
Scotland Declining Education Attainment PISA 2022


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Scotland Declining Education Attainment PISA 2022

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Scotland's Education Standards Are Dropping

How good is the Scottish education system? Scotland's educators used to boast about its excellent standards in education, as the best in the UK. This has not been the case for some time and the downward trend shows no signs of reversing as evidenced by the publication of the OECD's PISA 2022 league tables for school age students. This post summarises Scotland's pupils PISA results with some easy to understand charts. See also [Discussion](#) for references to expert opinion.

About PISA

Global standards in education are measured every three years by the [OECD's Program for International Student Assessment \(https://www.oecd.org/en/about/programmes/pisa.html\)](https://www.oecd.org/en/about/programmes/pisa.html) (PISA) which tests both student's knowledge and their ability to apply it to solve problems in maths, science and reading. The programme has been testing students since 2000 and involves the OECD member countries plus a growing number of partner countries resulting in eighty-one countries participating in 2022. Students are tested at 15 years because for most countries they are still in full time education. See OECD PISA link, above, for further details.

This post compares the performance over time of Scottish students with the rest of the UK over a number of years — from 2006 to 2022 at the widest. It also and presents information about how UK education

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compares with EU countries and also with the wider OECD participants.

Comparative Performance of UK Regions

Figure 1 shows the PISA test scores in maths – panel 1; reading – panel 2 and science – panel 3 for the UK and each of the four regions covering the period 2006 to 2022. The underlying data is presented in tabular format in Table 1.

Maths

In 2006 Scottish students had a score of 506 which has declined steadily to a score of 471 in 2022 which represents a 35 point drop in attainment. Over the last decade the drop is 27 points. It should be noted that OECD considers 20 points to be equivalent to approximately one year of learning. Scotland had the highest score in Maths in 2006 and is now close to the bottom just pipped for that honour by Wales (466). The UK score throughout the period 2006 to 2022 has remained fairly constant at an average of 494.

Reading

The Scottish reading standard has been maintained during the period 2006 to 2022 with an average PISA score of 499 (max 506, min 493) and is close to the UK standard (ave 497). Indeed Scotland, England and Northern Ireland are all close to the UK standard whereas Wales reading score is lower throughout.

Science

In 2006 Scotland had a score of 515 and mirrored the UK score until 2012. Thereafter, the Scottish score declined to 483 in the 2022 test which represents a 32 point drop in attainment. The last decade accounts for most of this – the drop 2012 to 2022 is 30 points. The UK score also declined but only half as much to a score of 500 in 2022.

Total Score

The combined scores for maths, reading and science tell us a story of decline in standards over the period 2006 to 2022 for the UK as a whole. However, for maths and science the Scottish score has declined to a greater extent than that of the other UK regions.

Declines:

- Scotland has declined by 73 points of which 70 are in the last decade (2012 to 2022)
- Wales, 65

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- Northern Ireland, 49
- UK, 22
- England, 16

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Figure 1: Performance of UK Regions in PISA Tests 2006 to 2022

