Snapshot of mathematics, reading and science results for Romania

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	415	396*	418
PISA 2009	427	424	428
PISA 2012	445*	438	439
PISA 2015	444*	434	435
PISA 2018	430	428	426
PISA 2022	428	428	428
Average 10-year trend in mean performance (2012 to 2022)	-19.5*	-9.7	-12.5
Short-term change in mean performance (2018 to 2022)	-2.2	+0.8	+1.7
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.8	+0.4	+0.5
Percentage-point change in the share of low-performing students (below Level 2)	+7.7*	+4.5	+6.7*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+6.0	+5.1	+11.2
Average change among low-achieving students (10th percentile)	-6.9	-0.5	-8.0
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+13.0 / -2.6	+11.3 / +2.6	+17.3* / +4.1
Performance among disadvantaged students (bottom quarter of ESCS)	-10.8 / -43.3*	-4.4 / -27.6*	-11.6 / -36.5*
Performance gap (top – bottom quarter)	widening / widening	stable / widening	widening / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Saudi Arabia

### Trends in mathematics, reading and science performance in Saudi Arabia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Saudi Arabia

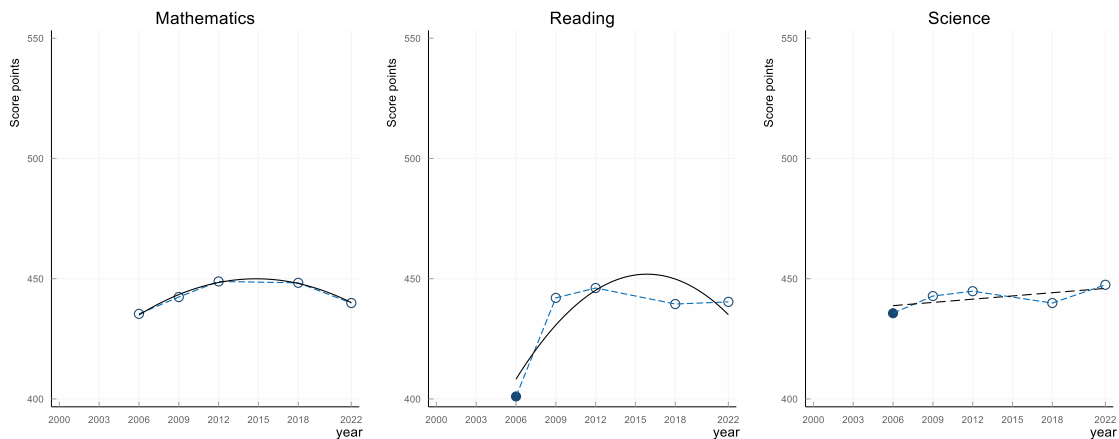
Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	m	m	m
PISA 2012	m	m	m
PISA 2015	m	m	m
PISA 2018	373*	399*	386
PISA 2022	389	383	390
Average 10-year trend in mean performance (2012 to 2022)	m	m	m
Short-term change in mean performance (2018 to 2022)	+15.5*	-16.6*	+4.1
Proficiency levels: Change between 2018 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.0	-0.0	-0.0
Percentage-point change in the share of low-performing students (below Level 2)	-2.7	+10.2*	-0.0
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-0.7	-21.4*	-7.3
Average change among low-achieving students (10th percentile)	+35.6*	-5.2	+17.0*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	narrowing gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+6.8 / m	-23.6* / m	-5.8 / m
Performance among disadvantaged students (bottom quarter of ESCS)	+26.8* / m	-3.4 / m	+17.7* / m
Performance gap (top – bottom quarter)	narrowing / m	narrowing / m	narrowing / m

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Serbia

### Trends in mathematics, reading and science performance in Serbia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

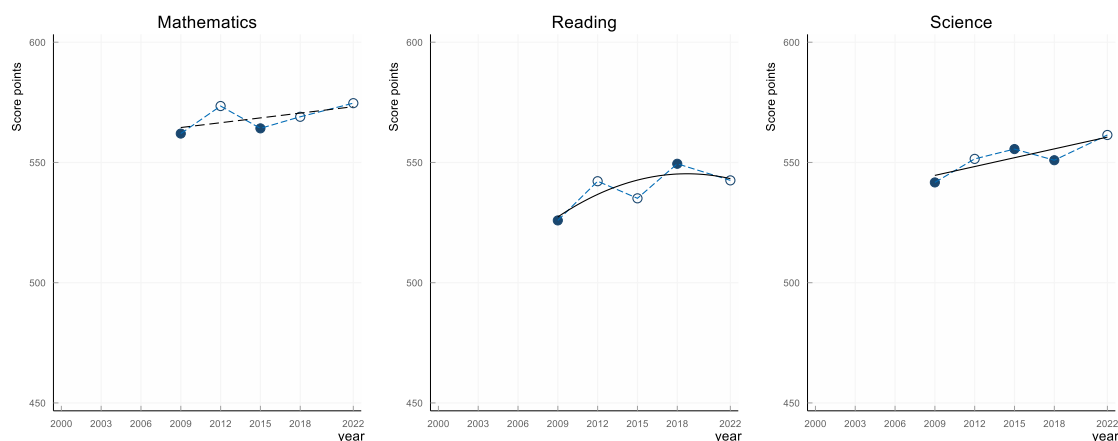
### Snapshot of mathematics, reading and science results for Serbia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	435	401*	436*
PISA 2009	442	442	443
PISA 2012	449	446	445
PISA 2015	m	m	m
PISA 2018	448	439	440
PISA 2022	440	440	447
Average 10-year trend in mean performance (2012 to 2022)	-8.5	-5.8	+1.8
Short-term change in mean performance (2018 to 2022)	-8.4	+0.9	+7.6
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.8	-0.4	+0.5
Percentage-point change in the share of low-performing students (below Level 2)	+4.2	+3.3	+0.1
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-17.4*	-7.4	+4.8
Average change among low-achieving students (10th percentile)	+4.6	+10.3	+10.4
Gap in learning outcomes between high- and low-achieving students	narrowing gap	narrowing gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-10.4 / -11.7	-0.6 / -7.8	+6.7 / +5.1
Performance among disadvantaged students (bottom quarter of ESCS)	-15.2* / -14.9*	-3.0 / -13.0*	-0.4 / -8.7
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Singapore

