

**A-LEVELS 2020
GRADES WITHOUT EXAMS**

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University of Buckingham, August 2020**

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Summary

The 2020 A-level results overall and for each school will be very similar to previous years because they have been calculated to be that way. In fact, grades will be somewhat higher as they have been allowed to rise by two per cent.

For many individual students, however, grades will be a lottery. Middle-ranking students are almost indistinguishable and the actual grade they receive will be largely a matter of luck.

A last-minute attempt by the government to rectify the situation by assuring students that their grade will be no lower than in their mock exams only makes matters worse. Mocks come in all shapes and sizes and are treated with varying degrees of seriousness. To turn them from a practice run-out to the real thing piles unfairness upon unfairness.

Given the artificiality of the grades, the entry patterns - which are real - are perhaps more interesting this year. Provisional figures suggest that psychology will overtake biology for the first time, in fact, the sciences generally are down and the social sciences up. Spanish is becoming firmly established as the most popular A-level, but there is no sign of French and German recovering. There has been a bit of a bounce in English and maths.

1. Calculated Grades

- 1.1. In recent years A-level grades have been increasingly awarded in relation to a pre-set pattern rather than how well the candidate cohort has done in terms of marks. This was most dramatically demonstrated when avowedly more difficult exams were introduced from 2017 onwards, but the overall pattern remained the same. In 2020, in the wake of the coronavirus, ‘comparable outcomes’ reaches its ultimate: grades without exams. In England and Northern Ireland grades will be based on teachers’ rankings, and in Wales which still retains AS exams as part of A-levels they will be used to calculate the grades.
- 1.2. The model that has been devised by Ofqual, the regulator in England, keeps the national grade pattern similar to the average for the previous three years, but with an increase of two percent to make up for the absence of appeals this year¹, which usually leads to an increase in the final total of higher grades. Within this overall pattern a school’s results will be the average of their results in the previous three years, with adjustments made for any differences in the performance of the cohort at GCSE.
- 1.3. But the award of grades to individual candidates is problematic. Teachers were asked to provide assessments for the students by subject on two dimensions: a predicted grade; and the pupils’ standing in the rank order.
- 1.4. Both of these dimensions are not without difficulty. It was found that the teachers’ assessments of grade outcomes were gross over-estimates. Ofqual² has calculated that, if the teachers’ predictions had been accepted, the proportion of A*/A grades awarded would have increased to 37.8 percent from the 25.5 per cent they were in 2019, an unprecedented jump of 12.3 per cent. A*-C would have risen from 75.8 per cent to 87.0 per cent, up by 11.2 per cent. A calculation shows that 39 per cent of the grades between A* and D will have to be lowered to come within Ofqual’s target distribution.³ This amounts to about 300,000 entries. The unexpected experiment forced upon the country by Covid looks to have disposed once-and-for-all of the argument, frequently made by teachers and their unions, that teacher assessment is better than exams.
- 1.5. The grades awarded to a school in 2020 will be based on its performance in the previous three years. They are then allocated to the students according to their class position. This will only be applied, however, for larger groups (it has been suggested over 15). The snag, of course, is that it is difficult to reliably rank larger groups. While teachers will generally have a clear idea of the top performers and those who struggle the most, they will be hard pressed to distinguish those in the middle. In a group of twenty, it may be largely a matter of luck who gets the ninth, tenth and eleventh places, or even the eighth and twelfth for that matter. But this could make a difference of a grade or even more and massively affect life chances.

¹ This has subsequently been reversed with schools, but not candidates allowed to appeal on academic grounds, so it is likely that grades will be even higher this year.

² Ofqual Summer Symposium, 21 July 2020

³ Richard Adams, *The Guardian*, 7 August 2020.

- 1.6. The data to be entered into the algorithm also becomes a problem when a school's numbers and grades have varied widely over the past three years. If a school had ten students one year and 20 another, with the A* grades awarded being four (40%) and one (5%) respectively, what is a fair allocation for the 15 candidates in 2020? When a school has only a small entry for a particular subject it will be teacher assessment - in spite of being demonstrably unreliable - that will count most toward the grade.
- 1.7. While the national grade pattern and that for individual schools and colleges will be similar to that in previous years and thus seem acceptable, individuals' grades are at considerable risk of being inaccurate and unfair. Ofqual originally did not want to allow appeals on academic grounds and factored this in to the final results by raising the overall pass rates by about two per cent. But it changed its mind following the outcry over the results of Scottish Highers, which appear before A-levels. Parents and pupils had been wrongly expecting that the grades recommended by teachers would be accepted, but in the event about a quarter were lowered to correct for judgements that were too generous.
- 1.8. Even so, unlike Scotland, there is still no provision in England for parents and pupils to appeal on academic grounds⁴. It will be up to the schools and colleges. But sharp-elbowed parents may well be capable of pushing schools into appeals, while the children of parents who quietly accept inaccurate grades will miss out. Appeals cost money in England (fees have been waived in Scotland) and parents offering to reimburse schools are more likely to get their way. The unfairness in the assigning of the grades will be exacerbated by the appeal process.
- 1.9. The Schools Commissioner has also ruled that pupils have the right to request the information submitted to the exam board by the school, including predicted grades, position in the ranking, and the results of any exams or tests taken into account. Again, it is pupils with the more assertive parents who will do this, since it could provide useful information in any battle to get grades improved. It could also be embarrassing for schools who submitted information understanding it to be confidential.
- 1.10. Usually, each August it is the national and schools' results that are poured over in a great detail looking at the trends and whether gaps are opening or closing. Gender, ethnic, and income groups are scrutinised searching for signs of bias and disadvantage. But in 2020 the patterns will have been created. There could still be interest for exam-wonks in how the recurring differences - between boys and girls, between subjects, between ethnic groups, between income groups and between countries and regions among others - have come out. Has the algorithm reproduced them, or has the opportunity been taken to narrow the gaps somewhat, or indeed have they been widened as teachers have taken parental pressure into account.
- 1.11. The focus this year, however, will be even more on the pupils and their life chances. How closely do the grades awarded correspond to what were expected? Do they enable the student to take up a coveted place at university or will it be lost for want

⁴ Pupils and their parents can complain through their school or college that procedures have not been followed correctly or they have cause to think the grade was affected by bias or discrimination

of a grade or two? If the grades do not match up to expectations there is scope for prolonged and bitter argument. It could be settled by students taking up the offer of actual exams in the autumn, but that would be out of phase and mean delaying entry to university, and does not seem a very attractive proposition. With the data sent in by the school, the school's historic record and the personal circumstances of their child, determined parents will be able to wage war on the grades that have disappointed them.

- 1.12. The government has made a difficult situation even worse by assuring students at the very last minute that their grade will be no lower than in their mock exams. But mocks come in all shapes and sizes and are treated with varying degrees of seriousness. To turn them from a practice run out to the real thing piles unfairness upon unfairness. Those wanting to change their grades will have to go through an appeals process, but universities have been told to keep their places open. It is plainly a political decision following the popularity of the Scottish government's decision to allow the teacher assessments – shown to be gross-overestimates – to stand. It does, however, add to the confusion and diminish the usefulness of the grades even further.
- 1.13. August results day will in 2020, as usual, mean joy for some and anguish for others, but, for all, the unanswerable question will remain: what might the results have been if there had been exams?

2. Trends from 1951 to 2020

Prospects for 2020

- 2.1. In the absence of exams due to the coronavirus pandemic, A-level grades have been generated statistically this year using the national pattern of results in the three previous years, the individual schools' performance in those years, the candidates prior attainment at GCSE, the teachers' predicted grades, and the teachers' assessment of the class rank order.

Chart 2.1: A-Levels Grades by Year

Year	A*	A	B	C	D	E	U
2017	8.3	26.3	53.1	77.4	92.0	97.9	100.0
2018	8.0	26.4	53.0	77.0	91.5	97.6	100.0
2019	7.8	25.5	51.6	75.8	91.0	97.6	100.0
2020 CAG ¹	13.8	37.8	65.0	87.0	96.5	99.7	100.0
2020 Calculated ²	8.2	26.6	53.6	78.3	93.3	99.7	100.0

¹ Centre Assessment Grades.

² Grades calculated from average of previous three years plus two per cent as briefed by Ofqual.

