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Impact of taking Core Maths: Analysis of OCR specifications

Research Report

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Introduction

Core maths (CM) is a Key Stage 5 qualification aimed at students who achieve a grade 4 or higher at GCSE Maths but do not go on to take AS or A level Maths. Its stated main purpose is to increase participation in post-16 maths and to help develop students' mathematical knowledge and its application to a range of different areas (DfE, 2013). This means CM qualifications may help students in subjects (taken concurrently) which have some mathematical content, such as geography, business, engineering, and the sciences.

The analysis presented here is part of a larger research project, investigating whether CM (from any awarding organisation, not just OCR) benefits students in other subjects taken concurrently, or in later Higher Education (HE) study. Two reports from this research have already been completed. In the first report (Gill, 2024a), the main finding was some evidence that students taking CM performed better than non-CM students in other subjects (A levels or BTECs) taken at the same time. The main findings outlined in the second report (Gill, 2024b) were that CM students were more likely to progress to an HE subject with a quantitative element, were less likely to drop out of HE, and were more likely to achieve a first-class or upper second-class degree. Thus, there is some evidence that taking CM supports other subjects with a quantitative element taken concurrently, or at HE.

There are different specifications for CM qualifications (across all awarding bodies) which vary in their content and therefore could support different subjects taken concurrently. In this report, the focus is on the two OCR specifications only. Table 1 summarises their content and which subjects they are likely to support[1].

Table 1: Summary of OCR Core Maths qualifications

Qualification name	Summary of content	Subjects supported
Core Maths A (MEI[2]) Level 3 Certificate	Introduction to quantitative reasoning; Critical maths. "Students use problem-solving cycles in modelling, statistics and financial mathematics in a variety of contexts, and check the outcomes of their calculations. They also use appropriate technology to work with quantitative information."	All Level 3 qualifications which have a quantitative skills requirement'. E.g., business and economics, PE and sport, health and social care, design and technology, engineering and all science subjects
Core Maths B (MEI) Level 3 Certificate	Introduction to quantitative reasoning; Statistical problem solving. "Starting from a problem to solve, a quantitative statement to evaluate or a question that has mathematics underlying it, students use a number of skills and processes in engaging in their reasoning. They are expected to think flexibly and use their mathematical and statistical knowledge to make logical and reasoned decisions."	Subjects that require statistical skills'. E.g., such as biology and environmental science, psychology, geography and sociology

[1] Taken from https://www.ocr.org.uk/qualifications/core-maths/

[2] Mathematics Education Innovation, a charity which advocates for improving lives through advances in mathematics education.

The suggestion here is that the two different specifications may be better at supporting different subjects. However, there may be some overlap, with specification A supporting all sciences and specification B supporting biology and environmental sciences.

In this report we describe an analysis of the uptake of the two different OCR Core Maths specifications and whether they support different subjects taken concurrently.

Data and methods

The data for this analysis was taken from the National Pupil Database (NPD) Key Stage 5 (KS5) extract for 2021/22. The NPD includes exam results for all students in schools and colleges in England, as well as many background characteristics (e.g., gender, ethnicity, school type).

Four sets of analyses were carried out in this research.

In the first analysis, descriptive statistics were used to investigate the numbers of students taking each OCR CM specification and which other qualifications/subjects they were combining it with. The aim of this was to explore whether students (or schools) were following OCR's guidelines about which specification supported which subjects.

Secondly, we compared the background characteristics of students taking the different specifications via descriptive statistics. The characteristics were prior attainment (KS4 points score), student gender, number and size of other qualifications taken, ethnicity, first language, special educational needs (SEN) status, deprivation (as measured by the Income Deprivation Affecting Children Index, IDACI), school type, school gender composition, and school mean KS5 attainment. For details on how these variables were defined see Gill (2024a).

The third set of analyses explored, via descriptive statistics and regression analyses, whether there were any differences in performance on other (A level) subjects taken alongside CM between students taking the different OCR specifications only. In particular, did students taking specification A perform better (than those taking specification B) on the A level subjects that specification A was meant to support? This was a direct comparison between the OCR specifications and therefore students taking any other specification (or none) were excluded.

Finally, we used regression analyses to investigate whether students taking an OCR CM qualification performed better in their other (A level) subjects (from the list of subjects meant to be supported by CM) than those not taking any CM (or AS / A level maths). Each OCR specification was analysed separately to see whether taking it was associated with improved performance.

Table 2 lists the A level subjects investigated in the third and fourth sets of analyses and which CM specification was meant to support them, according to the OCR website. These subjects were chosen because they were the only ones taken by at least 100 students who were also taking one of the OCR CM specifications. Each specification was meant to support three of the listed subjects, and one subject (biology) was supported by both.

Table 2: A level subjects and which OCR CM specification they are supported by.

A level subject	Supported by CM specification
Psychology	B
Biology	A / B
Chemistry	A
Business Studies	A
Geography	B
Economics	A
Sociology	B

OCR specification A v specification B – regression analysis

For the analysis directly comparing students taking OCR specification A or B, logistic regression models were run, predicting the probability of students achieving a particular grade or higher in the A level subject. For each subject in Table 2, I ran regression models with two separate dependent variables: achieving a grade A or better; achieving a grade C or better. Only students taking either of the OCR specifications were included. This was therefore a direct comparison of the two different specifications with each other (and not a comparison with those not taking CM). A variable was included which indicated which CM specification a student had taken. This was the main variable of interest. A statistically significant parameter estimate for this variable would indicate that there was a significant association between which CM specification was taken and the probability of achieving a particular grade or higher.

For each regression model, other contextual variables which were likely to have had an impact on the outcome variable were included, when statistically significant. These were prior attainment (KS4 points score), student gender, student total qualification size, school type, school sex composition, and school mean KS5 attainment. We also considered including four additional variables which were available in the NPD and were collected as part of the school census (ethnicity, first language, SEN status, IDACI). However, as independent schools and colleges are not required to complete the census, this data was missing for most students attending these schools. This meant that had we included these variables in the models the number of students with non-missing data would have been very low. Therefore, we decided not to include these variables.

The general form of the regression models was:

$$\log\left(\frac{p_i}{1-p_i}\right) = \beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \cdots + \beta_l x_{li}$$

where p_i is the probability of student i achieving the relevant grade or higher in the A level subject, x_{1i} to x_{li} are the independent variables (including the indicator of which CM specification was taken), and β_0 to β_l are the regression coefficients.