### Trends in mathematics, reading and science performance in Singapore



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

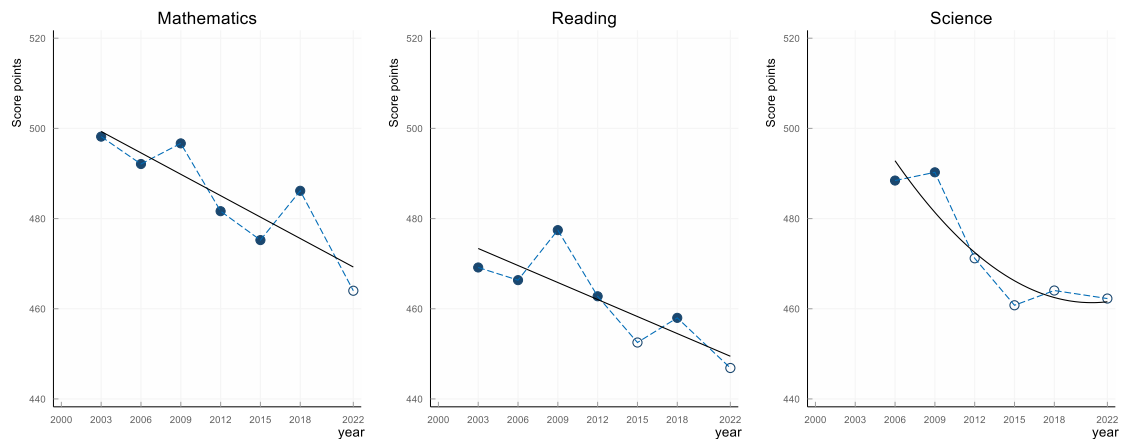
### Snapshot of mathematics, reading and science results for Singapore

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	562*	526*	542*
PISA 2012	573	542	551
PISA 2015	564*	535	556*
PISA 2018	569	549*	551*
PISA 2022	575	543	561
Average 10-year trend in mean performance (2012 to 2022)	+2.7	+4.2	+8.4
Short-term change in mean performance (2018 to 2022)	+5.7	-6.9*	+10.5*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+0.5	+1.4	+1.7
Percentage-point change in the share of low-performing students (below Level 2)	-0.2	+1.3	-1.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+17.6*	-12.2*	+13.9*
Average change among low-achieving students (10th percentile)	-7.1	+1.6	+9.4*
Gap in learning outcomes between high- and low-achieving students	widening gap	narrowing gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+15.7* / -1.6	-2.0 / +1.1	+16.2* / -2.8
Performance among disadvantaged students (bottom quarter of ESCS)	-5.8 / -4.4	-13.2* / -3.3	+2.6 / +8.0
Performance gap (top – bottom quarter)	widening / stable	stable / stable	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Slovak Republic

### Trends in mathematics, reading and science performance in Slovak Republic



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

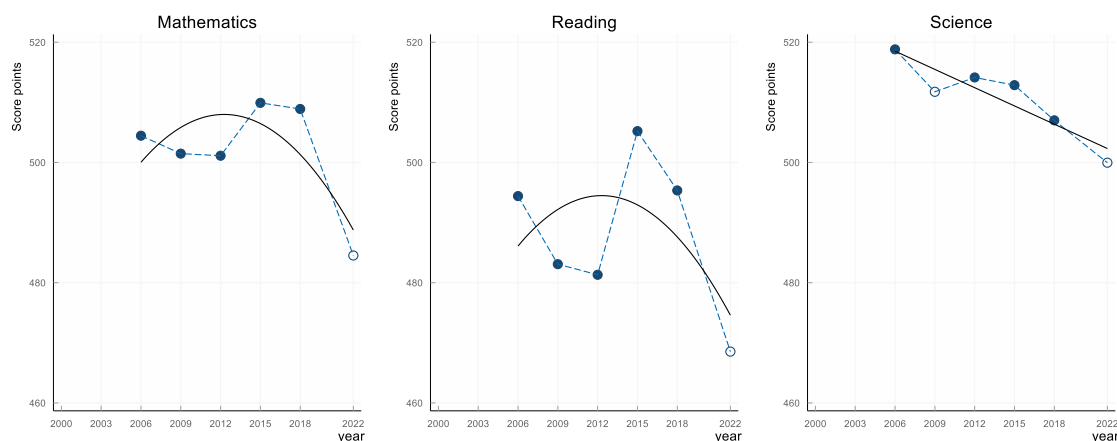
### Snapshot of mathematics, reading and science results for Slovak Republic

