Update to data analysis of unconditional offers

Annexes

To be read in conjunction with OfS 2020.32

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Publication date **23 July 2020**

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These annexes should be read alongside the report 'Update to data analysis of unconditional offers' (OfS 2020.32), available at www.officeforstudents.org.uk/publications/data-analysis-of-unconditional-offers-update/.

Throughout these annexes, entrant numbers are rounded to the nearest five. Totals are calculated from unrounded numbers; therefore some totals may differ from the sum of the rounded numbers reported. Continuation rates are also calculated from unrounded numbers, and as such percentage point differences may not sum to the (unrounded) continuation rate presented. Where data is provided for the most recent year of available data only, equivalent tables for 2015-16 and 2016-17 entrants can be found in the datafile associated with this report.[1]

[1] Available at www.officeforstudents.org.uk/publications/data-analysis-of-unconditional-offers-update/.

Annex A: Number and proportion of UCAS applicants entering higher education

1. Table A1 shows the number and proportion of students placed through different routes who were tracked using personal identifiers in the higher education student records. There are more opportunities to find applicants placed in earlier years in later years of the data. All tracking methods are dependent on the quality of the personal data used for matching, and therefore some of those not identified in higher education could be unmatched for data quality reasons. Those shown as not placed in UCAS, but found in higher education in the same year, could have been placed at higher education providers not recruited through the UCAS undergraduate scheme, such as conservatoires. Those applying for deferred entry are not included in the table. The table is split into the three broad UCAS routes into higher education: those placed through conditional offers, unconditional offers, and 'other UCAS routes' for applicants to the main scheme (i.e. excluding those placed through a Record of Prior Acceptance (RPA) or Direct Clearing). Definitions of these entry routes can be found in Annex C.

Table A1: Number and proportion of English 18-year-old UCAS applicants entering OfS registered higher education providers

Entry route	2013		2014		2015		2016		2017		2018	
	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%
Placed through conditional offer												
At same provider in same year	134,150	96.4	133,245	96.9	132,785	96.6	128,610	96.5	121,555	96.7	110,065	96.7
At same provider in later year	400	0.3	360	0.3	390	0.3	300	0.2	235	0.2	N/A	N/A
At different provider in same year	600	0.4	375	0.3	430	0.3	485	0.4	440	0.4	520	0.5
At different provider in later year	835	0.6	730	0.5	820	0.6	745	0.6	485	0.4	N/A	N/A
Entered in earlier year	0	0	0	0	0	0	0	0	0	0	0	0
Not identified in higher education	3,150	2.3	2,765	2	3,030	2.2	3,095	2.3	2,985	2.4	3,250	2.9
Placed through unconditional offer												
At same provider in same year	1,045	91.6	4,840	96.5	12,185	96.7	16,655	96.1	24,175	96.7	33,275	96.5
At same provider in later year	5	0.6	10	0.2	15	0.1	40	0.2	40	0.2	N/A	N/A

Entry route	2013		2014		2015		2016		2017		2018	
	Students	%	Students	%	Students	%	Students	%	Students	%	Students	%
At different provider in same year	15	1.1	20	0.4	30	0.2	55	0.3	70	0.3	160	0.5
At different provider in later year	20	1.7	30	0.6	80	0.6	105	0.6	90	0.4	N/A	N/A
Entered in earlier year	0	0	0	0	0	0	0	0	5	0	0	0
Not identified in higher education	55	4.9	115	2.3	290	2.3	470	2.7	630	2.5	1,060	3.1
Other main scheme UCAS route												
At same provider in same year	18,900	90.9	21,130	92.3	22,545	92.8	23,385	92.7	24,590	93.7	24,555	94
At same provider in later year	110	0.5	110	0.5	110	0.5	105	0.4	75	0.3	N/A	N/A
At different provider in same year	945	4.6	900	3.9	880	3.6	880	3.5	820	3.1	725	2.8
At different provider in later year	255	1.2	215	0.9	210	0.9	265	1.1	160	0.6	N/A	N/A
Entered in earlier year	0	0	0	0	0	0	0	0	0	0	0	0
Not identified in higher education	575	2.8	535	2.3	555	2.3	600	2.4	600	2.3	850	3.3
In UCAS, not placed												
At different provider in same year	1,915	100	2,035	100	2,210	100	2,255	100	2,545	100	2,655	100

Annex B: Continuation rates and numbers of entrants

1. Table B1 shows the number of entrants in 2017-18, and the proportion who continued into their second year of study (continuation rate) for different entry qualification profiles predicted at the time of application. The table is split into the three broad UCAS routes into higher education: those placed through conditional offers, unconditional offers, and 'other UCAS routes' for applicants to the main scheme (i.e. excluding those placed through a Record of Prior Acceptance (RPA) or Direct Clearing). Definitions of these entry routes can be found in Annex C. Equivalent versions of Table B1 for 2015-16 and 2016-17 entrants can be found in the datafile associated with this report.[2] Continuation rates are supressed where the corresponding number of entrants is less than 100.

Table B1: Number of 2017-18 entrants and their continuation rates by entry route, and predicted entry qualification type and level

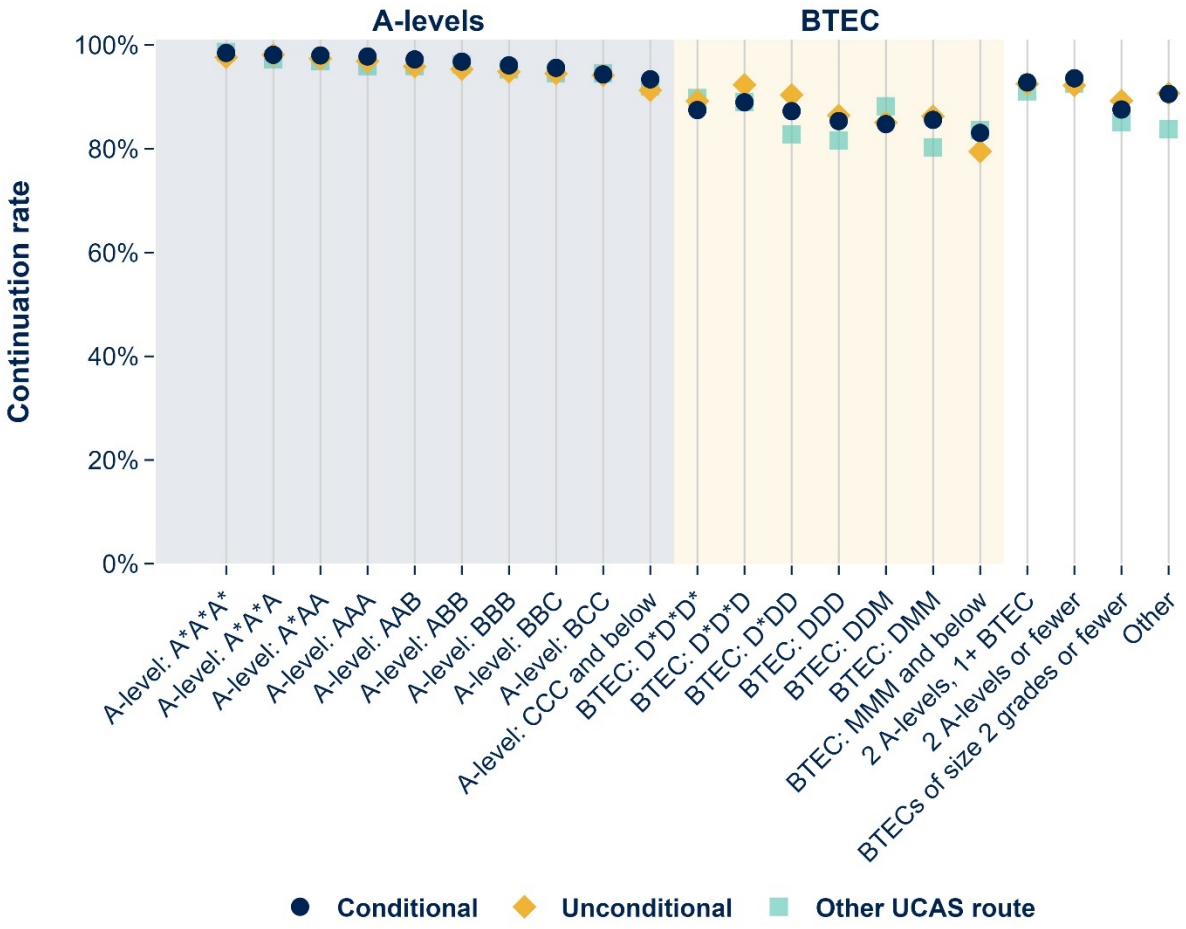
Predicted entry qualification type and grade profile	Number of entrants				Continuation rate			
	Conditional offer	Unconditional offer	Other UCAS route	All	Conditional offer	Unconditional offer	Other UCAS route	All
A-level: A*A*A*	7,385	300	300	**7,980**	98.5%	97.7%	98.7%	**98.5%**
A-level: A*A*A	6,670	585	690	**7,940**	98.1%	98.1%	97.2%	**98.0%**
A-level: A*AA	8,895	1,495	1,480	**11,865**	98.0%	97.4%	96.9%	**97.8%**
A-level: AAA	11,965	2,320	2,605	**16,890**	97.8%	96.9%	96.0%	**97.4%**
A-level: AAB	11,785	1,860	3,190	**16,830**	97.2%	95.9%	96.0%	**96.9%**
A-level: ABB	10,685	2,725	3,165	**16,575**	96.8%	95.3%	96.2%	**96.5%**
A-level: BBB	9,170	2,760	2,485	**14,415**	96.1%	94.9%	95.3%	**95.7%**
A-level: BBC	7,145	1,625	1,720	**10,490**	95.6%	94.5%	94.6%	**95.3%**
A-level: BCC	5,030	740	1,240	**7,010**	94.4%	94.2%	94.5%	**94.4%**
A-level: CCC and below	4,905	515	1,410	**6,830**	93.4%	91.3%	92.1%	**93.0%**

