How statistics determine examination results in England

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Abstract

This talk will provide a detailed description of how information on pupils' achievement in primary school examinations at age eleven is currently used to determine what percentage of them achieve the top grades in GCSE examinations in each subject at age 16. The talk will discuss the strengths and weaknesses of this approach based upon a recent evaluation of the technique for the qualifications regulator Ofqual. On the one hand, using resampling methods, it is possible to show that the standard errors associated with the recommended pass rates are kept fairly low. However, by comparing the recommended pass rates from the current technique to slightly improved approaches, based on more powerful data (that is, concurrent attainment rather than prior attainment) this talk will also show how the technique may fail to correctly adjust for changes in national attainment at primary school and also underestimate the extent to which pass rates should differ between different exam boards offering alternative versions of a GCSE in a given subject. Finally the talk will discuss the reasons why, despite its weaknesses, the regulator prefers to give more weight to statistical approaches to determining examination pass rates and less weight to evidence from expert judgement.

Further reading

This conference presentation was based upon results within the following report:

Benton, T., and Sutch, T. (2014) Analysis of the use of Key Stage 2 data in GCSE predictions. Ofqual, Ofqual/14/5471, Coventry. (https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/429074/2014-06-16-analysis-of-use-of-key-stage-2-data-in-gcse-predictions.pdf).