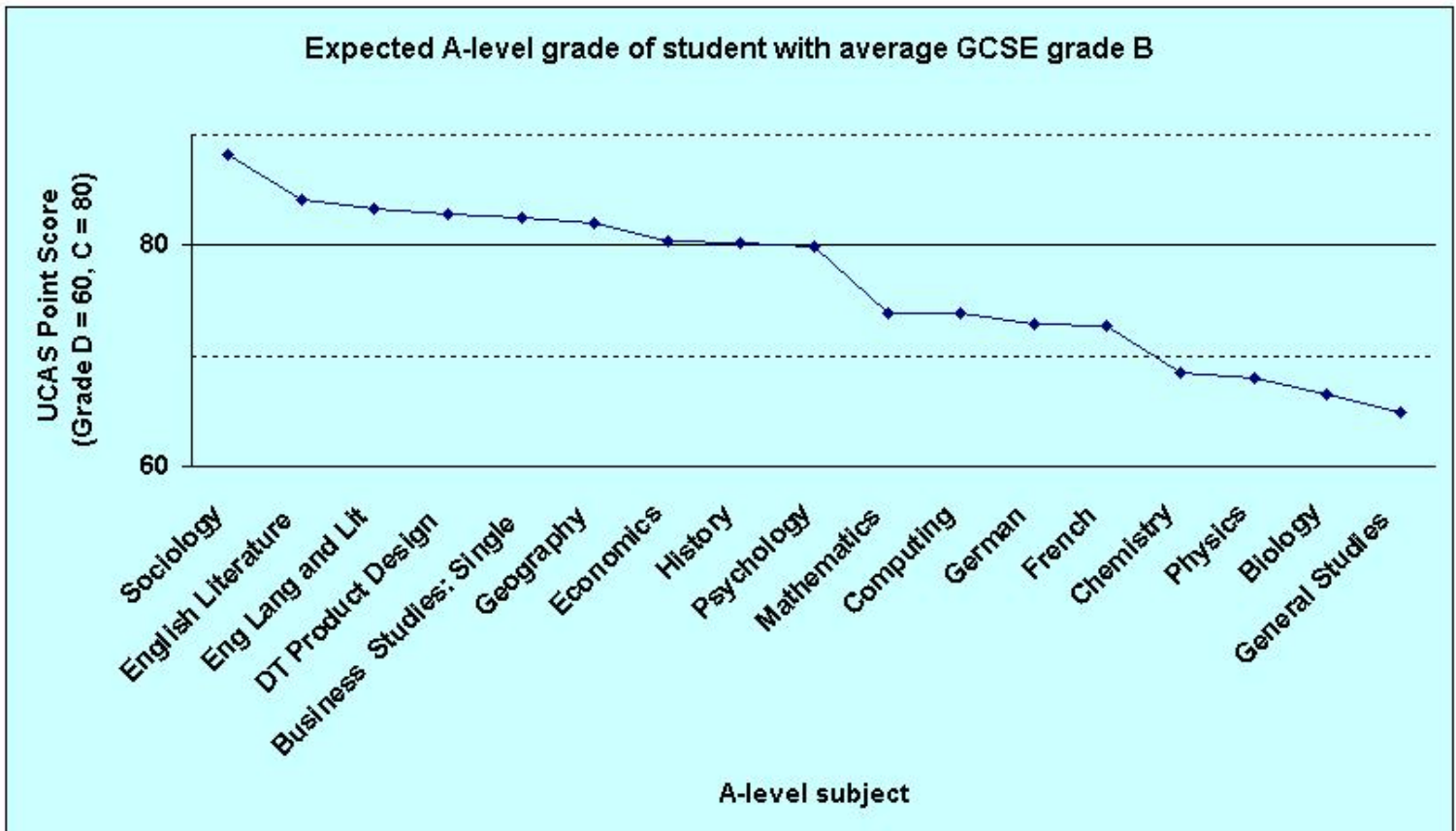




## A-Level Subject Difficulties

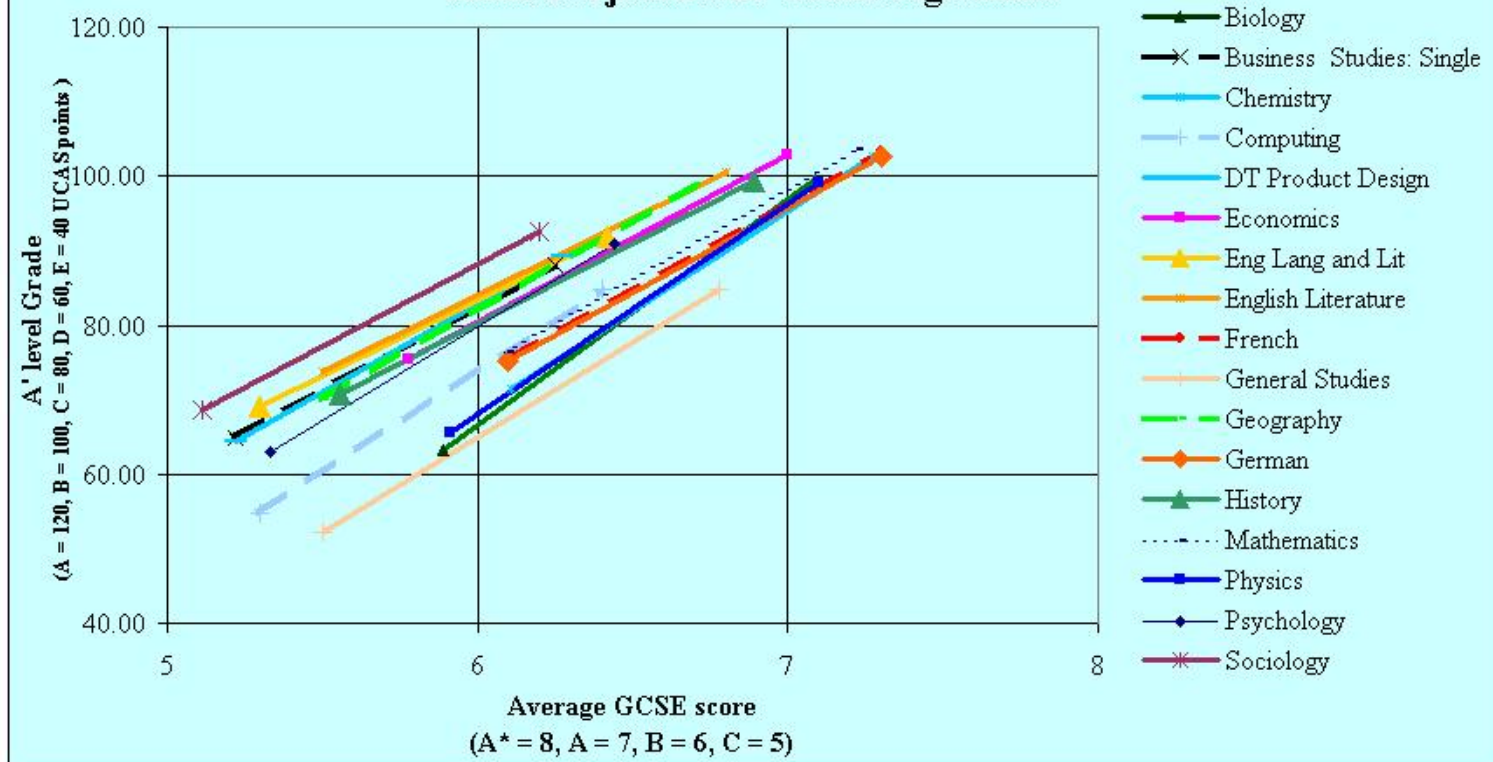
A typical A' level candidate has an average GCSE grade B.

The most likely A' level grades such a student would achieve, depending on their choice of subjects, are:



The best single, objective prediction of a student's A' level performance is provided by their prior achievement at GCSE. Graphs of A' level grade plotted against average GCSE grade demonstrate the differences between subjects:

## ALIS Project 2002: GCSE regression



These graphs, representing the middle 50% of students in terms of prior GCSE achievement, show a persistent pattern. Year after year, students taking mathematics, science or language A' levels have gained lesser grades than their contemporaries, with similar prior achievement, sitting business studies, psychology or law. There are good reasons for wanting to maintain different standards in different subjects but simplistic league tables are a powerful force discouraging the take up of "more severely graded" subjects.

### Relative Ratings

Because their motivation and skills will be different in different subjects it would not make sense to expect a student to achieve the same grade in each of their A' levels. But we might well expect that, across the country, equally talented maths candidates would gain similar grades to their companions taking English, for example. This is a tacit assumption with league tables. The method of Relative Ratings\* provides a way of "correcting" grades.

For the purpose of developing the argument, consider a student gaining two B grades and a D. A simple correction of the D grade would be to raise it up to a B, i.e. add two grades to it. But, under this system, each of the B grades should also be corrected. In this case each Grade B would be reduced to the average of the other two grades, a grade C, i.e. subtract one grade from each grade B.