[2] Available at www.officeforstudents.org.uk/publications/data-analysis-of-unconditional-offers-update/.

Predicted entry qualification type and grade profile	Number of entrants				Continuation rate			
	Conditional offer	Unconditional offer	Other UCAS route	All	Conditional offer	Unconditional offer	Other UCAS route	All
BTEC: D*D*D*	2,835	805	315	**3,955**	87.5%	89.2%	89.8%	**88.0%**
BTEC: D*D*D	1,225	365	130	**1,715**	89.0%	92.3%	89.1%	**89.7%**
BTEC: D*DD	1,130	395	150	**1,680**	87.3%	90.4%	82.8%	**87.6%**
BTEC: DDD	1,945	745	250	**2,940**	85.3%	86.4%	81.6%	**85.3%**
BTEC: DDM	1,630	625	265	**2,515**	84.8%	85.1%	88.2%	**85.2%**
BTEC: DMM	1,255	285	210	**1,750**	85.6%	86.3%	80.3%	**85.1%**
BTEC: MMM and below	1,200	115	255	**1,570**	83.1%	79.5%	83.6%	**82.9%**
2 A-levels, 1+ BTEC	5,180	1,485	865	**7,530**	92.8%	92.5%	91.1%	**92.5%**
2 A-levels or fewer	4,850	825	1,110	**6,780**	93.6%	92.2%	92.6%	**93.3%**
BTECs of size 2 grades or fewer	7,135	1,785	1,125	**10,045**	87.6%	89.3%	85.1%	**87.6%**
Other	9,115	1,700	1,530	**12,345**	90.6%	90.7%	83.8%	**89.8%**
All	**121,125**	**24,055**	**24,475**	**169,655**	**94.6%**	**93.4%**	**93.4%**	**94.2%**

Note: This table shows English 18-year-old entrants in 2017-18, studying full-time courses, identified as entering in the same year and at the same OfS registered provider where they were placed through UCAS.

Figure B1: Continuation rates for different qualification types and predicted levels by route into higher education (2017-18 entrants)



Note: This figure shows English 18-year-old entrants in 2017-18, studying full-time courses, identified as entering in the same year and at the same OfS registered provider where they were placed through UCAS.

2. Table B2 shows the number of 2017-18 entrants with predicted A-level qualifications only, and the proportion who continued into their second year of study (continuation rate) for different entry qualification profiles predicted at the time of application. The table is split by the same entry routes as Table B1, with detailed unconditional offer routes. RPA and Direct Clearing applicants are not included. Continuation rates are supressed where the corresponding number of entrants is less than 100.

Table B2: Number of 2017-18 A-level entrants and their continuation rates by offer route, and predicted entry qualification profile

Predicted entry qualification profile	Number of entrants						Continuation rate (at least 100 entrants)					
	Conditional	'Conditional unconditional'	'Direct unconditional'	'Other unconditional'	Other UCAS route	All	Conditional	'Conditional unconditional'	'Direct unconditional'	'Other unconditional'	Other UCAS route	All
A*A*A*	7,385	260	10	30	300	**7,980**	98.5%	97.3%	-	-	98.7%	**98.5%**
A*A*A	6,670	495	30	60	690	**7,940**	98.1%	98.8%	-	-	97.2%	**98.0%**
A*AA	8,895	1,180	100	215	1,480	**11,865**	98.0%	97.5%	98.0%	96.3%	96.9%	**97.8%**
AAA	11,965	1,385	320	615	2,605	**16,890**	97.8%	97.5%	96.0%	96.1%	96.0%	**97.4%**
AAB	11,785	800	310	750	3,190	**16,830**	97.2%	96.3%	94.8%	95.9%	96.0%	**96.9%**
ABB	10,685	1,160	460	1,110	3,165	**16,575**	96.8%	95.4%	94.6%	95.6%	96.2%	**96.5%**
BBB	9,170	1,065	560	1,135	2,485	**14,415**	96.1%	94.6%	94.6%	95.2%	95.3%	**95.7%**
BBC	7,145	420	480	720	1,720	**10,490**	95.6%	95.5%	92.7%	95.2%	94.6%	**95.3%**
BCC	5,030	125	200	415	1,240	**7,010**	94.4%	97.6%	92.5%	93.9%	94.5%	**94.4%**
CCC and below	4,905	70	135	315	1,410	**6,830**	93.4%	-	91.7%	90.7%	92.1%	**93.0%**
2 A-levels or fewer	4,850	270	225	325	1,110	**6,780**	93.6%	94.4%	90.7%	91.4%	92.6%	**93.3%**
All	**88,475**	**7,230**	**2,830**	**5,685**	**19,390**	**123,615**	**96.7%**	**96.4%**	**94.1%**	**94.9%**	**95.4%**	**96.3%**

Note: This table shows English 18-year-old entrants with predicted A-level qualifications, studying full-time courses, identified as entering in the same year and at the same OfS registered provider where they were placed through UCAS.

3. Table B3 shows the number of entrants, and higher education providers with entrants, placed through conditional offers, unconditional offers and 'other UCAS routes' for each entrant year from 2015-16 to 2017-18.

Table B3: Number of entrants and higher education providers with entrants placed through different UCAS routes by year

Year	Placed through conditional offer			Placed through unconditional offer			Other UCAS route		
	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate
2015	235	132,275	94.5%	169	12,120	93.0%	234	22,410	92.9%
2016	241	128,070	94.6%	177	16,555	92.9%	232	23,250	93.1%
2017	244	121,125	94.6%	175	24,055	93.4%	217	24,475	93.4%

Note: This table shows English 18-year-old entrants, studying full-time courses, identified as entering in the same year and at the same OfS registered provider where they were placed through UCAS.

4. Table B4 shows the number of A-level entrants, and higher education providers with A-level entrants, placed through conditional offers, 'conditional unconditional' offers (which were chosen as Firm by the applicant), 'direct unconditional' offers, 'other unconditional' offers and 'other UCAS routes' for each entrant year from 2015-16 to 2017-18.

Table B4: Number of A-level entrants and higher education providers with A-level entrants placed through different types of offer by year

Year	Conditional offers			'Conditional unconditional' offers			'Direct unconditional' offers			'Other unconditional' offers			Other UCAS routes		
	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate	Providers	Entrants	Continuation rate
2015	200	97,035	96.9%	11	2,740	97.1%	77	1,020	94.9%	58	4,105	95.9%	200	17,380	95.1%
2016	211	93,085	96.8%	17	4,050	96.2%	86	2,265	94.2%	63	4,630	95.7%	194	18,245	95.1%
2017	202	88,475	96.7%	22	7,230	96.4%	79	2,830	94.1%	77	5,685	94.9%	184	19,390	95.4%

Note: This table shows English 18-year-old entrants with predicted A-level qualifications, studying full-time courses, identified as entering in the same year and at the same OfS registered provider where they were placed through UCAS.

Annex C: Definitions

Definitions of offers in this report[3]

1. **Offer with an unconditional component** – any offer that falls within one of the following categories:

    - **'Conditional unconditional' offer** – offers which are conditional at the point of offer and adjusted by the provider from conditional to unconditional when selected as an applicant's Firm choice. These are identified in the admissions system through free text fields that providers can use to communicate any additional information to applicants. The offer conditions are analysed at the point the applicant replies to the offer or, if this is not available, 30 June.

    - **'Direct unconditional' offer** – offers which are unconditional at the first point of offer.

    - **'Other unconditional' offer** – offers which are conditional at the point of offer and become unconditional before 30 June – the final date on which main scheme applications can be submitted, but which are not identified as 'conditional unconditional' from offer conditions.

