

GCSE TRENDS 1988-2014

Alan Smithers

**Centre for Education and Employment Research
University of Buckingham
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Contents

Key Findings

1. Changes to the System	1
2. Trends in Grade Pattern	2
3. Grades by Subject	4
4. Gender	8
5. Trends in Entry Patterns	11
6. Countries of the UK	17

Key Findings

- The changes to the GCSE exams and accountability measures introduced in 2014 had little effect on the **results overall**. At some grade-levels, passes were up slightly and at others down a little on last year (Chart 2.2). The consistency is because Ofqual, the regulator, has acted since 2011 to smooth out the grades from year to year taking into account the prior attainment of the candidate cohort.

Grades by Subject

- **English** was affected most by the changes and there were perceptible differences in 2014 compared with 2013. The pass rate at A*-C was down by 1.9 percentage points (Chart 3.3). Intake was down by 30% (Chart 5.1) due to many fewer entries in Year 10 and schools switching to the IGCSE. The clampdown on re-sits, the removal of the generously marked Speaking and Listening Unit and the switching to IGCSE are all likely to have contributed to fewer reaching grade C.
- Performance in **maths** was up at all grades so that the pass rate at A*-C overtook that at English for the very first time. Entries in maths were also down, but only by 3%. Ofqual has shown this is due to a decrease in entries from Year 10 and an increase from Year 11. The considerable improvement in grades seems to have been due to weaker students no longer being put in for the exam early so they could have several attempts, and some brighter students who in the past took the exam in January to get it out of the way no longer being able to do so.
- The percentage of top grades varied considerably with subject. High percentages were awarded in **physics, chemistry and biology** (but not combined science) and **languages** including **Greek and Latin**, and low percentages, perhaps surprising at first sight, in **science, English and maths**. There are several contributing factors: the high awarders are optional, tend to have right answers, and to be taken by those with the interest and ability, whereas English and maths are taken by nearly everyone, English is more subjective, and science tends to be taken by lower sets.

Gender

- English and maths were at opposite ends of the gender spectrum. Of the major subjects the biggest difference in favour of girls was in English; conversely maths was one of only two subjects where boys were ahead (Chart 4.3). The lead girls have in English A*-C is astonishing (15.8 percentage points), whereas the boys' lead in maths is slender (0.2 percentage points) having overtaken the girls in 2009.
- There is something about the GCSE that suits girls. They have been substantially ahead at all grade levels from the beginning (Chart 4.2). This includes A* where boys are ahead at A-level. Girls did not enjoy this advantage in the old O-level exams.
- Of the 48 subject categories, girls were ahead at A*-C in 46, the exceptions being maths where boys were ahead by 0.2 percentage points and 'other sciences' where they were 5.1 pp to the good. At A* they were joined by additional maths and 'other technology', still leaving girls doing better in 44 subject categories.

Entry Patterns

- There were significant shifts in the numbers sitting the exams in 2014 compared with 2013, not solely accountable by the drop of 2.1% in the number of 16-year-olds in the UK that year.
- **Physics** entries went down by 15% after a decade of growth (Chart 5.1). **Chemistry** (-17%) and **biology** (-19%) also fell. **Additional science** rose by 14% suggesting a shift back to combined science. This could be because the EBacc is easier to fulfil through two combined science grades rather than taking the three separate sciences as is required to comply with the National Curriculum.
- **French** and **German** continued to decline, down by 5% in the past year and by half in the past decade. Conversely, **Spanish** is up by 45% in a decade and 155% over two decades (Chart 5.2). There has been considerable growth also in ‘**other modern languages**’, like Polish, Urdu and Portuguese (Chart 5.3), where take-up has increased by 362% in twenty years. Some are hardly world languages and it seems likely that they are being taken by those for whom they are the mother tongue.
- Taking the long view of twenty years (Chart 5.3) there have been big increases in entries to **religious studies** (+177%), and **psychology** and **sociology** (together +939%). But substantial falls in **home economics** (-65%), **economics** (-61%), **computing** (-51%) and **geography** (-15%).
- Curiously all these subjects rose last year. **Computing** (+291%) showed the biggest increase of all, as schools responded to signals from the government that it is to be regarded as an important science. **Home economics** (+4%), **economics** (+13%) and **geography** (+1%) were also up last year.
- Entries to **design and technology**, after rising by 206% from 1994 to 2004, fell by half (-51%) from 2004 to 2014 (Chart 5.1). This is associated with schools no longer having to enter pupils for the GCSE exam this subject.
- Last year was notable for large percentage increases from a low base in **applied GCSEs**: leisure and tourism was up 109%, engineering up 72%, health and social care up 46% and hospitality up 27% (Chart 5.1).
- Newer subjects in the sense of not being listed separately in 1994 fared differently in the decade 2004-2014 (Chart 5.4). **Performing/expressive arts** (+113%), **media studies** (+59%) and **statistics** (+55%) showed substantial increases. **Business and communication studies** (-53%), **humanities** (-46%), and **drama** (-24%) suffered sizable falls.

Countries of the UK

- Northern Ireland students get the best GCSE grades (Chart 6.1). Over the past decade they have enjoyed a lead of about 10 percentage points over both Wales and England. During that time England has overtaken Wales. Two percentage points behind in 2004 England was two percentage points ahead in 2014. These differences reflect the education systems and policies of the three nations.

1. Changes to the System

1.1 Following the controversies swirling around the publication of the 2012 GCSE results, a number of immediate changes were made to the examinations in England to come into force in 2014. The main ones were:

- exams taken at the end of the course rather than throughout on completion of units;
- the internally administered and marked Speaking and Listening unit in English no longer to count towards the overall grade, but to be reported separately;
- the contribution of written exams to the English grade raised from 40 per cent to 60 per cent, with the remainder being controlled assessment.

1.2 With one exception these changes have not been made in Wales and Northern Ireland where there continue to be examinations during the year and Speaking and Listening remain part of the grading in English. The exception is that in Wales from 2014 written exams count for 60 per cent of the grading rather than 40 per cent.

Accountability

1.3 In England changes have been made to accountability measures could be expected to have an impact on entries and results in 2014. In the White Paper of November 2010 a new performance indicator was announced to nudge schools towards concentrating on a core of academic subjects. The English Baccalaureate (EBacc), as it was named, reported the percentage of pupils achieving at least a grade C in English, maths, science (two passes), a foreign language and history or geography. Much to the consternation of schools it was applied retrospectively to the 2010 results. Since then they have progressively adjusted to it. By 2014 it will have begun to bed down.

1.4 A further change to school accountability measures was made in 2014 designed to counteract continual resisting: only the first result would count in the performance tables.