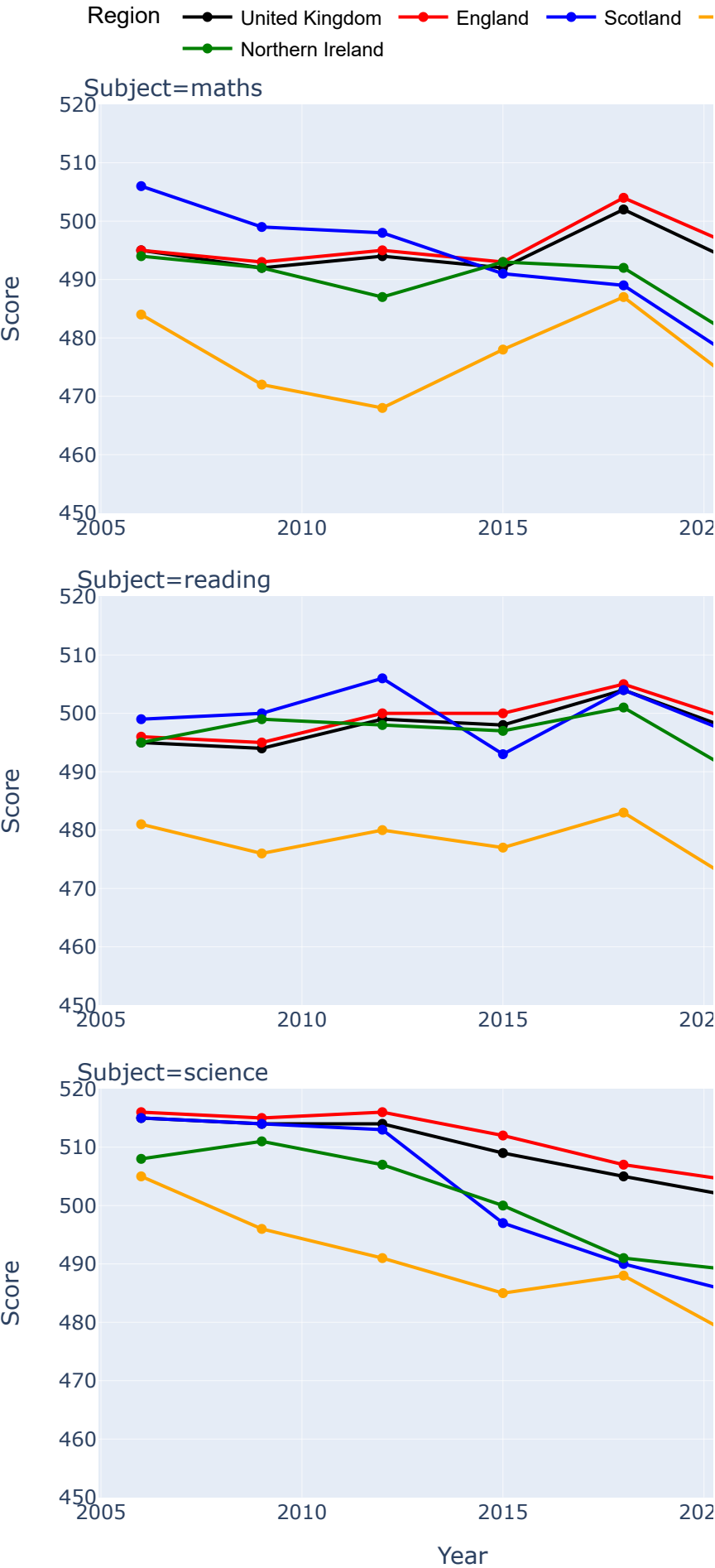


Table 1: PISA test scores in maths, reading and science for the UK and regions 2006 to 2022.

| Region | Year | maths | reading | science |
|-----------|------|-------|---------|---------|
| UK | 2006 | 495 | 495 | 515 |
| UK | 2009 | 492 | 494 | 514 |
| UK | 2012 | 494 | 499 | 514 |
| UK | 2015 | 492 | 498 | 509 |
| UK | 2018 | 502 | 504 | 505 |
| UK | 2022 | 489 | 494 | 500 |
| England | 2006 | 495 | 496 | 516 |
| England | 2009 | 493 | 495 | 515 |
| England | 2012 | 495 | 500 | 516 |
| England | 2015 | 493 | 500 | 512 |
| England | 2018 | 504 | 505 | 507 |
| England | 2022 | 492 | 496 | 503 |
| N Ireland | 2006 | 494 | 495 | 508 |
| N Ireland | 2009 | 492 | 499 | 511 |
| N Ireland | 2012 | 487 | 498 | 507 |
| N Ireland | 2015 | 493 | 497 | 500 |
| N Ireland | 2018 | 492 | 501 | 491 |
| N Ireland | 2022 | 475 | 485 | 488 |
| Scotland | 2006 | 506 | 499 | 515 |
| Scotland | 2009 | 499 | 500 | 514 |
| Scotland | 2012 | 498 | 506 | 513 |
| Scotland | 2015 | 491 | 493 | 497 |
| Scotland | 2018 | 489 | 504 | 490 |
| Scotland | 2022 | 471 | 493 | 483 |
| Wales | 2006 | 484 | 481 | 505 |
| Wales | 2009 | 472 | 476 | 496 |
| Wales | 2012 | 468 | 480 | 491 |
| Wales | 2015 | 478 | 477 | 485 |
| Wales | 2018 | 487 | 483 | 488 |
| Wales | 2022 | 466 | 466 | 473 |

