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The use of access thresholds to widen participation at Scottish universities

Abstract

The Scottish Government has set ambitious targets for widening access to full-time undergraduate degree programmes. Meeting these targets will be a real challenge, not least because young people from socioeconomically disadvantaged contexts continue to lag substantially behind their more advantaged peers when it comes to achievement at Higher level. Following the recommendations of the Commission on Widening Access, the Scottish Government has mandated Scottish universities to set separate entry requirements for contextually disadvantaged applicants, known as ‘access thresholds’. In this article, we draw on the findings of a research project commissioned by the Scottish Funding Council to develop an empirical evidence base for the use of access thresholds to widen participation in higher education. We show that access thresholds are mathematically necessary if wider access is to be achieved, and we present evidence demonstrating that applicants admitted with Higher grades lower than the market rate have a high probability of success at degree level. We welcome the widespread use of access thresholds but highlight the scope to be much bolder than is currently the case. We also show that the use of the Scottish Index of Multiple Deprivation (SIMD) to identify contextually disadvantaged learners runs a high risk of failure to reach the intended beneficiaries. We argue strongly in favour of the use of administratively verified individual level measures of contextual disadvantage instead, specifically receipt of free school meals and low household income.

Keywords: access thresholds; contextualised admissions; fair access; Scottish Index of Multiple Deprivation (SIMD); free school meals (FSM)

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Introduction

Widening access to university has long been a policy objective of the Scottish Government but there is a new determination to make much more rapid progress. This renewed commitment to widening access was set out in the Programme of Government presented to the Scottish Parliament in November 2014, in which the First Minister stated the ambition that:

A child born today in one of our most deprived communities should have no lesser chance of entering higher education than a child born into one of our least deprived [communities]. (Scottish Government 2014: 4).

This policy objective comes after a long period of minimal progress on widening access in Scotland (Hunter-Blackburn et al 2016), especially in relation to more academically selective universities - as has also been the case in the wider UK (Boliver, 2015). As Figure 1 shows, in 2015 just one in ten Scottish-domiciled 18 year olds from the most deprived neighbourhoods in Scotland progressed to university, compared to more than four in ten 18 year olds from the least deprived neighbourhoods (see Panel A). Similarly, only around one in twenty enrolled 18 year olds from the most deprived neighbourhoods entered a higher tariff (top third most academically selective) institution, compared to almost three in ten from the least deprived neighbourhoods (see Panel B). These gaps have been narrowing, but only slowly.

[Figure 1 about here]

The Scottish Government set up a Commission on Widening Access (CoWA) to identify the most promising means of achieving its goal of fully equitable access to Scottish universities within a generation, and to help set appropriately stretching milestone targets (CoWA 2015). A key recommendation of the CoWA's final report was that Scottish universities should engage in a strong form of 'contextualised admissions' (Schwartz 2004), involving significant reductions in academic entry requirements for socioeconomically disadvantaged learners. More specifically, CoWA 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. (CoWA 2016a: 11)

The rationale behind the setting of access thresholds is two-fold. First there is recognition that academic entry requirements have risen over time as a response to rising levels of demand for university places, such that academic entry requirements now typically exceed the minimum needed to succeed at degree level (CoWA 2015 & 2016a; Boliver, Gorard and Siddiqui 2017). Indeed, rising entry requirements are reflected in the total UCAS point scores of entrants to Scottish universities between 2006 and 2015, which rose from an average 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).¹

Second there is acknowledgement that socioeconomic inequality within wider society impacts on educational achievement, such that school attainment of disadvantaged learners often does not do justice to their true academic potential (Schwartz 2004; CoWA 2016), an argument that has since gained broad acceptance across the Scottish higher education sector (Universities Scotland 2016). The philosophy underpinning access thresholds thus contrasts sharply with the more traditional meritocratic model of university admissions in which places go to the most highly qualified applicants irrespective of social background. In contrast, access thresholds reflect recognition that formal equality of opportunity is not genuine equality of opportunity in a society that is unequal. The idea of access thresholds is rooted in a notion of distributive justice that requires people to be treated equitably (i.e. differently according to need), in contrast to procedural justice which requires people to be treated equally (i.e. the same) in a manner that is blind to the realities of socio-economic inequalities (Rawls, 1999[1971]). The principle of distributive justice requires adjustments for the fact that in an unequal society people are not equally able to demonstrate their capacity. Access thresholds represent such an adjustment; applicants are selected on potential or ‘calibrated’ merit where the calibration is not just how well people have achieved compared to the national picture but how they have performed considering their opportunities and barriers. This is a different kind of justice: not procedural justice - considered fair because everyone is treated the same - but distributive justice, working back from a fair distribution of resources (a university education) and building in a process that is geared towards achieving a fairer distribution of that resource.

