Mapping and evaluating the use of contextual data in undergraduate admissions in Scotland

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Report 4

Identifying minimum academic entry requirements for contextually disadvantaged applicants

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Overview

This report presents empirical evidence on the relationship between achievement at Highers level and subsequent outcomes at degree level to help inform the identification of appropriate minimum academic entry requirements for contextually disadvantaged applicants to Scottish higher education institutions. Section one of the report sets out the rationale for considering school achievement in context and in particular for setting separate, minimum entry academic requirements for contextually disadvantaged applicants. Section two considers various ways of defining what constitutes success at degree level, and of determining what counts as the minimum level of prior academic attainment needed for success. Section three describes the empirical data on which this report is based and outlines the statistical methods used in the analysis. Section four presents new evidence regarding the relationship between Highers achievement and degree outcomes in Scotland and suggests potentially appropriate minimum entry requirements for contextually disadvantaged applicants. Section five summarises key findings and recommendations.

1. The rationale for contextualised admissions

Contextualised approaches to admission rest on acceptance of the principles articulated in the Schwartz Report that "equal examination grades do not necessarily represent equal potential" and that "it is fair and appropriate to consider contextual factors as well as formal educational achievement, given the variation in learners' opportunities and circumstances".[1] These principles were echoed in the final report of the Commission on Widening Access, *A Blue Print for Fairness*:

> "a learner who achieves good grades in a significantly more challenging context, without the advantages of a more affluent background, is likely to be especially bright and well-motivated"[2]

[1] Schwartz, S. (2004) Fair admissions to higher education: recommendations for good practice. London: HMSO. p.5 & 6

[2] Commission on Widening Access (2016) A Blueprint for Fairness. The Final Report of the Commission on Widening Access. Edinburgh: Scottish Government. p.36

and by Universities Scotland, in a recent report entitled *Futures Not Backgrounds*, :

> "We recognise that it is important to identify, and value, an applicant's potential as well as their attainment. It is also important to acknowledge, within the admissions process, that not everyone has had access to the same opportunities in life by the point of their application."[3]

Contextualised admission recognises that a major obstacle to significantly widening participation in Scottish higher education is the fact that there continue to be large social disparities in school achievement. In 2014/15, just 41.2% of young people living in Scotland's most deprived areas (SIMD20) achieved one or more passes at Higher level or equivalent (SCQF level 6) compared to 80.3% of young people from the least deprived areas.[4] In 2013/14, young people from SIMD20 postcodes were only one-third as likely to leave school with three Highers as those from the most advantaged SIMD quintile.[5]

Young people from disadvantaged backgrounds are especially poorly represented among those with the Highers qualifications and grades currently required for entry to many of the most academically selective degree programmes in Scotland. As table 1.1 shows, among those who were in S4 in 2007/8 or 2008/9, just 13.3% of students in receipt of free school meals achieved five or more Highers compared to 47.6% of students not in receipt of free school meals. Less dramatic but still sizeable disparities are also evident across SIMD categories, with only 20.6% of students in the most deprived quintile (SIMD20) achieving five or more Highers compared to 53.6% of students in the three least deprived quintiles (SIMD41-100).

As table 1.1 also shows, young people in receipt of free school meals or resident in SIMD20/40 postcodes were very substantially under-represented among those with the highest grades at Highers level. Just 1.3% of free school meal recipients and just 1.8% of SIMD20 students achieved AAAAA at Highers level, compared to 7.9% of students not in receipt of free school meals and 9.5% of students from SIMD41-100 postcodes.

[3] Universities Scotland (2016) Futures Not Backgrounds. Edinburgh: Universities Scotland. p.4

[4] Scottish Government (2016) Summary statistics for attainment, leaver destinations and healthy living. No. 6: 2016 Edition. 22nd June 2016. Edinburgh: Scottish Government. p.16

[5] Commission on Widening Access (2015) Interim Report. Edinburgh: Scottish Government. p.54

Table 1.1 Highers achievement by the end of S6 of students in S4 in 2007/8 and 2008/9[6]

Total number of Highers	Receives free school meals?		SIMD category		
	Yes	No	SIMD20	SIMD40	SIMD 41-100
Five plus	13.3	47.6	20.6	26.5	53.6
Four	5.1	9.4	6.2	7.3	9.9
One to three	12.8	15.5	15.4	16.2	14.9
None	68.8	27.4	57.9	50.0	21.6
Best five or four Highers	Receives free school meals?		SIMD category		
	Yes	No	SIMD20	SIMD40	SIMD 41-100
AAAAA	1.3	7.9	1.8	2.8	9.5
AAAAB	1.1	4.9	1.7	2.1	5.7
AAABB	1.5	5.4	1.9	2.7	6.2
AABBB	1.7	5.8	2.6	3.3	6.4
ABBBB	1.6	5.9	3.0	3.7	6.4
BBBBB	1.5	5.0	2.4	3.0	5.5
BBBBC	1.5	4.2	2.3	2.8	4.5
BBBCC	1.1	3.4	2.0	2.4	3.7
BBCCC	0.9	2.5	1.4	1.7	2.7
BCCCC	0.6	1.5	0.9	1.1	1.6
CCCCC to DDDDD	0.4	1.2	0.8	0.9	1.2
AAAA	0.1	0.2	0.0	0.1	0.2
AAAB	0.2	0.3	0.2	0.2	0.4
AABB	0.2	0.5	0.2	0.3	0.6
ABBB	0.5	1.0	0.4	0.7	1.0
BBBB	0.7	1.2	0.8	0.9	1.3
BBBC	0.7	1.6	1.1	1.3	1.6
BBCC	0.9	1.5	1.2	1.3	1.6
BCCC	0.8	1.4	1.0	1.2	1.4
CCCC to DDDD	1.0	1.7	1.3	1.4	1.8
1 to 3 Highers	12.8	15.5	15.4	16.2	14.9
0 Highers	68.8	27.4	57.9	50.0	21.6

Similarly, just 2.5% of free school meal recipients and just 3.5% of SIMD20 students achieved at least four A grades (across four or five Highers), compared to 13% of students

[6] Source: Authors' analysis of Scottish Government data for students in S4 in 2007/8 and 2008/9. The figures in table 1.1 refer to students who would be expected to be in S6 in 2009/10 or 2010/11 and so do not, of course, provide the most up to date picture. However, the percentage of SIMD20 students achieving at least one Highers qualification is similar to the figure for 2014/15 cited above and taken from the Scottish Government statistical report referenced in footnote 4.

not in receipt of free school meals and 15.4% of students from SIMD41-100 postcodes. These statistics indicate clearly that few students receiving free school meals or from SIMD20 postcodes would be judged to be among the brightest and best if grades are not considered in context.