Impact of Socio-Economic Status on Performance

Social inequality (SE) is known to impact Scottish education attainment and it is evident in the PISA data. For each discipline there is an approximate 90 point gap in the 2022 score between the top socio-economic quarter and the bottom quartile (see Table 2).

The impact inequality is also evident in the decline in attainment in PISA since 2012. In maths, reading and science the decline in attainment for the bottom quarter in 28, 20 and 39, respectively whereas for the top quarter the declines are 25, 10 and 29.

Table 2: Performance of Scottish Students in Bottom and Top Socio-Economic Quarters in PISA tests 2012 to 2022

| Year | SEQ | 2012 | 2015 | 2018 | 2022 |
|---------|------------|------|------|------|------|
| maths | bottom qtr | 466 | 456 | 456 | 428 |
| maths | top qtr | 551 | 531 | 528 | 526 |
| reading | bottom qtr | 477 | 462 | 471 | 457 |
| reading | top qtr | 555 | 533 | 545 | 545 |
| science | bottom qtr | 483 | 460 | 451 | 444 |
| science | top qtr | 565 | 543 | 535 | 536 |

Performance of UK and Regions Versus European Countries

The performance of a wide range of European countries in the 2022 global assessment is compared with that of the UK and its regions see Figure 2 (not on mobile) and Table 3. When to total score in maths, science and reading are ranked, England (4th of 33 countries/regions) and the UK (6th) are in the top quarter of nations, Northern Ireland (15th) and Scotland (e.q. 16th) are mid table just in the second quarter and Wales is in the bottom quarter.

Interestingly, when the two technology subjects are combined and reading is dropped from the analysis Scotland, with a relatively high reading score, drops 5 places to 22nd and Sweden drops from 10th to 15th. Netherlands, with a relatively poor reading score rises 7 places to 11th.