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	498*	469*	
PISA 2006	492*	466*	488*
PISA 2009	497*	477*	490*
PISA 2012	482*	463*	471
PISA 2015	475*	453	461
PISA 2018	486*	458*	464
PISA 2022	464	447	462
Average 10-year trend in mean performance (2012 to 2022)	-14.0*	-13.1	-6.8
Short-term change in mean performance (2018 to 2022)	-22.2*	-11.1*	-1.8
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-3.7*	-1.0	-0.6
Percentage-point change in the share of low-performing students (below Level 2)	+5.7*	+7.2*	+3.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-19.7*	-9.1	+3.6
Average change among low-achieving students (10th percentile)	-26.0*	-20.4*	-13.7*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-15.3* / -10.6	-6.8 / -17.3*	+10.2 / -3.4
Performance among disadvantaged students (bottom quarter of ESCS)	-31.7* / -21.8*	-19.0* / -6.2	-20.8* / -13.4*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Slovenia

### Trends in mathematics, reading and science performance in Slovenia



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

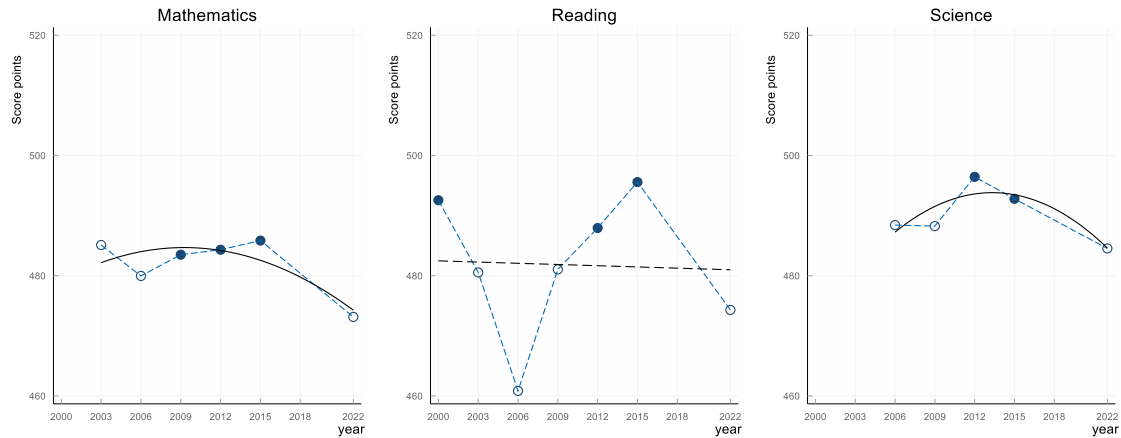
### Snapshot of mathematics, reading and science results for Slovenia

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	504*	494*	519*
PISA 2009	501*	483*	512
PISA 2012	501*	481*	514*
PISA 2015	510*	505*	513*
PISA 2018	509*	495*	507*
PISA 2022	485	469	500
Average 10-year trend in mean performance (2012 to 2022)	-16.7*	-17.0*	-14.4*
Short-term change in mean performance (2018 to 2022)	-24.4*	-26.8*	-7.0*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-4.3*	-0.6	-1.6
Percentage-point change in the share of low-performing students (below Level 2)	+4.5*	+4.9*	+4.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-18.3*	-22.3*	+1.7
Average change among low-achieving students (10th percentile)	-22.9*	-32.3*	-13.5*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-25.2* / -16.8*	-31.1* / -25.6*	-4.2 / -16.0*
Performance among disadvantaged students (bottom quarter of ESCS)	-30.4* / -19.5*	-32.1* / -16.9*	-16.8* / -17.8*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	widening / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Spain

### Trends in mathematics, reading and science performance in Spain



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

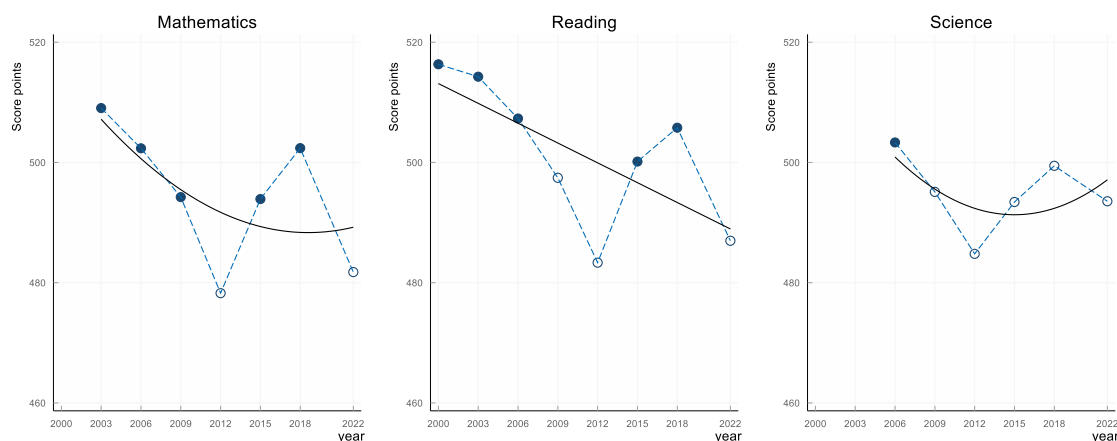
### Snapshot of mathematics, reading and science results for Spain