OCR specifications v no CM – regression analysis

For the final set of analyses (comparing students taking each OCR specification with those taking none) logistic regression models, predicting the probability of achieving a particular grade or higher in the A level subject, were fitted. For each subject in Table 2, I ran regression models with two separate dependent variables: achieving a grade A or better; achieving a grade C or better.

For this analysis, students taking one of the OCR specifications or students not taking any CM (or AS / A level maths) were included. Thus, students taking a CM qualification offered by another awarding organisation were excluded. In each regression model, a variable was included which indicated whether a student had taken CM and if so, which OCR specification it was (A or B). This was the main variable of interest. A statistically significant parameter estimate for either specification would indicate that there was a significant association between taking the specification and the probability of achieving a particular grade or higher.

Other contextual variables which were likely to have had an impact on the outcome variable were included in the models, when statistically significant. These variables were the same as those included in the analysis of background characteristics (see page 4). They included the four census variables, for which there was a lot of missing data. Students with missing data were excluded from the regression analysis. As a check to see whether the exclusion of these students had any impact on the results, additional models were fitted which excluded any of the census variables.

Multilevel regression models were used, as these accounted for the clustering of students within schools (leading to students within schools having, on average, more similar outcomes than students in different schools). For a more detailed description of multilevel logistic regressions see Goldstein (2011). The general form of the models was as follows:

$$\log\left(\frac{p_{ij}}{1-p_{ij}}\right) = \beta_0 + \beta_1 x_{1ij} + \beta_2 x_{2ij} + \cdots + \beta_l x_{lij} + u_j$$

where p_{ij} is the probability of student i from school j achieving the relevant grade or higher in the A level subject, x_{1ij} to x_{lij} are the independent variables (including the indicator of which CM specification was taken), β_0 to β_l are the regression coefficients, and u_j is a random variable at school level.

Results

Uptake of OCR CM and subjects combined with each specification

Table 3 shows the number of entries to all CM specifications in 2021/22.

Table 3: Core Maths entries by specification

Board specification number	Entries (n)	Entries (%)
AQA spec A	6,488	56.4
AQA spec B	1,787	15.5
AQA spec C	785	6.8
OCR spec A (H868)	589	5.1
OCR spec B (H869)	691	6.0
EdExcel	1,169	10.2
All	**11,509**	**100.0**

This shows that uptake of OCR specifications combined was well below uptake of AQA specifications but was above the uptake of the EdExcel specification. Slightly more students took OCR specification B than took specification A.

Table 4 presents the cumulative grade distributions for the two different specifications. This shows that students taking specification A performed slightly better than those taking specification B.

Table 4: Cumulative grade distributions for OCR Core Maths specifications.

Core Maths specification	N	A*	A	B	C	D	E
A	589	32.9	59.1	77.3	87.4	93.6	100.0
B	691	29.8	55.0	70.8	83.8	98.4	100.0

As mentioned in the introduction, each specification was meant to support different A level (or other KS5 qualifications) subjects. Therefore, we might expect that students taking each specification might also take a subject that it was meant to support. Table 5 shows the 10 most popular subjects taken alongside OCR specification A. Table 6 presents the same for OCR specification B.

These tables show that for both specifications the two most popular A level subjects taken alongside were biology and psychology. This is not surprising as these are two of the most popular A level subjects overall. However, the numbers and percentages of students taking these subjects were higher amongst specification B students than amongst specification A students. This suggests that students were more likely to be taking the specification which was meant to support these subjects (specification B).

The number of students taking BTEC engineering was higher amongst the students taking specification A (45, compared with fewer than 10 who took specification B). Again, this suggests that students were more likely to be taking the specification meant to support this subject.

In contrast, the number and percentage of students taking chemistry was higher amongst specification B students, despite specification A said to be better at supporting students taking science subjects (apart from biology and environmental science). However, it is likely that many chemistry students also took biology A level, which was meant to be better supported by specification B. The differences were very small in the percentages taking other subjects.

Table 5: Top 10 subjects taken by those taking OCR specification A H868 (N=589)

Subject	No. of students	% of those taking specification
EPQ	130	22.1
Psychology	129	21.9
Biology	119	20.2
Business Studies	92	15.6
Geography	85	14.4
History	79	13.4
Chemistry	70	11.9
Economics	65	11.0
BTEC Engineering	45	7.6
Sociology	44	7.5

Table 6: Top 10 subjects taken by those taking OCR specification B H869 (N=691)

Subject	No. of students	% of those taking specification
Biology	246	35.6
Psychology	240	34.7
Chemistry	149	21.6
Business Studies	119	17.2
BTEC Applied Sciences	110	15.9
Geography	109	15.8
Sociology	76	11.0
Economics	74	10.7
EPQ	66	9.6
History	50	7.2

Background characteristics of students taking each specification

Table 7 shows a breakdown, by categorical background characteristics, of students taking the different OCR specifications. For example, the table shows that 34.8% of students taking specification A were female, compared with 51.5% of students taking specification B. Compared with students taking specification B, those taking specification A were more likely to be male, were more likely to be white and less likely to be Asian, were more likely to speak English as a first language, were more likely to attend comprehensives and less likely to attend sixth form colleges, and were more likely to attend mixed gender schools.

Table 8 compares the mean and standard deviations for the continuous background characteristics amongst students taking the different specifications. This shows that students taking specification A had a lower mean KS4 points score and took a slightly

smaller number of qualifications on average. There was almost no difference between those taking specification A and those taking specification B in terms of the IDACI score or the centre level mean KS5 points score.

Table 7: Comparison of background characteristics of students taking each OCR CM specification (categorical variables)

Characteristic		% of students taking spec A	% of students taking spec B
Gender	Female	34.8	51.5
	Male	65.2	48.5
Ethnicity	White	87.6	63.6
	Asian	4.7	20.5
	Black	Supp	7.6
	Mixed	4.5	5.0
	Other	Supp	3.3
First language	English	95.5	74.2
	Other/ Unclass.	4.5	25.8
SEN	None	90.0	93.7
	SEN	10.0	6.3
School type	6th form	11.7	34.3
	Comp	48.9	25.5
	FE	18.2	21.4
	Ind /Sel / Other	21.2	18.8
School gender	Mixed	95.3	91.6
	Single	4.8	8.4

Table 8: Comparison of background characteristics of students taking each OCR CM specification (continuous variables)

Characteristic	Spec A (N)	Spec A mean	Spec A SD	Spec B (N)	Spec B mean	Spec B SD
KS4 points score	589	5.89	1.24	691	6.16	1.23
Total number of qualifications	581	2.87	0.50	681	3.01	0.42
IDACI score	380	0.12	0.10	302	0.13	0.12
Centre mean KS5 points score	589	35.90	4.70	691	36.80	5.50

A level performance of students taking OCR specification A v specification B

Table 9 presents, for the seven A level subjects I investigated, the cumulative grade distributions amongst students taking the two different OCR CM specifications. Due to statistical disclosure rules and the low numbers of candidates achieving particular grades, it was necessary to exclude the results for some grades in each subject, which is why there are greyed out cells in the table.