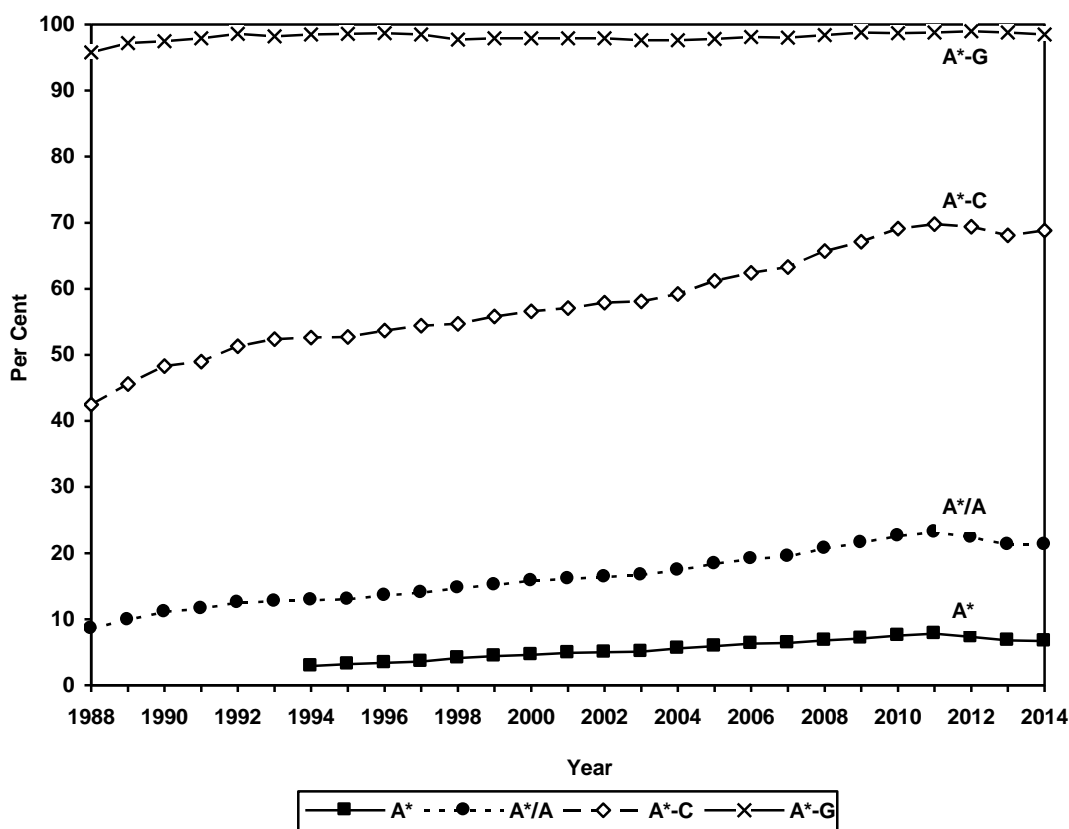
Comparable Outcomes

1.5 Both the changes to the exam system and performance indicators could be expected to have had an impact on the 2014 GCSE results. But while there were major shifts in entries (which we will explore in Chapter 5), the overall shape of results appeared little affected. This is because Ofqual, the regulator, acts to smooth out changes from year to year. It holds that if the characteristics of the cohort of those sitting the exam remain similar to previous years (determined by prior attainment), the grades too should be similar. Thus if examinations or the conditions are made tougher and the marks go down, the grades will be kept much the same by lowering grade thresholds.

2. Trends in Overall Grade Pattern

- 2.1 Charts 2.1 (illustration) and Chart 2.2 (data) detail the aggregate grades awarded in the GCSE examinations since their inception in 1988. What is striking is that there was a seemingly inexorable rise in the grades awarded from the first through to 2011. The percentage of A* grades (first awarded in 1994) went up from 2.9 to 7.8, A*/A from 8.6 to 23.2, A*-C from 42.5 to 69.8 and A*-G from 95.8 to 98.8. But from 2012 onward the newly-formed Ofqual, suspecting that there had been considerable grade inflation, began to apply its principle of ‘comparable outcomes’, designed to keep grades consistent from year to year in relation to prior attainment (based on Key Stage 2 results). One can see the point, but it does mean keeping to a pattern of results that prompted the changes (including the establishment of Ofqual) in the first place
- 2.2 As Chart 2.1 shows this has led to a slight dip in grades. But none of the changes to the 2014 GCSE examinations shows up in the overall pattern of results. Compared with 2013, the percentage of A* was down by 0.1, A*/A the same, A*-C up by 0.7, and A*-G down by 0.3.

Chart 2.1: Trends in GCSE Passes



- 2.3 The actual values are illustrated in Chart 2.1 and shown in Chart 2.2. This brings out the full extent of the increases from 1988 to 2011 and the subsequent paring down.