One way of considering grades in context would be to ask not how well a student had performed in absolute terms but how well they had performed relative to others in similar contextual circumstances. Since 7.2% of free school meal recipients and 11% of students from SIMD20 postcodes achieved grades of ABBBB or above – comparable to the rates at which their more advantaged counterparts achieved AAAAA – these two grade profiles could be considered to be contextualised equivalents. Similarly, since 11.9% of free school meal recipients and 17.3% of students from SIMD20 postcodes achieved BBBB or better – comparable to the rates at which more advantaged students achieved AAAA or better – these two grade profiles could also be considered contextualised equivalents.

In light of the large social disparities in school achievement, it is clear that contextualised approaches to admissions – and particularly approaches which entail the adjustment of entry requirements for disadvantaged applicants – will be a key means of widening participation in higher education in Scotland. The Commission on Widening Access has recommended that:

> "By 2019 all universities should set access thresholds for all degree programmes against which learners from the most deprived backgrounds should be assessed. These access thresholds should be separate to standard entrance requirements and set as ambitiously as possible, at a level which accurately reflects the minimum academic standard and subject knowledge necessary to successfully complete a degree programme."[7]

The Commission on Widening Access report argues compellingly that "the applicant pool is being unnecessarily, and unfairly, limited by an over reliance on school attainment as the primary measure of academic ability".[8] The CoWA report goes further to state that, in the last ten years, "in many cases [university] entry requirements have risen well beyond what is required to succeed in degree level study"[9] as universities have sought to reduce the burden of rising numbers of applications to fixed numbers of course places. Rising entry

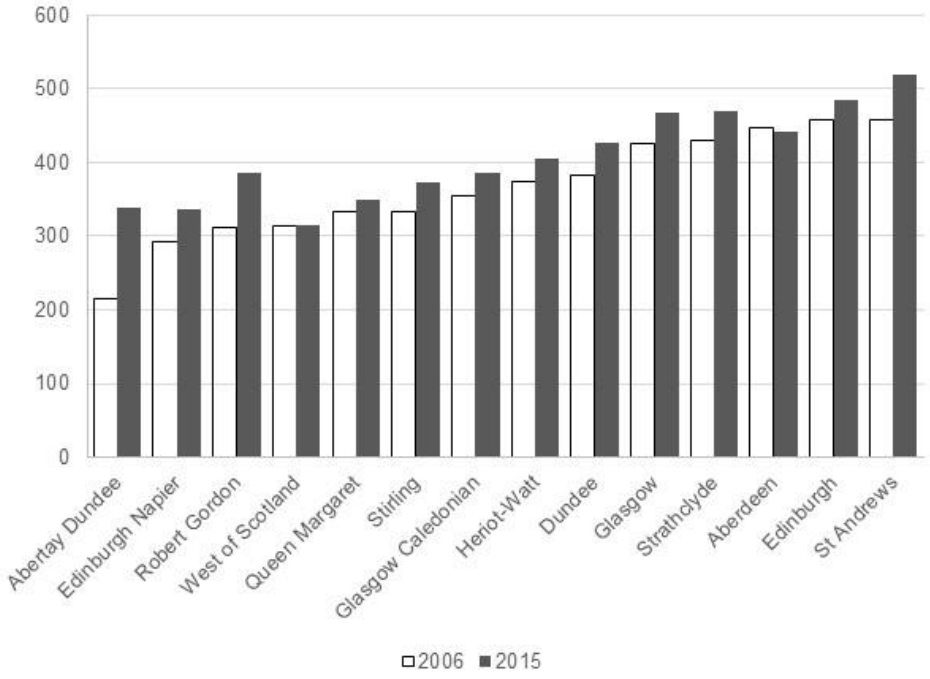
[7] Commission on Widening Access (2016) A Blueprint for Fairness. The Final Report of the Commission on Widening Access. Edinburgh: Scottish Government. p.15

[8] Ibid p.36

[9] Ibid p.10

requirements over time are reflected in the increased total UCAS point scores of entrants to most Scottish universities between 2006 and 2015 (figure 1.1), from an average across the 14 universities for which data is readily available of 366 points in 2006 (equivalent to a little under AAABB at Higher level) to an average of 407 points in 2015 (equivalent to in excess of AAAAA). Of course, rising entry requirements are not the only cause of this increase in UCAS point scores among entrants, but they are a significant contributor to it.

Figure 1.1 Average UCAS points of entrants to Scottish universities in 2006 & 2015[10]



Currently, most Scottish higher education institutions are using contextual data about prospective students' socioeconomic circumstances to inform admissions decision-making. However, only a small number of institutions reduce academic entry requirements for contextually disadvantaged applicants, often by just one or two grades for the general applicant (see Report 1). This report considers what might constitute appropriate minimum entry requirements for contextually disadvantaged students.

[10] Source: Complete University Guide 2008 and 2017. Note: Data is unavailable from this source for the following institutions: Glasgow School of Art, Open University, Royal Conservatoire of Scotland, Scotland's Rural College, and University of the Highlands and Islands.

2. Defining the minimum needed for success at degree level

The Commission on Widening Access has not prescribed how 'access thresholds' for contextually disadvantaged learners should be determined. As such, there is work to be done to identify what counts as "the minimum academic standard and subject knowledge necessary to successfully complete a degree programme" and what it means to "successfully complete a degree programme".

Identification of a "minimum academic standard" requires an empirical examination of how different levels of achievement in different types of pre-university qualifications are associated with measures of academic success at degree level. This report focuses on Highers attainment, but it will be important to also consider in due course other types of pre-university qualifications and routes, including articulation via HNC and HND college pathways.

Similarly, identifying what constitutes necessary "subject knowledge" will require looking at how subjects studied prior to university entry as well as levels of achievement in those subjects relates to degree success in particular disciplines. An examination of subject knowledge is beyond the scope of this report, but would be a valuable exercise for the future.

What it means to "successfully complete a degree programme" also needs to be defined. At one pole, successful completion could be taken to mean making it through to the end of a degree programme and ultimately obtaining a degree qualification, regardless of what the final degree classification is, and perhaps also regardless of how long it takes. At the other pole, it might mean completing a degree programme on time and ultimately achieving what is sometimes termed a "good degree", that is a first or upper second class honours degree qualification. In this report we focus on two measures of success that are readily available in data collected by the Higher Education Statistics Agency: (1) progression to year two of an undergraduate degree programme given enrolment in year one of the programme in the previous academic year, and (2) achievement of a first or upper second class degree given completion of a degree programme which classifies awards.

Whether "success" is defined in terms of progression or achievement, because of its categorical yes/no nature it is also necessary to determine what counts as a desirable (or at least an acceptable) probability of a successful outcome. This probability of success might

be set at a conservatively high level – for example, an access threshold might be set at a level associated with a probability of success at least as good as that of the average student on the degree programme at the institution concerned. However, if access thresholds are to be ambitiously set, it is likely that the probability of success will need to be lower than the average for the degree programme and institution concerned.