Table 9: Cumulative grade distributions for A level subjects by core maths specification

Subject	Core Maths specification	N	A*	A	B	C	D	E/U
Psychology	A	129	10.1	35.7	62.0	76.7		100.0
	B	238	18.1	42.0	67.6	81.5		100.0
Biology	A	118	8.5	24.6	50.8	68.6	89.0	100.0
	B	246	13.4	41.1	65.9	83.3	93.5	100.0
Chemistry	A	69		15.9	43.5	59.4	75.4	100.0
	B	146		37.0	56.2	78.1	88.4	100.0
Business studies	A	90		28.9	60.0			100.0
	B	118		32.2	64.4			100.0
Geography	A	84		22.6	56.0	82.1		100.0
	B	109		31.2	68.8	89.0		100.0
Economics	A	63		27.0	60.3	81.0		100.0
	B	73		38.4	64.4	84.9		100.0
Sociology	A	44			56.8			100.0
	B	76			57.9			100.0

This table shows that in all subjects apart from sociology, A level performance was substantially better amongst students taking specification B than those taking specification A. However, the numbers of students were quite low, particularly in economics and sociology, so we need to be cautious in our interpretation. Furthermore, we cannot say from these results that taking specification B was associated with better performance in the A levels. Other factors, such as student ability, will impact on the grades achieved in the A levels. Table 10 shows the prior attainment (mean KS4 points score) for students taking the different specifications and also taking each A level subject.

This shows that in all subjects apart from business studies and sociology, students taking specification B had higher prior attainment on average. The differences were only small, but this may partially explain why students taking specification B achieved higher grades on most of the A level subjects.

Table 11 presents the key results of the regression analysis investigating whether students taking one of the OCR specifications performed better in their A levels than students taking the other specification.

Table 10: Mean of KS4 point score for students taking A level subject, by CM specification

Subject	Core Maths specification	N	Mean	STD
Psychology	A	128	6.43	0.97
	B	234	6.56	1.14
Biology	A	117	6.79	0.94
	B	246	6.96	0.94
Chemistry	A	68	6.91	0.97
	B	146	7.12	0.92
Business studies	A	89	6.00	1.07
	B	117	5.94	1.02
Geography	A	82	6.42	1.07
	B	108	6.49	1.02
Economics	A	61	6.37	1.06
	B	72	6.45	0.96
Sociology	A	44	5.87	0.97
	B	76	5.71	1.02
All	**A**	**581**	**5.89**	**1.24**
	B	**681**	**6.16**	**1.23**

Table 11: Parameter estimates for CM variable in models predicting the probability of achieving a particular grade or higher in A level subjects

A level subject	Students	Grade	Parameter estimates
Psychology	362	A	-0.358 (0.286)
		C	0.338 (0.333)
Biology	362	A	0.727 (0.289)*
		C	0.727 (0.294)*
Chemistry	213	A	1.127 (0.416)*
		C	0.708 (0.357)*
Business Studies	206	A	0.195 (0.340)
		C	-0.500 (0.472)
Geography	190	A	0.451 (0.472)
		C	0.513 (0.518)
Economics	133	A	0.668 (0.430)
		C	0.344 (0.491)
Sociology	120	A	0.694 (0.511)
		C	-0.121 (0.588)

Table 11 shows the parameter estimates for the CM specification variable for each of the 14 models (7 subjects, each with 2 outcome variables), with standard errors in brackets. The full model results are shown in Appendix A. Statistical significance (at the 0.05 level) is indicated by an asterisk. The parameter estimates indicate the change (in the log odds scale) of achieving the grade for students taking specification B in comparison to taking

specification A. Therefore, a positive value indicates a higher probability of achieving the grade for students taking specification B.

The results show that there were only two subjects (biology and chemistry) where there was a significant difference in performance for students taking the different specifications. In each case, the parameter estimate was positive, indicating that students taking specification B had a significantly higher probability of achieving the grade (or better) than those taking specification A. There were significant effects for both grades A and C.

For the other subjects there were no significant differences, although it is worth noting that the parameter estimates were more likely to be positive than negative (i.e., higher probability for specification B).

The parameter estimates themselves are difficult to interpret as they are the difference in the log odds of achieving the grade or higher. However, we can transform them into probabilities. Figure 1 shows the probabilities for biology, and chemistry, for students taking the two different specifications The probabilities are for students who were in the reference category for each of the categorical variables in the model[3], and with a value of the continuous variables equal to the mean[4].

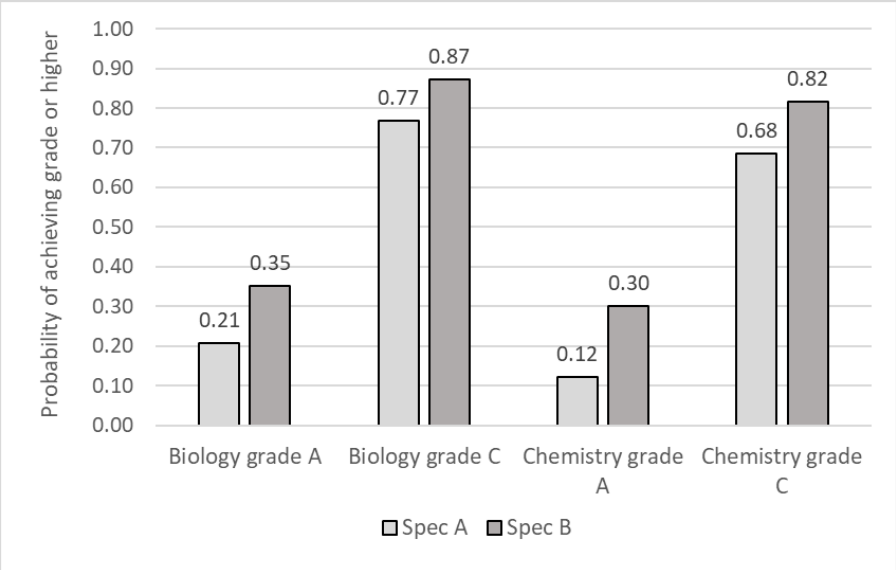

Figure 1: Probabilities of achieving a particular grade or higher in the subject, for students taking the different OCR specifications.