Chart 2.2 Data for Trends in GCSE Passes

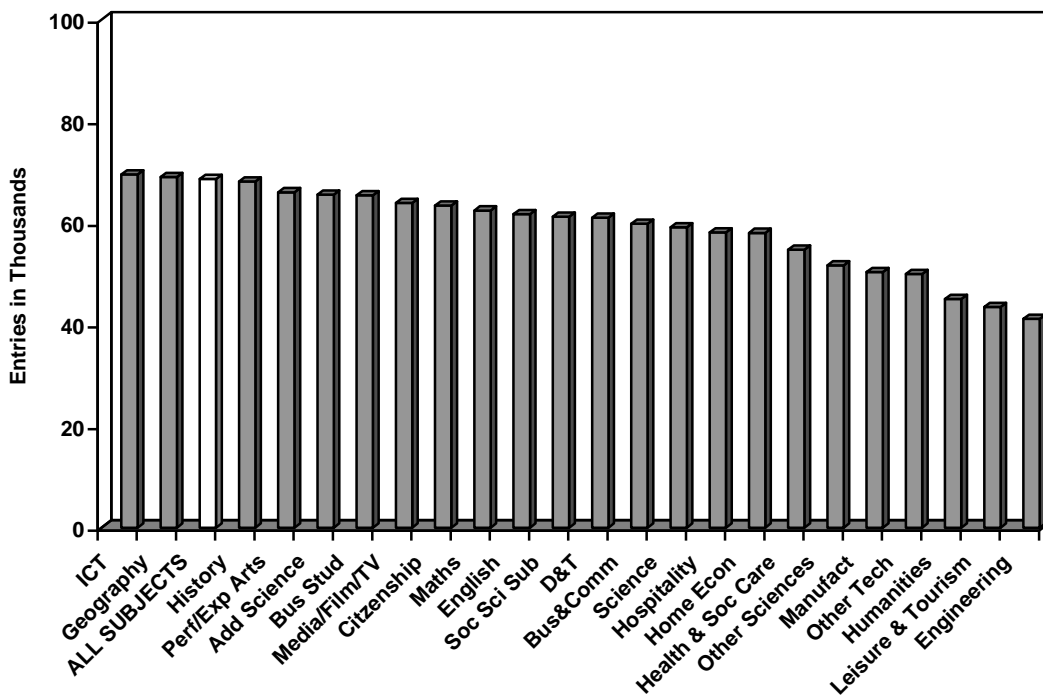
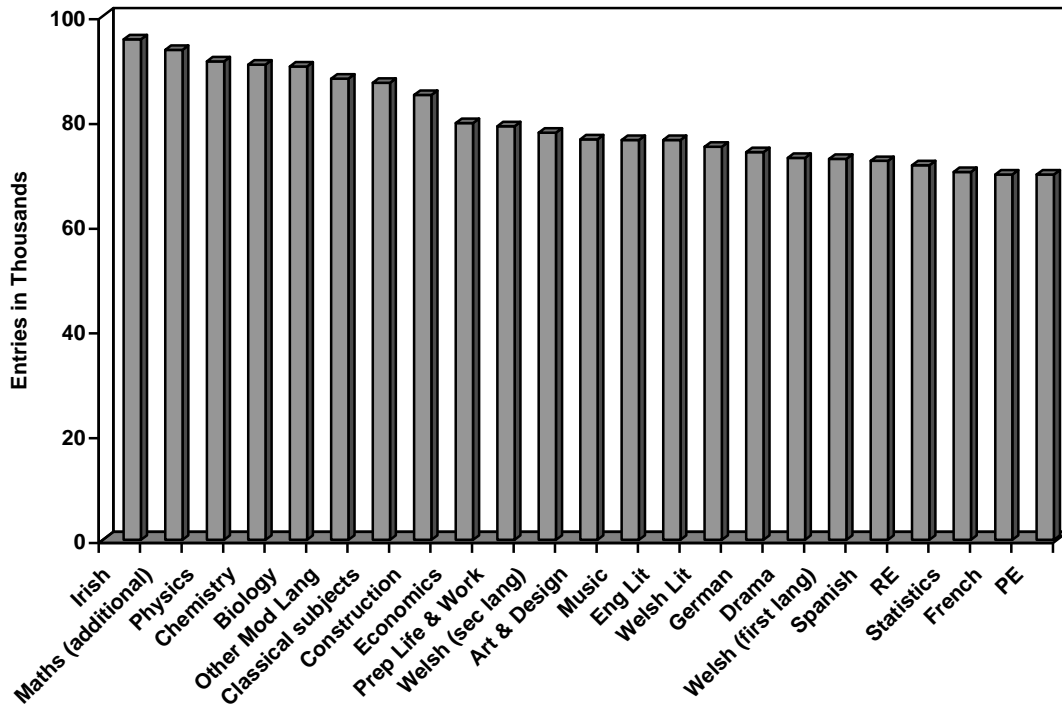
Year	A*	A*/A	A*-C	A*-G	Entries (millions)
1988	-	8.6	42.5	95.8	-
1989	-	9.9	45.6	97.2	-
1990	-	11.1	48.3	97.5	-
1991	-	11.6	49.0	97.9	-
1992	-	12.5	51.3	98.6	5.18
1993	-	12.7	52.4	98.2	4.96
1994	2.9	12.9	52.6	98.5	5.16
1995	3.2	13.0	52.7	98.6	4.97
1996	3.4	13.6	53.7	98.7	5.08
1997	3.6	14.0	54.4	98.5	5.35
1998	4.1	14.7	54.7	97.7	5.41
1999	4.4	15.2	55.8	97.9	5.49
2000	4.6	15.8	56.6	97.9	5.48
2001	4.9	16.1	57.1	97.9	6.63
2002	5.0	16.4	57.9	97.9	5.66
2003	5.1	16.7	58.1	97.6	5.73
2004	5.6	17.4	59.2	97.6	5.87
2005	5.9	18.4	61.2	97.8	5.74
2006	6.3	19.1	62.4	98.1	5.75
2007	6.4	19.5	63.3	98.0	5.83
2008	6.8	20.7	65.7	98.4	5.67
2009	7.1	21.6	67.1	98.6	5.47
2010	7.5	22.6	69.1	98.7	5.37
2011	7.8	23.2	69.8	98.8	5.15
2012	7.3	22.4	69.4	99.0	5.23
2013	6.8	21.3	68.1	98.8	5.45
2014	6.7	21.3	68.8	98.5	5.22

2.4 Chart 2.2 also shows a drop of 4.2 per cent in total entries compared with 2013 against a decline of 2.1 per cent in the number of 16-year-olds. This stems from the pattern of entries which will be explored further in Chapter 5. But first we turn in Chapter 3 to results in individual subjects.