Definitions of entry routes to higher education in this report

2. Separate from the different types of offer received by applicants, those who applied through the main scheme of UCAS and were placed are assigned to one of three acceptance routes in this analysis:

    - **Placed through conditional offer**: these were placed through the UCAS Firm or Insurance route (first or back-up choice) and to a choice that was not identified as unconditional. Approximately 87 per cent of these are Firm (first) choice. This includes those who received 'conditional unconditional' offers that they selected as an Insurance choice, since these offers remained conditional on the applicant's Level 3 attainment.

    - **Placed through an unconditional offer**: these were placed though the UCAS Firm (first choice) or Insurance (back-up choice) route and to a choice that was identified as unconditional on their Level 3 attainment. Approximately 94 per cent of these are Firm (first) choice.

    - **'Other UCAS route'**: These are applicants who applied in the main scheme and were then placed through a different route, including Clearing (87 per cent), Adjustment (3 per cent), Extra (7 per cent) and other main scheme routes (usually where a provider decision has not been made or the applicant has not replied to an offer by 30 June) – 3 per cent.

Variable definitions

3. The variables used in the statistical modelling are all calculated from variables available in the UCAS application data, on the Education and Skills Funding Agency's (ESFA's) individualised learner record (ILR) or the Higher Education Statistics Authority's (HESA's) student record or

[3] UCAS recently updated its definitions of the different types of unconditional offers. For more information, see 'End of cycle report 2019: Annex A: Redefining Unconditional Offers', available at https://www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/ucas-undergraduate-end-cycle-reports/2019-end-cycle-report.

alternative provider (AP) student record. The Index of Multiple Deprivation (IMD) 2015 quintiles are produced by the Ministry of Housing, Communities and Local Government[4] and are added to the UCAS, ILR, HESA student and AP student records.

Disability

4. Disability information is only used from the ILR and HESA student and AP student records. Disability is self-reported by students at the point of starting their course. Full details can be found in the OfS '2020 core algorithms'[5] document under the variable IPDISABLETYPE.

Ethnicity

5. Ethnicity information is taken from the ILR and HESA student and AP student records and categorised into 18 ethnicity groups. This is the same categorisation as the variable IPETHNICDETAIL in OfS '2020 core algorithms'[6] document, with two minor changes. We found that there were too few 'White – Irish' and 'White – any other background' entrants (around 50 each year) in this data to maintain model stability, so we included these groups under 'White'. For the same reason, Gypsy or Traveller applicants are included under 'Other ethnic background'.

IMD (2015)

6. The Index of Multiple Deprivation (IMD) 2015 is a measure of levels of deprivation for small areas within England. It is calculated at lower-layer super output area (LSOA) level and uses a number of different measures to determine levels of deprivation. It is produced by the Ministry of Housing, Communities and Local Government.[7] In our analysis, we group areas into IMD quintiles, where the most deprived areas are in quintile 1 and the least deprived are in quintile 5.

7. We have chosen not to adopt the updated 2019 IMD measure for this report to maintain comparability with the results from our previous report, which used the 2015 measure. We will consider using the 2019 IMD quintiles in future releases.

Local or distance learner

8. Local or distance learner is defined by comparing home travel to work area with study travel to work area, which are calculated from home postcode and study postcode respectively. Full details can be found in the OfS '2020 core algorithms'[8] document under the variable IPLOCAL.

[4] See https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015.

[5] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[6] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[7] See https://www.gov.uk/government/statistics/english-indices-of-deprivation-2015.

[8] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

POLAR4

9. The participation of local areas (POLAR) classification[9] groups areas across the UK based on the proportion of young people who participate in higher education. It looks at how likely young people are to participate in higher education across the UK and shows how this varies by area. POLAR classifies local areas into five groups – or quintiles – based on the proportion of 18-year-olds who enter higher education aged 18 or 19 years old. Quintile one shows the lowest rate of participation. Quintile five shows the highest rate of participation. In England it is calculated at middle-layer super output area (MSOA). This report uses the IPPOLAR4 variable, full details on which can be found in the OfS '2020 core algorithms'[10] document.

Sex

10. Sex is reported as either male or female. Full details can be found in the OfS '2020 core algorithms'[11] document under the variable IPSEX. Very few records show a response of 'other' or are recorded as unknown. To avoid having a group that is too small to use, responses other than male or female are not used in the modelling. There were fewer than 15 students in this category in our modelling population.

Subject of study

11. Subject information is only used from the ILR and HESA student and AP student records. Subject is defined by the mapping[12] of the IPJACS code (see OfS '2020 core algorithms'[13] document) to Version 1.3 of the Common Aggregation Hierarchy level 1 (CAH1) code.

Level of study

12. This is sourced from the ILR and HESA student and AP student records. Full details can be found in the OfS '2020 core algorithms'[14] document under the variable IPLEVEL. There have been some minor changes in the categorisation of this variable compared to our previous report, with some undergraduate courses now being identified as undergraduate with postgraduate components. This is unlikely to have affected the conclusions of this report. For more information on this change, please see the OfS '2019 to 2020 changes to core algorithms'[15] document.

[9] For more details of the POLAR measure, see www.officeforstudents.org.uk/data-and-analysis/young-participation-by-area/.

[10] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[11] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[12] See https://www.hesa.ac.uk/innovation/hecos.

[13] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[14] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

[15] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

Predicted entry qualification profiles

13. These are sourced from UCAS application data. The OfS received two variables, one with predicted A-level grades and one with predicted BTEC grades. The qualifications profiles are a combination of information of these. In Table C2, only grade profiles with 200 or more entrants in the modelling data are shown, although no such restriction was applied to the actual population used when modelling. Note that three predicted A-level grades equivalent to DDD or below are grouped in the 2 A-levels or fewer category, of which there were around 850 entrants across the three years of data included in the modelling of continuation rates.

Table C2: Predicted entry profiles for larger (200 entrants or more) predicted grade profiles

Predicted entry qualifications	Top three predicted A-level grades	Predicted BTEC grades
A-level: A*A*A*	A*A*A*	
A-level: A*A*A	A*A*A	
A-level: A*AA	A*A*B, A*AA	
A-level: AAA	A*AB, AAA	
A-level: AAB	A*AC, A*BB, AAB	
A-level: ABB	A*BC, AAC, ABB	
A-level: BBB	A*CC, AAD, ABC, BBB	
A-level: BBC	ABD, ACC, BBC	
A-level: BCC	ACD, BBD, BCC	
A-level: CCC and below	BCD, BCE, BDD, CCC, CCD, CCE, CDD	
BTEC: D*D*D*		D*D*D*
BTEC: D*D*D		D*D*D
BTEC: D*DD		D*DD
BTEC: DDD		DDD
BTEC: DDM		DDM
BTEC: DMM		DMM
BTEC: MMM and below		MMM, MMP, MPP, PPP
2 A-levels, 1+ BTEC	AA	D, D*
	AB	D, D*
	AC	D, D*
	BB	D, D*, M
	BC	D, D*, M
	BD	D, D*
	CC	D, D*, M
	CD	D, D*, M

Predicted entry qualifications	Top three predicted A-level grades	Predicted BTEC grades
2 A-levels or fewer	A*A, A*A*, AA, AB, AC, BB, BC, BD, CC, CD, CDE, DD, DDD	
BTECs of size 2 grades or fewer		D, D*, D*D (90 credit Diploma), D*D*, D*D* (90 credit Diploma), DD, DD (90 credit Diploma), DM (90 credit Diploma), M, MM (90 credit Diploma), MP (90 credit Diploma)
Other	-	-

Predicted entry qualification type

14. This variable is created by categorising the predicted entry qualification profiles (above) into three groups: A-levels, BTECs and Other. The categories are defined in the table below.

Table C3: Predicted entry qualification types

Predicted entry qualifications type	Predicted entry qualifications
A-levels	A-level: A*A*A*
	A-level: A*A*A
	A-level: A*AA
	A-level: AAA
	A-level: AAB
	A-level: ABB
	A-level: BBB
	A-level: BBC
	A-level: BCC
	A-level: CCC and below
	2 A-levels or fewer
BTEC	BTEC: D*D*D*
	BTEC: D*D*D
	BTEC: D*DD
	BTEC: DDD
	BTEC: DDM
	BTEC: DMM
	BTEC: MMM and below
	BTECs of size 2 grades or fewer
Other	2 A-levels, 1+ BTEC
	Other

Achieved entry qualification profiles (used only in Model II in Annex D)

15. These are sourced from the ILR and HESA student and HESA AP records. They show the achieved entry qualifications for entrants into higher education. For more information, see the variable IPGRADECOMB in the OfS '2020 core algorithms'[16] document.

Achieved entry qualification type (used only in Model II in Annex D)

16. This broad variable categorises the different achieved entry qualification profiles (IPGRADECOMB) into the same three groups as the predicted entry qualification type variable in Table C3: A-levels, BTEC, other.