Figure 1 reveals some fairly large differences in probabilities (bigger at grade A than grade C), particularly in chemistry. The largest difference was for chemistry grade A, where those taking specification A had a probability of achieving at least a grade A of 0.12, compared with a probability of 0.30 for those taking specification B.

[3] See Appendix A for details of the reference categories.

[4] For Biology: KS4 mean points score = 6.91.

For Chemistry: KS4 mean points score = 7.05, Centre KS5 mean points score = 38.70.

A level performance of students taking OCR CM specifications v no KS5 maths

Table 12 presents the key results of the regression analysis investigating whether students taking either of the OCR specifications performed better in their A levels than students not taking any CM (or AS / A level maths).

Table 12: Parameter estimates for the CM specification variable in models predicting the probability of achieving a particular grade or higher in A level subjects

		Number of students			Core maths parameter estimate	
Subject	**Grade predicted**	**All variables model**	**No census variables model**	**CM specification**	**All variables model**	**No census variables model**
Psychology	At least grade A	40,060	63,094	A	0.380 (0.283)	0.447 (0.248)
				B	0.435 (0.264)	0.324 (0.195)
	At least grade C			A	-0.543 (0.304)	-0.435 (0.264)
				B	0.029 (0.361)	-0.300 (0.238)
Biology	At least grade A	24,213	36,657	A	0.299 (0.321)	0.233 (0.272)
				B	0.834 (0.245)*	0.780 (0.192)*
	At least grade C			A	0.064 (0.299)	-0.006 (0.255)
				B	0.653 (0.316)*	0.561 (0.225)*
Chemistry	At least grade A	13,033	20,113	A	-0.163 (0.459)	-0.351 (0.39)
				B	0.531 (0.304)	0.692 (0.235)*
	At least grade C			A	0.101 (0.375)	0.068 (0.310)
				B	0.524 (0.333)	0.682 (0.260)*
Business Studies	At least grade A	17.096	29,904	A	0.203 (0.330)	0.209 (0.299)
				B	0.666 (0.353)	0.692 (0.260)*
	At least grade C			A	1.035 (0.544)	0.653 (0.427)
				B	0.172 (0.491)	0.219 (0.326)
Geography	At least grade A	17,018	25,851	A	-0.651 (0.400)	-0.545 (0.352)
				B	0.173 (0.379)	-0.020 (0.300)
	At least grade C			A	-0.091 (0.409)	-0.112 (0.360)
				B	0.533 (0.560)	0.329 (0.376)
Economics	At least grade A	10,295	17,407	A	-0.281 (0.430)	-0.128 (0.373)
				B	0.180 (0.434)	0.605 (0.328)
	At least grade C			A	-0.093 (0.488)	-0.118 (0.410)
				B	0.417 (0.703)	0.104 (0.429)
Sociology	At least grade A	25,440	39,649	A	-0.859 (0.555)	-0.623 (0.451)
				B	-0.218 (0.465)	0.144 (0.332)
	At least grade C			A	-0.007 (0.586)	-0.230 (0.479)
				B	0.180 (0.518)	0.128 (0.369)

Table 12 shows the parameter estimates for the two CM specifications for each of the 14 models (7 subjects, each with 2 outcome variables), with standard errors in brackets. The

parameter estimates indicate the change (in the log odds scale) of achieving each grade or above for students taking each OCR specification in comparison to not taking any CM. Therefore, a positive (and significant) value indicates that there was evidence of higher probability for students taking the OCR specification. Statistical significance (at the 0.05 level) is indicated by an asterisk. The full model results are shown in Appendix A.

For each grade in each subject the results of two models are presented. The 'All variables' model includes all statistically significant variables, including the census variables. Because of the large amount of missing data, this model was run on a much-reduced number of students. The 'No census variables' model excludes all the census variables and therefore includes all students.

The results in Table 12 show that there were a few subjects with a statistically significant (and positive) parameter estimate for OCR specification B. These were biology (grades A and C), chemistry (grades A and C), and business studies (grade A). For these subjects, students taking specification B had a higher probability of achieving the grade (or higher) than students not taking any CM. For both Chemistry and Business Studies, the significance was only present in the 'No census variables' model. It is worth noting that the number of students included in this model was much larger than in the 'All variables' model, meaning that the size of the effect does not need to be as large to attain statistical significance.

There was no evidence that students taking specification A performed any better than students not taking any CM.

As before, for easier interpretation, we can transform the parameter estimates into probabilities. Figure 2 shows the probabilities of achieving each grade or above for biology, chemistry, and business studies, for students taking specification B, compared with those not taking any CM. These probabilities were derived from the results of the 'All variables' model for biology, and the 'No census variables' model for chemistry and business studies.,. These probabilities are for students in the reference categories for the categorical variables[5] and with a value of the continuous variables in the model equal to the mean[6].

In each case the differences between probabilities for non-CM students and those taking OCR specification B were small (about 0.1).

[5] See tables in Appendix A for details of the reference categories. Depending on the subject, the regression models included different variables and therefore had different combinations of reference categories.

[6] For Biology: KS4 mean points score = 6.85, IDACI score = 0.14, Candidate total qual size = 3.12, Centre KS5 mean points score = 37.69.

For Chemistry: KS4 mean points score = 7.04, Candidate total qual size = 3.12, Centre KS5 mean points score = 38.23.

For Business Studies: KS4 mean points score = 5.86, Candidate total qual size = 3.05, Centre KS5 mean points score = 36.80.