3. Grades by Subject

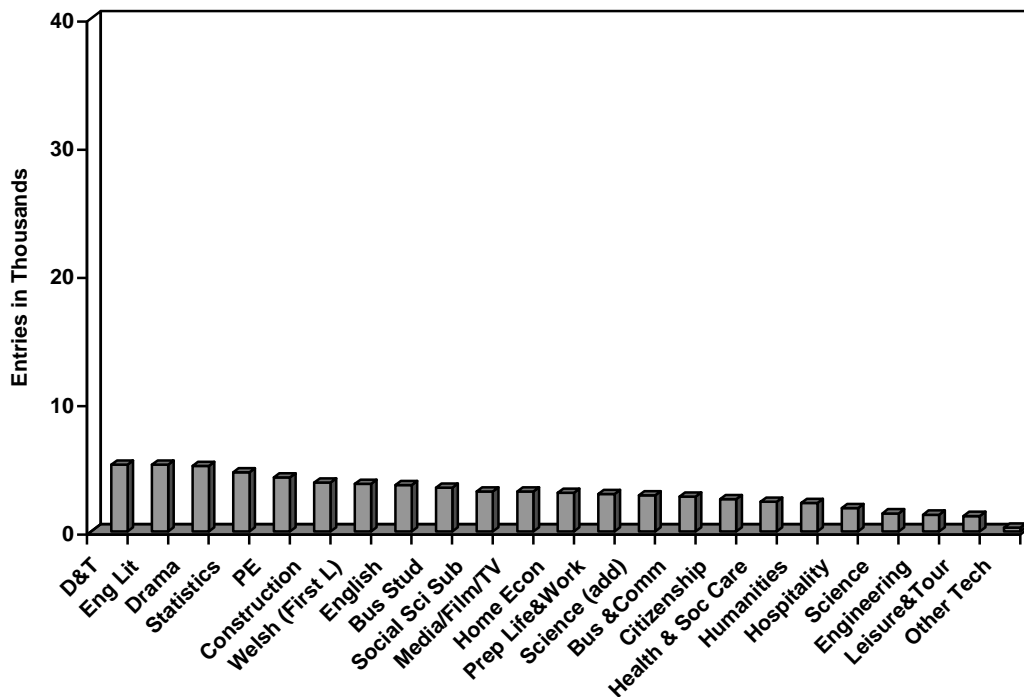
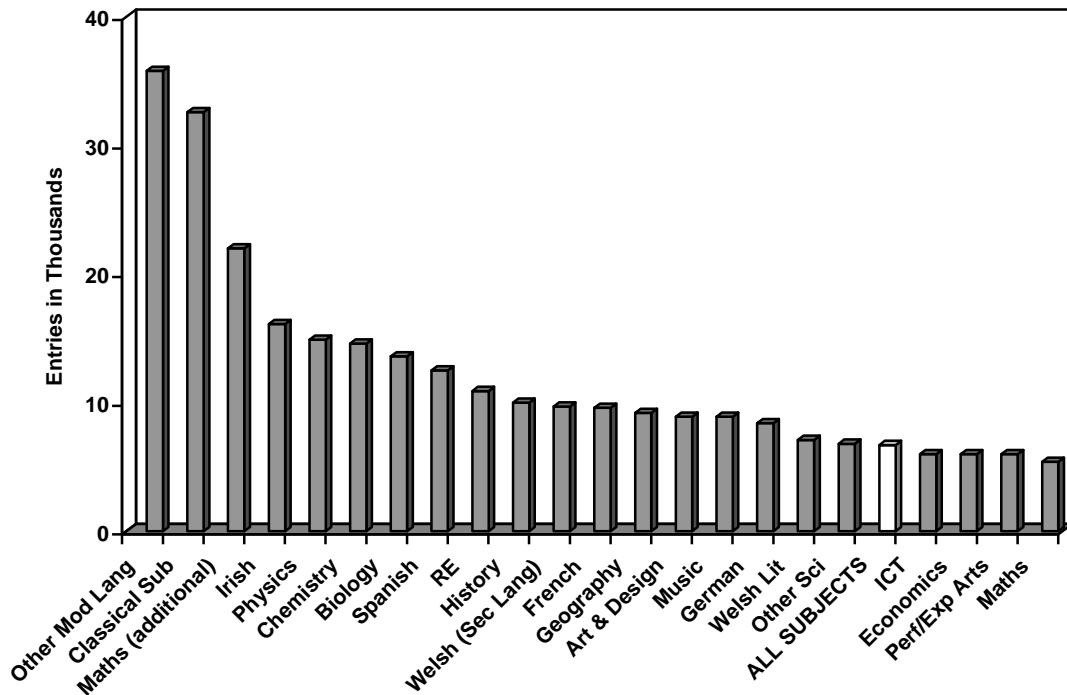
3.1. The pattern described in Chapter 2 is based on averages across subjects. Chart 3.1 shows the distribution of the all-important ‘C and above’ grades within subjects. It is evident there is wide variation ranging from over 90 per cent at the top end to just over 40 per cent at the other end of the spectrum.

Chart 3.1: Percentage A*-C Grades



3.2. The subjects tend to cluster in interesting ways. A high percentage of top grades is awarded in the sciences (as opposed to science), additional mathematics and languages, and fewest in applied GCSEs and, perhaps surprisingly at first sight, in subjects like science, English and maths. There is a ready explanation however. The picture is even sharper if, as in Chart 3.2, we consider only A* grades.

Chart 3.2: Percentage A* Grades in 2014



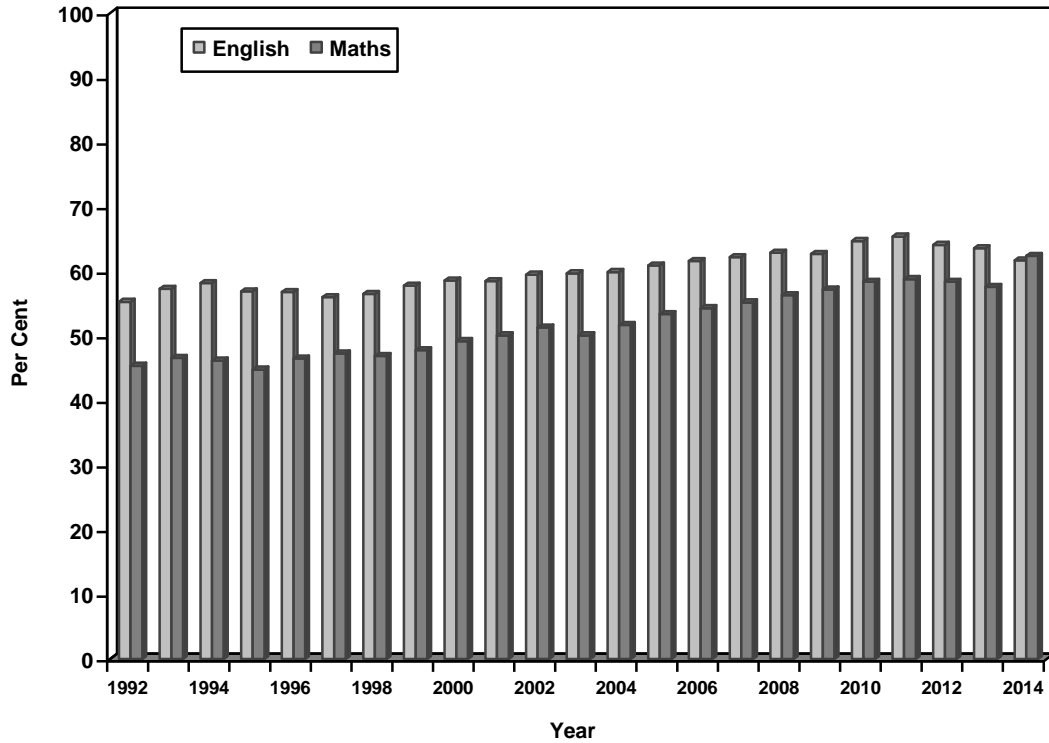
- 3.3. The subjects awarding the highest percentage of the top grade tend to be optional, have right answers and be chosen by those with those with the talent for them. Physics, chemistry and biology are options and tend to be taken by top sets while the other sets take combined science. ‘Other modern languages’ are often taken by native speakers of those languages, for example, Polish, Urdu and Portuguese. The exams are designed for those for whom it is a second language, so that those for whom it is their mother tongue are at a considerable advantage. The low proportion of god grades awarded in maths and English is because, crucial to performance measures, they are taken by all pupils not just a select few.
- 3.4. But it is not just the abilities of those who take the exams. It is easier to award top marks in subjects, like maths, the sciences and languages, which have right answers rather than subjects which are more subjective such as English and the social sciences.
- 3.5. English and maths which are the cornerstones of education and performance indicators exemplify these differences. Chart 3.3 shows the trends over the past twenty-three years. The broad pattern is for there to be a higher percentage of A* grades in maths, but a higher percentage of A*-C grades in English.