Mean performance	Mathematics	Reading	Science
PISA 2000		493*	
PISA 2003	485	481	
PISA 2006	480	461	488
PISA 2009	483*	481	488
PISA 2012	484*	488*	496*
PISA 2015	486*	496*	493*
PISA 2018	m	m	m
PISA 2022	473	474	485
Average 10-year trend in mean performance (2012 to 2022)	-12.4*	-16.5*	-12.1*
Short-term change in mean performance (2018 to 2022)	m	m	m
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-2.1*	-0.2	+0.1
Percentage-point change in the share of low-performing students (below Level 2)	+3.7*	+6.1*	+5.6*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	m	m	m
Average change among low-achieving students (10th percentile)	m	m	m
Gap in learning outcomes between high- and low-achieving students			
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	m / -13.1*	m / -16.2*	m / -12.7*
Performance among disadvantaged students (bottom quarter of ESCS)	m / -10.1*	m / -14.1*	m / -10.0*
Performance gap (top – bottom quarter)	m / stable	m / stable	m / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Sweden

### Trends in mathematics, reading and science performance in Sweden



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Sweden

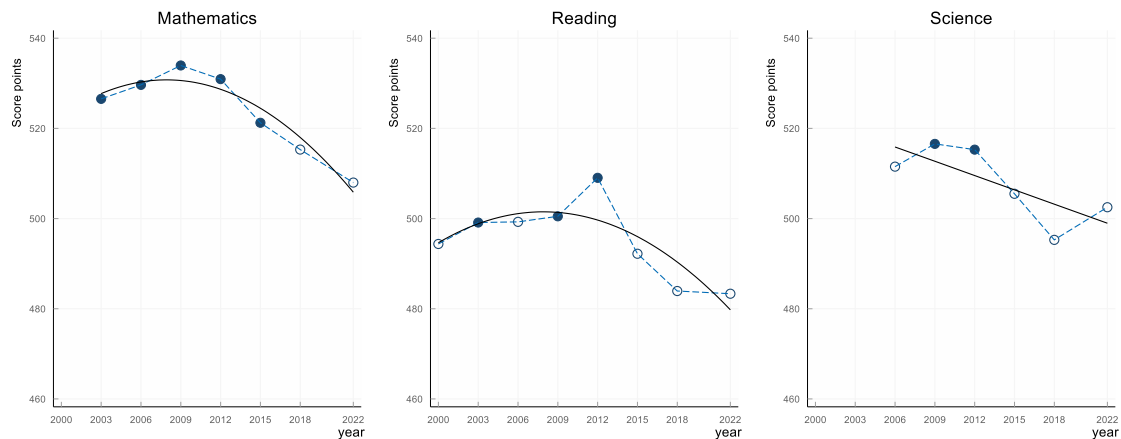
Mean performance	Mathematics	Reading	Science
PISA 2000		516*	
PISA 2003	509*	514*	
PISA 2006	502*	507*	503*
PISA 2009	494*	497	495
PISA 2012	478	483	485
PISA 2015	494*	500*	493
PISA 2018	502*	506*	499
PISA 2022	482	487	494
Average 10-year trend in mean performance (2012 to 2022)	+4.0	+3.3	+9.0
Short-term change in mean performance (2018 to 2022)	-20.6*	-18.8*	-5.9
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+2.0*	+2.3	+3.6*
Percentage-point change in the share of low-performing students (below Level 2)	+0.2	+1.6	+1.5
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-11.3*	-13.7*	+9.2
Average change among low-achieving students (10th percentile)	-26.8*	-23.1*	-18.5*
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-8.8 / +12.8*	-3.3 / +14.5*	+10.5 / +19.2*
Performance among disadvantaged students (bottom quarter of ESCS)	-24.1* / -3.5	-26.6* / -6.9	-14.2* / -2.6
Performance gap (top – bottom quarter)	widening / widening	widening / widening	widening / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.