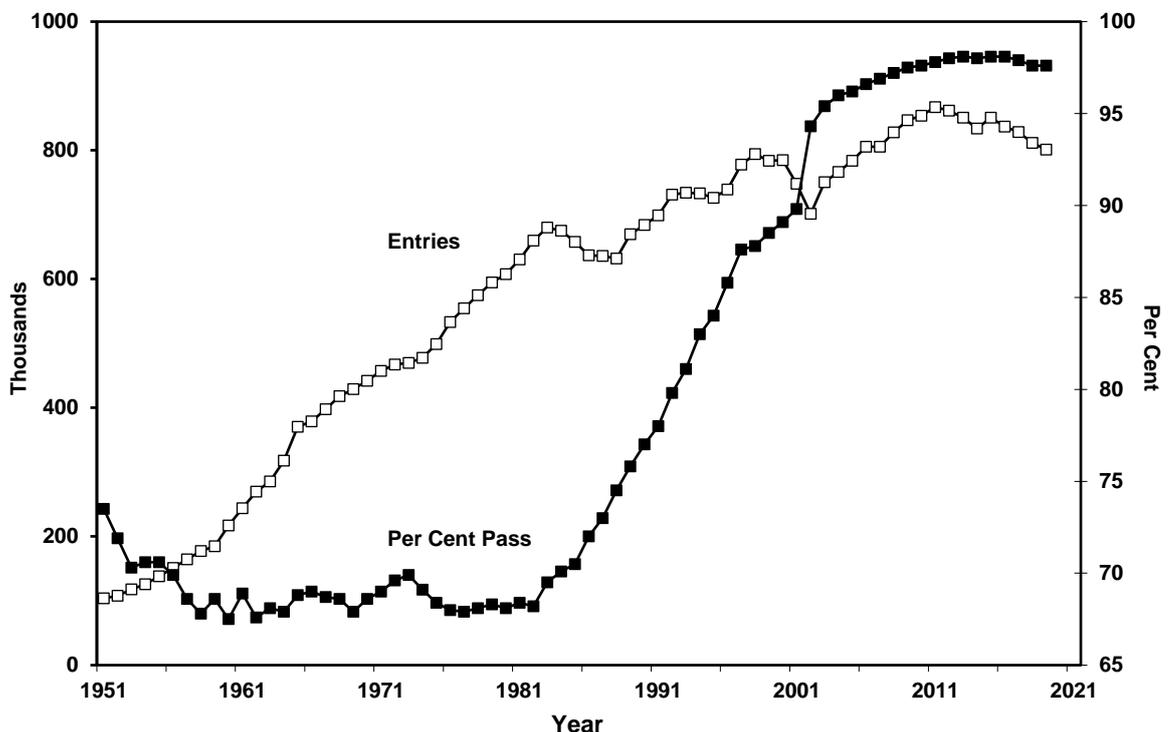
- 2.2. Chart 2.1 shows that although the period 2017 to 2019 tougher exams for tougher courses were introduced, surprisingly the distribution of grades was very similar to previous years. This was because they had been kept that way by Ofqual, the regulator/
- 2.3. In the exceptional circumstances of 2020 it had originally been intended to use teacher assessments as the basis for awarding grades. But, as Chart 2.1, shows the teachers were unrealistically optimistic. They would have awarded 13.8 per cent A* grades against the 7.8 per cent reaching this level in 2019; and 65 per cent A* to B grades compared with 51.6 per cent in 2019.
- 2.4. Ofqual has, therefore, come up with a model which aims to produce a national pattern of results similar to the average of the previous three years. A school's results over the previous three years, the prior attainment of the candidates at GCSE, and the teacher's assessment of a candidate's class position are fed into an algorithm. Since Ofqual did not, at first, provide for appeals, it set the results to rise by two per cent to take account of the successful appeals which usually take place. The likely outcome based on these parameters is shown in the bottom row of Table 2.1.
- 2.5. But while the national and schools' results will be derived from past performance and will be similar to previous years, the calculation of an individual's grades is fraught with difficulty. It will also be interesting to see how the calculations reproduce the regular gaps associated with, among others, gender, ethnicity, income background, school type, and locality.
- 2.6. Results day will be even tenser for the candidates in 2020, because without exams they will not have been able to directly influence the grades they receive. If they

think them fair and doors are opened, then huge relief. But for disappointed pupils and parents there are many grounds for complaint. There could well be mayhem.

Background

- 2.7. The pass rate in A-level examinations has greatly increased since the award first became available in 1951. In Chart 2.2, it is possible to discern three distinct phases. In the first, from 1951 to 1982, the pass rate plateaued at 70 per cent. This was because it had been set at this level. The built-in failure rate of 30 per cent was extremely hard on pupils who had had to show sufficient promise at O-level to take A-levels in the first place.
- 2.8. The second phase ran from 1983 to 2010. No longer was a set proportion of passes awarded, but the grades were standards-based and any pupil reaching the required level received the grade. The pass rate rose by about one per cent a year from 68.2 to 97.6 per cent. In 2002, however, it leapt by 4.5 per cent as the new fully modularised framework came on stream.

Chart 2.2: A-Level Entries and Passes in UK, 1951-2019

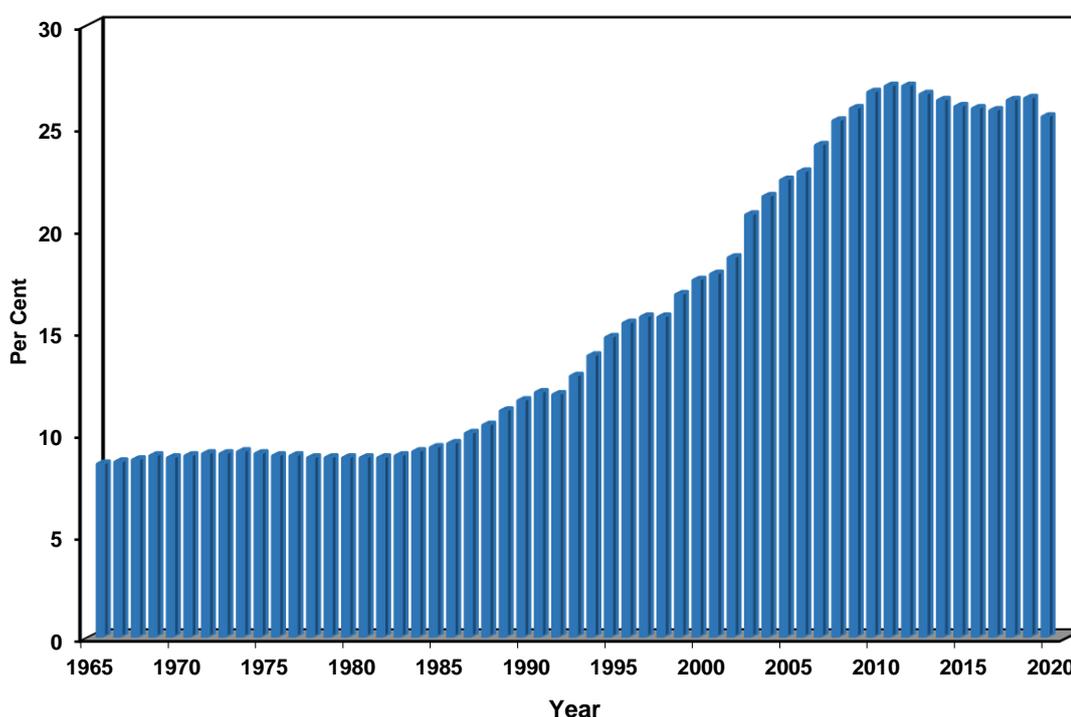


- 2.9. The extraordinary increases were interpreted as evidence of grade inflation and, in 2011, Ofqual, the newly established regulator, decided to apply statistical controls to keep the pass rates at 2011 levels, thus setting in concrete the inflated grades. A further irony is that this fixed outcomes approach designed to rule out grade inflation served to keep up grades from 2017 onwards when the new tougher courses, end-of-course examinations, were introduced.

A Grades

- 2.10. So far the focus has been on the overall pass rate, but merely passing A-levels is no longer sufficient to get into the more prestigious universities. At first, A-levels were just pass/fail, with a distinction for outstanding performance. When grades were introduced in 1963 a ceiling of 10 per cent was put on passes at grade A. This was the case till 1982.
- 2.11. Chart 2.3 shows that when grades became standards-based, the success rate took off, with A grades trebling from 9.1 per cent in 1983 to 27.0 per cent in 2010. This makes one wonder whether it is possible to define standards with sufficient precision. Certainly, they are of a different kind from, say, the standard kilogram at Bushy Park or the standard yard in Trafalgar Square.
- 2.12. Following the introduction of Ofqual's statistical controls in 2011 the seemingly inexorable growth in top grades has been curbed, even declining somewhat from 27.0 per cent in 2010 and 2011 to 25.5 per cent in 2019.