Chart 3.3.: English and Maths Grades

Year	English			Maths		
	A*	A*/A	A*-C	A*	A*/A	A*-C
1992	-	9.6	55.3	-	9.0	45.4
1993	-	10.2	57.3	-	9.0	46.6
1994	1.8	10.5	58.2	1.9	8.9	46.2
1995	1.8	10.8	56.9	1.8	8.3	44.8
1996	2.0	11.0	56.8	2.0	9.0	46.5
1997	2.0	10.7	56.0	2.1	9.6	47.3
1998	2.4	11.5	56.5	2.1	9.9	46.9
1999	2.6	12.3	57.8	2.3	10.3	47.8
2000	2.9	13.2	58.6	2.8	10.7	49.2
2001	3.1	13.6	58.5	2.8	11.1	50.1
2002	2.8	13.5	59.5	3.6	11.9	51.3
2003	3.1	14.3	59.7	3.1	11.6	50.1
2004	3.6	14.7	59.9	4.2	11.8	51.7
2005	3.7	15.1	60.9	4.1	13.0	53.4
2006	3.9	15.2	61.6	4.2	13.2	54.3
2007	3.8	15.3	62.2	4.1	13.7	55.2
2008	4.0	15.5	62.9	4.6	14.5	56.3
2009	4.1	15.6	62.7	4.6	15.4	57.2
2010	4.3	16.0	64.7	5.0	16.2	58.4
2011	4.7	16.8	65.4	5.2	16.5	58.8
2012	3.4	15.0	64.1	5.5	15.4	58.4
2013	3.3	14.2	63.6	4.9	14.3	57.6
2014	3.6	14.3	61.7	5.4	15.2	62.4

3.6. Chart 3.4 illustrates the trend at grade C and above graphically. It brings out the usually big lead of English over maths at this pass level from 1992 to 2013. But in 2014 there has been a dramatic turnaround in terms of A*-C. While the percentage for English dropped by 1.9 percentage points that for maths increased by 4.8 points, meaning that at this level maths was ahead for the first time.

Chart 3.4: English and Maths A*-C Grades in GCSE



3.7. This major shift attracted the attention of Ofqual which was able to demonstrate that it was associated with the changing pattern of entries. We consider these changes in Chapter 5.

4. Gender

4.1. Girls are considerably ahead of boys at all grades of GCSE. Chart 4.1 shows the trend by gender since 1989. Girls had a very slight lead over boys in the old O-level, but when it was replaced by the GCSE in 1988 a big gap opened up which has continued to this day. In terms of C grade and above - significant because this was the range designed to be equivalent to O-level and often treated today as the pass level - the gap was 4.3 percentage points in 1989 and by the turn of the century had more than doubled. That difference has been sustained to the present day when it stands at 8.8 percentage points.

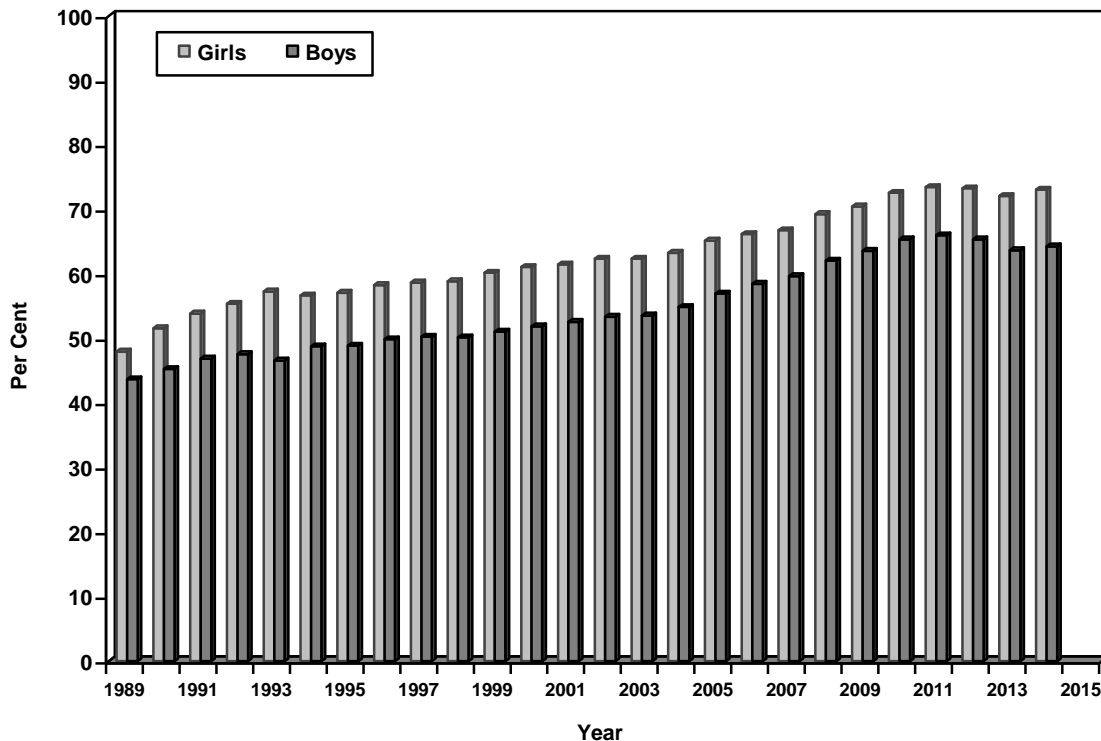
Chart 4.1: Boys and Girls Performance at GCSE