As the CoWA reports acknowledge, many Scottish universities were already operating some form of contextualised admissions.² However, this was not universal practice, and reductions in academic entry requirements for disadvantaged learners were typically of the order of just one or two grades (Boliver et al. 2017a). As such, the CoWA recommendation represents a call for ‘more radical action’ than ever before (CoWA 2016a: 37). The Scottish Government has adopted the CoWA recommendation in full, mandating all Scottish universities to set access thresholds for applicants seeking entry in 2020/21 and beyond. It is clear that the Scottish Government regards access thresholds as a critical means of achieving its stretching new access targets. In the short term the goal is to increase in the representation of those from Scotland’s 20% most deprived neighbourhoods as measured by the Scottish Index of Multiple Deprivation (SIMD) to at least 16% of entrants to full-time undergraduate degree programmes and at least 10% of entrants to every university in Scotland by 2021. In the longer term the ambition is for 20% of new entrants to Scottish universities to be drawn from the 20% of young people living in Scotland’s most deprived communities, and higher tariff universities may be asked to go further than the 2021 target of 10%. Official figures for the academic year 2015/16 indicated that just 13.8% of Scottish domiciled entrants to full-time first degree programmes at Scottish universities came from SIMD20 postcodes, and that 8 of Scotland’s 18 universities³ had some way to go to reach their target of 10% by 2021 (SFC 2019).

¹ 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 For an account of Edinburgh University’s early adoption of contextualised admissions practices see Cree et al 2016.

³ Scotland in fact has 19 universities including the Open University in Scotland, which is unique in having an open admissions policy and therefore does not typically feature in the Scottish Funding Council reports on widening access.

The CoWA recommendation rests on the beginnings of an evidence base that includes studies showing that students from state schools perform significantly better at degree level than students from private schools who enter with the same grades (Ogg, Zimdars and Heath 2009; Hoare and Johnson, 2011; Lasselle, McDougall-Bagnall and Smith 2013; cf. Sumnall, 2015). Superior degree performances have also been observed for students whose own secondary educational achievements are higher than the average for their school (HEFCE 2014; Crawford 2014a). In contrast, studies employing individual-level indicators of contextual disadvantage such as free school meal status, or area-level indicators such as local deprivation level, have found that contextually disadvantaged students perform no better than or worse than more advantaged students with the same levels of prior attainment (Crawford, 2014b; Croxford et al, 2014; HEFCE, 2014; Boliver, Gorard and Siddiqui 2017; Jones et al 2017). 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 that contextual disadvantages will 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.

CoWA has urged universities to continually refine their access thresholds for contextually disadvantaged learners in line with emerging evidence (CoWA 2016a: 38). CoWA also urged the Scottish Government and Scottish Funding Council to work with various stakeholders to develop more robust indicators of contextual disadvantage in light of the inevitable inaccuracies that occur when trying to identify socioeconomically disadvantaged individuals using the area-level measure SIMD (CoWA 2016a: 66; Gorard et al. 2017). In this article we report on the findings of research commissioned by the Scottish Funding Council (SFC) entitled *Mapping and Evaluating the Use of Contextual Data in Undergraduate Admissions in Scotland* which set out to contribute to the evidence base in both of these regards (Boliver et al 2017b).⁴ The wider project involved interviews with admissions personnel working at Scottish universities, coupled with an analysis of statistical data relating to the educational achievements and trajectories young people in Scotland. The key findings of the interview research are reported elsewhere (Boliver, Powell and Moreira 2018). In this article we focus on the evidence generated by the statistical component of the project.

Contextualising prior achievement

Our first research question was: how far would academic entry requirements need to be reduced in order to achieve a fully proportional representation of socioeconomically disadvantaged learners among entrants to Scottish universities? To answer this question we drew on Scottish Government data on the attainment of Scottish state schools pupils by the end of 6th year (S6), the final year of upper secondary education.⁵ As reported in Figure 2, attainment levels are strikingly unequal for pupils from more and less advantaged backgrounds. More than half of

⁴ For a summary of parallel programme of work focused on England and funded by the ESRC, see Boliver, Gorard and Siddiqui (2019). The evidence for England is much the same as that for Scotland, and is beginning to influence policy and practice in England (see for example OfS 2019).