Chart 2.3: Trend in A/A* Grades



A* Grades

- 2.13. A new top grade was introduced in 2010 to distinguish those who had done exceptionally well. Chart 2.4 shows that since its inception the overall percentage achieving this grade has been close to eight per cent. In 2017, in spite of 13 A-levels of greater difficulty being introduced, the percentage of A* awarded rose to 8.3 per cent, the highest ever, but it fell back in 2018. It fell further in 2019.

Chart 2.4: Top Grades

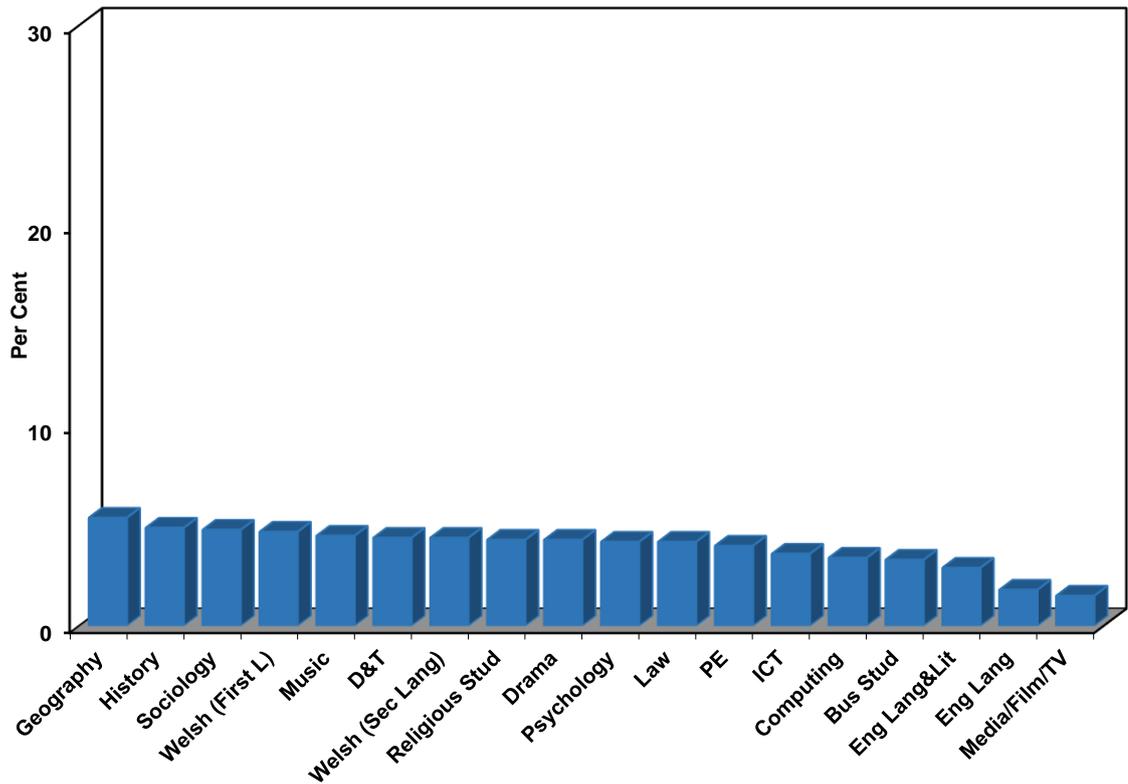
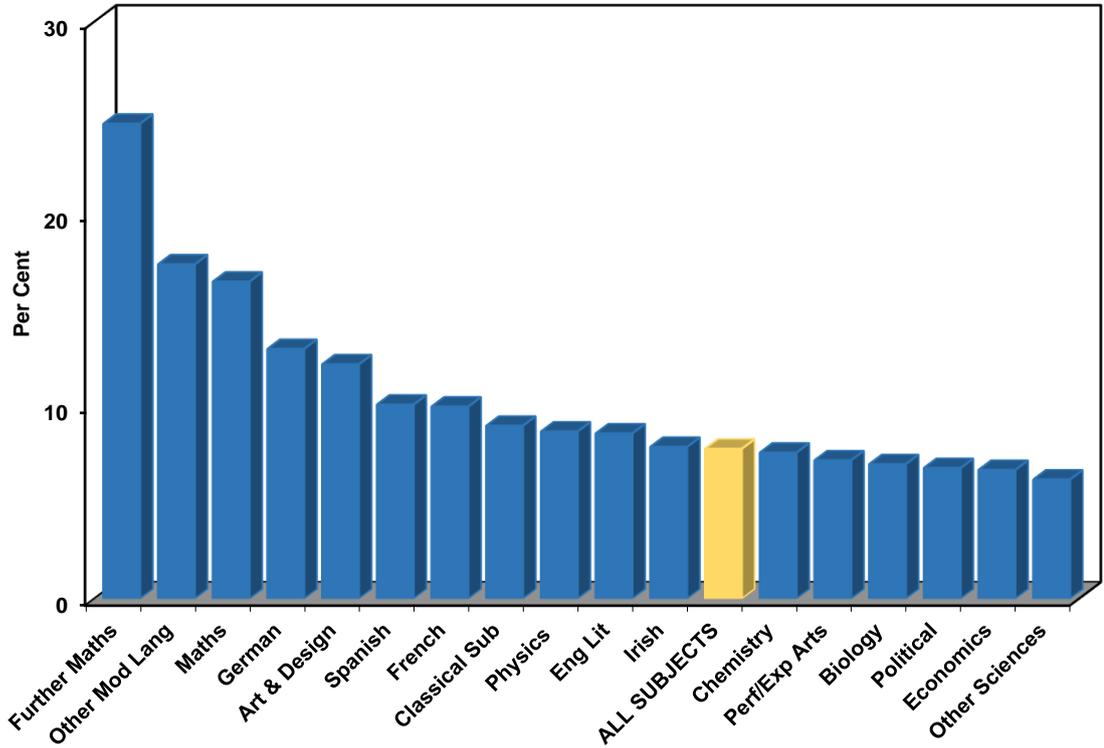
Year	% A*	%A*/A
2010	8.1	27.0
2011	8.2	27.0
2012	7.9	26.6
2013	7.6	26.3
2014	8.2	26.0
2015	8.2	25.9
2016	8.1	25.8
2017	8.3	26.3
2018	8.0	26.4
2019	7.8	25.5

2.14. The overall pattern of results discussed in this chapter is an amalgam of the results in individual subjects. It is to these we turn in the next chapter.

3. Grades by Subject

3.1. The percentage of grades awarded varies greatly with subject. Chart 3.1 shows the distribution of A* grades in 2019.

Chart 3.1: Percentages A* Grades by Subject in 2019



- 3.2. The percentage A* grades overall derives from relatively few subjects, with eleven above average and 24 below the overall proportion. Six of the 11 were languages, three were maths and physics, with art & design and English literature being the others. In maths, sciences and languages, there are right answers. Thus it is possible to put candidates confidently in the highest grade. It is evidently possible to devise assessments which give this confidence in art & design and English literature too. Another in the emergence of these eleven subjects is that they are chosen by high-flying students, whereas subjects with the fewest A* grades - media studies, English language, business studies, ICT and physical education tend to be taken by academically weaker students.
- 3.3. We explore in more detail in Chart 3.2 how a few subjects drive the A* awards. Maths alone, as the subject with the most entries and the third highest proportion of A* grades, accounted for about a quarter of all awarded in 2019. Of the 62,500 A* grades in 2019, 15,200 were in maths. Other major contributors were art & design, biology, chemistry and further maths. Together they were responsible for over half (33,300) of the total.