It is not obvious what would constitute an acceptable minimum probability of success. Lowering entry requirements too much could lead to some of the widening access gains made at the point of admission being lost by the point of graduation, which would be not only partially self-defeating, but also personally damaging for those students who had been 'set up to fail', and reputationally damaging for institutions. On these grounds, the lowest acceptable probability of success might be 0.5, that is, an evens chance of success. In this report we focus on a relatively high bar: an 80%+ chance of progression from year 1 to year 2, and a 65%+ chance of achieving a first or upper second class degree classification given completion of a degree programme which classifies awards. These particular probabilities of success are of course in a sense arbitrary; some will argue they are too low and others that they are too high. Ultimately it is for higher education institutions to identify and justify what they consider to be appropriate thresholds. Ambitious access thresholds may reduce an institution's overall student retention rate, perhaps particularly for contextually disadvantaged students, at least initially. Institutions may be concerned about incurring financial penalties for failing to meet their retention targets, at least in the short term while support strategies to improve student retention are developed, which will require discussion between institutions and the Scottish Funding Council.

The Commission on Widening Access, and others, point to "compelling evidence that the school attainment of disadvantaged learners often does not reflect their full potential" (CoWA 2016: 10). The Commission's report does not cite any sources but may be referring to studies which have shown that students from state schools perform significantly better at degree level than students from private schools who enter with the same grades, as do students whose own secondary educational achievements are higher than the average for their school.[11] The evidence includes studies of students at St Andrew's University,[12] Oxford

[11] Higher Education Funding Council for England (2014) Differences in degree outcomes: key finding. Bristol: HEFCE.

[12] Lasselle, McDougall-Bagnall and Smith (2013) School grades, school context and university degree performance: evidence from an elite Scottish institution. Oxford Review of Education. 40(3): 293-412.

University,[13] Bristol University,[14] and A-level students at UK universities.[15] However, contrary evidence showing no school type difference in degree achievement has been found for Cambridge University.[16]

It is important to note, however, that other studies which have employed individual-level indicators of contextual disadvantage, such as free school meal status, or neighbourhood-level indicators such as the local higher education participation rate or neighbourhood deprivation level, have found that contextually disadvantaged students perform no better than or even less well at degree level than more advantaged students with the same levels of prior attainment.[17] The findings of this second set of studies casts doubt on what could easily be an unexamined assumption of an "access threshold" approach: that the as-yet-not-fully-realised potential of contextually disadvantaged university applicants will be readily unleashed once these applicants enter university. Deeper reflection on the meaning of "contextual disadvantage", however, makes it clear that there is no reason to expect contextual disadvantages to simply evaporate once an individual gets to university. On the contrary, such students may continue to perform at a level below their true potential at university if, as is likely for many, they continue to experience socioeconomic disadvantage, and/or if their academic knowledge and skills continue to lag behind those of their more advantaged peers.

[13] Ogg, Zimdars and Heath (2009) Schooling effects on degree performance: a comparison of the predictive validity of aptitude testing and secondary school grades at Oxford University. *British Educational Research Journal*. 35(5): 781-807.

[14] Hoare and Johnson (2011) Widening participation through admissions policy – a British case study of school and university performance. *Studies in Higher Education*, 36(1): 21-41.

[15] Crawford, C. (2014) The link between secondary school characteristics and university participation and outcomes. London: DfE.
Higher Education Funding Council for England (2014) Differences in degree outcomes: key finding. Bristol: HEFCE.

[16] Chetwynd, P. (2011) A* at A Level as a Predictor of Tripos Performance: An initial analysis. Cambridge University.
Sumnall, C. (2015) ANOVA on A*s at A-level and Tripos performance. Cambridge University.
Partington, R. (2011) Predictive Effectiveness of Metrics in Admission to the University of Cambridge. Cambridge University.

[17] Crawford, C. (2014) Socio-economic differences in university outcomes in the UK: drop-out, degree completion and degree class. IFS Working Paper (W14/31).
Croxford, L., Docherty, G., Gaukroger, R. and Hood, K. (2014) Widening participation at the University of Edinburgh: Contextual admissions, retention, and degree outcomes. *Scottish Affairs*, 23(2): 192- 216.
Higher Education Funding Council for England (2014) Differences in degree outcomes: key finding. Bristol: HEFCE.

This observation has an important implication: universities making use of access thresholds for contextually disadvantaged applicants will also need to consider what additional support may need to be put in place to help students from disadvantaged backgrounds fulfil their potential once at university. This may require a significant shift in pedagogical assumptions and practices, perhaps particularly in higher tariff institutions where traditionally most students may have been expected to do well at university as a matter of course.

3. Data and methodology

The empirical analyses presented in this report draws on data supplied by the Higher Education Statistics Agency relating to students registered on higher education programmes between 2010/11 to 2013/14. The analysis focuses on Scottish domiciled students studying full time for first degrees at Scottish universities who entered higher education in aged 21 or under and who had achieved at least four Highers prior to university entry. Mature students are therefore beyond the scope of this report and further research is needed which focuses on this particular category of learner.

Two measures of degree success are examined. The first measure is the probability of successfully completing year one of an undergraduate degree programme and progressing to year two in the following academic year, rather than failure or drop out by the end of year one. We have chosen to focus on progression to year two, rather than completion of a degree programme, because the former requires students to be tracked in the data for just two consecutive years, whereas the latter requires students to be tracked in the data for at least four and often more than four years in order to determine whether or not a degree programme has been completed. Progression to year two is a reasonably proxy for capacity to complete a degree programme given that most of those who fail to complete their programme drop out of their courses by the end of the first year.[18] The second measure of degree success examined is the probability of achieving a first or upper second class honours degree rather than a lower second class or third class degree. Degree programmes which do not classify degrees are excluded from this part of the analysis.

[18] The HESA data does not distinguish between students progressing to year two who have completed all of the requirements for year one, and those who have entered year two but still need to fulfil or reattempt assessments from year one. However, it is reasonable to assume that students who have not fully completed year one but who have nevertheless been granted permission to proceed to year two have demonstrated to their institution sufficient ability to succeed at degree level. It is important to recognise that lack of academic ability is not the sole explanation for non-retention; other factors such as financial hardship may be at play.

Pre-university attainment is measured using the best five or best four Highers grades achieved by the time of entry to higher education. Some students in the HESA dataset who achieved five Highers in fact achieved more than five but only the best five grades are counted in this measure. Where best four Highers is referred to, this includes only students with four Highers and not also those with more than four. Students who attained fewer than four Highers, or who held qualifications other than Highers, are not considered in the analysis. For simplicity's sake, grades have been equivalised, so that, for example, AAABC would be considered equivalent to AABBB on the basis that having a C rather than a B is compensated for by also having AAA rather than AAB (this approach is similar to the UCAS total points system).

It is important to note that some institutions set standard entry requirements in terms of four Highers achieved in S5 but may specify five Highers if achieved across S5 and S6 on the basis that capacity to cope with a high volume of study needs to be demonstrated. More research is needed to determine whether the chances of success at degree level differ materially depending on whether Highers grades were achieved in one year or across two years. Unfortunately, this question is outside of the scope of this report since the HESA data does not identify whether Highers were achieved in S5 or across both S5 and S6. However, it is possible that students in the HESA dataset with five Highers by the end of S6 would have performed equally well at degree level had they entered with just four Highers achieved by the end of S5.