## Overview of performance trends in Switzerland

### Trends in mathematics, reading and science performance in Switzerland



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

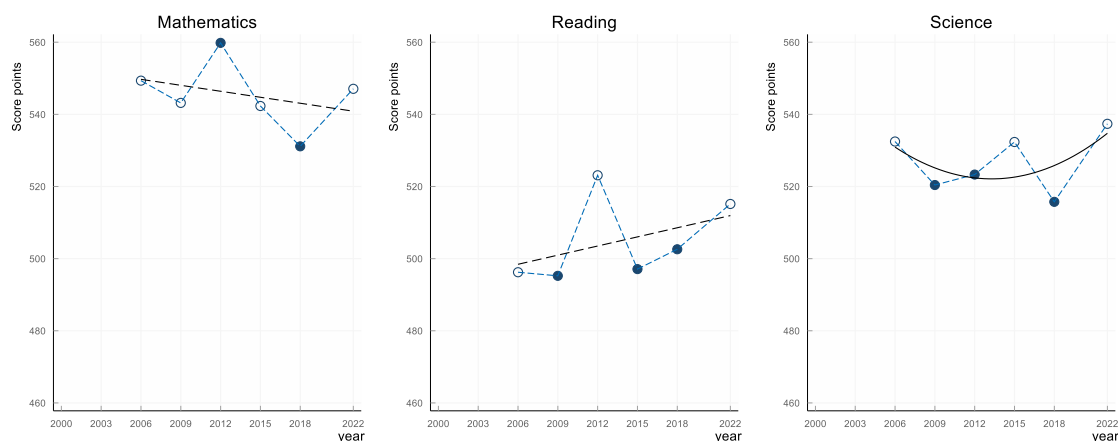
### Snapshot of mathematics, reading and science results for Switzerland

Mean performance	Mathematics	Reading	Science
PISA 2000		494	
PISA 2003	527*	499*	
PISA 2006	530*	499	512
PISA 2009	534*	501*	517*
PISA 2012	531*	509*	515*
PISA 2015	521*	492	506
PISA 2018	515	484	495
PISA 2022	508	483	503
Average 10-year trend in mean performance (2012 to 2022)	-22.7*	-25.1*	-13.7*
Short-term change in mean performance (2018 to 2022)	-7.3	-0.6	+7.2
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-5.2*	-0.6	+0.3
Percentage-point change in the share of low-performing students (below Level 2)	+7.0*	+10.9*	+6.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-3.8	+2.8	+9.7
Average change among low-achieving students (10th percentile)	-11.9*	-0.2	+3.5
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+1.8 / -8.3	+8.1 / -7.6	+17.9* / -1.2
Performance among disadvantaged students (bottom quarter of ESCS)	-15.3* / -30.3*	-9.9 / -35.1*	+0.8 / -17.9*
Performance gap (top – bottom quarter)	widening / widening	widening / widening	widening / widening

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Chinese Taipei

### Trends in mathematics, reading and science performance in Chinese Taipei



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

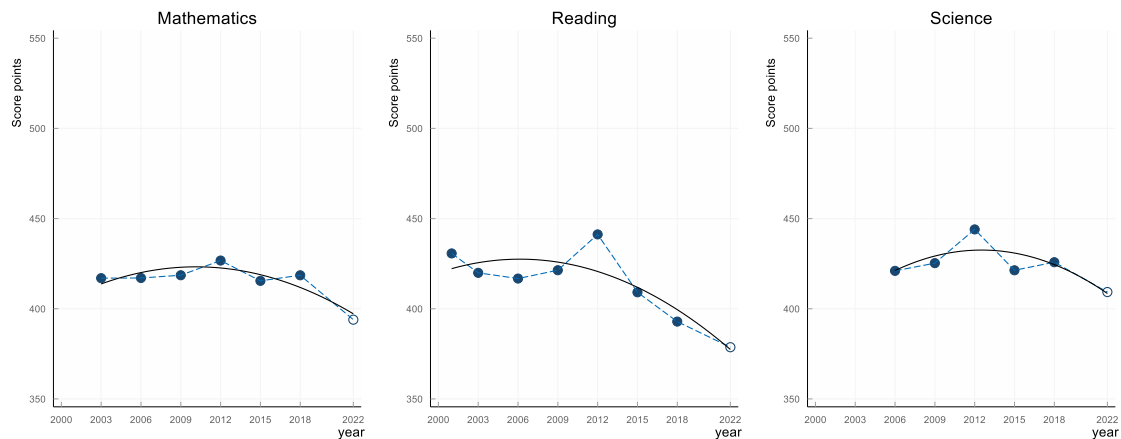
### Snapshot of mathematics, reading and science results for Chinese Taipei

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	549	496	532
PISA 2009	543	495*	520*
PISA 2012	560*	523	523*
PISA 2015	542	497*	532
PISA 2018	531*	503*	516*
PISA 2022	547	515	537
Average 10-year trend in mean performance (2012 to 2022)	-13.0*	-4.1	+9.0
Short-term change in mean performance (2018 to 2022)	+16.0*	+12.6*	+21.6*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-5.5*	+2.2	+9.4*
Percentage-point change in the share of low-performing students (below Level 2)	+1.8	+4.3*	+2.3
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+30.6*	+13.5*	+22.5*
Average change among low-achieving students (10th percentile)	-4.1	+7.4	+14.5*
Gap in learning outcomes between high- and low-achieving students	widening gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	+29.9* / -16.2*	+14.0 / -0.8	+27.4* / +13.9*
Performance among disadvantaged students (bottom quarter of ESCS)	+3.3 / -8.0	+6.6 / -5.2	+14.5* / +7.2
Performance gap (top – bottom quarter)	widening / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Thailand