Chart 3.2: A* Awards 2019

Subject	Entries (thousands)	%A*	Number (thousands)
Maths	91.9	16.5	15.2
Art & Design	42.3	12.2	5.2
Biology	69.2	7.0	4.8
Chemistry	59.1	7.6	4.5
Further Maths	14.5	24.7	3.6
All Subjects	801.0	7.8	62.5

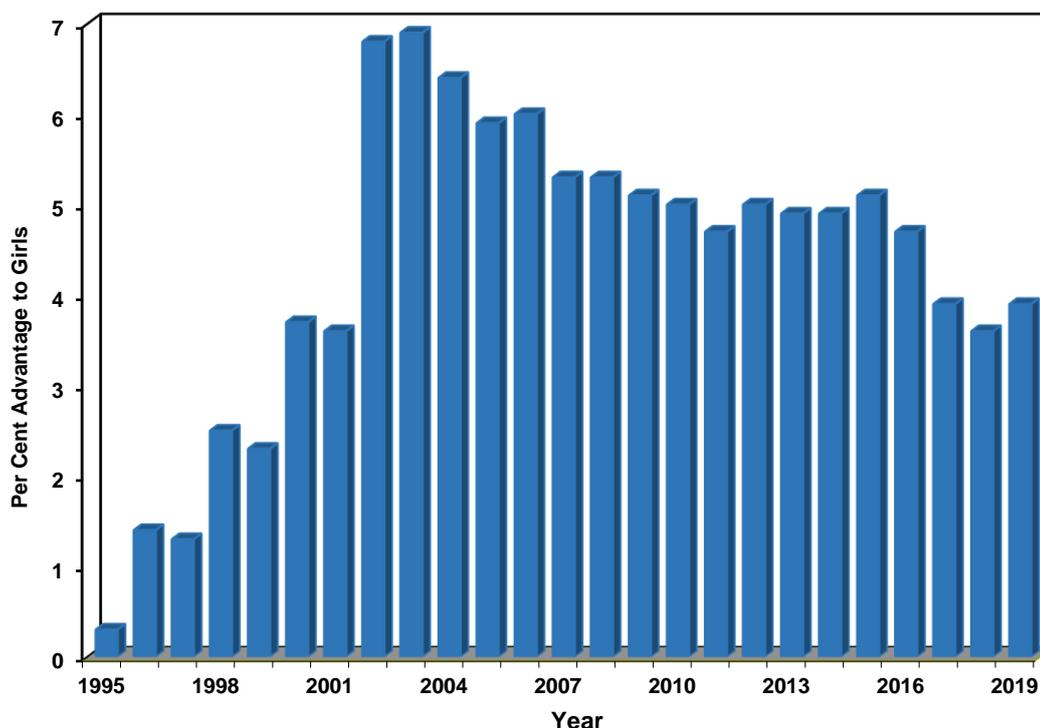
- 3.4. What four of those subjects share is that there are right answers, whereas in more interpretative subjects, grades tend to bunch around the middle. In sociology, for example, only 4.8 per cent are awarded A*, but 76.2 per cent, A*-C. This stands in contrast to maths where, as we have seen, 16.5 per cent get the top grade, but the percentage awarded A*-C, 75.2, is lower than in sociology. The failure rate is also higher in maths, 3.2 per cent against 2.0 per cent. The nature of some subjects facilitates the hard decisions that have to be taken at both ends of the results spectrum.
- 3.5. Art & Design is the exception in the top five subjects for A*, which suggests that it is possible to discern talent in this field with a high degree of confidence. It also seems to be chosen by those who know that they have ability in the field. As well as a high proportion of A*, it also has one of the highest pass rates at A*-C, and one of the lowest failure rates at one per cent.
- 3.6. The grade patterns for the sciences are also interesting. While there are high-flyers amassing top grades, these subjects have some of the lowest pass rates at A*-C. With their strong evidence-bases and well-tested theories the sciences are subjects which unsparingly show whether or not you are any good at them. Take-up has been rising in recent years in response to the drive to increase the numbers studying

STEM subjects (science, technology, engineering and maths). The relatively poor average performance and high failure rates raises the question of whether too many are being drawn in when their abilities do not match up to requirements.

4. Gender

- 4.1. The way A-levels are examined has a bearing on the relative performance of boys and girls. Chart 4.1 shows that, in terms of Grades A*-C, a gap was opening up between boys and girls as the exams became increasingly modular, but when in 2002, following the Dearing Report, they became full modularised, the girls leapt ahead by nearly seven percentage points. This gap has gradually narrowed and with the switch back to two-year courses and examinations at the end, the gap has narrowed to almost what it was before modularisation.

Chart 4.1: Gender Gap at Grades A*-C



- 4.2. This may have been associated with changes to the course structure and mode of assessment, but it could also be connected with revisions to the content. In maths, for example, instead of there being questions that pointed the way to the answers, candidates now have to find their own methods of solving problems.
- 4.3. In Chart 4.2 the focus shifts to the gap at A*/A. This brings out the apparent association with mode of examining even more clearly. When A-levels were mainly linear the boys were ahead, but as assessment became more modular the advantage shifted to girls. After A-levels became fully modular in 2002 girls took a substantial lead which has subsequently been eroded, possibly as boys adjusted to this mode of assessment. On the return to traditional courses and exams, boys moved ahead once more although not by much and in 2019 girls crept ahead again.

Chart 4.2: Gender Gap at A*/A

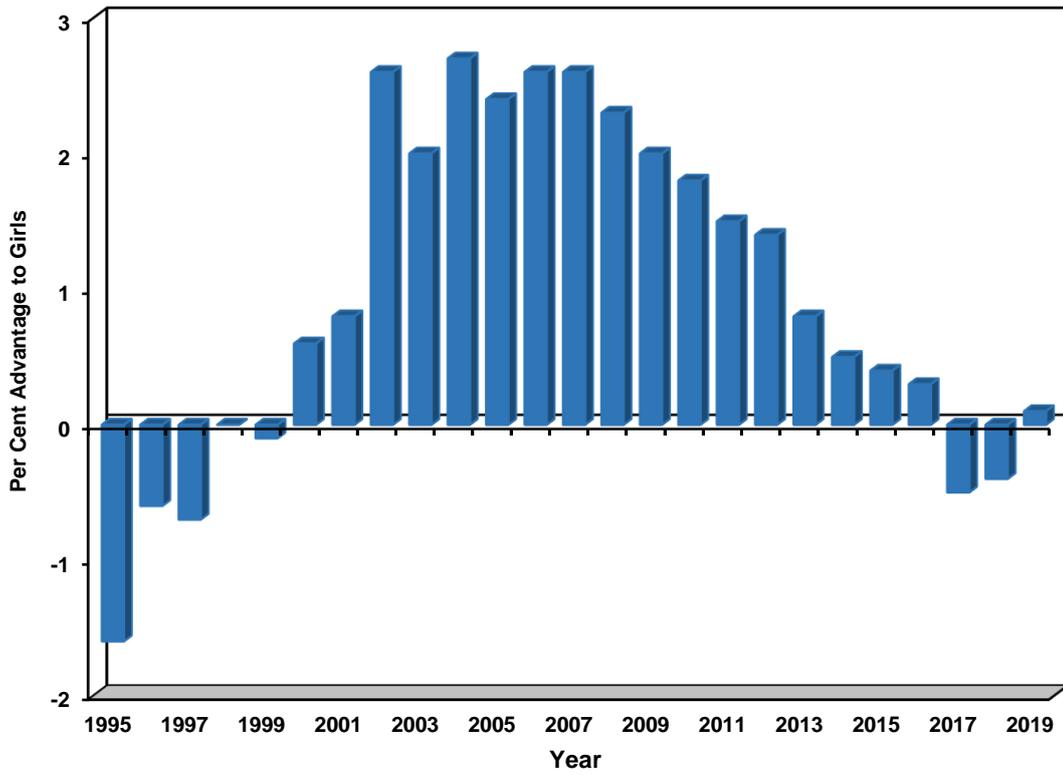
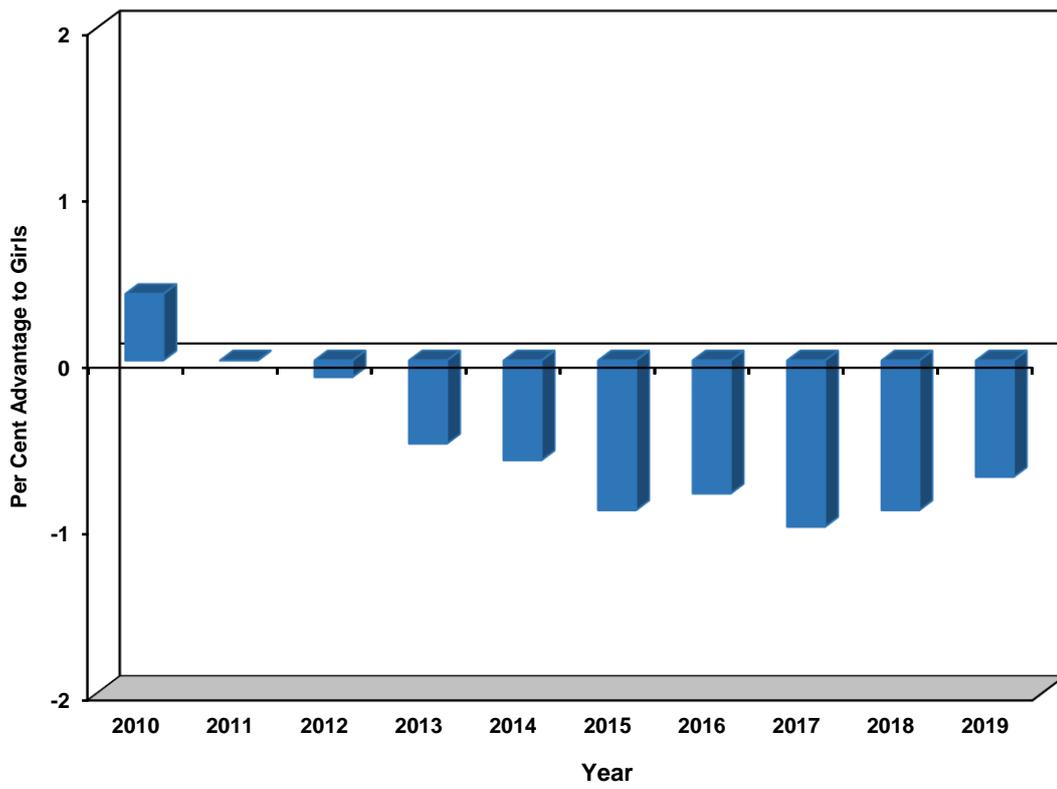