Binary logistic regression models are used to estimate the probabilities that (a) those entering year one successfully progress to year two of their degree programme the following academic year rather than drop out and (b) those who successfully complete a degree programme achieve a first or upper second class degree rather than a lower second class or third class degree for programmes where degrees are classified. Results are reported separately for science and arts degree programmes at highly selective, moderately selective, and less selective HEIs.[19] All models control for the broad degree subject area and specific higher education institution concerned.

[19] Arts programmes include creative arts. Highly selective HEIs are those in which the best four Highers grades of the average student is equivalent to AAAA-AAAB (specifically Edinburgh, Glasgow and St Andrews). For moderately selective and less selective HEIs, the corresponding Highers grade ranges are AABB-ABBB (Aberdeen, Dundee, Glasgow School of Art, Heriot-Watt, Royal Conservatoire Scotland, Stirling and Strathclyde) and BBBB-BBBC (Abertay, Edinburgh Napier, Glasgow Caledonian, Highlands and Islands, Queen Margaret, Robert Gordon, Scotland's Rural College and West of Scotland).

4. The association between Highers grades and degree outcomes

Figures 4.1 to 4.6 report the association between students' best four of five Highers grades and the probability of progression from year one to year two of a degree programme. Figure 4.1 focuses on science degree programmes at highly selective HEIs, where the average progression rate of 86% is associated with Highers grades of AAABB. While the progression rate declines as Highers grades decline, progression rates remain high at 80% for those with grades of BBBBB.[20]

Figure 4.1 Progression to year two of science degree programmes at highly selective HEIs

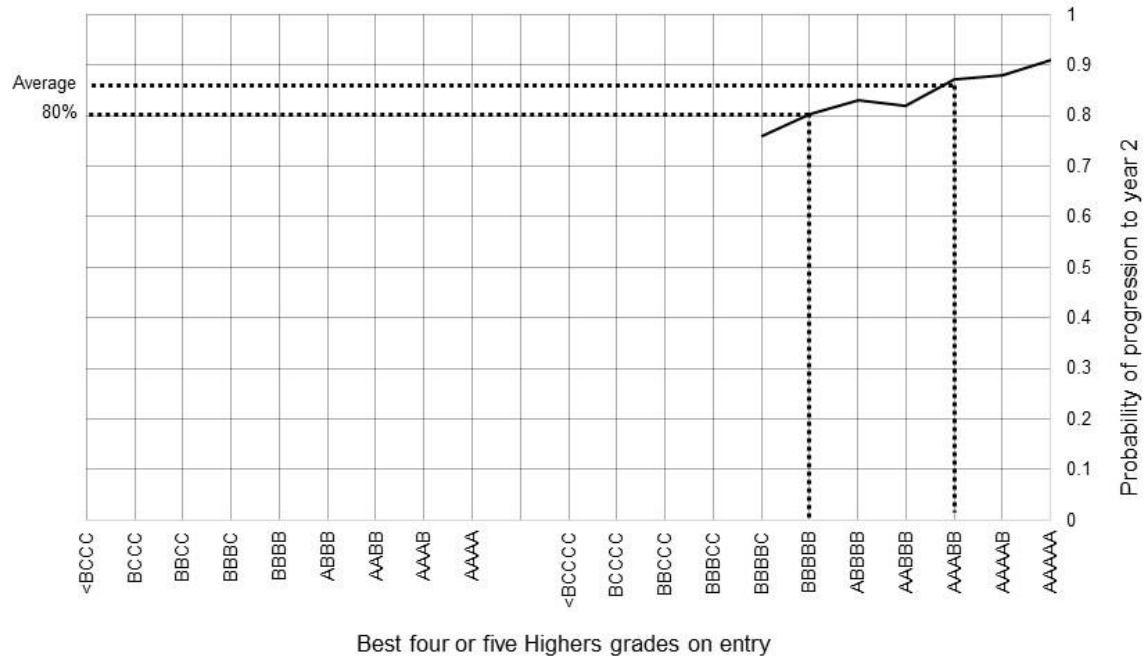


Figure 4.2 focuses on arts degree programmes at highly selective HEIs, where the average progression rate of 88% is associated with Highers grades of AAABB. As before, although progression rates are lower for those with lower grades, progression rates remain high at 80% for those with Highers grades of BBBBB.

[20] There are too few entrants to highly selective HEIs with only four Highers qualifications to reliably calculate progression and achievement rates.

Figure 4.2 Progression to year two of arts degree programmes at highly selective HEIs

Figures 4.3 and 4.4 focus on science and arts degree programmes at moderately selective HEIs, where average progression rates of 85% and 86% respectively are associated with Highers grades of BBBBC. Here, progression rates are not strongly related to Highers grades on entry, such that progression rates remain high at 80% for those with BCCCC and BBBCC respectively.

Figure 4.3 Progression to year two of science degree programmes at moderately selective HEIs