Year	A*		A*/A		A*-C		Diff
	Boys	Girls	Boys	Girls	Boys	Girls	
1989	-	-	9.1	10.6	43.7	48.0	4.3
1991	-	-	10.3	12.5	45.3	51.6	6.3
1992	-	-	10.8	13.8	46.9	53.9	7.0
1993	-	-	10.8	14.2	47.6	55.4	7.8
1994	2.5	3.2	11.2	14.8	48.8	56.7	7.9
1995	2.7	3.6	11.2	14.9	48.9	57.1	8.2
1996	2.9	3.9	11.7	15.8	49.9	58.3	8.4
1997	3.1	4.2	12.0	16.3	50.3	58.7	8.4
1998	3.4	4.9	12.3	16.9	50.2	58.9	8.7
1999	3.6	5.4	12.7	17.6	51.1	60.2	9.1
2000	3.7	5.6	13.1	18.4	51.9	61.1	9.2
2001	4.0	5.8	13.4	18.7	52.6	61.5	8.9
2002	4.1	5.9	13.7	19.0	53.4	62.4	9.0
2003	4.1	6.0	14.1	19.3	53.6	62.4	8.8
2004	4.6	6.5	14.7	20.0	54.9	63.3	8.4
2005	4.9	6.9	15.6	21.1	57.0	65.2	8.2
2006	5.3	7.3	16.4	21.8	58.5	66.2	7.7
2007	5.4	7.4	16.9	22.1	59.7	66.8	7.1
2008	5.7	7.5	17.9	23.5	62.1	69.3	7.2
2009	6.0	8.2	18.7	24.4	63.6	70.5	6.9
2010	6.3	8.6	19.6	25.5	65.4	72.6	7.2
2011	6.4	9.1	19.8	26.5	66.0	73.5	7.5
2012	6.0	8.7	18.9	25.6	65.4	73.3	7.9
2013	5.3	8.3	17.6	24.8	63.7	72.3	8.6
2014	5.2	8.1	17.6	24.8	64.3	73.1	8.8

4.2. In 2014 girls were ahead at grades A*-C in 46 of the 48 subject categories, the exceptions being a slight lead of 0.2 percentage points in maths and 5.1 pp in the small group taking 'other science' subjects (i.e. not combined science nor biology, chemistry or physics).

- 4.3. Unlike at A-level, girls are also ahead at A* with the exception of maths, additional maths, ‘other science’ and ‘other technology’ where boys were respectively 0.9 pp, 0.3pp, 4.5pp and 0.3 pp to the good.
- 4.4. Chart 4.2 shows the trends for grade C and above in graphic form. It is clear that there is something about GCSEs that suits girls. Comparisons with the pattern of results at O-level suggest that this may be because GCSEs are modular and contain a lot of course work whereas as O-levels were examined mainly by written end-of-course examinations. Comparison with A-level and degrees where boys are ahead in the highest grades and classes suggest that it may have also something with the level of the level of difficulty. Girls are said to apply themselves more conscientiously and consistently than boys and this is likely to pay off in the styles of examining adopted in GCSEs. It will be interesting to see what happens to the gender gap when the end-of course examining is revived for the courses starting in September 2015.

Chart 4.2: Girls and Boys GCSE Grades A*-C



English and Maths

- 4.5. English and maths are crucial to the main accountability measure and they are the only two GCSEs taken by nearly all pupils. Even science is taken as separate sciences or in combined form. Interestingly, they fall at either end of the gender gap spectrum. Chart 4.3 shows that while in English girls were ahead in 2014 by no less than 15.8 pp, boys held a narrow lead in maths of 0.2 pp. As such they are the two most disparate core academic subjects.

- 4.6. The difference in favour of girls in English is only exceeded by some peripheral subjects with small entries (engineering, 27.9 pp; health & social care, 26.1pp; hospitality, 21.1pp; media/film/TV, 20.8pp; art & design, 18.8pp; design & technology, 18.6pp; leisure & tourism, 18.2; ‘all other subjects’, 17.4pp; the three Welsh language and literature categories, average 17.2pp; and home economics, 15.9pp).
- 4.7. As we have already seen, maths is one of the only two subjects where the boys are ahead. This difference between maths and English in the relative performance of the sexes is consistent with research in psychology which shows that from the earliest years, on average, girls have higher verbal abilities and boys, numerical abilities. It is something which emerges also in the PISA international comparisons organised by the OECD.

Chart 4.3: Boys and Girls A*-C in English and Maths

Year	English			Maths		
	Boys	Girls	Girls Ahead	Boys	Girls	Girls Ahead
2000	50.8	66.4	15.6	48.8	49.7	0.9
2001	50.8	66.2	15.4	49.7	50.6	0.9
2002	52.1	67.0	14.9	50.8	51.8	1.0
2003	52.2	67.4	15.2	49.4	51.1	1.7
2004	52.7	67.1	14.4	50.9	52.6	1.7
2005	53.9	67.9	14.0	52.5	54.4	1.9
2006	54.7	68.6	13.9	53.5	55.0	1.5
2007	55.3	69.2	13.9	54.6	55.8	1.2
2008	56.1	69.4	13.3	55.9	56.8	0.9
2009	56.2	69.3	13.1	57.6	56.8	-0.8
2010	57.9	71.8	13.9	58.6	58.3	-0.3
2011	58.7	72.5	13.8	58.9	58.6	-0.3
2012	56.7	71.3	14.6	58.8	57.9	-0.9
2013	56.3	71.2	14.9	58.0	57.3	-0.7
2014	53.9	69.7	15.8	62.5	62.3	-0.2

- 4.8. Chart 4.3 also shows that girls have sustained their huge lead in English since the outset, but girls, once slightly ahead in maths, have been overtaken in that subject by boys who have retained a slight lead since 2009. In spite of how the GCSE appears to play to girls’ strengths, boys have begun to shine through in maths, and additional maths at A*.

5. Trends in Entry Patterns

- 5.1. The changes to the examinations and accountability measures are likely to have impacted on subject entries.