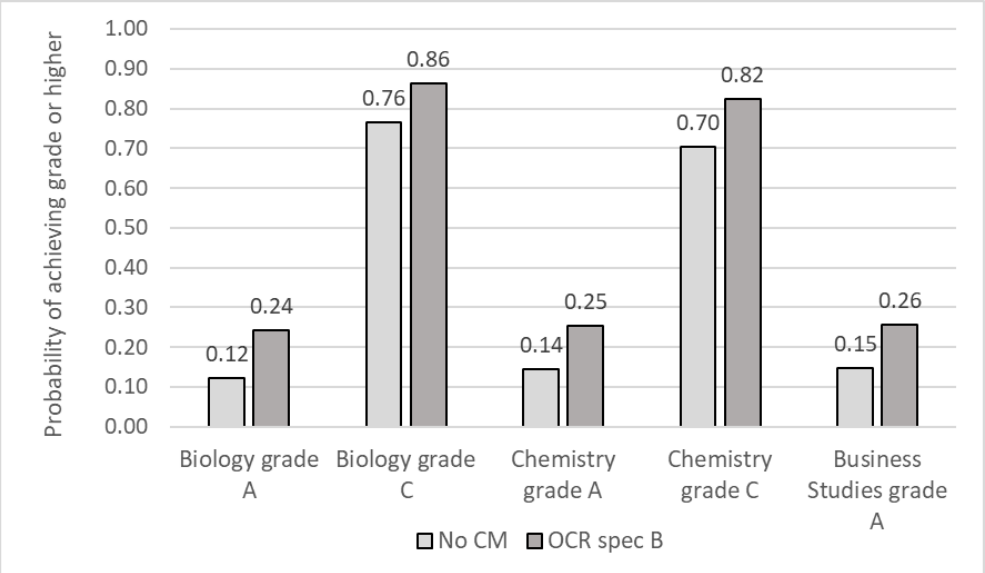

Figure 2: Probabilities of achieving a particular grade or higher in the subject, for students taking OCR specification B or not taking CM.

Conclusions

In this report, the two different OCR Core Maths specifications were compared in terms of the potential benefit they provide to the performance in other subjects (with a quantitative element) taken concurrently.

OCR specification B was more popular overall. This specification aims to support A level courses in, for example, psychology and biology. The uptake statistics showed that specification B was more popular amongst students taking these two A levels, which suggests that students were indeed taking the specification which best supported their A level choices. Similarly, specification A is meant to support engineering courses more than specification B and was more popular amongst students taking BTEC engineering.

However, almost all centres[7] only offered one OCR CM specification, which meant that often the students themselves did not have a choice about which specification to take. Some students were therefore unable to choose the specification which best supported one or more of their A level subjects. Furthermore, there were some students taking A level subjects, one of which was supported by specification A, and one supported by specification B (e.g., taking both psychology and business studies). For these students, taking either specification would be potentially beneficial.

When directly comparing students taking the OCR specifications, the regression analyses showed that there were only two A level subjects where there was a significant difference in performance: biology and chemistry, with students taking the CM specification B performing significantly better. For biology, this backs up the claim that CM specification B supports subjects that require statistical skills, such as biology. However, specification A is meant to

[7] 66 out of 69 centres

support students taking chemistry, and the results of the analysis suggested that chemistry students were actually more supported if they had taken specification B.

According to the results of the regression models, students taking specification B had higher probabilities of achieving particular grades or higher in some subjects than students not taking CM. This was the case for biology grades A and C, chemistry grades A and C, and business studies grade A. There was no evidence that students taking specification A performed better on their A levels than students not taking CM.

There was no evidence of a difference in performance in other A level subjects between students taking the two different OCR specifications. However, the numbers of students combining these subjects with the OCR CM specifications were low, which means that large differences in performance in these subjects would be needed in order to achieve statistical significance.

Finally, we need to be somewhat cautious with the interpretation of the results. Although, in some instances, we found a significant association between taking CM (specification B) and improved performance in other subjects taken concurrently, this does not mean that there was a causal link. There may be other reasons why these students performed better. For example, it may be that students taking CM were more motivated to do well academically than non-CM students and it was this that meant they did better in their other subjects, rather than taking CM per se.

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Appendix A

Regression analysis full results – OCR specification A v specification B

Table A1: regression parameters for a model predicting the probability of at least a grade A (A level Psychology, N=362)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-0.5451	0.2193	-2.49	0.0134
Core maths specification	OCR spec A				
	OCR spec B	-0.3582	0.2858	-1.25	0.2109
Ks4 mean points		1.3404	0.1632	8.21	<.0001
School gender	Mixed				
	Boys	-1.759	0.9544	-1.84	0.0662
	Girls	1.8681	0.4858	3.85	0.0001

Table A2: regression parameters for a model predicting the probability of at least a grade C (A level Psychology, N=362)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		2.0500	0.2961	6.92	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.3383	0.3331	1.02	0.3104
Ks4 mean points		1.8073	0.2196	8.23	<.0001

Table A3: regression parameters for a model predicting the probability of at least a grade A (A level Biology, N=362)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-1.3404	0.254	-5.28	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.7273	0.2893	2.51	0.0124
Ks4 mean points		1.4999	0.1811	8.28	<.0001

Table A4: regression parameters for a model predicting the probability of at least a grade C (A level Biology, N=362)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.1938	0.2382	5.01	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.7265	0.2937	2.47	0.0138
Ks4 mean points		1.2045	0.1762	6.84	<.0001

Table A5: regression parameters for a model predicting the probability of at least a grade A (A level Chemistry, N=213)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-1.9699	0.3849	-5.12	0.0001
Core maths specification	OCR spec A				
	OCR spec B	1.1266	0.4163	2.71	0.0074
Ks4 mean points		1.4625	0.2485	5.89	<.0001

Table A6: regression parameters for a model predicting the probability of at least a grade C (A level Chemistry, N=213)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		0.7760	0.2879	2.70	0.0076
Core maths specification	OCR spec A				
	OCR spec B	0.7079	0.3574	1.98	0.0489
Ks4 mean points		0.9949	0.2172	4.58	<.0001
Centre KS5 points		0.08975	0.04433	2.02	0.0442

Table A7: regression parameters for a model predicting the probability of at least a grade A (A level Business Studies, N=206)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-1.1175	0.2688	-4.16	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.1952	0.3399	0.57	0.5665
Ks4 mean points		1.0504	0.1958	5.36	<.0001

Table A8: regression parameters for a model predicting the probability of at least a grade C (A level Business Studies, N=206)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		2.7171	0.4278	6.35	<.0001
Core maths specification	OCR spec A				
	OCR spec B	-0.4997	0.4723	-1.06	0.2913
Ks4 mean points		1.2443	0.2630	4.73	<.0001

Table A9: regression parameters for a model predicting the probability of at least a grade A (A level Geography, N=190)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-2.0332	0.4137	-4.92	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.4512	0.4723	0.96	0.3406
Ks4 mean points		1.6602	0.2812	5.9	<.0001
Cand total qual size		3.1497	1.5111	2.08	0.0385
Centre KS5 points		0.286	0.08488	3.37	0.0009

Table A10: regression parameters for a model predicting the probability of at least a grade C (A level Geography, N=190)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		2.8611	0.5227	5.47	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.5128	0.5184	0.99	0.3238
Ks4 mean points		1.8571	0.3938	4.72	<.0001
Cand total qual size		2.005	0.8417	2.38	0.0182
Centre KS5 points		0.2159	0.08925	2.42	0.0165