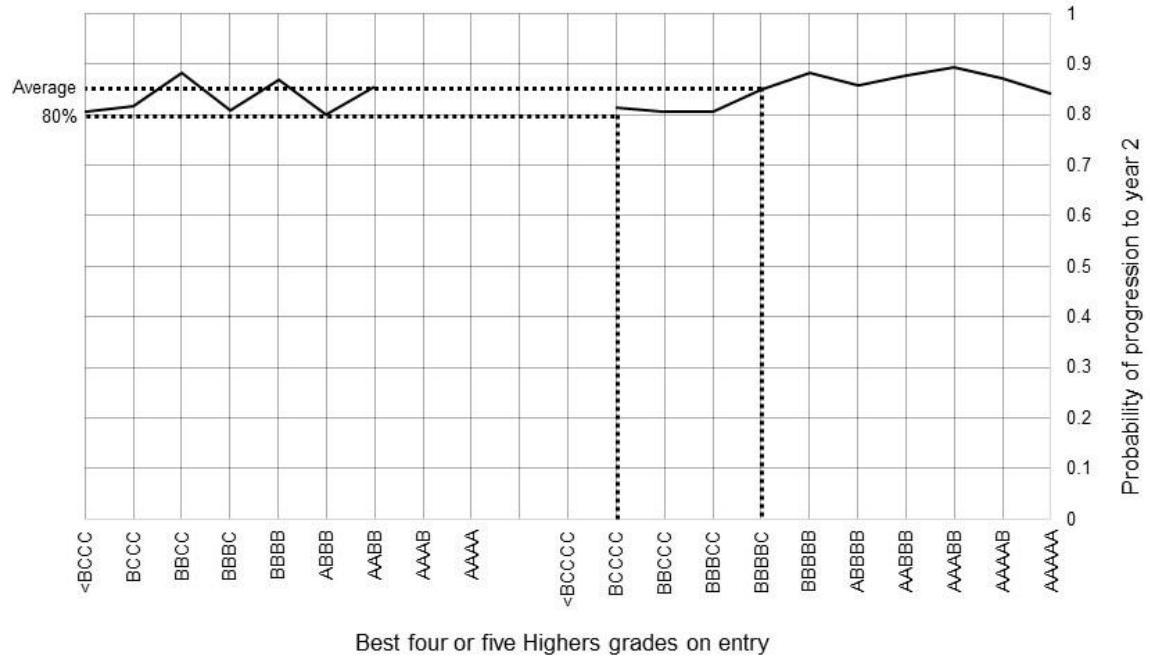
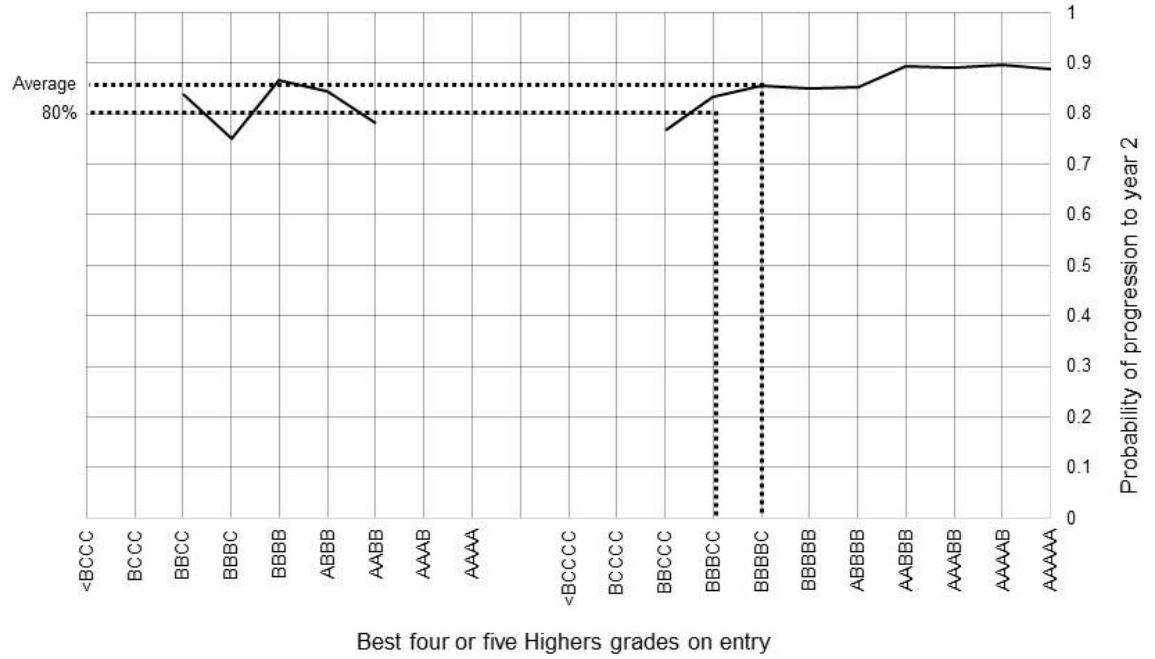


Figure 4.4 Progression to year two of arts degree programmes at moderately selective HEIs



Figures 4.5 and 4.6 focus on science and arts degree programmes at less selective HEIs, where average progression rates are 81% and 82% respectively. As in moderately selective HEIs, progression rates are not strongly related to Highers grades on entry, such that progression rates are 80% or above for those with BCCCC+.

Figure 4.5 Progression to year two of science degree programmes at less selective HEIs

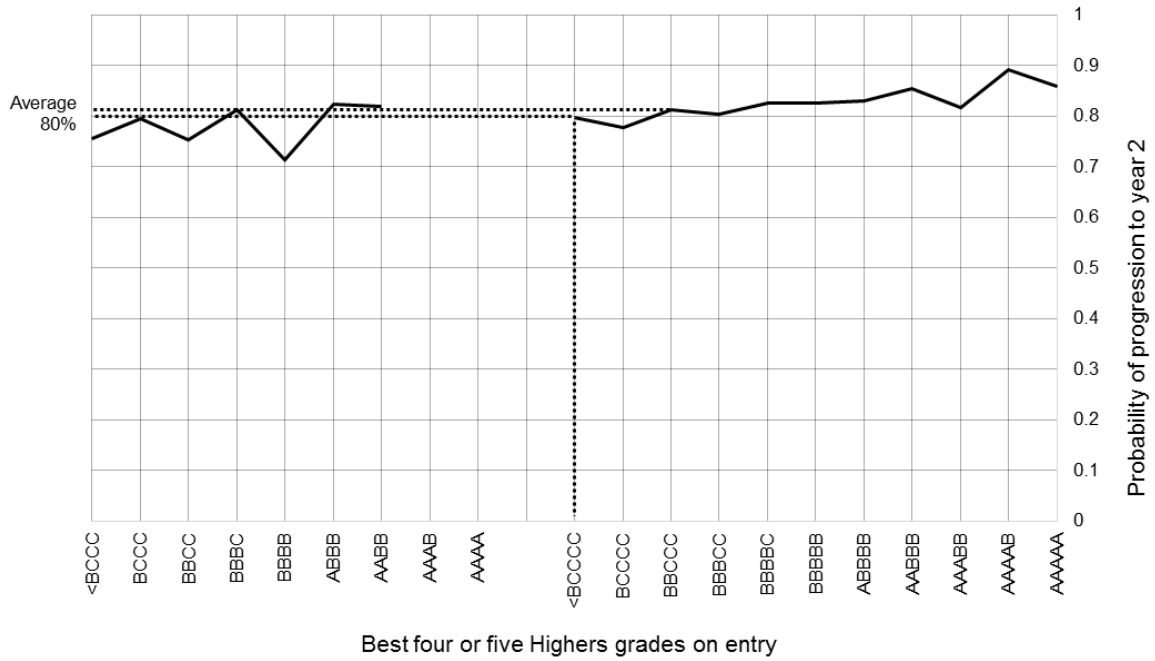
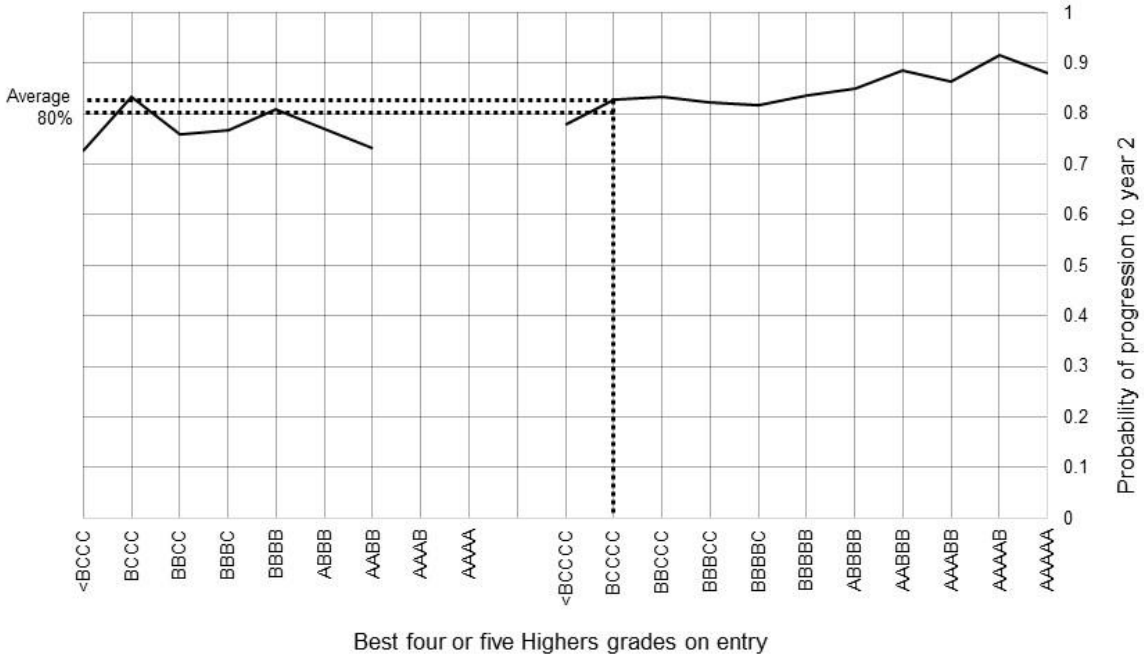