Chart 4.3: Gender Gap at A*



- 4.4. When it comes to just the highest grade, Chart 4.3 shows that, while girls were ahead in the first year, the boys overhauled them and their advantage seems to have been cemented by the recent reforms.
- 4.5. These gaps, with girls well ahead in terms of grades A*-C and boys in front at A* are consistent with the finding that on a wide variety of psychological tests and measures, the scores of males and females are distributed differently. Males tend to be more spread out, with more very high and very low scorers. On the other hand, females scores tend to bunch around the mean. Alice Hein, the psychologist famous for her work on personality and intelligence, with her tongue firmly stuck in her cheek, called this phenomenon ‘the mediocrity of women’. Given these distributions, even if females have a higher mean score there could still be more males at the top.

Composition of Overall A* Grade

- 4.6. But we also saw in Chart 3.2 that A* awards are dominated by relatively few subjects. These are the subjects with large enrolments and high proportions of top awards. In Chart 4.4 we examine how they are shared between boys and girls.

Chart 4.4: Numbers of A* Awarded in Selected Subjects, 2019¹

Subject	Boys			Girls		
	Entries	%A*	Number A*	Entries	%A*	Number A*
Maths	56.3	18.1	10.2	35.6	14.0	5.0
Further Maths	10.4	25.8	2.7	4.1	22.1	0.9
Physics	30.2	8.8	2.7	8.8	8.5	0.7
Chemistry	27.3	8.7	2.4	31.8	6.6	2.1
Economics	21.6	6.3	1.4	9.3	7.6	0.7
Geography	17.1	3.5	0.6	17.8	7.3	1.3
Sociology	8.7	2.9	0.3	29.4	5.3	1.6
Psychology	16.5	2.1	0.3	48.1	5.0	2.4
English Literature	9.2	9.0	0.8	31.7	8.5	2.7
Art & Design	10.9	9.6	1.0	31.4	13.0	4.1
All Subjects	360.6	8.2	29.6	440.4	7.5	33.0

1. Entries and numbers of A* awarded in thousands.

- 4.7. In general, although there are exceptions, Chart 4.4 shows that where boys are in the majority the subject tends to be high-scoring in terms of A*, while the reverse tends to be the case for girls. In maths and further maths which, in 2019, accounted for 30 per cent of all the A* awarded, boys outsourced girls by two to one. In subjects like psychology and sociology, however, where girls outsourced boys by a similar margin many fewer A* were awarded.
- 4.8. The difference in the performance of boys and girls in terms of top grades may be, therefore, less of a ‘mediocrity effect’ than a consequence of the subjects they chose to study. It appears that boys are more attracted to impersonal subjects where there is ultimately the prospect of a right answer, whereas girls are more likely to opt for interpretative people-oriented subjects. Exams in the former tend to result in more

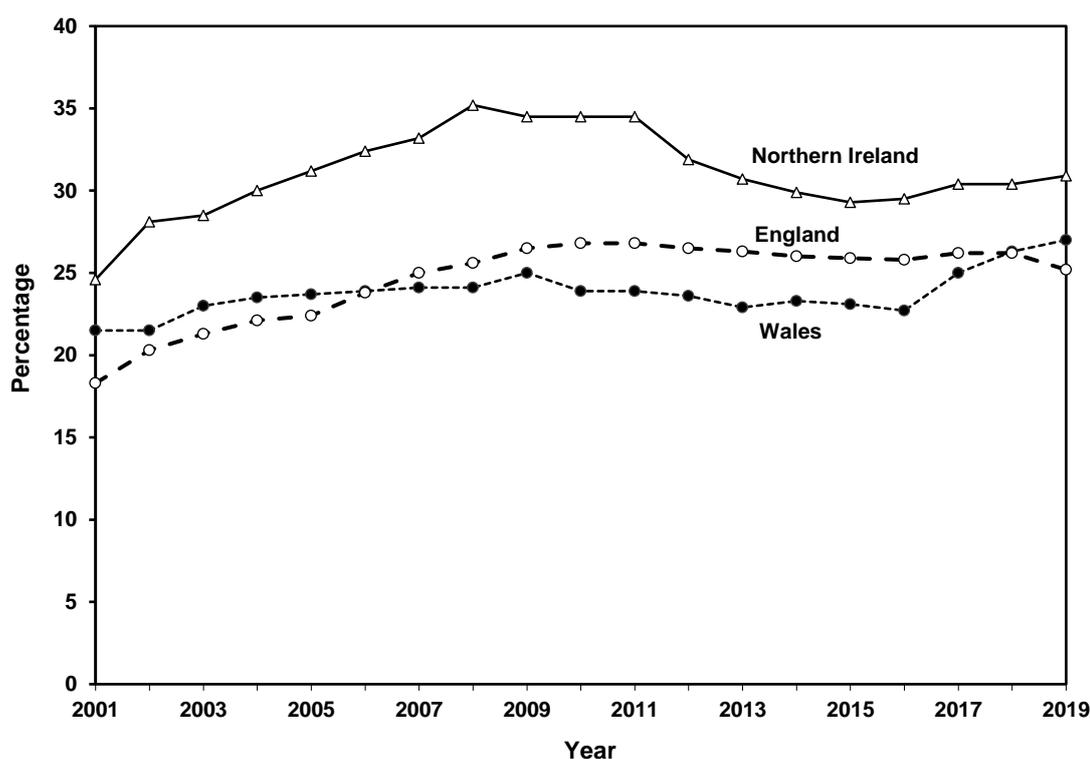
top grades and more fails, while in the subjective subjects there is more the clustering towards the centre.

- 4.9. The apparent superiority of boys at A* stems from the subjects they choose to study and whether these have right answers or are more interpretative.

5. England, Wales and Northern Ireland

- 5.1. Responsibility for education is devolved to the countries of the United Kingdom. The much discussed GCSE and A-level reforms have taken place only in England. Examinations in Wales and Northern Ireland remain much as before with a modular structure and assessment by course work. Over time, assessment in the three UK countries will grow further apart and there will no longer be the one A-level, but three distinct versions of it. In the transition period they are still sufficiently similar for meaningful comparisons to be made.
- 5.2. Chart 5.1 shows the percentage of A*/A awarded by the exam boards in the three countries in the past two decades. Northern Ireland clearly and consistently has awarded more top grades. Its A*/A grades rose to a peak in 2008 of 35.2 per cent, since when they have fallen back to 30.9 per cent in 2019.