English and Maths

- 5.2. Chart 3.3 (page 6) shows that in 2014 there was a remarkable turnaround in the English and maths results. English for so long substantially ahead at grade C and above suddenly fell behind. Chart 5.1 shows this was associated with a sharp drop in the numbers sitting the exam from 2013 to 2014. The reduction of 30 per cent was the biggest among all the GCSEs that year. Ofqual was sufficiently concerned by the precipitate fall revealed in the early returns from the awarding bodies to conduct an analysis, publishing entries¹ for the first time in advance of results day.
- 5.3. It found that overall entries from the first year of GCSE studies (Year 10) had declined by 40 per cent since 2013 (836K down to 505K). While in total Year 11 entries were up by 3 per cent, in English they were down 28 per cent to 390K. This was due, at least in part, to switching to IGCSEs where entries were up 133 per cent to 105K. Some pupils will also have obtained grades they were happy with in Summer or November 2013 exams, which was then still possible.
- 5.4. In maths, the decline in entries from Year 10 pupils was even greater – down 82 per cent from 186K to 31K. In contrast, entries from Year 11 pupils were up 18 per cent to 580K. Entries from post-16 candidates also increased by 18 per cent to 97K.
- 5.5. Its analysis led Ofqual to warn: “the cohort taking GCSEs in England in summer 2014 is a different mix of students compared to the cohort in summer 2013. This could mean overall results in some subjects are different from those in 2013, even though standards have been held steady”.
- 5.6. As Chart 3.3 shows, results published in August bore this out. In English the number of A*-C grades fell by 1.9 percentage points to 61.7 per cent. This could have been due to the loss of high performers to IGCSEs, the removal of the internally and generously marked Speaking and Listening unit from the grading, and also some strong candidates entering in November 2013 (and so not needing to in Summer 2014), the final time this would be possible.
- 5.7. In maths, grades awarded at C and above rose 4.8 points to 62.4 per cent overtaking English for the first time. This seems to be associated with the new rule that only the first effort would count towards the accountability measure which meant that it was no longer a good tactic to enter weaker candidates early so they could have several shots at getting the crucial C grade. It is also possible that some high fliers who would previously have got the exam out of the way in the spring round now had had to wait till the summer. It is also true that the examination was more similar to that in 2013 with nothing akin to the removal of Speaking and Listening.

¹ Ofqual (May 2014). *Summer 2014 GCSEs and IGCSEs: The potential impact on results of changes in entry patterns.*

Chart 5.1: Change in Entries 2013 -2014

Subject	2013	2014	%Change 2013-2014
English	731.2	515.6	-29.5
Other Technology	1.5	1.1	-26.7
Construction	0.8	0.6	-25.0
Biology	174.4	141.9	-18.6
Science	451.4	375.0	-16.9
Chemistry	166.1	138.2	-16.8
Physics	160.7	137.2	-14.6
Welsh Lit	4.2	3.7	-11.9
French	177.3	168.0	-5.2
German	62.9	59.9	-4.8
Irish	2.1	2.0	-4.8
All Subjects	5445.3	5217.6	-4.2
Maths	760.2	736.4	-3.1
Design and Technology	219.9	213.6	-2.9
History	260.2	256.2	-1.5
Humanities	9.8	9.7	-1.0
Maths (additional)	3.5	3.5	0.0
Preparation for Life & Work	8.2	8.2	0.0
Welsh First Lang	5.6	5.6	0.0
Drama	75.4	75.9	0.7
English Lit	475.0	478.6	0.8
Geography	222.9	225.1	1.0
Other Mod Languages	31.4	31.9	1.6
Spanish	91.3	93.2	1.9
Music	46.2	47.1	1.9
Classical Subjects ⁴	16.0	16.4	2.5
Other Sciences	10.1	10.4	3.0
Performing /Expressive Arts	20.1	20.7	3.0
Home Economics	34.9	36.2	3.7
Welsh Second Lang	10.2	10.6	3.9
Art & Design	183.1	191.4	4.5
Religious Studies	264.0	282.1	6.9
Media/Film/TV	59.1	63.4	7.3
PE	104.9	113.0	7.7
Bus & Com Systems	14.5	15.7	8.3
Social Science Subjects	39.2	42.6	8.7
Economics	4.8	5.4	12.5
Additional Science	283.4	323.9	14.3
Business Studies	78.1	90.9	16.4
All Other Subjects	31.2	39.1	25.3
Hospitality	3.0	3.8	26.7
ICT	73.5	96.8	31.7
Statistics	43.9	61.6	40.3
Health & Social Care	11.0	16.1	46.4
Manufacturing	0.2	0.3	50.0
Citizenship Studies	11.7	19.7	68.4
Engineering	2.9	5.0	72.4
Leisure & Tourism	3.5	7.3	108.6
Computing	4.3	16.8	290.7

5.8. Whatever, the precise reason it is evident that the changes in the English and maths cohorts had impacted on results.

Physics, Chemistry and Biology

5.9. Chart 5.1 also reveals a major change of direction in GCSE physics, chemistry and biology entries. Between 2013 and 2014 entries fell by an average of 16.7 across the three subjects. Chart 5.2 shows that this stands in marked contrast to the growth of 169 per cent in the past decade.

Chart 5.2: Changes in Candidate Numbers over Past Ten and Twenty Years

Subject	1994 ²	2004	2014	%Change - 2004-2014	%Change 1994-2014
Home Economics	104.5	45.1	36.2	-19.7	-65.4
Economics	14.0	3.7	5.4	45.9	-61.4
Computing	34.3		16.8		-51.0
German	110.5	122.0	59.9	-50.9	-45.8
French	289.9	318.1	168.0	-47.2	-42.0
Business Studies	106.9	94.3	90.9	-3.6	-15.0
Geography	264.2	227.8	225.1	-1.2	-14.8
English	596.2	708.2	515.6	-27.2	-13.5
Classical Subjects ²	18.4	15.6	16.4	5.1	-10.9
Art & Design	212.0	211.7	191.4	-9.6	-9.7
All Subjects¹	5,160.9	5875.4	5,217.6	-11.2	1.1
English Lit	425.1	576.6	478.6	-17.0	12.6
History	227.4	230.7	256.2	11.1	12.7
Maths	601.6	741.7	736.4	-0.7	22.4
Music	36.5	56.7	47.1	-16.9	29.0
Design and Technology	143.0	437.4	213.6	-51.2	49.4
Welsh Second Language	6.3	12.2	10.6	-13.1	68.3
Welsh Literature	2.1	4.0	3.7	-7.5	76.2
Biology	75.2	53.4	141.9	165.7	88.7
Welsh First Language	2.9	5.1	5.6	9.8	93.1
Physics	53.7	50.4	137.2	172.2	155.5
Spanish	36.4	64.1	93.0	45.1	155.5
Chemistry	52.2	51.2	138.2	169.9	164.8
Religious Studies	102.0	141.0	282.1	100.1	176.6
Other Mod Languages	6.9	29.3	31.9	8.9	362.3
Social Science Subjects	4.1	1.5	42.6	2740.0	939.0

1. All subjects includes those not shown separately because they did not appear in comparable form across the three years; includes vocational GCSEs (previously GNVQs).

2. Includes Latin and Greek shown separately in 1994 but added together with classical civilisation to create a similar category to that in 2004 and 2014

5.10. This shift could be the first sign of a switch back to combined science at GCSE. Physics, chemistry and biology were largely swept away as separate subjects when O-level was replaced by GCSE because the 1988 National Curriculum specified that it was science that was to be taught to age 16 and appropriate qualifications were developed. This had an adverse effect of the take-up of physics at A-level with consequent shortfalls at university which continued through to 2004.