Table C4: Achieved entry qualification types

Achieved entry qualifications type	Achieved entry qualifications (IPGRADECOMB)
A-levels	A*A*A*A*
	A*A*A*A
	A*A*AA
	A*AAA
	AAAA
	A*A*A*
	A*A*A
	A*AA
	AAA
	AAB
	ABB
	AAC
	ABC
	ACC
	BBB
	BBC
	BCC
	CCC
	CCD
	CDD
	DDD
	Below DDD
BTEC	BTECD*D*D
	BTECD*D*D*

[16] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

Achieved entry qualifications type	Achieved entry qualifications (IPGRADECOMB)
	BTECD*DD
	BTECDDD
	BTECDDM
	BTECDMM
	BTECMMM and below
Other	1A2B
	2A1B
	NOL3
	OTHL3
	BACC

Annex D: Details of the statistical modelling of continuation

17. This annex describes the statistical model used to assess differences in continuation rates between English 18-year-olds entering OfS registered higher education providers through conditional and unconditional offers, or 'other UCAS routes'. Alternative model specifications that we used are also described in this annex.

18. Annex E contains full details of the population used in the modelling.

This annex only contains model results for 2017-18 entrants. Full model results for all years and model specifications can be found in the datafile associated with this release.[17]

Model I

19. 169,655 English 18-year-olds entered higher education in 2017-18 at the OfS registered provider with which they were placed through UCAS, excluding those placed through RPAs or Direct Clearing. We modelled the probability that these entrants were still in higher education in the year after they entered (the continuation rates).

20. Multi-level modelling was employed to investigate whether the observed differences in continuation rates between applicants placed through different offers and 'other UCAS routes' can be explained by the different characteristics of the applicants.

21. The model reported here includes the following factors:

- provider where the applicant was placed through UCAS (random intercept)
- entry route (conditional offer, unconditional offer, 'other UCAS route')
- type of entry qualifications predicted at the time of application (A-levels, BTEC, other)
- entry qualifications predicted at the time of application
- subject studied
- level of study
- disability type
- sex
- ethnicity
- local or distance learner (defined as when a student's study 'travel to work' area is the same as their home 'travel to work' area)
- Participation of Local Areas (POLAR4) quintile
- Index of Multiple Deprivation (IMD).

[17] Available at www.officeforstudents.org.uk/publications/data-analysis-of-unconditional-offers-update/.

22. All factors listed above were modelled as fixed effects, with the exception of the provider where the applicant was placed, for which we used a random intercept, such that entrants are nested within providers.

23. Having found that the association between unconditional offers and continuation varies in magnitude and direction for A-level and BTEC entrants, we decided to interact the entry route variable with a predicted entry qualifications type variable, effectively producing separate estimates of the association for each of the predicted entry qualification types: A-levels, BTEC and other.

24. The predicted entry qualifications type variable is deterministically associated with the predicted entry qualifications variable (e.g. an applicant with predicted A-level grades A*BB on entry can only have a predicted entry qualifications type of 'A-levels'). This means that there are three reference groups in the parameter estimates for the effect of predicted entry qualifications (one for each type: A-levels, BTEC, other). Therefore, parameter estimates for predicted entry qualifications should be read as relative to the reference group given for that type of qualification.

25. The model is presented in Equation D1.

Equation D1: Model I format for continuation rate

$$\boldsymbol{Continuation\ rate} \sim \boldsymbol{Binomial}\left(\boldsymbol{const_j}, \boldsymbol{\pi_j}\right)$$

$$\begin{aligned}\boldsymbol{logit}\left(\boldsymbol{\pi_j}\right) = {} & \boldsymbol{\beta_{0j}} + \widetilde{\boldsymbol{\beta_1}}\left(\boldsymbol{Entryroute_{ij}} * \boldsymbol{Entryqualstype_{ij}}\right) + \widetilde{\boldsymbol{\beta_2}}\boldsymbol{Subject_{ij}} + \widetilde{\boldsymbol{\beta_3}}\boldsymbol{Level_{ij}} \\ & + \widetilde{\boldsymbol{\beta_4}}\boldsymbol{Entryquals_{ij}} + \widetilde{\boldsymbol{\beta_5}}\boldsymbol{Disability_{ij}} + \widetilde{\boldsymbol{\beta_6}}\boldsymbol{Ethnicity_{ij}} + \boldsymbol{\beta_7}\boldsymbol{Sex_{ij}} \\ & + \boldsymbol{\beta_8}\boldsymbol{LocalLearner_{ij}} + \widetilde{\boldsymbol{\beta_9}}\boldsymbol{POLAR_{ij}} + \widetilde{\boldsymbol{\beta_{10}}}\boldsymbol{IMD_{ij}}\end{aligned}$$

$$\boldsymbol{\beta_{0j}} = \boldsymbol{\beta_0} + \boldsymbol{u_j}$$

$$\boldsymbol{u_j} \sim \boldsymbol{Normal}\left(\mathbf{0}, \boldsymbol{\sigma_u^2}\right)$$

Note: The βs represent the fixed effects coefficients relating to individual i at provider j. u_j is the random intercept for provider j. The $\tilde{\beta} s$ denote vectors of different sizes.

26. Table D1 shows estimates of the fixed effects coefficients in Model I. Note that the p-values in Table D1 are calculated as the probability of observing this estimate under the null hypothesis that the coefficient is equal to zero. For example, the statistically significant estimate for BTEC entrants placed through unconditional offers indicates that the relationship with continuation rates is different to that of A-level entrants placed through conditional offers, not BTEC entrants placed through conditional offers. In order to determine whether the coefficients are significantly different from one another within predicted qualification types (A-levels, BTEC, other), the same model was run once for each for predicted qualification type as the reference group, allowing us to identify whether the estimates for unconditional offers were significantly different from those placed through conditional offers for the same type of entrant (see Table D2).

27. For the predicted entry qualifications variable, note that there are three reference groups: one for each qualification type (A-levels, BTEC, Other). Coefficient estimates are relative to the reference group within that qualification type.

Table D1: Coefficient estimates of the fixed effects in Model I (2017-18 entrants only)

Effect		Estimate	Standard error	p-value
Intercept		3.018	0.157	<.0001
(Type of predicted entry qualifications)*(Entry route)	A-levels: Placed through conditional offer (ref)	-	-	-
	A-levels: Other UCAS route	-0.234	0.04	<.0001
	A-levels: Placed through unconditional offer	-0.198	0.047	<.0001
	BTEC: Other UCAS route	-0.866	0.079	<.0001
	BTEC: Placed through conditional offer	-0.694	0.061	<.0001
	BTEC: Placed through unconditional offer	-0.563	0.074	<.0001
	Other: Other UCAS route	-0.926	0.081	<.0001
	Other: Placed through conditional offer	-0.433	0.061	<.0001
	Other: Placed through unconditional offer	-0.393	0.086	<.0001
Subject of study (CAH1)	Medicine and dentistry (ref)	-	-	-
	Agriculture, food and related studies	-0.045	0.182	0.803
	Architecture, building and planning	-0.034	0.167	0.840
	Biological and sport sciences	-0.136	0.147	0.357
	Business and management	-0.086	0.147	0.556
	Combined and general studies	-0.444	0.273	0.104
	Computing	-0.079	0.149	0.596
	Design, and creative and performing arts	0.055	0.148	0.709
	Education and teaching	0.29	0.157	0.064
	Engineering and technology	-0.142	0.147	0.335
	Geography, earth and environmental studies	0.228	0.165	0.168
	Historical, philosophical and religious studies	0.002	0.155	0.988
	Language and area studies	-0.198	0.152	0.193
	Law	-0.065	0.152	0.672
	Mathematical sciences	-0.388	0.157	0.013
	Media, journalism and communications	-0.057	0.155	0.714
	Physical sciences	-0.126	0.152	0.409
	Psychology	0.005	0.153	0.972
	Social sciences	-0.124	0.147	0.399
	Subjects allied to medicine	-0.143	0.147	0.334
	Veterinary sciences	0.496	0.295	0.093
Level of study	First degree (ref)	-	-	-
	Other undergraduate	-0.358	0.054	<.0001