Figure 4.6 Progression to year two of arts degree programmes at less selective HEIs



Figures 4.7 to 4.12 turn to the association between students' best four of five Highers grades and the probability of achieving a first or upper second class degree rather than a lower second or third class degree given completion of a degree programme which classifies awards.

Figure 4.7 focuses on science degree programmes at highly selective HEIs, where the average rate of achieving a first or upper second class degree of 74% is associated with Highers grades of AAABB. While the success rate on this measure declines strongly as Highers grades decline, success rates remain high at 65% for those with grades of ABBBB.

Figure 4.8 focuses on arts degree programmes at highly selective HEIs, where the average rate of achieving a first or upper second class degree of 82% is associated with Highers grades of AAABB. As previously, while the success rate on this measure declines strongly as Highers grades decline, success rates remain high at 65% for those with grades of BBBCC.

Figure 4.7 Achievement of a first or upper second class degree rather than a lower second or third class degree in science degree programmes at highly selective HEIs

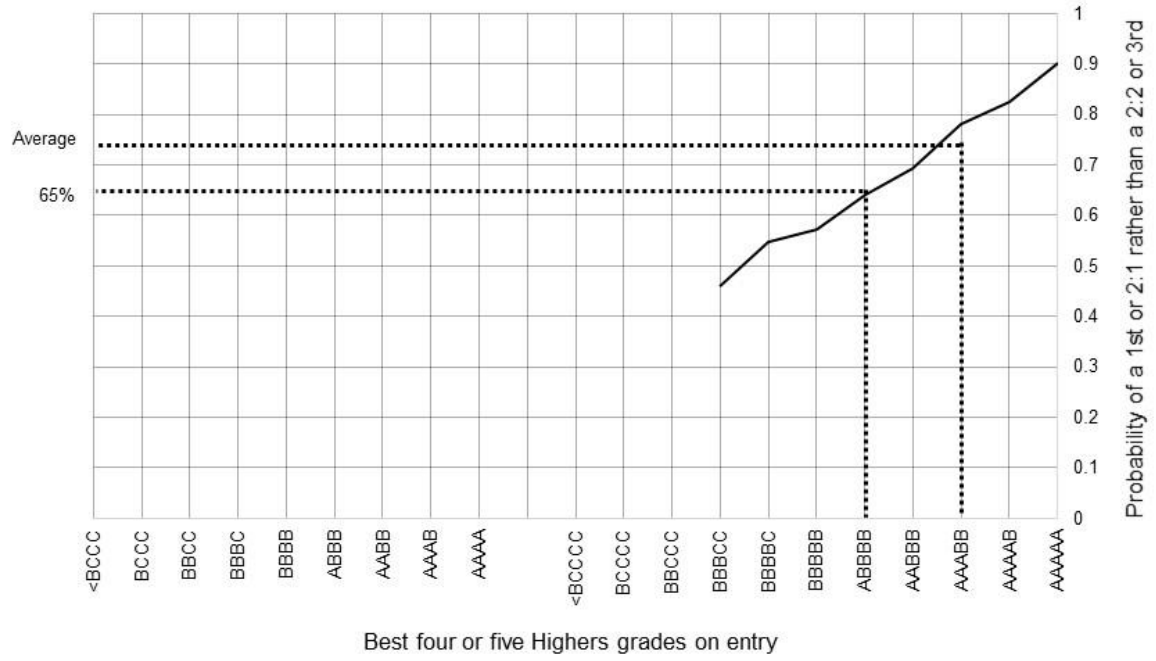


Figure 4.8 Achievement of a first or upper second class degree rather than a lower second or third class degree in arts degree programmes at highly selective HEIs

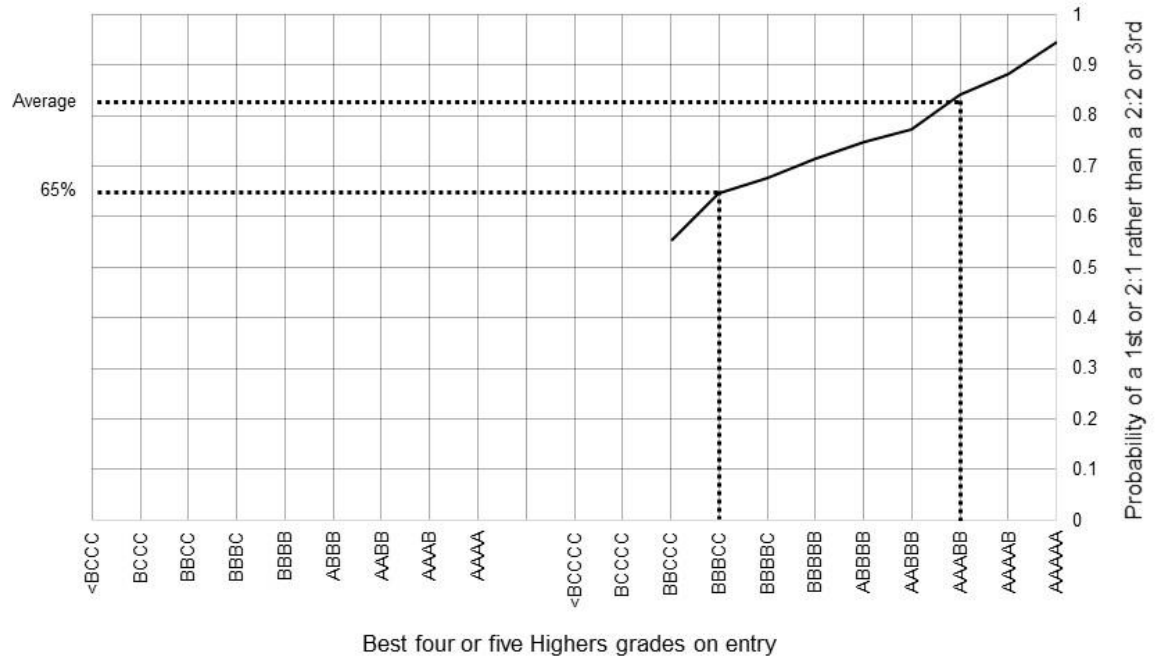


Figure 4.9 focuses on science degree programmes at moderately selective HEIs. Here, while the average rate of achieving a first or upper second class degree of 73% is associated with Highers grades of ABBBB, success rates remain high at 65% for those with grades of BBBBB.