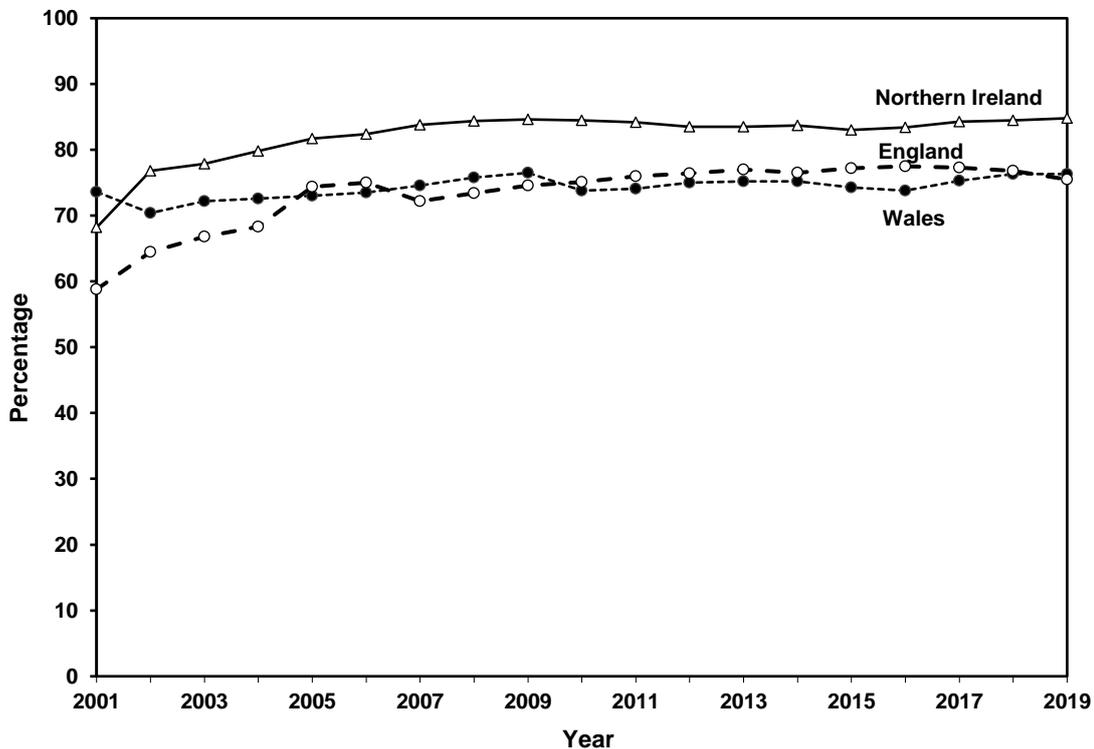
Chart 5.1: Trends in A*/A Grades Awarded in UK Countries



- 5.3. In England it is the picture we have already painted of grades going up year-by-year, rising to a high point of 26.8 per cent in 2011 when the comparable-outcomes approach was adopted and the proportion of top grades first levelled off then declined somewhat to stand at 25.2 per cent in 2019. Wales was initially ahead of England, but was overtaken in 2007. But top grades in Wales have risen for the past three years and by 2019 it had moved ahead again with 27.0 per cent of the entries awarded A*/A.
- 5.4. When it comes to A*-C the countries' awards are in the same rank order but closer. Chart 5.2 shows that Northern Ireland is out in front again at 84.8 per cent in 2019 – its highest ever level. In England the percentage went up rapidly from 58.8 per cent in 2001 to 75.0 per cent in 2006 from which it has edged up further reaching a peak

of 77.5 per cent in 2016. But since the reformed A-levels began to come on stream it has slipped back to 25.2 per cent. In 2001, Wales was ahead of both Northern Ireland and England. It was overtaken by NI in 2002, but remained ahead of England until 2010. Since then they have remained close together and, in 2019, Wales moved ahead again with a pass rate at C and above of 76.3 per cent against 75.5 per cent.

Chart 5.2: Trends in A*-C Grades Awarded in UK Countries



- 5.5. Whether we look at A*/A grades or A*-C grades, Northern Ireland is streets ahead. It could be that its exam board operates to different standards, but until the recent reforms took them much further apart, the regulatory authorities and the awarding bodies in the three countries worked closely together to maintain common standards.
- 5.6. The outstanding performance of pupils in Northern Ireland also emerges in international comparisons such as the PISA and TIMSS tests, so it is much more likely to be a real difference. It does not receive the attention that it deserves. This could come from a reluctance on the part of the educational establishment to acknowledge that Northern Ireland's pre-eminence could conceivably be anything to do with it having a grammar school system.

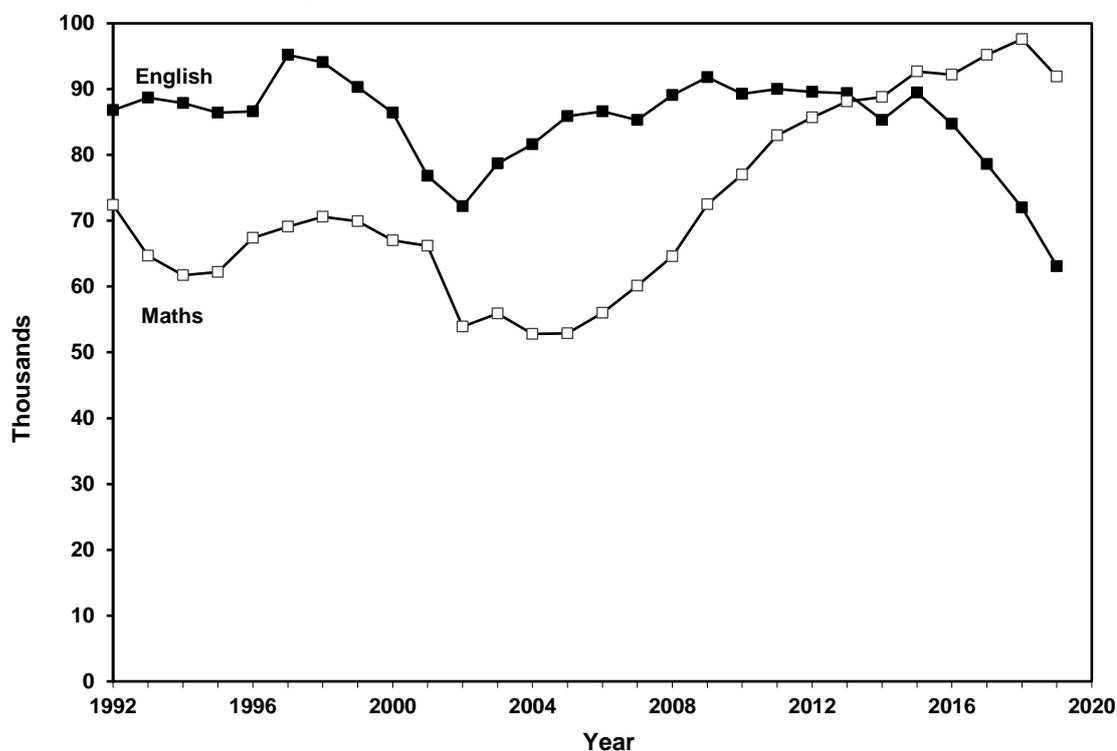
6. Trends in Entries

6.1. With Ofqual constructing the overall pattern of results for 2020 so that it is similar to previous years, the grades awarded overall are less interesting than the subjects students have chosen to study. Ofqual's release⁵ of provisional entries in England for 2020 reported that A-level entries were down by two per cent overall compared with last year. This is somewhat less than the drop of three per cent in the 18-year-old cohort. An effect of Covid might be to counteract this to some extent, since not all those provisionally registered in previous years actually sat the exams, whereas this year unless actively withdrawn all will receive grades. There have been significant shifts in entries to English and maths, the sciences, modern languages and the social sciences in recent years.

English & Maths

6.2. English and maths were the first two subjects to be reformed at GCSE level in 2017. As Chart 6.1 shows, the take-up of both fell in 2019, the first cohort to take the reformed GCSEs as well as being the first to take the reformed A-levels in maths and further math. It could be that the prospect of tougher exams was putting off potentially weaker students.

Chart 6.1: English and Maths Entries 1992-2019



6.3. Chart 6.1 traces the trends in entries to these two core subjects. Both fell in the run-up to the modularisation of A-levels in 2002. Both then grew strongly, but English peaked in this phase at around 90,000 in 2011 and then for several years plateaued before falling. Maths grew particularly strongly, because it was successfully argued that the content changes as part of the Dearing reforms in 2002 had made it too

⁵ Ofqual, 11 June 2020, Provisional Entries for GCSE, AS and A level: Summer 2010 exam series.