Effect		Estimate	Standard error	p-value
	Undergraduate with postgraduate components	0.143	0.063	0.024
Predicted entry qualifications	2 A-levels or fewer (ref)	-	-	-
	BTECs of size 2 grades or fewer (ref)	-	-	-
	Other (ref)	-	-	-
	A-level: A*A*A*	1.128	0.115	<.0001
	A-level: A*A*A	0.936	0.101	<.0001
	A-level: A*AA	0.847	0.084	<.0001
	A-level: AAA	0.754	0.072	<.0001
	A-level: AAB	0.638	0.067	<.0001
	A-level: ABB	0.604	0.065	<.0001
	A-level: BBB	0.468	0.065	<.0001
	A-level: BBC	0.382	0.068	<.0001
	A-level: BCC	0.213	0.072	0.003
	A-level: CCC and below	0.007	0.069	0.923
	BTEC: D*D*D*	0.045	0.059	0.446
	BTEC: D*D*D	0.218	0.086	0.012
	BTEC: D*DD	0.011	0.081	0.891
	BTEC: DDD	-0.197	0.062	0.001
	BTEC: DDM	-0.184	0.065	0.005
	BTEC: DMM	-0.13	0.075	0.086
	BTEC: MMM and below	-0.215	0.076	0.005
	2 A-levels, 1+ BTEC	0.332	0.055	<.0001
Disability type	No known disability (ref)	-	-	-
	The student has cognitive or learning difficulties	0.279	0.055	<.0001
	The student has a mental health condition	-0.349	0.06	<.0001
	The student has other or multiple impairments	-0.118	0.072	0.103
	The student has sensory, medical or physical impairments	-0.063	0.075	0.400
	The student has a social or communication impairment	-0.036	0.104	0.729
Sex	Female (ref)	-	-	-
	Male	-0.235	0.024	<.0001
Ethnicity	White (ref)	-	-	-
	Asian or Asian British - Bangladeshi	0.464	0.076	<.0001
	Asian or Asian British - Chinese	0.798	0.167	<.0001
	Asian or Asian British - Indian	0.595	0.064	<.0001
	Asian or Asian British - Pakistani	0.702	0.06	<.0001
	Asian or Asian British - any other background	0.476	0.078	<.0001

Effect		Estimate	Standard error	p-value
	Black or Black British - African	0.633	0.057	<.0001
	Black or Black British - Caribbean	0.289	0.087	0.001
	Black or Black British - any other background	0.42	0.177	0.018
	Mixed or multiple - any other background	0.058	0.095	0.541
	Mixed or multiple - white and Asian	0.225	0.091	0.013
	Mixed or multiple - white and Black African	-0.065	0.122	0.596
	Mixed or multiple - white and Black Caribbean	0.082	0.088	0.355
	Other ethnic background	0.302	0.082	0.000
	Unknown or refused	0.133	0.155	0.390
Local or distance learner	Not a local or distance learner (ref)	-	-	-
	Local or distance learner	-0.188	0.028	<.0001
Educational disadvantage (POLAR4 quintile)	Quintile 5 (most represented) (ref)	-	-	-
	Quintile 1 (least represented)	-0.113	0.042	0.007
	Quintile 2	-0.051	0.037	0.165
	Quintile 3	-0.017	0.035	0.622
	Quintile 4	-0.058	0.032	0.076
Indices of Multiple Deprivation 2015 (IMD quintile)	Quintile 5 (least deprived) (ref)	-	-	-
	Quintile 1 (most deprived)	-0.316	0.042	<.0001
	Quintile 2	-0.245	0.038	<.0001
	Quintile 3	-0.178	0.036	<.0001
	Quintile 4	-0.115	0.034	0.001

28. Table D2 shows the model-estimated continuation rates if entrants were placed through conditional offers, instead of unconditional offers or ‘other UCAS routes’, and the difference between this estimate and the observed continuation rate for that group. This then indicates how much of the difference in raw continuation rates can be explained by the entrant being placed through an unconditional offer (or ‘other UCAS route’) instead of a conditional offer, rather than other underlying factors.

29. The final column of Table D2 uses the estimate of the percentage point difference in continuation rates, combined with the number of entrants in that group, to estimate the number of entrants who continued their studies because of the route they took into higher education, instead of a conditional offer. When the value is negative, this means we estimate that fewer entrants continued with their studies than would have done, if they had instead been placed through a conditional offer.

30. These estimates (and equivalent estimates in tables D3, D5 and D7) are calculated by ‘sample enumeration’. This is where model predictions are obtained for observations where the characteristic of interest (entry route in this case) is forced to be equal to the reference group (conditional offers), when the observed value is not (unconditional offers). This then yields an estimate of the likelihood of continuation for each individual placed through unconditional

offers, if they were instead placed through conditional offers. An average is then taken to calculate the 'model estimated continuation rate' in Table D2, from which the percentage point difference and the implied difference in the number of continuing entrants are derived.

31. 95 per cent confidence intervals are obtained by augmenting the estimate of the relevant element of the vector $\widetilde{\boldsymbol{\beta}_1}$, such as $\boldsymbol{\beta}_{1,3}$, (the coefficient estimate for A-levels: Unconditional offers), in Equation D1 with $\pm 1.96 \times s.e.(\widehat{\boldsymbol{\beta}_1})$, where $s.e.(\widehat{\boldsymbol{\beta}_1})$ is the standard error for the estimate of $\widetilde{\boldsymbol{\beta}_1}$.Then applying the inverse of the logistic function yields upper and lower bounds for the predicted probability of continuation for each individual, which can be averaged to obtain confidence intervals for the continuation rate for the relevant group (such as A-level entrants placed through unconditional offers). We made no adjustment for multiple comparisons when calculating these confidence intervals.

Table D2: Model-estimated differences between continuation rates of those placed through conditional and unconditional offers in Model I (2017-18 entrants only)

Type of predicted entry qualifications	Entry route	Number of entrants	Continuation rate	Model estimated continuation rate if placed through conditional offers	Percentage point difference between actual continuation rate and model-predicted rate if student were placed through conditional offer instead			Difference in terms of number of continuing entrants		
					Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)	Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)
A-levels	Conditional offer	88,330	96.7%	-	-	-	-	-	-	-
	Unconditional offer	15,725	95.5%	96.2%	-0.8	-0.4	-1.1	-125	-70	-175
	Other UCAS route	19,340	95.4%	96.3%	-0.9	-0.6	-1.2	-180	-120	-230
BTEC	Conditional offer	18,255	86.7%	-	-	-	-	-	-	-
	Unconditional offer	5,115	88.3%	86.8%	1.4	2.6	0.3	70	135	15
	Other UCAS route	2,675	85.1%	87.1%	-2	-0.7	-3.3	-55	-20	-85
Other	Conditional offer	14,190	91.4%	-	-	-	-	-	-	-
	Unconditional offer	3,170	91.6%	91.3%	0.3	1.5	-0.8	10	45	-25
	Other UCAS route	2,370	86.4%	91.2%	-4.8	-3.6	-5.8	-115	-85	-135

32. Table D3 shows the same predictions as in Table D2 for other student characteristics in the model, to put the association between unconditional offers and continuation rates into context

Table D3: Model-estimated differences between continuation rates across other student characteristics in Model I (2017-18 entrants only, all qualification types combined)

Student characteristic (reference group)	Category being compared to reference group	Entrants	Continuation rate	Model-estimated continuation rate if in reference group instead	Percentage point difference between actual continuation rate and model-predicted rate if student were placed through conditional offer instead			Difference in terms of number of continuing entrants		
					Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)	Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)
Disability (No known disability)	Cognitive or learning difficulties	7,595	95.0%	93.6%	1.4	2.1	0.8	110	155	60
	Mental health condition	4,520	92.5%	94.5%	-2.0	-1.4	-2.6	-90	-65	-115
	Other or multiple impairments	3,310	93.3%	94.0%	-0.7	0.1	-1.4	-25	5	-45
	Sensory, medical or physical impairments	3,150	93.4%	93.8%	-0.4	0.5	-1.1	-10	15	-35
	Social or communication impairment	1,315	91.7%	92.0%	-0.3	1.3	-1.6	-5	15	-20
Ethnicity (White)	Asian or Asian British - Bangladeshi	3,655	93.8%	90.7%	3.1	4.4	2.0	115	160	75
	Asian or Asian British - Chinese	1,515	97.5%	94.7%	2.8	4.6	1.4	40	70	20
	Asian or Asian British - Indian	8,220	96.4%	93.8%	2.6	3.3	1.9	215	275	160
	Asian or Asian British - Pakistani	7,635	95.1%	90.9%	4.3	5.3	3.4	325	400	260
	Asian or Asian British - any other background	4,145	95.4%	92.9%	2.5	3.5	1.6	105	145	65
	Black or Black British - African	7,945	94.9%	91.0%	3.9	4.8	3.1	310	380	245
	Black or Black British - Caribbean	2,220	92.8%	90.7%	2.1	3.6	0.8	45	80	20
	Black or Black British - any other background	535	93.2%	90.2%	3.0	6.3	0.4	15	35	0
	Mixed or multiple - any other background	2,045	93.7%	93.4%	0.3	1.5	-0.7	5	30	-15
	Mixed or multiple - white and Asian	3,040	95.6%	94.6%	1.0	2.0	0.2	30	60	5