Figure 4.9 Achievement of a first or upper second class degree rather than a lower second or third class degree in science degree programmes at moderately selective HEIs

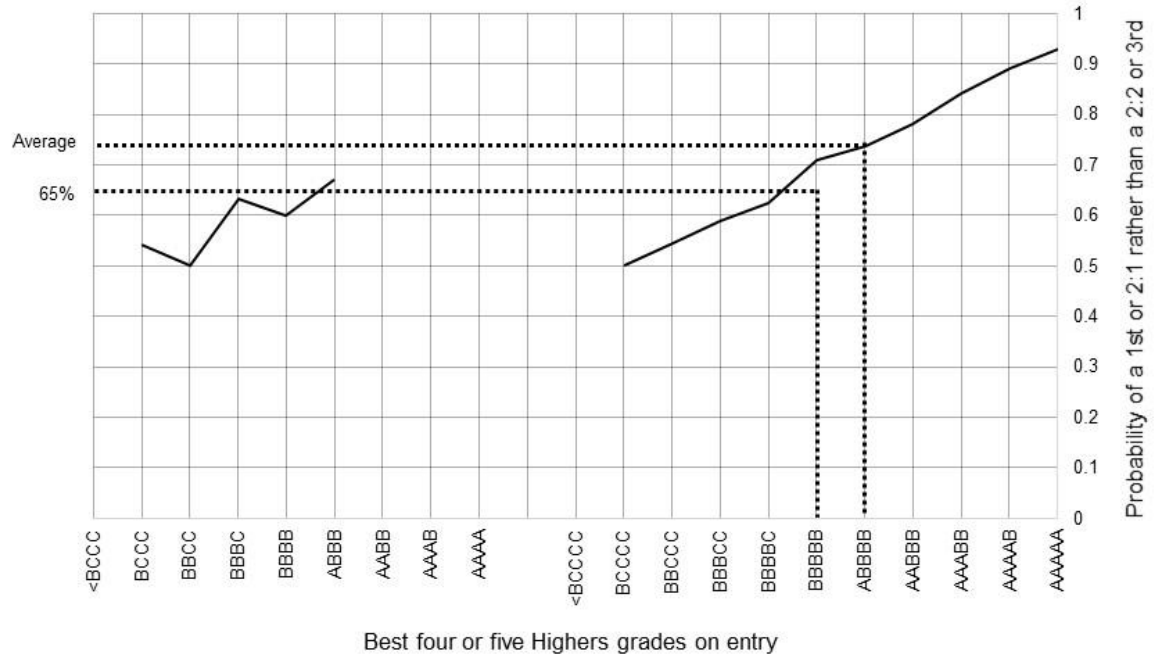
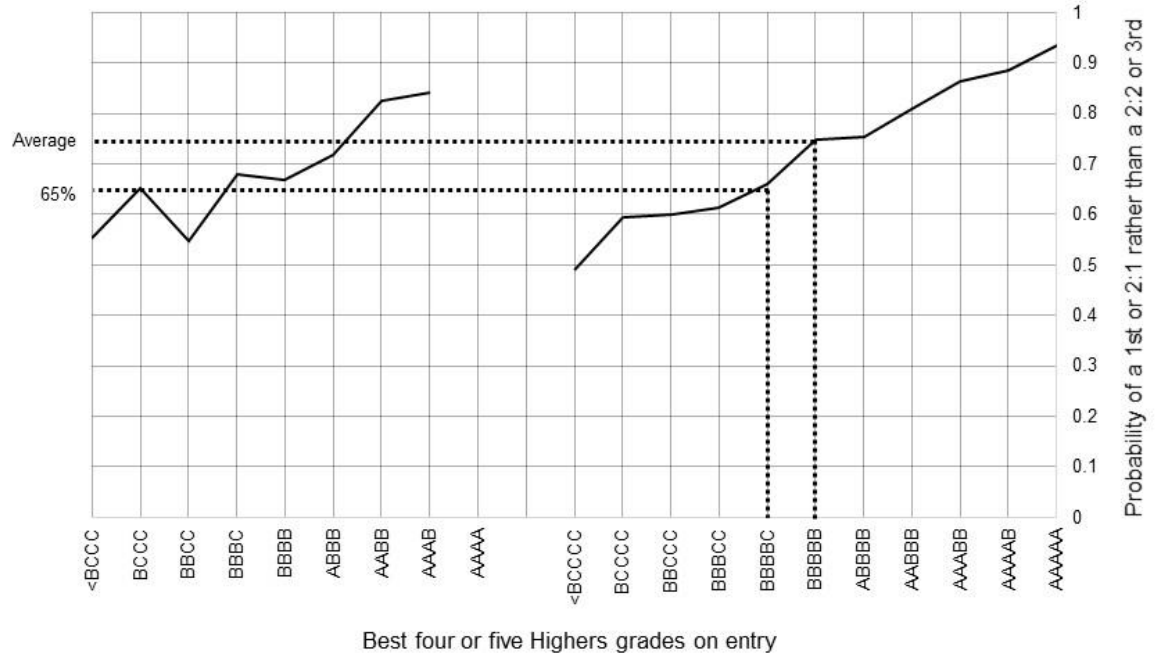


Figure 4.10 focuses on arts degree programmes at moderately selective HEIs, where the average rate of achieving a first or upper second class degree of 74% is associated with Highers grades of BBBBB. As previously, while the success rate on this measure declines strongly as Highers grades decline, success rates remain high at 65% for those with grades of BBBBC.