Table A11: regression parameters for a model predicting the probability of at least a grade A (A level Economics, N=133)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-1.265	0.3424	-3.69	0.0003
Core maths specification	OCR spec A				
	OCR spec B	0.6676	0.4297	1.55	0.1227
Ks4 mean points		1.1338	0.2383	4.76	<.0001

Table A12: regression parameters for a model predicting the probability of at least a grade C (A level Economics, N=133)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		1.6970	0.3777	4.49	<0.0001
Core maths specification	OCR spec A				
	OCR spec B	0.3444	0.4912	0.70	0.4845
Ks4 mean points		0.9074	0.2973	3.05	0.0028

Table A13: regression parameters for a model predicting the probability of at least a grade A (A level Sociology, N=120)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		-1.8635	0.4451	-4.19	<.0001
Core maths specification	OCR spec A				
	OCR spec B	0.6936	0.5114	1.36	0.1776
Ks4 mean points		0.9981	0.2702	3.69	0.0003

Table A14: regression parameters for a model predicting the probability of at least a grade C (A level Sociology, N=120)

Effect		Estimate	Standard Error	t Value	Pr > |t|
Intercept		2.2816	0.5365	4.25	<.0001
Core maths specification	OCR spec A				
	OCR spec B	-0.1207	0.5881	-0.021	0.8378
Ks4 mean points		1.8447	0.4090	4.51	<.0001

Appendix B

Regression analysis full results – OCR specifications v no CM

Table B1: regression parameters for a model predicting the probability of at least a grade A (A level Psychology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=40060)	Model 2 (n=63094)
Intercept		-1.426 (0.030)*	-1.327 (0.025)
Core Maths specification	**None**		
	A	0.380 (0.283)	0.447 (0.248)
	B	0.435 (0.264)	0.324 (0.195)
KS4 points score		1.493 (0.019)*	1.406 (0.015)
Gender	**Female**		
Gender	**Male**	-0.514 (0.038)*	-0.523 (0.029)*
IDACI score		-1.221 (0.166)*	
Ethnic group	**White**		
	Other	0.263 (0.102)*	
	Asian	0.209 (0.049)*	
	Black	0.186 (0.064)*	
	Chinese	0.425 (0.230)	
	Mixed	0.175 (0.062)*	
	Unclassified	-0.138 (0.120)	
Candidate total qualification size		0.321 (0.049)*	0.345 (0.035)*
School type	**Comp/Academy**		
	6th Form College	-0.087 (0.172)	-0.043 (0.073)
	FE College	-3.453 (18.998)	0.148 (0.093)
	Independent	6.409 (11.293)	-0.593 (0.066)*
	Other	-0.043 (0.135)	-0.084 (0.131)
	Selective	-0.538 (0.078)*	-0.511 (0.074)*
Centre KS5 points score		0.106 (0.005)*	0.110 (0.005)*

Table B2: regression parameters for a model predicting the probability of at least a grade C (A level Psychology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=40060)	Model 2 (n=63094)
Intercept		2.134 (0.033)*	2.158 (0.028)*
Core Maths specification	**None**		
	A	-0.543 (0.304)	-0.435 (0.264)
	B	0.029 (0.361)	-0.300 (0.238)
KS4 points score		1.413 (0.021)*	1.279 (0.016)*
Gender	**Female**		
Gender	**Male**	-0.373 (0.033)*	-0.383 (0.026)*
IDACI score		-1.182 (0.158)*	
Ethnic group	**White**		
	Other	0.424 (0.109)*	
	Asian	0.409 (0.051)*	
	Black	0.580 (0.063)*	
	Chinese	0.713 (0.297)*	
	Mixed	0.252 (0.067)*	
	Unclassified	0.057 (0.112)	
Candidate total qualification size		0.869 (0.057)*	0.676 (0.039)*
School type	**Comp/Academy**		
	6th Form College	0.252 (0.195)	-0.137 (0.072)
	FE College	-1.012 (1.567)	0.143 (0.082)
	Independent	2.758 (12.822)	-0.408 (0.074)*
	Other	-0.130 (0.111)	-0.104 (0.108)
	Selective	-0.540 (0.090)*	-0.474 (0.087)*
Centre KS5 points score		0.115 (0.005)*	0.119 (0.004)*

Table B3: regression parameters for a model predicting the probability of at least a grade A (A level Biology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=24213)**	**Model 2 (n=36657)**
Intercept		-1.969 (0.036)*	-1.824 (0.031)*
Core Maths specification	**None**		
	A	0.299 (0.321)	0.233 (0.272)
	B	0.834 (0.245)*	0.780 (0.192)*
KS4 points score		1.813 (0.03)*	1.619 (0.022)*
Gender	**Female**		
Gender	**Male**	0.534 (0.046)*	0.451 (0.035)*
IDACI score		-1.385 (0.208)*	
Candidate total qualification size		0.275 (0.063)*	0.346 (0.045)*
School type	**Comp/Academy**		
	6th Form College	-0.193 (0.162)	0.018 (0.067)
	FE College	-1.055 (27.943)	0.159 (0.102)
	Independent		-0.498 (0.066)*
	Other	-0.539 (0.163)*	-0.541 (0.158)*
	Selective	-0.230 (0.072)*	-0.233 (0.067)*
Centre KS5 points score		0.079 (0.006)*	0.088 (0.050)*

Table B4: regression parameters for a model predicting the probability of at least a grade C (A level Biology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=24213)**	**Model 2 (n=36657)**
Intercept		1.177 (0.035)*	1.201 (0.029)*
Core Maths specification	**None**		
	A	0.064 (0.299)	-0.006 (0.255)
	B	0.653 (0.316)*	0.561 (0.225)*
KS4 points score		1.436 (0.024)*	1.300 (0.019)*
Gender	**Female**		
Gender	**Male**	0.414 (0.039)*	0.345 (0.031)*
IDACI score		-1.588 (0.183)*	
Ethnic group	**White**		
	Other	0.214 (0.110)	
	Asian	0.159 (0.052)*	
	Black	0.204 (0.068)*	
	Chinese	0.701 (0.293)*	
	Mixed	0.062 (0.077)	
	Unclassified	0.171 (0.129)	
Candidate total qualification size		0.305 (0.061)*	0.400 (0.045)*
School type	**Comp/Academy**		
	6th Form College	0.009 (0.173)	-0.020 (0.071)
	FE College	8.395 (24.173)	0.265 (0.091)*
	Independent		-0.422 (0.071)*
	Other	-0.112 (0.119)	-0.142 (0.116)
	Selective	-0.294 (0.080)*	-0.237 (0.076)*
Centre KS5 points score		0.095 (0.005)*	0.100 (0.004)*