5.11. The concerns reached the government of the day and in 2004 Gordon Brown, as Chancellor of the Exchequer, launched the *Science and Innovation Investment Framework 2004-14*². This created incentives for schools to offer the separate sciences. It seemed to have done the trick with entries more than doubling through to 2013.

5.12. But in 2014 the trend reversed. What happened? It could be an unintended effect of the use of the EBacc performance indicator to nudge schools into concentrating on the core academic subjects in GCSE. Schools are scored on the percentage of their Year 11 who have achieved at least a grade C in two science passes as well as English, maths and a language (modern or ancient) and history or geography. If schools attempt to do this through the separate sciences they have to enter pupils for all three to comply with the National Curriculum even though only two will be counted towards the EBacc. On the other hand, the EBacc can be achieved through just two science GCSEs. Concomitant with the falls in physics, chemistry and biology, additional science rose by 14 per cent.

French and German

5.13. French and German are in a sorry state. From being a mainstay of school and university courses they are in long term decline. Chart 5.2 shows that in the past decade they are down by nearly 50 per cent. Chart 5.1 shows that in the last year alone they fell by about five per cent.

Chart 5.3: Other Modern Languages, 2014

Language	N
Italian	4,929
Polish	4,498
Urdu	3,976
Arabic	3,641
Chinese	3,132
Russian	2,400
Portuguese	2,197
Turkish	1,642
Japanese	1,019
Bengali	963
Panjabi	886
Gujarati	625
Persian	535
Modern Greek	516
Modern Hebrew	500
Dutch	406
Total	31,865

5.14. Schools are increasingly meeting the EBacc requirements through languages other than the traditional top two. Entries for Spanish have grown 156 per cent since 1994, and by two per cent in the past year. This probably has something to do with

² *Science and Innovation Investment Framework 2004-14*. news.bbc.co.uk/nol/shared/bsp/hi/pdfs/science_innovation_120704.pdf

the popularity of Spain as a holiday destination. But it also makes sense because Spanish is one of the four most-frequently-used languages across the world (the others are Mandarin, Hindi and English).

5.15. The growth of Spanish, however, has been far outstripped by increases in the ‘other modern languages’, where numbers have increased by 362 per cent since 1994. Chart 5.3 shows the languages that this term covered in 2014. While there are good reasons for native English-speakers to study Chinese and Russian, it is unlikely the same applies to Polish, Urdu and Portuguese. It seems likely that a significant proportion of the candidates are native speakers of those languages when the exam is designed for those for whom English is the first language. It suggests that some schools are using these subjects as an easy hit.

Other Subjects

5.16. As well as the changes in the core subjects considered so far there were major shifts in other subjects. Under the radar there has been the considerable increase in entries to **religious studies**. Chart 4.2 shows the growth was third only to social science subjects (**psychology and sociology**) and ‘**other modern languages**’.

5.17. Over the twenty-year period there were also large falls: **home economics, economics and computing** went down by half, and **geography** by 15 per cent. In the last decade **design and technology** has dropped by half, affected, as were the languages, by it being no longer compulsory for schools to enter pupils for GCSEs in these subjects.

5.18. Although **computing** dropped like a stone from 1994 to 2013, partly through schools switching pupils to ICT, Chart 5.1 shows it was the subject where intake increased most from 2013-14. This is in response to a government drive to promote it through treating it as a science for the purposes of the EBacc and the generous bursaries to train as teachers.

5.19. Also notable at positive end of the spectrum in Chart 5.1 are **applied GCSEs**: leisure and tourism, engineering, health and social care, and hospitality all recorded big increases in the past year

Chart 5.4: Changes in Other Subjects over Last Decade

Subjects ¹	2004	2014	Change
Bus & Comm Systems	33.6	15.7	-53.3
Humanities	17.8	9.7	-45.5
Irish	2.7	2.0	-25.9
Drama	100.1	75.9	-24.2
PE	134.1	113.0	-15.7
ICT	98.8	96.8	-2.0
Other Sciences	10.4	10.4	0.0
Additional Maths	3.2	3.5	9.4
Statistics	39.7	61.6	55.2
Media/Film/TV	39.8	63.4	59.3
Performing/Expressive Arts	9.7	20.7	113.4

Newer Subjects

- 5.20. Subject not classified separately in 1994, perhaps because they had not yet come on stream are compared over a ten-year period in Chart 5.4. Performing/expressive arts, media/film/TV, and statistics looked to have thrived, with substantial gains in the past year
- 5.21. Business and communication systems, humanities, drama and PE have declined over the decade, but all bar humanities went up in 2013-14

6. Countries of the UK

- 6.1. In 2002, Chart 6.1 shows, Wales was 2.3 percentage points ahead of England in the average of A*-C grades awarded at GCSE. But in the twelve years since England has overtaken Wales. In 2014 it had a lead of 2 pp. Northern Ireland has, however, during the whole period been well out in front. It was 11 pp ahead of England in 2002 and 9.4 pp ahead in 2014.

Chart 6.1: Percentage GCSE A*-C by Country

Year	England	Wales	NI	Total
2002	57.4	59.7	68.4	57.9
2003	57.6	59.7	69.0	58.1
2004	58.7	60.7	69.4	59.2
2005	60.8	61.3	71.0	61.2
2006	62.1	62.3	71.7	62.4
2007	63.0	63.0	72.4	63.3
2008	65.5	65.0	74.5	65.7
2009	66.9	65.5	75.1	67.1
2010	69.0	66.4	76.3	69.1
2011	69.8	66.5	74.8	69.8
2012	69.5	65.4	75.6	69.4
2013	67.9	65.7	76.5	68.1
2014	68.6	66.6	78.0	68.8

- 6.2. England, Northern Ireland and Wales have different exam boards and different regulators so the differences in outcomes could reflect these.
- 6.3. But more likely it is attributable to the school system and education policies. It is not a popular thing to say but an obvious candidate to account for NI's success, which emerges in international studies too, is its grammar school system. It could also be that that children in NI are brighter or motivated, but I am unaware of any evidence for this.
- 6.4. England and Wales have diverged in their use of testing and exam results in recent years. While England has laid great stress on both, Wales has taken the view that too much testing gets in the way of education and the results are essentially a private matter. This could have played a part, possibly a major one, in the cross-over in their relative GCSE performance. Wales has also performed poorly in the recent rounds of PISA testing and is beginning to re-think its position. The gap in England's favour was half in 2014 what it was in 2012 so it may be that Wales' concern is beginning to have an effect.