### Trends in mathematics, reading and science performance in Thailand



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

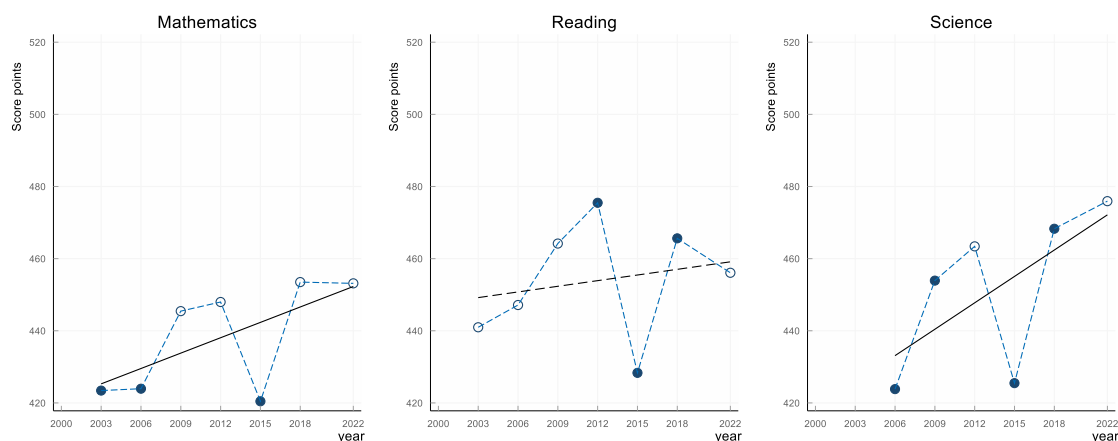
### Snapshot of mathematics, reading and science results for Thailand

Mean performance	Mathematics	Reading	Science
PISA 2000		431*	
PISA 2003	417*	420*	
PISA 2006	417*	417*	421*
PISA 2009	419*	421*	425*
PISA 2012	427*	441*	444*
PISA 2015	415*	409*	421*
PISA 2018	419*	393*	426*
PISA 2022	394	379	409
Average 10-year trend in mean performance (2012 to 2022)	-29.6*	-60.5*	-30.5*
Short-term change in mean performance (2018 to 2022)	-24.6*	-14.2*	-16.5*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.5*	-0.7*	-0.3
Percentage-point change in the share of low-performing students (below Level 2)	+18.5*	+32.5*	+19.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-40.1*	-15.0*	-17.0*
Average change among low-achieving students (10th percentile)	-3.5	-15.8*	-14.9*
Gap in learning outcomes between high- and low-achieving students	narrowing gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-31.7* / -25.6*	-17.5* / -56.0*	-19.5* / -19.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-22.0* / -30.5*	-13.8* / -61.6*	-14.8* / -34.8*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in Türkiye

### Trends in mathematics, reading and science performance in Türkiye



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

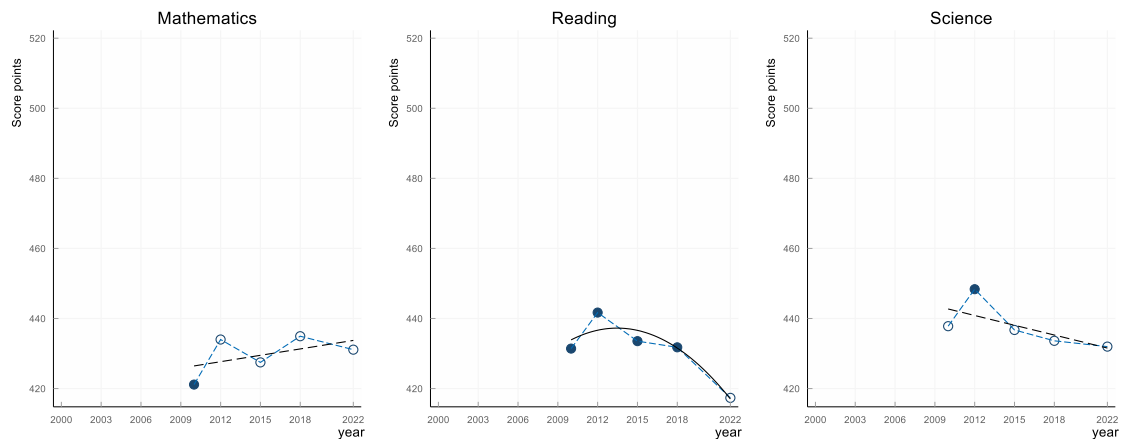
### Snapshot of mathematics, reading and science results for Türkiye

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	423*	441	
PISA 2006	424*	447	424*
PISA 2009	445	464	454*
PISA 2012	448	475*	463
PISA 2015	420*	428*	425*
PISA 2018	454	466*	468*
PISA 2022	453	456	476
Average 10-year trend in mean performance (2012 to 2022)	+15.0*	-6.1	+25.2*
Short-term change in mean performance (2018 to 2022)	-0.4	-9.5*	+7.6*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.4	-2.5*	+2.2*
Percentage-point change in the share of low-performing students (below Level 2)	-3.3	+7.6*	-1.7
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	+5.7	-12.8*	+15.8*
Average change among low-achieving students (10th percentile)	-1.8	-9.6	-0.5
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-0.4 / +16.9*	-15.7* / -10.1	+7.2 / +33.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-8.1 / +17.2*	-9.8 / -1.5	+4.0 / +24.3*
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in United Arab Emirates