Table B5: regression parameters for a model predicting the probability of at least a grade A (A level Chemistry; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=13033)**	**Model 2 (n=20113)**
Intercept		-1.940 (0.051)*	-1.778 (0.041)*
Core Maths specification	**None**		
	A	-0.163 (0.459)	-0.351 (0.39)
	B	0.531 (0.304)	0.692 (0.235)*
KS4 points score		1.515 (0.037)*	1.384 (0.028)*
Gender	**Female**		
Gender	**Male**	0.602 (0.059)*	0.548 (0.045)*
IDACI score		-1.759 (0.271)*	
Language	**English**		
	Other	0.205 (0.066)*	
	Unknown	0.076 (0.350)	
Candidate total qualification size			0.195 (0.061)*
School type	**Comp/Academy**		
	6th Form College	-0.381 (0.196)	0.016 (0.081)
	FE College	-1.103 (28.313)	0.097 (0.135)
	Independent		-0.499 (0.082)*
	Other	-0.270 (0.214)	-0.289 (0.209)
	Selective	-0.378 (0.087)*	-0.400 (0.080)*
Centre KS5 points score		0.083 (0.007)*	0.093 (0.006)*

Table B6: regression parameters for a model predicting the probability of at least a grade C (A level Chemistry; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=13033)	Model 2 (n=20113)
Intercept		0.772 (0.047)*	0.865 (0.038)*
Core Maths specification	**None**		
	A	0.101 (0.375)	0.068 (0.310)
	B	0.524 (0.333)	0.682 (0.260)*
KS4 points score		1.274 (0.030)*	1.117 (0.023)*
Gender	**Female**		
Gender	**Male**	0.499 (0.051)*	0.394 (0.041)*
IDACI score		-1.000 (0.231)*	
Ethnic group	**White**		
	Other	0.213 (0.122)	
	Asian	0.113 (0.061)	
	Black	0.294 (0.083)*	
	Chinese	0.389 (0.334)	
	Mixed	0.094 (0.099)	
	Unclassified	0.247 (0.160)	
Candidate total qualification size		0.293 (0.088)*	0.338 (0.062)*
School type	**Comp/Academy**		
	6th Form College	-0.003 (0.195)	0.020 (0.086)
	FE College	8.733 (23.688)	0.216 (0.116)
	Independent		-0.355 (0.087)*
	Other	-0.260 (0.160)	-0.286 (0.160)
	Selective	-0.554 (0.091)*	-0.553 (0.089)*
Centre KS5 points score		0.093 (0.007)*	0.105 (0.006)*

Table B7: regression parameters for a model predicting the probability of at least a grade A (A level Business Studies; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=17096)	Model 2 (n=29904)
Intercept		-1.828 (0.047)*	-1.763 (0.039)*
Core Maths specification	**None**		
	A	0.203 (0.330)	0.209 (0.299)
	B	0.666 (0.353)	0.692 (0.260)*
KS4 points score		1.313 (0.029)*	1.219 (0.021)*
Gender	**Female**		
Gender	**Male**	0.333 (0.047)*	0.296 (0.034)*
IDACI score		-0.924 (0.266)*	
Ethnic group	**White**		
	Other	0.057 (0.168)	
	Asian	0.060 (0.077)	
	Black	-0.423 (0.111)*	
	Chinese	-0.054 (0.374)	
	Mixed	-0.175 (0.099)	
	Unclassified	-0.345 (0.201)	
Candidate total qualification size		0.480 (0.077)*	0.388 (0.051)*
School type	**Comp/Academy**		
	6th Form College		-0.072 (0.080)
	FE College		-0.017 (0.111)
	Independent		-0.367 (0.074)*
	Other		-0.133 (0.167)
	Selective		-0.205 (0.092)*
Centre KS5 points score		0.077 (0.007)*	0.090 (0.006)*

Table B8: regression parameters for a model predicting the probability of at least a grade C (A level Business Studies; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=17096)	Model 2 (n=29904)
Intercept		2.129 (0.053)*	2.048 (0.044)*
Core Maths specification	**None**		
	A	1.035 (0.544)	0.653 (0.427)
	B	0.172 (0.491)	0.219 (0.326)
KS4 points score		1.374 (0.035)*	1.231 (0.024)*
Gender	**Female**		
Gender	**Male**	0.539 (0.052)*	0.478 (0.038)*
IDACI score		-0.808 (0.271)*	
Ethnic group	**White**		
	Other	0.035 (0.167)	
	Asian	0.079 (0.079)	
	Black	-0.317 (0.094)*	
	Chinese	-0.158 (0.437)	
	Mixed	-0.144 (0.104)	
	Unclassified	-0.036 (0.178)	
Candidate total qualification size		1.128 (0.092)*	0.815 (0.058)*
School type	**Comp/Academy**		
	6th Form College		-0.234 (0.087)*
	FE College		0.008 (0.105)
	Independent		-0.305 (0.092)*
	Other		0.059 (0.157)
	Selective		-0.233 (0.131)
Centre KS5 points score		0.095 (0.008)*	0.110 (0.006)*

Table B9: regression parameters for a model predicting the probability of at least a grade A (A level Geography; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=17018)	Model 2 (n=25851)
Intercept		-1.157 (0.042)*	-1.145 (0.036)*
Core Maths specification	**None**		
	A	-0.651 (0.400)	-0.545 (0.352)
	B	0.173 (0.379)	-0.020 (0.300)
KS4 points score		1.583 (0.030)*	1.505 (0.023)*
Gender	**Female**		
Gender	**Male**	-0.163 (0.047)*	-0.162 (0.037)*
IDACI score		-1.460 (0.279)*	
Ethnic group	**White**		
	Other	-0.230 (0.238)	
	Asian	-0.008 (0.094)	
	Black	-0.522 (0.148)*	
	Chinese	-0.144 (0.395)	
	Mixed	-0.233 (0.105)*	
	Unclassified	-0.189 (0.186)	
SEN	**None**		
	SEN no statement	0.356 (0.101)*	
	SEN statement	-0.179 (0.381)	
Candidate total qualification size		0.489 (0.074)*	0.415 (0.055)*
School type	**Comp/Academy**		
	6th Form College	-0.146 (0.221)	-0.138 (0.084)
	FE College	-4.323 (26.065)	0.075 (0.123)
	Independent	1.460 (1.522)	-0.169 (0.077)*
	Other	-0.308 (0.184)	-0.315 (0.178)
	Selective	-0.316 (0.089)*	-0.283 (0.083)*
Centre KS5 points score		0.073 (0.007)*	0.076 (0.006)*