Figure 2: Performance of European Countries and UK Regions in PISA Test 2022

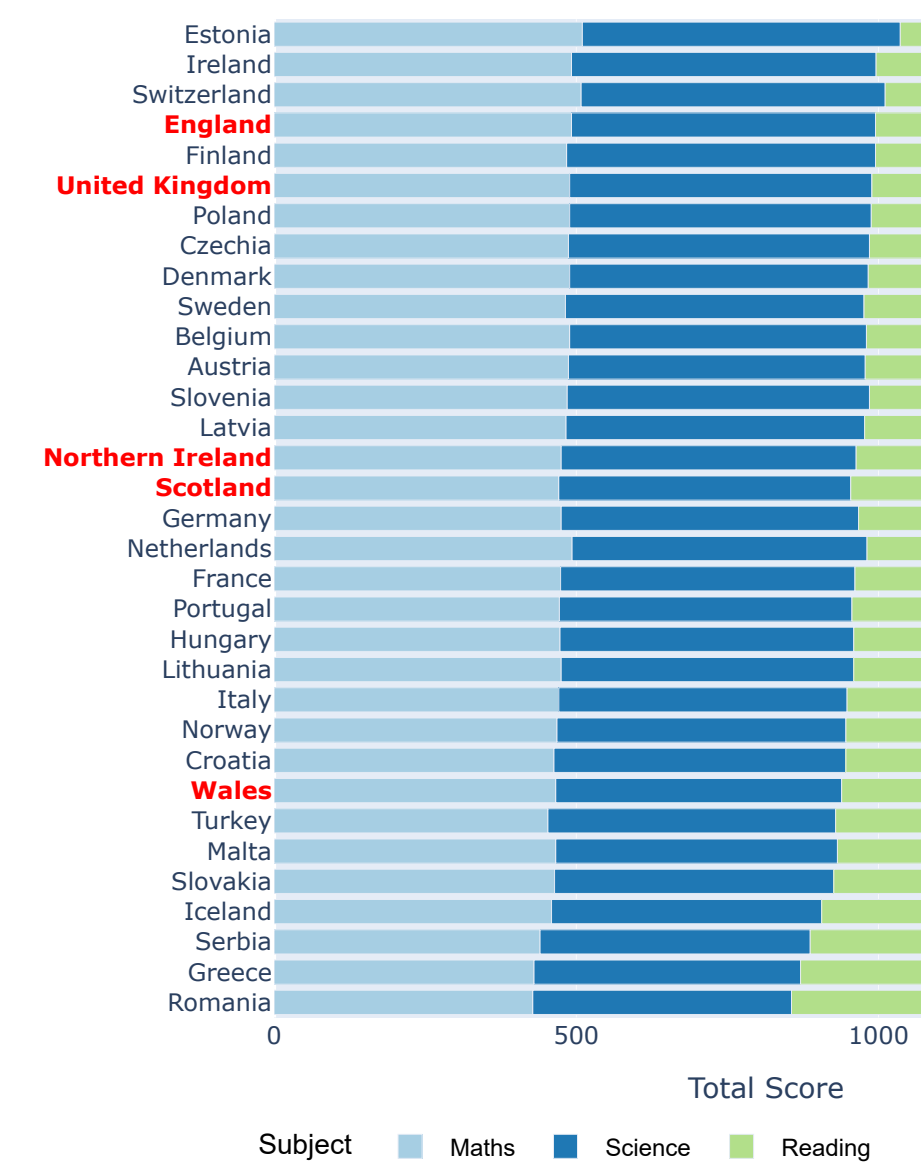


Table 3: PISA Scores for European Countries and UK Regions in PISA Test 2022

Global Comparison

The OECD average and indeed the PISA scores for many developed countries have dropped over the past 16 years and most notably since 2018. This is the first PISA test result following the Covid-19 pandemic.

Although there are no charts or tables displayed for the global comparison, the main difference from the pan-European comparison is the inclusion of six east Asian countries/regions in the top 10 places. The UK (and for that matter, England) is consistently in the top quartile. In contrast, Scotland manages the top quartile for reading but is in the middle of the second quartile for maths and science.

UK rankings:

- Maths score = 489, joint 12th
- Reading score = 494, 13th
- Science score = 500, joint 14th

Scotland Rankings:

- Maths score = 471, joint 30st
- Reading score = 493, 14th
- Science score = 483 , joint 32nd

Discussion

These results should be troubling for the Scottish Government and Education Scotland, its department of education. The Scottish total PISA score for the three subjects has declined by 70 points over the past decade whereas the English region's score has declined by only 20 points over the same period. Note that during the past decade Scotland has seen a 13 percent increase in spending on Education in Scotland whereas England has seen a small decrease in spending in England. For more detailed insight into Scotland's education systems please see the following in depth articles detailed below:

Lindsay Paterson, Emeritus Professor of Education Policy at Edinburgh University

Some time after this post was published, Lindsay Paterson was interviewed by Neil Mackay of The Herald which formed the basis of **one of the most informative discussions on the decline of Scottish education standards**

(<https://www.heraldscotland.com/news/24850384.scottish-school-curriculum-accused-harming-pupils-permanently/>)
(<https://www.heraldscotland.com/news/24850384.scottish-school-curriculum-accused-harming-pupils-permanently/>). This article should be read by anyone interested in understanding the historical context underpinning the decline in Scotland's international education standing.