### Trends in mathematics, reading and science performance in United Arab Emirates



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for United Arab Emirates

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	m	m	m
PISA 2009	421*	431*	438
PISA 2012	434	442*	448*
PISA 2015	427	434*	437
PISA 2018	435	432*	434
PISA 2022	431	417	432
Average 10-year trend in mean performance (2012 to 2022)	-0.2	-22.9*	-15.1*
Short-term change in mean performance (2018 to 2022)	-3.8	-14.4*	-1.7
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	+1.9*	+2.8*	+1.4*
Percentage-point change in the share of low-performing students (below Level 2)	+2.7	+12.5*	+9.9*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-4.2	+0.1	+9.8*
Average change among low-achieving students (10th percentile)	+7.0	-28.0*	-6.7
Gap in learning outcomes between high- and low-achieving students	narrowing gap	widening gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-28.1* / -14.8*	-40.3* / -33.7*	-22.9* / -30.1*
Performance among disadvantaged students (bottom quarter of ESCS)	+7.0 / +1.6	-7.7* / -27.9*	+4.6 / -15.2*
Performance gap (top – bottom quarter)	narrowing / narrowing	narrowing / stable	narrowing / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

## Overview of performance trends in United Kingdom

### Trends in mathematics, reading and science performance in United Kingdom



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for United Kingdom

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	m	m	
PISA 2006	495	495	515*
PISA 2009	492	494	514*
PISA 2012	494	499	514*
PISA 2015	492	498	509*
PISA 2018	502*	504*	505
PISA 2022	489	494	500
Average 10-year trend in mean performance (2012 to 2022)	-2.4	-3.1	-15.1*
Short-term change in mean performance (2018 to 2022)	-12.8*	-9.5*	-5.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.5	+1.3	-1.1
Percentage-point change in the share of low-performing students (below Level 2)	+2.5	+3.5	+5.1*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-6.3	-6.3	+2.0
Average change among low-achieving students (10th percentile)	-17.8*	-14.9*	-10.9*
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-4.7 / -2.3	-0.1 / -1.6	+5.3 / -14.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-7.3 / +4.9	-1.9 / +8.2	-0.8 / -5.0
Performance gap (top – bottom quarter)	stable / stable	stable / stable	stable / stable

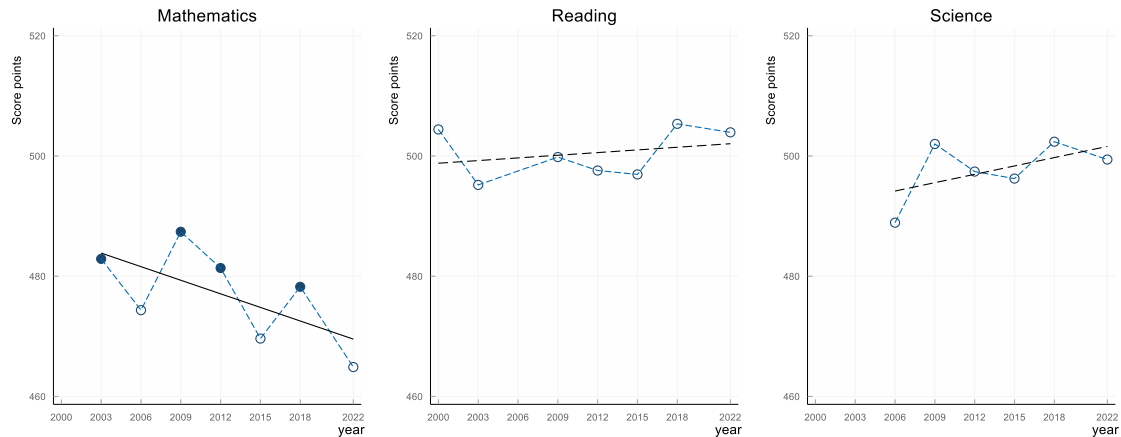
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, student response rates decreased slightly with respect to PISA 2018 and fell short of the target. School response rates also fell short of the target. An informative non-response bias analysis was submitted using external achievement data at student level as auxiliary information along with demographic characteristics; analyses were limited to England and Scotland as the largest subnational entities within the United Kingdom. The analysis provided evidence to suggest a small residual upwards bias, driven entirely by student non-response (school non-participation did not result in significant bias, in contrast). The bias associated with trend comparisons, however, might be smaller or entirely absent when considering the fact that response rates remained close to those observed in 2018.*

## Overview of performance trends in United States

### Trends in mathematics, reading and science performance in United States



Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.

Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for United States

Mean performance	Mathematics	Reading	Science
PISA 2000		504	
PISA 2003	483*	495	
PISA 2006	474	m	489
PISA 2009	487*	500	502
PISA 2012	481*	498	497
PISA 2015	470	497	496
PISA 2018	478*	505	502
PISA 2022	465	504	499
Average 10-year trend in mean performance (2012 to 2022)	-13.1*	+8.4	+3.7
Short-term change in mean performance (2018 to 2022)	-13.4*	-1.4	-3.0
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-1.4	+6.3*	+3.5*
Percentage-point change in the share of low-performing students (below Level 2)	+8.1*	+3.5	+3.8
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-7.8	+5.3	+9.6
Average change among low-achieving students (10th percentile)	-12.4	-4.8	-14.0
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	widening gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-7.4 / -6.4	+2.7 / +18.9*	+7.8 / +11.7*
Performance among disadvantaged students (bottom quarter of ESCS)	-12.3 / -17.4*	-1.6 / +0.3	-10.0 / -1.8
Performance gap (top – bottom quarter)	stable / stable	stable / widening	widening / stable

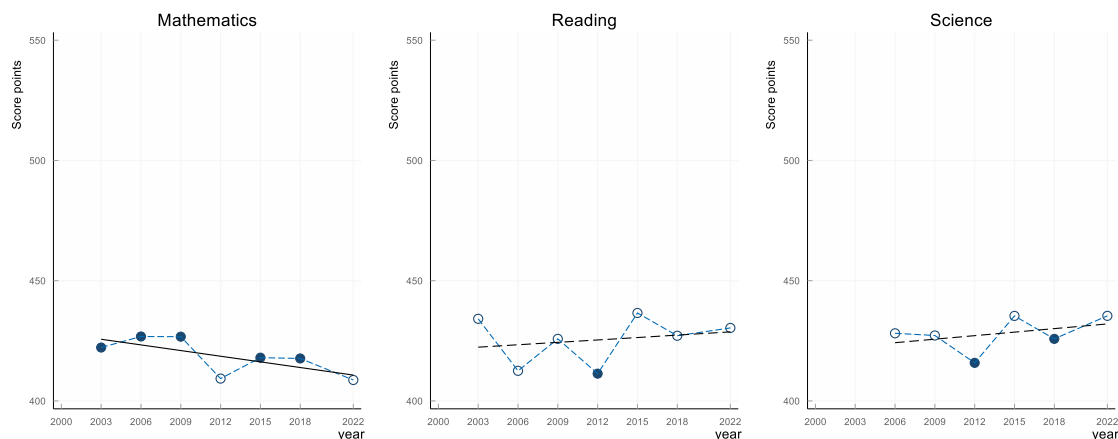
Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.

Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.

*Note: In 2022, school participation rates missed the standard by a substantial margin, and participation rates were particularly low among private schools (representing about 7% of the student population). A non-response bias analysis was submitted, indicating that, after replacement schools and nonresponse adjustments are taken into account, a number of characteristics (not including direct measures of school performance) are balanced across respondents and non-respondents. Exclusions from the sample also showed a marked increase, with respect to 2018, and exceeded the acceptable rate by a small margin; finally, the response rate for students was only slightly above the target (80%). Based on the available information, it is not possible to exclude the possibility of bias, nor to determine its most likely direction.*

## Overview of performance trends in Uruguay

### Trends in mathematics, reading and science performance in Uruguay



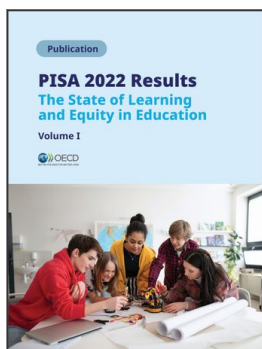
Note: White dots indicate mean-performance estimates that are not statistically significantly above/below PISA 2022 estimates. Black lines indicate the best-fitting trend.  
Source: OECD, PISA 2022 Database, Tables I.B1.5.4, I.B1.5.5 and I.B1.5.6.

### Snapshot of mathematics, reading and science results for Uruguay

Mean performance	Mathematics	Reading	Science
PISA 2000		m	
PISA 2003	422*	434	
PISA 2006	427*	413	428
PISA 2009	427*	426	427
PISA 2012	409	411*	416*
PISA 2015	418*	437	435
PISA 2018	418*	427	426*
PISA 2022	409	430	435
Average 10-year trend in mean performance (2012 to 2022)	-1.5	+13.4*	+14.5*
Short-term change in mean performance (2018 to 2022)	-8.9*	+3.2	+9.6*
Proficiency levels: Change between 2012 and 2022			
Percentage-point change in the share of top-performing students (Level 5 or 6)	-0.4	+1.1*	+0.5
Percentage-point change in the share of low-performing students (below Level 2)	+0.7	-5.9*	-6.4*
Variation in performance: Change between 2018 and 2022			
Average change among high-achieving students (90th percentile)	-8.7	+6.9	+16.3*
Average change among low-achieving students (10th percentile)	-4.1	-0.1	+4.0
Gap in learning outcomes between high- and low-achieving students	stable gap	stable gap	stable gap
Trends by quarter of socio-economic status (ESCS): 2018-22 / average 10-year trend			
Performance among advantaged students (top quarter of ESCS)	-3.7 / -11.3*	+4.9 / +4.1	+16.2* / +4.6
Performance among disadvantaged students (bottom quarter of ESCS)	-3.2 / +7.1	+12.7* / +17.9*	+14.1* / +20.6*
Performance gap (top – bottom quarter)	stable / narrowing	stable / stable	stable / narrowing

Note: \* indicates statistically significant trends and changes or mean-performance estimates that are significantly above or below PISA 2022 estimates.  
Source: PISA 2022 Database, Tables I.B1.5.1-12, I.B1.5.19, I.B1.5.20 and I.B1.5.21.





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