

October 4, 2010

The Vice-Chancellor
c/o Mrs Sally Powell
The University of Oxford

Dr. Nigel Berry
The University of Oxford

Dear Dr. Arabi,

I must sincerely apologise for the delay in providing a report on the Part B examinations in Statistics. Immediately after the examinations board meetings, I was responsible for a major conference, followed by a period of travelling. I regret that the inability to provide a report immediately led to a longer delay as other pressures arrived.

This was my second year as external examiner for Statistics in Part B. I have given comments below, using the headings suggested in your letter of invitation. The general comments on standards and processes parallel those which I made last year. Some more specific suggestions and comments are made in (v) and (vi) below.

- (i) *The academic standards set for its awards, or part thereof, are appropriate.*

The academic standards are entirely appropriate. Oxford enjoys students who have a high level of preparedness and ability and so it is entirely appropriate that the examination papers reflect this. There are challenging aspects to the examination questions but the material is also pitched at a level which makes it accessible by students who are good, but not necessarily outstanding within their cohort.

- (ii) *The extent to which assessment processes are rigorous, ensure equity of treatment for students and have been fairly conducted within institutional regulations and guidance.*

Dr. Laws and the rest of the team devote very considerable effort to the examinations process. Staff in the Department take their examining duties seriously and considerable time is clearly devoted to this. The whole procedure follows the institutional guidelines and is entirely fair in its treatment of students.

- (iii) *The standards of student performance in the programmes or parts of programmes which I have been appointed to examine.*

The overall standard of performance is high. The range of performances, from outstanding to adequate, indicates that the examination process is doing its job in placing candidates' at appropriate positions on the performance scale.

Occasionally, particular examination papers produce more homogeneous results, with the bulk of candidates scoring rather high, or rather low marks. These cases are examined carefully by the Board and discussed at length where appropriate. When

a large number of papers is being set, it is very difficult to rule out the occurrence of this completely but it is right that these individual cases are reviewed carefully and appropriate adjustments made if necessary. I was satisfied that this process was conducted carefully and fairly.

- (iv) *Where appropriate, the comparability of the standards and student achievements with those in some other higher education institutions.*

As I commented last year, the standard and achievements in Oxford are high in comparison with other institutions. The University has the benefit of recruiting students who have performed at a very high standard at school and Departments are able to build on this to excellent effect in their curricula.

- (v) *Issues which should be brought to the attention of supervising committees in the faculty/department, division or wider University.*

I commented last year on the the issue of comparing and scaling papers from different areas of the subject. This is always a problematic issue and I was again impressed by the careful thought and discussion given to this at the examiners' meeting and in the preparatory work which had clearly gone on beforehand. Last year I expressed a little concern about the 'strong paper rule' as I view this as only one way in which individual candidates worthy of special scrutiny might be identified. I continue to feel reassured that in fact this is simply used as a flag to prompt further in-depth discussion.

For those students who major on Statistics in Part B, the nature of the work involved can be rather different from that in Part A. In particular there is an element of practical work, as well as a strong component of modelling, which requires skills which are a little different from those required in other technical, mathematical topics. The courses and examinations reflect this appropriately in Part B. However, when the scaling of papers is considered it is performance in Part A mathematical courses which provides the initial benchmark. There may be a danger here that the performances of students who find they have an aptitude for statistics are down-weighted by poorer performance in rather different types of courses in Part A. Since degree results are based on a weighted combination of marks from Parts A and B, there is the possibility of a 'double whammy' here. This may be reflected in the slightly low proportion of firsts in Statistics which was thrown up by the initial algorithms. There was discussion of this issue, and careful review of students near the borderlines, so I am satisfied that good decisions were made. However, it may be helpful to consider this general issue in advance of next year's meeting.

- (vi) *Good practice that should be noted and disseminated more widely as appropriate.*

I commented last year on the custom-built database system which is used to discuss both overall patterns of results and the profiles of individual candidates. This is a very helpful and flexible system which can be used to adapt and amend the displays 'live', as discussion proceeded.

As a measure of the value of the system, I would like to make two small suggestions for enhancement. I fear that my suggestions for small but useful modifications arrived too late to be adopted last year. I will repeat them here as I think they may be valuable. One is that when scalings and transformations of marks are considered that the raw and transformed marks are displayed in histogram or 'jittered dotplot' form in the margins of the scatterplot. This would help to highlight gaps in the marks and allow better judgement of the effect of the transformation on the marks awarded. The second suggestion is that the line 'y=x' is added to the main display to give a useful visual reference.

Yours sincerely,

A handwritten signature in black ink that reads "Adrian Bowman". The signature is written in a cursive style with a large initial 'A' and a long, sweeping underline.

Prof. Adrian Bowman