Student characteristic (reference group)	Category being compared to reference group	Entrants	Continuation rate	Model-estimated continuation rate if in reference group instead	Percentage point difference between actual continuation rate and model-predicted rate if student were placed through conditional offer instead			Difference in terms of number of continuing entrants		
					Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)	Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)
	Mixed or multiple - white and Black African	1,005	92.3%	92.8%	-0.4	1.3	-1.8	-5	15	-20
	Mixed or multiple - white and Black Caribbean	2,065	92.8%	92.3%	0.5	1.8	-0.6	10	35	-10
	Other ethnic background	2,865	93.7%	91.7%	1.9	3.2	0.8	55	90	25
	Unknown or refused	845	94.4%	93.7%	0.7	2.6	-0.8	5	20	-5
Sex (Female)	Male	74,035	93.4%	94.7%	-1.3	-1.0	-1.5	-935	-760	-1,100
Local or distance learner (Entrant is not)	Entrant is a local or distance learner	31,760	91.6%	92.9%	-1.3	-0.9	-1.6	-410	-300	-520
POLAR4 (Quintile 5 - most represented)	Quintile 1 (least represented)	19,185	91.5%	92.3%	-0.8	-0.2	-1.4	-155	-45	-260
	Quintile 2	26,225	93.1%	93.4%	-0.3	0.1	-0.7	-85	30	-195
	Quintile 3	31,865	94.0%	94.1%	-0.1	0.3	-0.5	-30	85	-145
	Quintile 4	38,715	94.4%	94.7%	-0.3	0.0	-0.6	-115	10	-230
IMD quintile (Quintile 5 - least deprived)	Quintile 1 (most deprived)	27,105	92.0%	94.0%	-2.0	-1.5	-2.4	-540	-410	-655
	Quintile 2	28,075	93.2%	94.5%	-1.4	-1.0	-1.7	-385	-275	-485
	Quintile 3	31,180	94.1%	95.0%	-0.9	-0.6	-1.2	-280	-175	-375
	Quintile 4	36,470	94.8%	95.3%	-0.5	-0.2	-0.8	-195	-85	-295

Model II

33. An alternative model was run using the achieved entry qualifications (IPGRADECOMB) of entrants instead of predicted grades. As explained in our data analysis report, the reason we favour a model that controls for predicted grades, instead of achieved grades, is that UCAS research has shown there to be a negative relationship between unconditional offers and Level 3 attainment. An applicant whose attainment is negatively affected by their unconditional offer might then be less likely to continue in higher education as a result. Therefore, to avoid correcting for this, our first model uses predicted entry qualifications (which are unaffected by whether an applicant receives any unconditional offers).

34. The use of achieved grades instead of predicted also means that the model interacts achieved entry qualification type (A-levels, BTEC, other) with the entry route into higher education, as opposed to the predicted entry qualification type. Table C4 in Annex C shows how this achieved entry qualification type is constructed from the IPGRADECOMB variable.

35. Under this model specification, we find that being placed through an unconditional offer no longer has a negative and statistically significant relationship with continuation for A-level entrants in 2017-18. This suggests that it is the association between poorer performance at A-level relative to predicted grades for students who enter higher education through unconditional offers that results in lower continuation rates.

36. Table D4 shows estimates of the fixed effect coefficients in Model II. As in Table D1, note that the p-values are calculated relative to the given reference group (e.g. entrants with A-levels placed through conditional offers). Confidence intervals indicating whether the coefficients for unconditional offers are different from conditional offers within each qualification type (for example, whether the effect of unconditional offers differs from that of conditional offers for BTEC entrants only) are presented in Table D5 instead.

37. For the achieved entry qualifications variable, note that there are three reference groups: one for each qualification type (A-levels, BTEC, Other). Coefficient estimates are relative to the reference group within that qualification type.

Table D4: Coefficient estimates of the fixed effects in Model II (2017-18 entrants only)

Effect		Estimate	Standard error	p-value
Intercept		2.422	0.165	<.0001
(Type of achieved entry qualifications)* (Entry route)	A-levels: Placed through conditional offer (ref)	-	-	-
	A-levels: Other UCAS route	-0.052	0.044	0.239
	A-levels: Placed through unconditional offer	-0.033	0.051	0.511
	BTEC: Other UCAS route	-0.876	0.102	<.0001
	BTEC: Placed through conditional offer	-0.647	0.089	<.0001
	BTEC: Placed through unconditional offer	-0.555	0.099	<.0001
	Other: Other UCAS route	-0.327	0.087	0.000

Effect		Estimate	Standard error	p-value
	Other: Placed through conditional offer	-0.036	0.077	0.644
	Other: Placed through unconditional offer	-0.048	0.089	0.593
Subject of study (CAH1)	Medicine and dentistry (ref)	-	-	-
	Agriculture, food and related studies	0.06	0.181	0.743
	Architecture, building and planning	0.092	0.168	0.585
	Biological and sport sciences	-0.027	0.148	0.855
	Business and management	0.012	0.147	0.936
	Combined and general studies	-0.383	0.274	0.163
	Computing	0.048	0.15	0.746
	Design, and creative and performing arts	0.167	0.149	0.261
	Education and teaching	0.383	0.157	0.015
	Engineering and technology	-0.003	0.148	0.985
	Geography, earth and environmental studies	0.339	0.165	0.041
	Historical, philosophical and religious studies	0.105	0.156	0.501
	Language and area studies	-0.111	0.153	0.467
	Law	0.027	0.153	0.857
	Mathematical sciences	-0.295	0.158	0.062
	Media, journalism and communications	0.043	0.156	0.780
	Physical sciences	0.022	0.153	0.885
	Psychology	0.097	0.153	0.528
	Social sciences	-0.027	0.148	0.853
	Subjects allied to medicine	-0.064	0.148	0.663
	Veterinary sciences	0.563	0.294	0.055
Level of study	First degree (ref)	-	-	-
	Other undergraduate	-0.244	0.053	<.0001
	Undergraduate with postgraduate components	0.034	0.063	0.583
Achieved entry qualifications (IPGRADECOMB)	BTECMMM and below (ref)	-	-	-
	Below DDD (ref)	-	-	-
	OTHL3 (ref)	-	-	-
	1A2B	-0.071	0.056	0.209
	2A1B	0.361	0.05	<.0001
	A*A*A	1.782	0.15	<.0001
	A*A*A*	2.184	0.228	<.0001
	A*A*A*A	2.242	0.306	<.0001
	A*A*A*A*	2.675	0.37	<.0001

Effect		Estimate	Standard error	p-value
	A*A*AA	1.72	0.244	<.0001
	A*AA	1.666	0.125	<.0001
	A*AAA	1.362	0.243	<.0001
	AAA	1.72	0.136	<.0001
	AAAA	2.74	0.715	0.000
	AAB	1.61	0.099	<.0001
	AAC	1.15	0.136	<.0001
	ABB	1.281	0.095	<.0001
	ABC	1.227	0.099	<.0001
	ACC	0.985	0.112	<.0001
	BACC	1.142	0.137	<.0001
	BBB	1.313	0.11	<.0001
	BBC	1.094	0.092	<.0001
	BCC	0.923	0.085	<.0001
	BTECD*D*D	0.375	0.078	<.0001
	BTECD*D*D*	0.626	0.065	<.0001
	BTECD*DD	0.314	0.082	0.000
	BTECDDD	0.208	0.082	0.011
	BTECDDM	0.156	0.075	0.038
	BTECDMM	0.035	0.081	0.667
	CCC	0.742	0.084	<.0001
	CCD	0.631	0.086	<.0001
	CDD	0.465	0.089	<.0001
	DDD	0.362	0.097	0.000
	NOL3	-0.195	0.143	0.171
Disability type	No known disability (ref)	-	-	-
	The student has cognitive or learning difficulties	0.28	0.055	<.0001
	The student has a mental health condition	-0.315	0.06	<.0001
	The student has other or multiple impairments	-0.098	0.072	0.175
	The student has sensory, medical or physical impairments	-0.053	0.075	0.481
	The student has a social or communication impairment	-0.036	0.104	0.731
Sex	Female (ref)	-	-	-
	Male	-0.216	0.024	<.0001
Ethnicity	White (ref)	-	-	-
	Asian or Asian British - Bangladeshi	0.483	0.076	<.0001

Effect		Estimate	Standard error	p-value
	Asian or Asian British - Chinese	0.764	0.167	<.0001
	Asian or Asian British - Indian	0.613	0.064	<.0001
	Asian or Asian British - Pakistani	0.723	0.06	<.0001
	Asian or Asian British - any other background	0.512	0.078	<.0001
	Black or Black British - African	0.68	0.057	<.0001
	Black or Black British - Caribbean	0.331	0.087	0.000
	Black or Black British - any other background	0.461	0.177	0.009
	Mixed or multiple - any other background	0.09	0.095	0.344
	Mixed or multiple - white and Asian	0.215	0.091	0.018
	Mixed or multiple - white and Black African	-0.036	0.123	0.772
	Mixed or multiple - white and Black Caribbean	0.113	0.088	0.201
	Other ethnic background	0.325	0.082	<.0001
	Unknown or refused	0.14	0.155	0.368
Local or distance learner	Not a local or distance learner (ref)	-	-	-
	Local or distance learner	-0.192	0.028	<.0001
Educational disadvantage (POLAR4 quintile)	Quintile 5 (most represented) (ref)	-	-	-
	Quintile 1 (least represented)	-0.109	0.042	0.009
	Quintile 2	-0.052	0.037	0.159
	Quintile 3	-0.018	0.035	0.597
	Quintile 4	-0.059	0.033	0.069
Indices of Multiple Deprivation 2015 (IMD quintile)	Quintile 5 (least deprived) (ref)	-	-	-
	Quintile 1 (most deprived)	-0.297	0.042	<.0001
	Quintile 2	-0.226	0.038	<.0001
	Quintile 3	-0.164	0.036	<.0001
	Quintile 4	-0.101	0.034	0.003

38. Table D5 shows the model estimated continuation rates if entrants were placed through conditional offers, instead of unconditional offers (or 'other UCAS routes'), and the difference between this estimate and the observed continuation rate for that group.