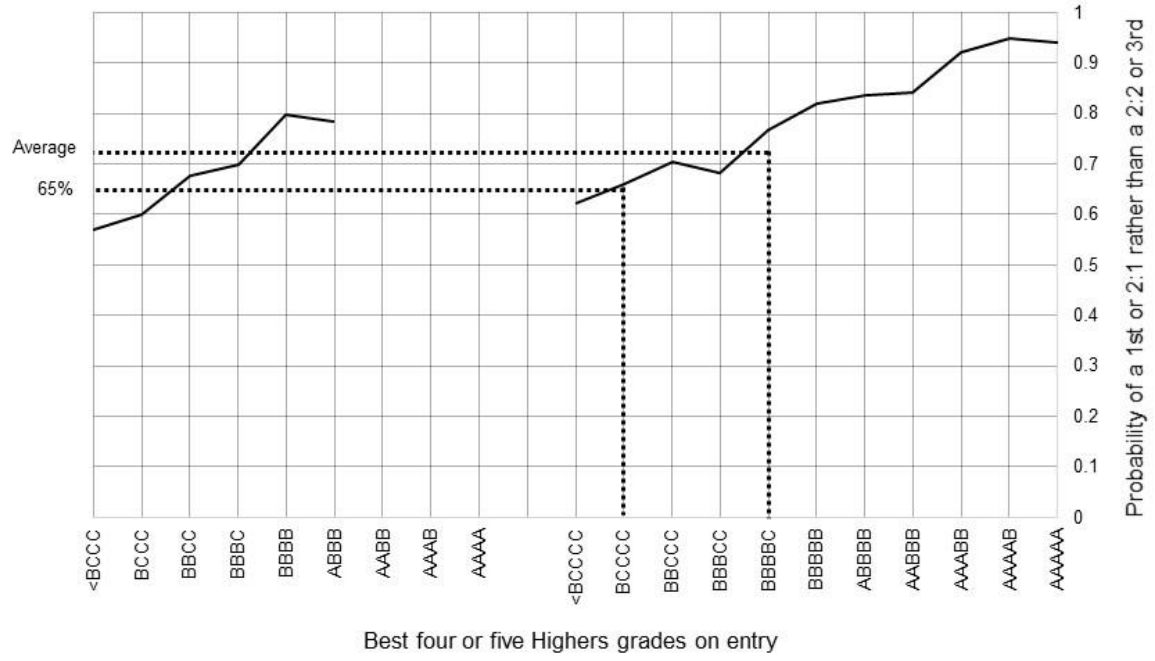
Figure 4.10 Achievement of a first or upper second class degree rather than a lower second or third class degree in arts degree programmes at moderately selective HEIs



Finally, figures 4.11 and 4.12 focus on science and arts degree programmes at less selective HEIs, where rates of achieving a first or upper second class degree average 68% and 72% respectively, with associated Highers grades of BBBBC.

Figure 4.11 Achievement of a first or upper second class degree rather than a lower second or third class degree in science degree programmes at less selective HEIs

Figure 4.12 Achievement of a first or upper second class degree rather than a lower second or third class degree in arts degree programmes at less selective HEIs



For science programmes, BBBBC is the lowest set of grades associated with a 65% or better success rate on this measure, although the success rate is only a few percentage points below this threshold for those with BBCCC. For arts programmes, those with BCCCC have success rates on this measure of 65%+.

5. Summary of key findings and recommendations

The evidence presented above indicates that there is scope for Scottish universities to set minimum entry requirements significantly lower than typical standard offers without substantially reducing students' chances of success at degree level.

If the measure of success is progression from year 1 to year 2 of an undergraduate degree programme, Scotland's most highly selective HEIs could set minimum entry requirements at BBBBB and retain a high probability (80%+) of success. Similarly, moderately selective Scottish HEIs could set minimum entry requirements at BCCCC and BBBCC for science and arts programmes respectively; and less selective Scottish HEIs could set minimum entry requirements at BCCCC for science and arts programmes.

If the measure of success is achievement of a first or upper second class degree rather than a lower second or third class degree, Scotland's most highly selective HEIs could set minimum entry requirements at ABBBB and BBBCC for science and arts programmes respectively and retain a high probability (65%+) of success. Similarly, moderately selective Scottish HEIs could set minimum entry requirements at BBBBB and BBBBC for science and arts programmes respectively; and less selective HEIs could set minimum entry requirements at BBBBC and BCCCC for science and arts programmes respectively.

These indicative minimum entry requirements are summarised in the table below.

Table 5.1 Higher grades associated with an 80% probability of progression from year 1 to year 2, and with a 65% probability of achieving a first or upper second class degree

	Average probability of progression from year 1 to year 2	80% probability of progression from year 1 to year 2	Average probability of a 1st or 2:1 rather than a 2:2 or 3rd	65% probability of a 1st or 2:1 rather than a 2:2 or 3rd
Highly selective HEIs				
Science	AAABB	**BBBBB**	AAABB	**ABBBB**
Arts	AABBB	**BBBBB**	AAABB	**BBBCC**
Moderately selective HEIs				
Science	BBBBC	**BCCCC**	ABBBB	**BBBBB**
Arts	BBBBC	**BBBCC**	BBBBB	**BBBBC**
Less selective HEIs				
Science	BBCCC	**BCCCC**	BBBBC	**BBBBC**
Arts	BCCCC	**BCCCC**	BBBBC	**BCCCC**

It is possible to get some sense of the extent to which the minimum entry requirements indicated above might help widen access by considering them in light of the Highers performance data for students in receipt of free school meals and from SIMD20 postcodes presented earlier in table 1.1. If, for example, highly selective institutions required all applicants to achieve AAABB at Highers level, just 3.9% of free school meal recipients and just 5.4% of SIMD20 postcode residents could be considered eligible for admission. In contrast, setting minimum entry requirements at BBBBB for these applicant groups would more than double the pool of eligible learners to 8.7% of free school meal recipients and 13.4% of those from SIMD20 postcodes.

The minimum entry requirements suggested above are of course indicative rather than definitive. Minimum entry requirements are likely to vary to some extent from programme to programme, and some programmes may require minimum levels of prior attainment in prerequisite subjects. As such, institutions are likely to want to use the minimum entry requirements suggested above as a point of reference when developing the evidence base with specific reference to their own programmes. On the other hand, due to data limitations it has only been possible to explore possible minimum entry requirements with reference to four or often five Highers qualifications achieved by the end of S6. It may be the case that similarly high rates of degree success are associated with a similar grade profile across four Highers achieved across one or two years.

It should also be borne in mind that the minimum entry requirements indicated by the evidence presented here are necessarily informed by historic data and so are likely to be on the conservative side. Continuing and future investments in support for the learning of contextually disadvantaged students make it quite possible that minimum entry requirements could be set lower still without any diminution of students' chances of success at degree level. As such, it advisable that the identification of appropriate minimum entry requirements be regarded as an ongoing process rather than a one-time action; as something that should be revisited periodically with a view to potentially reducing minimum entry requirements in line with new evidence.

Relatedly, it is important to recognise that contextually disadvantaged students – whether admitted on the basis of standard or minimum entry requirements, but especially in the latter case – are likely to need additional learning support if they are to fulfil their potential at degree level. Institutions intending to implement, sustain or develop minimum entry requirements policies for contextually disadvantaged should consider how best to support the learning of contextually disadvantaged students, and further research will be needed to identify the most effective methods of learning support. Several institutions already offer pre-entry programmes, supported first years of study, and ongoing academic and pastoral support services for contextually disadvantaged students. It would be valuable to share evidence-based examples of good practice in this regard across the sector.