Some quotes:

- "We know from various social surveys, stretching back to the 1980s, that the average citizen has a level of numeracy and literacy roughly around what we expect people to have at the end of primary school."
- "We're producing less literate, less numerate people than society used to... What we expect by the end of primary school is weaker than what

was expected in the past.”

- “What we expect of somebody with a higher grade pass now is an enormous amount less than what was expected for the tiny number of people who did Highers in the first, fifth and even eighth decade of the 20th century”
- “Each child has only one opportunity. All the children in that time have been let down by this wholly inadequate curriculum. They’ll never get the chance again. They’ve been permanently harmed.”
- “Education Scotland hasn’t produced a single worthwhile idea in its entire history. It’s completely out of touch. The stuff they produce is utterly useless.”
- “They’ve no engagement with any of these kinds of debates, or the history of Scottish education, or the legitimate cultural goals of a curriculum.”

Lindsay Paterson also [reviews the impact of socio-economic \(SE\) status](https://www.reformscotland.com/2023/12/pisa-2022-in-scotland-declining-attainment-and-growing-social-inequality-lindsay-paterson/) (<https://www.reformscotland.com/2023/12/pisa-2022-in-scotland-declining-attainment-and-growing-social-inequality-lindsay-paterson/>) in an excellent article that is worth reading. He attributes the decline especially in maths and science to the Curriculum for Excellence which was implemented in 2010 and focusses on skills and well-being rather than in imparting knowledge. For students from the lowest socio-economic quarter the decline in maths, reading and science is greater than in the top socio-economic quarter although the decline in reading is less marked. He argues that reading has declined less because parents can teach and encourage their children to read whereas fewer parents remember sufficient maths and science to teach their children these subjects beyond primary stage education. For the bottom social-economic status group the decline in maths and science is greater because fewer parents have had formal education in these subjects and the students have reduced ability to acquire knowledge in these subjects at home.

Marina Shapira and Mark Priestley, University of Stirling

They review the PISA results in professor Priestley’s blog [What can PISA tell us about Scottish Education?](https://mrpriestley.wordpress.com/2023/12/07/what-can-pisa-tell-us-about-scottish-education/#_ftn1) (https://mrpriestley.wordpress.com/2023/12/07/what-can-pisa-tell-us-about-scottish-education/#_ftn1) where they discuss in detail:

- “The shift from the 1990s onwards from a system premised on support to one premised on measurement
- A continued over-emphasis on qualifications in the secondary school, to the detriment of curriculum making that considers the broader

question of what it means to become educated.....

- Poorly specified processes for supporting the implementation of CfE. These have led to a piecemeal approach, and often poor understanding of the core aims and principles the curriculum, in the lack of clear processes (and time) for practitioners to make sense of policy in relation to their own contexts.....
- Poor resourcing of schools in an age of austerity, including limited teacher non-contact time and a lack of available cover for teachers to attend courses.....”

Sources and Methods

OECD

The [Organisation for Economic Co-operation and Development](https://www.oecd.org/en/about.html) (<https://www.oecd.org/en/about.html>) works across the globe to promote better policies to improve the lives of the world’s citizens. It publishes evidence-based evaluation and analysis on social, economic and environmental issues with the aim of providing international standards and advice to support policy making. [PISA](https://www.oecd.org/en/about/programmes/pisa.html) (<https://www.oecd.org/en/about/programmes/pisa.html>) is the OECD’s programme to measure skills and knowledge of 15-year age students focussing on maths, reading and science. It stratifies the data based on the socio-economic status of students to enable analysis of its impact on educational attainment.

Global data was downloaded from OECD PISA datasets:

<https://www.oecd.org/en/about/programmes/pisa.html>
(<https://www.oecd.org/en/about/programmes/pisa.html>)

For ease of use pre-compiled pan-European data was downloaded from statistica.com:

<https://www.statista.com/statistics/1084528/europe-pisa-results-by-category/> (<https://www.statista.com/statistics/1084528/europe-pisa-results-by-category/>)

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