Table D5: Model-estimated differences between continuation rates of those placed through conditional and unconditional offers in Model II (2017-18 entrants only)

Type of achieved entry qualifications	Entry route	Number of entrants	Continuation rate	Model estimated continuation rate if placed through conditional offers	Percentage point difference between actual continuation rate and model-predicted rate if student were placed through conditional offer instead			Difference in terms of number of continuing entrants		
					Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)	Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)
A-levels	Conditional offer	84,025	96.9%	-	-	-	-	-	-	-
	Unconditional offer	14,535	96.0%	96.1%	-0.1	0.3	-0.5	-20	35	-70
	Other UCAS route	17,855	95.8%	96.0%	-0.2	0.1	-0.5	-35	25	-95
BTEC	Conditional offer	14,840	86.5%	-	-	-	-	-	-	-
	Unconditional offer	4,210	88.0%	87.0%	1.0	2.4	-0.3	40	100	-15
	Other UCAS route	2,140	83.5%	86.4%	-2.9	-1.1	-4.5	-60	-25	-95
Other	Conditional offer	21,910	91.0%	-	-	-	-	-	-	-
	Unconditional offer	5,265	90.6%	90.7%	-0.1	0.8	-1.0	-5	45	-50
	Other UCAS route	4,390	88.4%	91.0%	-2.6	-1.7	-3.5	-115	-75	-150

Model III

39. A third model was run, identical to Model I, except for the use of a more detailed variable for 'entry route'. This allowed us to assess the association between different types of unconditional offer and continuation rates, instead of looking at all unconditional offers combined.

40. Negative and statistically significant relationships with continuation rates are found for both 'direct unconditional' and 'conditional unconditional' offers, relative to conditional offers, for A-level entrants in 2017-18.

41. Table D6 shows estimates of the fixed effect coefficients in Model III. As in Table D1, note that the p-values are calculated relative to the given reference group (e.g. entrants with A-levels placed through conditional offers). Confidence intervals indicating whether the coefficients for each type of unconditional offer are different from conditional offers within each qualification type (for example, whether the effect of 'direct unconditional' offers differs from that of conditional offers for BTEC entrants only) are presented in Table D7 instead.

42. For the predicted entry qualifications variable, note that there are three reference groups: one for each qualification type (A-levels, BTEC, Other). Coefficient estimates are relative to the reference group within that qualification type.

Table D6: Coefficient estimates of the fixed effects in Model III (2017-18 entrants only)

Effect		Estimate	Standard error	p-value
Intercept		3.020	0.157	<.0001
(Type of predicted entry qualifications)*(Offer type)	A-levels: Conditional (ref)	-	-	-
	A-levels: 'Conditional unconditional'	-0.180	0.073	0.014
	A-levels: 'Direct unconditional'	-0.355	0.090	<.0001
	A-levels: 'Other unconditional'	-0.134	0.070	0.055
	A-levels: Other UCAS route	-0.235	0.040	<.0001
	BTEC: Conditional	-0.696	0.061	<.0001
	BTEC: 'Conditional unconditional'	-0.465	0.102	<.0001
	BTEC: 'Direct unconditional'	-0.640	0.104	<.0001
	BTEC: 'Other unconditional'	-0.589	0.093	<.0001
	BTEC: Other UCAS route	-0.867	0.079	<.0001
	Other: Conditional	-0.435	0.061	<.0001
	Other: 'Conditional unconditional'	-0.237	0.153	0.121
	Other: 'Direct unconditional'	-0.421	0.124	0.001
	Other: 'Other unconditional'	-0.467	0.116	<.0001
	Other: Other UCAS route	-0.929	0.081	<.0001
Subject of study (CAH1)	Medicine and dentistry (ref)	-	-	-
	Agriculture, food and related studies	-0.045	0.182	0.806
	Architecture, building and planning	-0.030	0.167	0.856
	Biological and sport sciences	-0.137	0.147	0.351

Effect		Estimate	Standard error	p-value
	Business and management	-0.086	0.147	0.557
	Combined and general studies	-0.442	0.273	0.106
	Computing	-0.080	0.149	0.594
	Design, and creative and performing arts	0.060	0.148	0.686
	Education and teaching	0.292	0.157	0.062
	Engineering and technology	-0.142	0.147	0.336
	Geography, earth and environmental studies	0.226	0.165	0.171
	Historical, philosophical and religious studies	0.002	0.155	0.990
	Language and area studies	-0.197	0.152	0.196
	Law	-0.064	0.152	0.672
	Mathematical sciences	-0.388	0.157	0.013
	Media, journalism and communications	-0.053	0.155	0.733
	Physical sciences	-0.125	0.152	0.411
	Psychology	0.005	0.153	0.973
	Social sciences	-0.124	0.147	0.399
	Subjects allied to medicine	-0.144	0.148	0.330
	Veterinary sciences	0.493	0.295	0.094
Level of study	First degree (ref)	-	-	-
	Other undergraduate	-0.354	0.054	<.0001
	Undergraduate with postgraduate components	0.145	0.063	0.022
Predicted entry qualifications	2 A-levels or fewer (ref)	-	-	-
	BTECs of size 2 grades or fewer (ref)	-	-	-
	Other (ref)	-	-	-
	A-level: A*A*A*	1.126	0.115	<.0001
	A-level: A*A*A	0.934	0.101	<.0001
	A-level: A*AA	0.846	0.084	<.0001
	A-level: AAA	0.753	0.072	<.0001
	A-level: AAB	0.637	0.067	<.0001
	A-level: ABB	0.602	0.065	<.0001
	A-level: BBB	0.467	0.065	<.0001
	A-level: BBC	0.383	0.068	<.0001
	A-level: BCC	0.212	0.072	0.003
	A-level: CCC and below	0.004	0.069	0.950
	BTEC: D*D*D*	0.045	0.059	0.446
	BTEC: D*D*D	0.216	0.086	0.012

Effect		Estimate	Standard error	p-value
	BTEC: D*DD	0.011	0.081	0.892
	BTEC: DDD	-0.199	0.062	0.001
	BTEC: DDM	-0.186	0.065	0.004
	BTEC: DMM	-0.130	0.075	0.085
	BTEC: MMM and below	-0.216	0.076	0.005
	2 A-levels, 1+ BTEC	0.332	0.055	<.0001
Disability type	No known disability (ref)	-	-	-
	The student has cognitive or learning difficulties	0.279	0.055	<.0001
	The student has a mental health condition	-0.349	0.060	<.0001
	The student has other or multiple impairments	-0.119	0.072	0.101
	The student has sensory, medical or physical impairments	-0.064	0.075	0.394
	The student has a social or communication impairment	-0.035	0.104	0.740
Sex	Female (ref)	-	-	-
	Male	-0.236	0.024	<.0001
Ethnicity	White (ref)	-	-	-
	Asian or Asian British - Bangladeshi	0.463	0.076	<.0001
	Asian or Asian British - Chinese	0.798	0.167	<.0001
	Asian or Asian British - Indian	0.595	0.064	<.0001
	Asian or Asian British - Pakistani	0.701	0.060	<.0001
	Asian or Asian British - any other background	0.475	0.078	<.0001
	Black or Black British - African	0.633	0.057	<.0001
	Black or Black British - Caribbean	0.288	0.087	0.001
	Black or Black British - any other background	0.418	0.177	0.019
	Mixed or multiple - any other background	0.058	0.095	0.541
	Mixed or multiple - white and Asian	0.226	0.091	0.013
	Mixed or multiple - white and Black African	-0.065	0.122	0.595
	Mixed or multiple - white and Black Caribbean	0.081	0.088	0.358
	Other ethnic background	0.300	0.082	0.000
	Unknown or refused	0.133	0.155	0.391
Local or distance learner	Not a local or distance learner (ref)	-	-	-
	Local or distance learner	-0.188	0.028	<.0001

Effect		Estimate	Standard error	p-value
Educational disadvantage (POLAR4 quintile)	Quintile 5 (most represented) (ref)	-	-	-
	Quintile 1 (least represented)	-0.113	0.042	0.007
	Quintile 2	-0.051	0.037	0.168
	Quintile 3	-0.017	0.035	0.623
	Quintile 4	-0.058	0.032	0.075
Indices of Multiple Deprivation 2015 (IMD quintile)	Quintile 5 (least deprived) (ref)	-	-	-
	Quintile 1 (most deprived)	-0.315	0.042	<.0001
	Quintile 2	-0.245	0.038	<.0001
	Quintile 3	-0.178	0.036	<.0001
	Quintile 4	-0.115	0.034	0.001

43. Table D7 shows the model estimated continuation rates if entrants were placed through conditional offers, instead of the given offer type, and the difference between this estimate and the observed continuation rate for that group. This table contains the data for 2017-18 A-level entrants used in Figure 7 in the report.