In general:

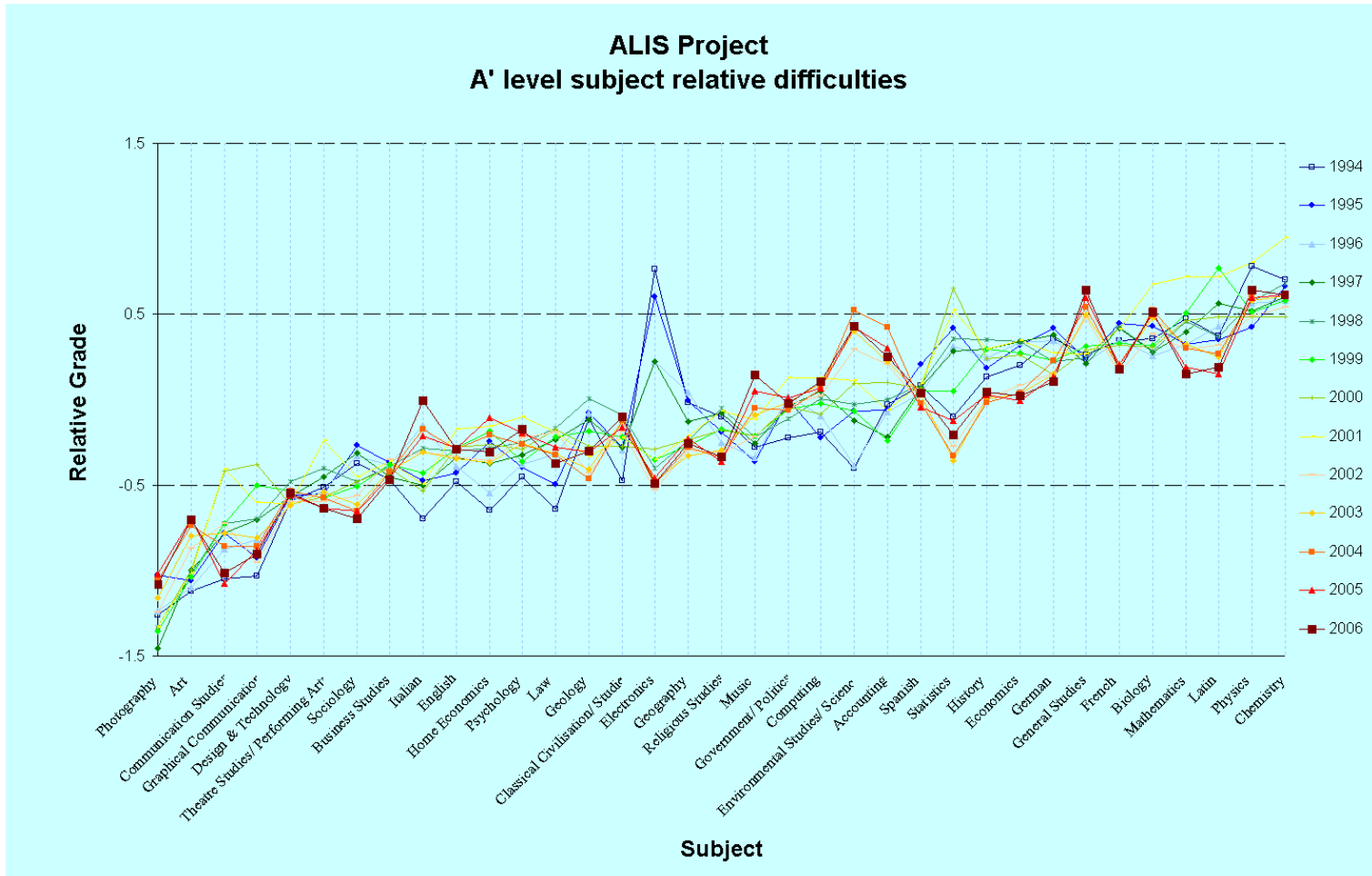
$$\text{correction} = \text{"the average grade in subjects other than subject I"} - \text{"grade in subject I"}$$

This would give new grades B, C and C - still not equal but closer together. Repeating this process several times brings the resulting grades as close as could be desired.

Of course, as has been said, it doesn't make sense to think of doing this for individual candidates. Instead, the Relative Ratings method uses, across each subject I:

$$\text{correction} = \text{the average of ("the average corrected grade in subjects other than subject I" - "grade in subject I")}$$

The Relative Ratings corrections (the amounts to be added to the grade for each subject) for recent years is shown in the following graph, which demonstrates the consistent differences between subjects.



Kelly, A (1976) "A study of the comparability of external examinations in different subjects" Research in Education, 16, 37-63.