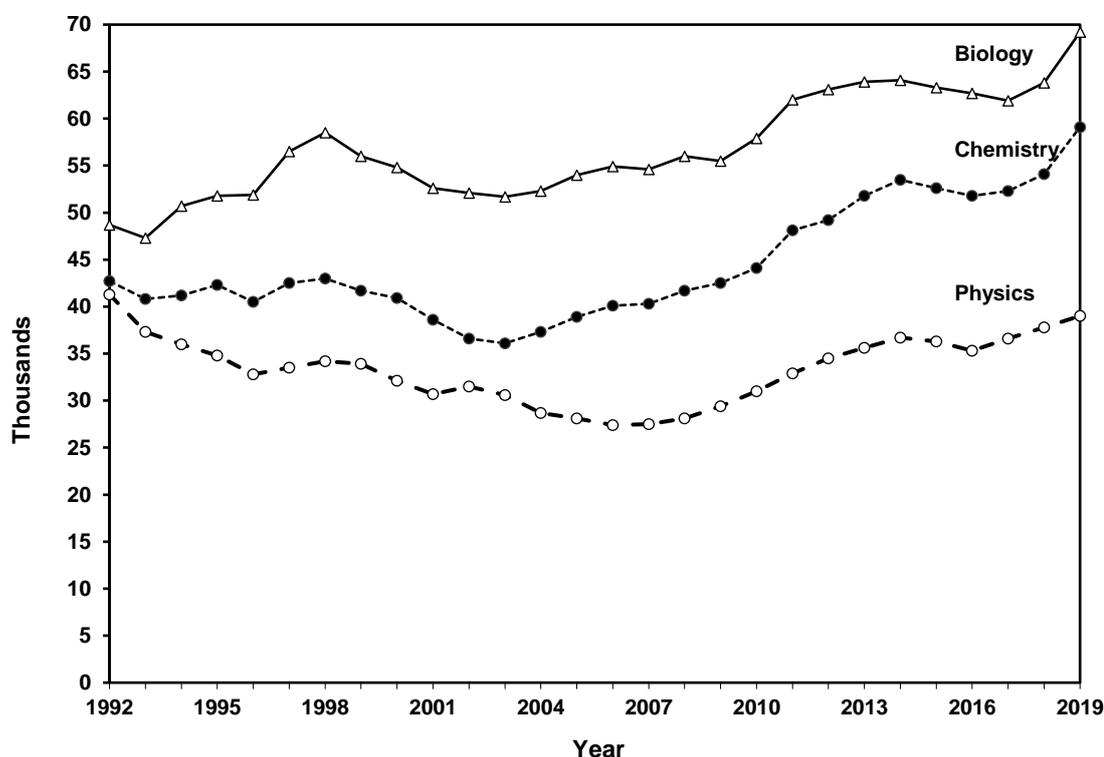
difficult and the demands were lessened in 2004. It subsequently took-off, reaching a peak in 2018 of 97,600 entries, in the process moving ahead of English in 2014 to take the number one spot. Meanwhile entries to further maths trebled.

- 6.4. But in 2019 entries to both fell. This may have been precipitated by the GCSE and A-level reforms which changed both the format of the exams and increased their difficulty. It could be argued that English entries began to decline in 2016 before the reformed A-levels were in place. There had been, however, earlier changes to the GCSE, reducing the amount of assessment delegated to schools.
- 6.5. Ofqual’s provisional 2020 figures for entries in England show rises in both – maths by 4 per cent, English literature by 2 per cent, and English language by 7 per cent, but the combined English language & literature was down by 4 per cent.

Sciences

- 6.6. Chart 6.2 shows that entries to the sciences have been with a few blips on an upward curve for the last 15 years.

Chart 6.4: Trends in Entries to Sciences



- 6.7. But that is against the background of a sharp drop when the 1988 National Curriculum combined physics, chemistry and biology into a subject, ‘science’, and the GCSEs were changed accordingly. The science GCSEs proved to be a poorer ladder to A-levels in physics and chemistry than the old O-levels had been. In part, this was because, with physics teachers being very hard to come by, national curriculum science was often taught by biologists.
- 6.8. Gordon Brown, in 2004 when he was Chancellor of the Exchequer, as part of his Science Investment Strategy, incentivised schools to return to the separate sciences

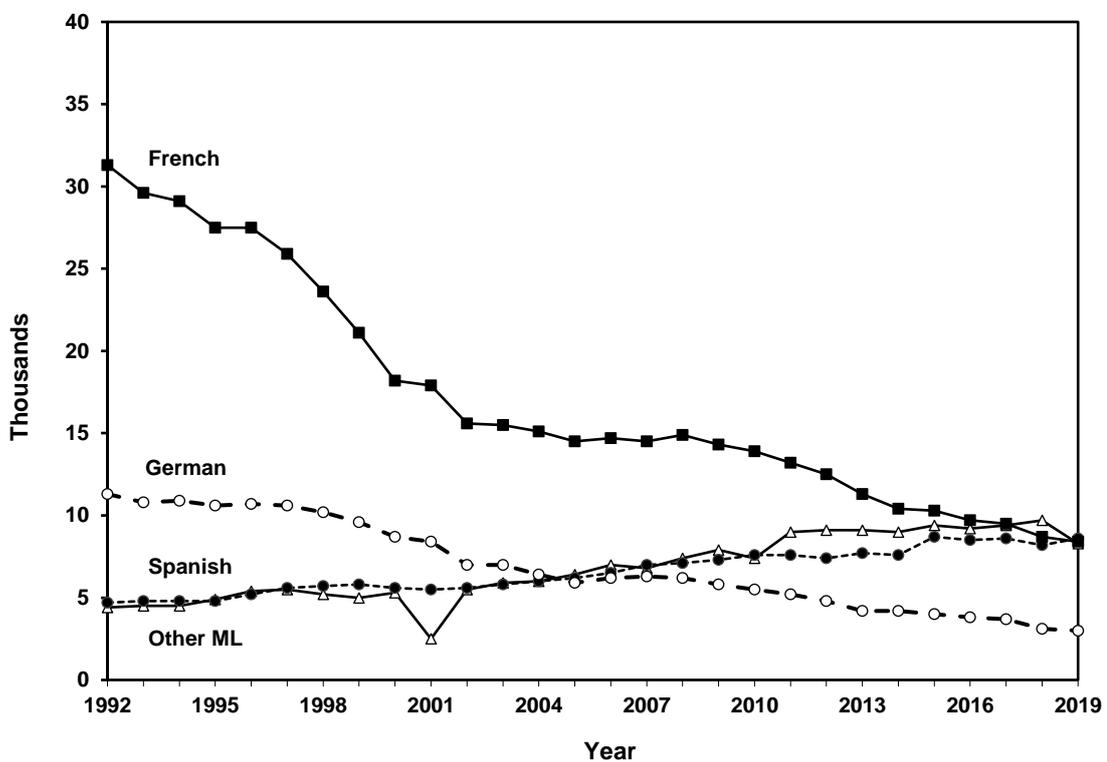
and Chart 6.4 shows that this seems to have borne fruit with the chemistry and physics A-levels rising year by year. Entries in all three sciences fell for several years from 2015 along with the decline in the number of 18-year-olds, but with the introduction of the reformed A-levels in 2017 numbers went up in physics and chemistry. This continued in 2018 with biology also increasing. Unlike English and maths, the exam reforms appear to have boosted the take-up of the sciences. The increases are, however, far from a swing to the sciences. The 2019 physics entry of 39,000 pales beside the nearly 56,000 in the 1980s.

- 6.9. Ofqual’s provisional entries for England may, however, indicate that growth has faltered. In 2020, Biology was down 5 per cent, chemistry by 4 per cent and physics by 2 per cent.

Languages

- 6.10. Chart 6.3 portrays the most dramatic entry-changes in the past two decades: the collapse of French and German.

Chart 6.3: Trends in Entries to Modern Languages



- 6.11. The number sitting in French was only a quarter in 2019 (8,355) of what it had been in 1992 (31,300). It has now been overtaken by Spanish (8,625) and is only just ahead of ‘other modern languages’ (8,289)⁶. German fell from 11,300 to 3,033. According to Ofqual’s provisional entries for 2020 these trends are likely to

⁶ A collection of languages such as Polish, Arabic and Gujarati, which could easily be the candidates’ first language or the language of the home.