44. Although the model used to estimate these differences included entrants with all types of predicted qualifications, these estimates were calculated for entrants with predicted A-level qualifications only, having identified a consistent relationship between unconditional offers and continuation rates for these entrants (see Model I).

Table D7: Model-estimated differences between continuation rates of those placed through conditional and unconditional offers in Model III (2017-18 entrants with predicted A-level qualifications only)

Entry route	Number of entrants	Continuation rate	Model estimated continuation rate if placed through conditional offers	Percentage point difference between actual continuation rate and model-predicted rate if student were placed through conditional offer instead			Difference in terms of number of continuing entrants		
				Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)	Estimate	Upper confidence interval (95%)	Lower confidence interval (95%)
Conditional offer	88,330	96.7%	-	-	-	-	-	-	-
Conditional unconditional offer	7,220	96.4%	97.0%	-0.6	-0.1	-1.0	-40	-10	-70
Direct unconditional offer	2,825	94.1%	95.7%	-1.7	-0.9	-2.4	-50	-25	-65
Other unconditional offer	5,680	94.9%	95.5%	-0.6	0.0	-1.2	-35	0	-65
Other UCAS route	19,340	95.4%	96.3%	-0.9	-0.6	-1.2	-180	-120	-230

Annex E: Details of the different populations used in tables and figures

45. The base population for all of our analysis is defined as: English 18-year-old UCAS applicants with at least one application to OfS registered providers between the 2013 and 2019 application cycles inclusive. We also exclude those placed through Records of Prior Acceptance (RPA) or Direct Clearing.

46. When tracking the number of unconditional offers over time, as in Table 2 and Table 3, we restrict our base population to those with at least one main scheme application to OfS registered providers. For these tables only, we also restrict the population to those included in UCAS' analysis of unconditional offers in their 2019 End of cycle report.[18]

47. In Figure 1 and Table A1, we consider applicants placed for immediate entry at OfS registered providers (excluding those placed through RPA or Direct Clearing) in the 2013 to 2018 application cycles. Table A1 also includes unplaced applicants who were found in the higher education records.

48. Our descriptive analysis of continuation rates applies to Table B1, Figure 3, Figure 4 and Figure B1. This includes applicants placed for immediate entry at OfS registered providers (excluding those placed through RPA or Direct Clearing) in the 2017-18 academic year, who were found in the higher education administrative data in the same year and at the same provider as their UCAS application, with known continuation outcomes, studying full-time. Full details of the population restrictions when considering continuation outcomes can be found in the OfS '2020 core algorithms'[19] document under the IPCONEXCL variable.

49. Table B3 and Figure 2 use this same population, for all entrant years from 2015-16 to 2017-18.

50. Table B2 also uses this population, but for entrants with predicted A-level qualifications only, as do Table B4 and Figure 6, for all entrant years from 2015-16 to 2017-18.

51. The modelling population, which applies to Figure 5 and results from Model I, Model II, and Model III, is identical to that used in our descriptive analysis of continuation rates, with two additional restrictions. Firstly, providers must have at least 10 entrants in the year being considered. Secondly, we exclude students with unknown sex, POLAR4, IMD and local or distance learning. Both restrictions are applied to improve model stability. The first excludes roughly 220 students in each year, and the latter excludes roughly 75 students each year.

52. Finally, Figure 7 and Table D7 use this same modelling population, but for entrants with predicted A-level qualifications only.

[18] See 'End of cycle report 2019: Unconditional Offers – The Applicant Experience', available at https://www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/ucas-undergraduate-end-cycle-reports/2019-end-cycle-report.

[19] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

Annex F: Summary of changes from previous report on unconditional offers

53. There have been a number of changes in methodology and data quality since our previous report on unconditional offers published in October 2019.[20] Details of these changes are outlined below.

54. A number of higher education providers that were on the OfS Register for our previous report are no longer included, while other providers have since joined the Register.[21] When considering those providers who are registered, we consider those who are registered as of 23 June 2020 and backdate this population to previous years, regardless of whether the provider was on the Register for those previous years. This is to maintain a stable sample that is comparable across each entrant year.

55. We have adopted UCAS' updated definitions of unconditional offers for this report, which means that comparisons with the previous report, particularly where the number of different types of offers are being reported, should take these differences into this account.

56. For our analysis of continuation rates, we have been able to retain applicants at Joint Medical Entities (JMEs), where previously they would have been excluded, due to the provider on their application (a JME) not matching the provider according to the higher education administrative data. This amounts to roughly 345 additional entrants in the modelling population.

57. When considering the number of applicants with at least one offer with an unconditional component, as in Table 2 and Table 3, we now restrict the population to those who were also included in UCAS' analysis of unconditional offers in their 2019 End of cycle report.[22] There may still be slight differences between how unconditional offers have been reported here and by UCAS.

58. There have been some minor changes in the categorisation of levels of study compared to our previous report, with some undergraduate courses now being identified as undergraduate with postgraduate components. This may have had a very minor impact on the estimated coefficients for the level of study fixed effects. Other changes to the definitions of variables since our previous report can be found in the OfS document '2019 to 2020 changes to core algorithms'.[23]

59. With the additional year of data available for analysis of continuation rates, we introduced Figure 2 and Figure 6, to show how continuation rates by offer type have changed over time.

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[20] Available at www.officeforstudents.org.uk/publications/data-analysis-of-unconditional-offers-update/.

[21] The OfS Register is available at www.officeforstudents.org.uk/advice-and-guidance/the-register/the-ofs-register/.

[22] See 'End of cycle report 2019: Unconditional Offers – The Applicant Experience', available at https://www.ucas.com/data-and-analysis/undergraduate-statistics-and-reports/ucas-undergraduate-end-cycle-reports/2019-end-cycle-report.

[23] Available at www.officeforstudents.org.uk/data-and-analysis/institutional-performance-measures/technical-documentation/.

60. Our previous report modelled the relationship between continuation and unconditional offers for all entrants, combining the two available years of data (2015-16 and 2016-17 entrants). For this report, we decided to use an interaction term between predicted qualification type and entry route, so that the relationship between unconditional offers and continuation could be identified separately for entrants with A-levels, BTECs and other predicted entry qualifications. We also modelled each cohort of entrants separately. This was done because it became apparent that the relationship between unconditional offers and continuation rates varied in both size and direction for different years and groups of entrants.

61. This release no longer includes the estimates of Type III tests of fixed effects, under the null hypothesis that all the estimated coefficients for a given categorical variable are equal to zero. This was done because an interaction term was included in the model without the same variables being included as first order effects, which would mean interpretation of the Type III tests is not straightforward.

62. This release now includes tables (Tables D2, D3, D5 and D7) with sample enumerated estimates of the percentage point difference in continuation rates, and the implied difference in the number of entrants who would have continued, between those placed through conditional and unconditional offers, for each year and each model specification. These estimates are easier to understand than parameter estimates for assessing the differences in continuation rates, for the students in the model.

63. In addition to our analysis of all unconditional offers combined, this report also now looks at the relationship between different types of unconditional offer and continuation rates for each available year of data (for A-level entrants only). It should be noted that some groups in this analysis are relatively small, particularly for 2015-16 entrants; Table B4 shows the number of entrants and providers with entrants placed through different types of unconditional offer in each year.

64. We no longer provide predictions of the number of entrants whose continuation outcome might be affected by being placed through unconditional offers in future years. The previous report made these predictions given that, in addition to a rising number of applicants placed through unconditional offers, the negative association between unconditional offers and continuation appeared to be increasing. However, given that our updated analysis shows that this relationship is more variable across years and groups of entrants than previously thought, we have decided not to include similar predictions in this report.