Table B10: regression parameters for a model predicting the probability of at least a grade C (A level Geography; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=17018)**	**Model 2 (n=25851)**
Intercept		2.741 (0.052)*	2.646 (0.046)*
Core Maths specification	**None**		
	A	-0.091 (0.409)	-0.112 (0.360)
	B	0.533 (0.560)	0.329 (0.376)
KS4 points score		1.415 (0.035)*	1.311 (0.027)*
IDACI score		-1.871 (0.273)*	
Candidate total qualification size		1.012 (0.099)*	0.885 (0.073)*
School type	**Comp/Academy**		
	6th Form College	0.092 (0.262)	-0.111 (0.100)
	FE College	4.273 (27.47)	0.161 (0.127)
	Independent	3.835 (19.039)	0.085 (0.112)
	Other	-0.128 (0.164)	-0.104 (0.163)
	Selective	-0.479 (0.124)*	-0.438 (0.124)*
Centre KS5 points score		0.090 (0.008)*	0.104 (0.007)*

Table B11: regression parameters for a model predicting the probability of at least a grade A (A level Economics; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=10295)**	**Model 2 (n=17407)**
Intercept		-1.367 (0.060)*	-1.28 (0.052)*
Core Maths specification	**None**		
	A	-0.281 (0.430)	-0.128 (0.373)
	B	0.180 (0.434)	0.605 (0.328)
KS4 points score		1.306 (0.036)*	1.158 (0.026)*
Gender	**Female**		
Gender	**Male**	0.338 (0.062)*	0.303 (0.048)*
IDACI score		-1.311 (0.311)*	
Candidate total qualification size		0.378 (0.094)*	0.267 (0.062)*
School type	**Comp/Academy**		
	6th Form College	0.013 (0.234)	-0.200 (0.091)*
	FE College		-0.035 (0.154)
	Independent	-5.638 (25.201)	-0.176 (0.083)*
	Other	-0.413 (0.220)	-0.304 (0.205)
	Selective	-0.380 (0.103)*	-0.319 (0.094)*
School gender	**Mixed**		
	Boys		-0.151 (0.129)
	Girls		-0.249 (0.109)*
Centre KS5 points score		0.088 (0.009)*	0.099 (0.006)*

Table B12: regression parameters for a model predicting the probability of at least a grade C (A level Economics; Model 1=including census variables; Model 2 = excluding census variables)

Effect		**Model 1 (n=10295)**	**Model 2 (n=17407)**
Intercept		2.194 (0.072)*	2.132 (0.066)*
Core Maths specification	**None**		
	A	-0.093 (0.488)	-0.118 (0.410)
	B	0.417 (0.703)	0.104 (0.429)
KS4 points score		1.237 (0.043)*	1.055 (0.030)*
Gender	**Female**		
Gender	**Male**	0.359 (0.072)*	0.346 (0.056)*
IDACI score		-0.847 (0.329)*	
Candidate total qualification size		1.097 (0.131)*	0.755 (0.086)*
School type	**Comp/Academy**		
	6th Form College		-0.214 (0.107)*
	FE College		-0.035 (0.151)
	Independent		0.225 (0.119)
	Other		-0.374 (0.193)
	Selective		-0.185 (0.139)
School gender	**Mixed**		
	Boys		-0.450 (0.196)*
	Girls		-0.318 (0.176)
Centre KS5 points score		0.093 (0.010)*	0.110 (0.088)*

Table B13: regression parameters for a model predicting the probability of at least a grade A (A level Sociology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=25440)	Model 2 (n=39649)
Intercept		-1.531 (0.034)*	-1.420 (0.028)*
Core Maths specification	**None**		
	A	-0.859 (0.555)	-0.623 (0.451)
	B	-0.218 (0.465)	0.144 (0.332)
KS4 points score		1.306 (0.022)*	1.240 (0.017)*
Gender	**Female**		
Gender	**Male**	-0.247 (0.044)*	-0.216 (0.036)*
IDACI score		-0.967 (0.191)*	
Ethnic group	**White**		
	Other	0.269 (0.113)*	
	Asian	0.158 (0.059)*	
	Black	0.289 (0.066)*	
	Chinese	0.168 (0.357)	
	Mixed	0.087 (0.073)	
	Unclassified	0.052 (0.134)	
SEN	**None**		
	SEN no statement	0.367 (0.079)*	
	SEN statement	0.241 (0.245)	
Candidate total qualification size		0.474 (0.063)*	0.430 (0.046)*
School type	**Comp/Academy**		
	6th Form College	0.179 (0.198)	-0.038 (0.071)
	FE College		0.020 (0.088)
	Independent		-0.455 (0.149)*
	Other	-0.163 (0.152)	-0.189 (0.147)
	Selective	-0.288 (0.103)*	-0.232 (0.100)*
School gender	**Mixed**		
	Boys		-0.985 (0.330)*
	Girls		0.014 (0.093)
Centre KS5 points score		0.089 (0.006)*	0.087 (0.005)*

Table B14: regression parameters for a model predicting the probability of at least a grade C (A level Sociology; Model 1=including census variables; Model 2 = excluding census variables)

Effect		Model 1 (n=25440)	Model 2 (n=39649)
Intercept		2.165 (0.038)*	2.177 (0.032)*
Core Maths specification	**None**		
	A	-0.007 (0.586)	-0.230 (0.479)
	B	0.180 (0.518)	0.128 (0.369)
KS4 points score		1.322 (0.028)*	1.215 (0.020)*
Gender	**Female**		
Gender	**Male**	-0.076 (0.044)*	-0.090 (0.035)*
IDACI score		-0.782 (0.200)*	
Ethnic group	**White**		
	Other	0.253 (0.130)	
	Asian	0.324 (0.063)*	
	Black	0.407 (0.072)*	
	Chinese	0.808 (0.523)	
	Mixed	0.147 (0.084)	
	Unclassified	0.282 (0.155)	
Candidate total qualification size		0.966 (0.074)*	0.842 (0.053)*
School type	**Comp/Academy**		
	6th Form College		-0.169 (0.067)*
	FE College		0.155 (0.078)
	Independent		-0.246 (0.205)
	Other		0.194 (0.133)
	Selective		-0.203 (0.136)
School gender	**Mixed**		
	Boys		-0.199 (0.300)
	Girls		0.276 (0.113)*
Centre KS5 points score		0.096 (0.006)*	0.096 (0.005)*