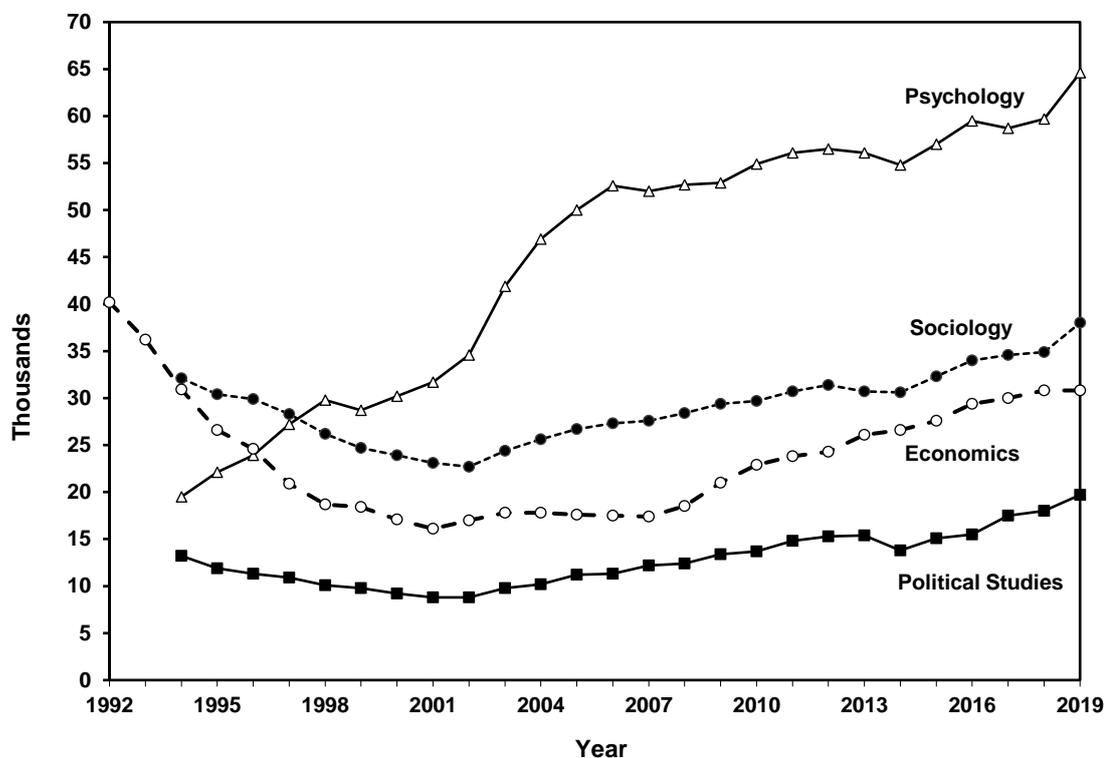
continue: Spanish is up by 3 per cent; French remains steady; but German is down by 6 per cent; and ‘other modern languages’ fell by 21 per cent.

6.12. There are several possible reasons for this reluctance to learn other languages. Perhaps it is because English is a world language and the British take it for granted that the people of other countries will speak it. It could also be that there is a vicious cycle: too few passes at A-level makes it difficult to fill the places at university so the pool from which to recruit teachers is too small, and this impacts on the teaching of languages in schools. Another contributory factor may be because the teaching of languages usually begins in secondary schools, when receptivity to languages is much less than in childhood. It is not clear why we do not teach other languages from the earliest years as other countries do.

Social Sciences

6.13. In contrast to modern languages, Chart 6.4 shows that the social sciences have all grown in the past decade. Numbers in psychology have been increasing for two decades and the increase has been considerable. From 19,500 in 1994 entries had more than trebled to 64,589 in 2019. Sociology has increased its take-up from 22,700 in 2002 to 38,015 in 2019. Both subjects are particularly popular with girls.

Chart 6.4: Trends in Entries to Social Sciences



6.14. In the other two social sciences shown, economics and political studies, boys are in the majority. Economics has grown since the Dearing reforms of 2002, but the 2019

entry of 30,841 is still below the 1992 intake of 40,200. Political studies has also increased its entries since a low of 8,800 in 2002, reaching 19,729 in 2019.

- 6.15. The provisional entries for England in 2020 suggest that the trends will continue. Economics was up by 3 per cent, sociology up 2 per cent, and psychology up one per cent. On these figures, psychology will have overtaken biology as the second most frequently taken subject in England. In contrast to the other social science subjects, political studies seems to have experienced a sharp fall. On Ofqual figures it is set to decline by 11 per cent in 2020.

Appendix: A-Level Reforms

A.1. In 2020 the reform of A-levels initiated by Michael Gove, when he was Secretary of State for Education, should have been completed, but the final tranche of languages modern and ancient has fallen foul of Covid. In case it has been lost sight of in the turmoil surrounding the pandemic, the sequence of reforms is set out in Chart A.1.

Chart A.1: Timetable for Introduction of Reformed A-Levels

2017		2018		2019		2020	
Subject	%NE Asses ¹	Subject	%NE Asses ¹	Subject	%NE Asses ¹	Subject	%NE Asses ¹
Art & Design	100.0	Classical Greek	0.0	Accounting	0.0	Biblical Hebrew	0.0
Biology	0.0	Dance	50.0	Ancient History	0.0	Arabic	0.0
Business Stud	0.0	Drama & Theatre	60.0	Archaeology	20.0	Bengali	0.0
Chemistry	0.0	French	30.0	Chinese	30.0	Gujarati	0.0
Computer Sci	20.0	Geography	20.0	Classical Civil	0.0	Greek	0.0
Economics	0.0	German	30.0	D & T	50.0	Modern Hebrew	0.0
English Lang	20.0	Latin	0.0	Electronics	20.0	Japanese	0.0
English Lit	20.0	Music	60.0	Environ Science	0.0	Panjabi	0.0
Eng Lang & Lit	20.0	PE	30.0	Film Studies	30.0	Persian	0.0
History	20.0	Religious Stud	0.0	Geology	0.0	Polish	0.0
Physics	0.0	Spanish	30.0	History of Art	0.0	Portuguese	0.0
Psychology	0.0			Italian	30.0	Turkish	0.0
Sociology	0.0			Law	0.0	Hebrew	0.0
				Mathematics	0.0		
				Further Maths	0.0		
				Media Studies	30.0		
				Music Tech	40.0		
				Philosophy	0.0		
				Political Studies	0.0		
				Russian	30.0		

1. Percentage non-examination assessment.

A.2. The new A-levels differ from their predecessors in three main ways:

- They are organised as two-year courses, rather than being split into modules. This means that an AS-level is no longer a stepping stone to the A-level, contributing 40 per cent of the final marks.
- Assessment will be entirely by end-of-course examinations in many subjects, but some have retained non-examination components, with art & design continuing to be entirely assessed in this way (see Chart A.1 for details for all subjects). The mode of the non-exam assessment has, however, been reformed with course work giving way to controlled assessment.

- Content has been made more demanding to meet top international standards.
- A.3. Other things being equal, these changes could be expected to result in lower grades at the top levels. When the Dearing reforms, in 2002, replaced modular assessment by end-of-course examinations, the pass rate leapt by 4.5 percentage points and A grades by 2.1 percentage points. The courses and examinations will also be new to schools and colleges, which will therefore be less practised in optimising their pupils' exam performance.
- A.4. But, surprisingly, there has been little impact so far on the percentage of top grades awarded. How can this be? The new exams are explicitly more difficult and they come at the end of more demanding courses. One of the reasons for their introduction was to recover from a long period of grade inflation stretching back to 1982 and enable the different levels of performance to be accurately distinguished once more.
- A.5. The answer to this seeming paradox is simple: Ofqual, the regulator for England, has decided in the name of fairness to keep the overall pattern of results the same as it was in 2011 (the year grade inflation became so extreme that Ofqual felt it had to intervene and control the results statistically). What this means in practice is that if the marks awarded go down, the marks needed for a particular grade go down also. While this protects the first candidates from being put at a disadvantage by being the guinea pigs, it does mean that the reformed A-levels do not differentiate any better, which might be thought part of the point of all the upheaval.
- A.6. In looking at the overall results it also has to be borne in mind that Gove's changes only apply to England. The overall results also include Wales and Northern Ireland which together account for about eight per cent of the entries. These have their own regulatory authorities which have their own preferred styles of examining. In both countries the modular structure and coursework have been retained, and the AS continues to be a half-way house to the A-level.
- A.7. Although the overall pattern of results may not change very much differences could emerge in the relative performance of different sub-sets, for example, between boys and girls. The anticipated increased difficulty could also mean that potentially weaker candidates are put off from entering. This could influence the proportion of top grades awarded since they are adjusted in line with prior attainment of the entry cohort at GCSE.
- A.8. The control of A-levels grades by the regulators reaches its zenith in 2020, since due to Covid there are no actual exam results available.