⁵ We focus on Higher qualifications and, for simplicity's sake, use equivalised grades throughout our analysis. Equivalised grades mean, for example, that AAABC is taken to be equivalent to AABBB on the basis that having a C rather than a B is compensated for by also having AAA rather than AAB. We do not consider Advanced Higher qualifications.

all pupils from the most deprived neighbourhoods (SIMD20) did not have any Highers by the time they were due to finish S6 (57%). The figure is even worse for recipients of free school meals (FSM): over two-thirds had no qualifications at Higher (69%). What is also striking is that very few SIMD20 residents gain the very highest grades, AAAA at Higher level, and the same is true for FSM recipients (4% and 3% respectively). In contrast, a considerable fifth of those from Scotland's least deprived neighbourhoods achieve AAAA at Higher level (20%). What these figures mean is that it is mathematically impossible to achieve equal representation of SIMD20 and non-SIMD20 students at university without the use of access thresholds. It is also worth noting that the disparities shown in Figure 2 would likely be larger still if private fee-paying school pupils, who are overwhelmingly from socioeconomically advantaged backgrounds, were included in the calculations.

[\[Figure 2 about here\]](#)

Access thresholds and success at degree level

But how low could access thresholds go without jeopardising universities' current capacity to support students' success at degree level? To answer this question we drew on data supplied by the Higher Education Statistics Agency (HESA) for the cohort of young people in Scotland who finished secondary school in 2008 and 2009 and went to university at the beginning of the 2010s. We focus on Scottish domiciled students studying full time for first degrees at Scottish universities who entered higher education aged 21 or under and who had achieved at least four Highers prior to university entry. Binary logistic regression models were used to estimate the relationship between Higher qualifications on entry and then the best using two metrics. The first captures students' chances of progressing successfully to year 2 of their degree programme, rather than failing or dropping out. This is a useful proxy for degree completion since previous research shows that drop out is relatively rare after the transition from year 1 to year 2 of undergraduate study (Kadar-Satat and Iannelli, 2016). The second outcome measure refers to their probability of obtaining a first or upper-second class degree, rather than a lower degree classification. This is an especially stringent indicator of degree success. The data was modelled separately for science and arts degree programmes at highly selective, moderately selective, and less selective HEIs.⁶ All models included controls for broad degree subject area and the specific higher education institution concerned.

Figure 3 illustrates the statistical relationship between students' Higher qualifications on entry to a highly academically selective Scottish university and their probability of success at degree level. What the evidence shows is that, although students were more likely to get through their first year successfully if they entered with higher grades, the slope is very shallow. There is no sharp drop off in success for students who entered with less than five Highers at A grade, and even students who have entered high tariff universities with B grades, by and large, progressed successfully into year two. The picture differs somewhat in respect of the degree classification students achieved, where there is a steeper relationship between grades on entry and gaining a first or a 2.1, rather than a lower degree classification. Nevertheless, students who have come into those universities with B grades rather than A grades had a better than evens chance of achieving a first or a 2.1. It is not a foregone conclusion, therefore, that students who enter a

⁶ 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).

high tariff university with B grades at Higher will not get a good degree: in fact, there is 50/50 chance that they will.

[Figure 3 about here]

The same analysis was carried out for medium tariff and lower tariff universities with very similar results. For medium tariff universities there was little relationship between grade of Highers on entry and getting through into year two. Again, there was a steeper slope when it comes to success as measured by getting a good degree, a first or a 2.1. But it is still the case that those entering with C grades have a better than evens chance of achieving a first or a 2.1 and a four in five chance that they will come out with a degree. Similarly, for lower tariff universities there is a very flat, shallow relationship between Highers on entry and progressing to year 2. In these universities, there is a less steep relationship between Highers on entry and the outcome of getting a good degree.

While the analysis shows that it is possible for students to come in with lower than traditionally required grades and to succeed in their degree study, even at high tariff universities, it also highlights the need to think much more carefully about how students are supported to learn once they get to university (Howieson and Minty 2019). Some of those admitted with lower than typical grades will have gaps in their subject knowledge, or need help to develop their academic skills. They are, by definition, individuals whose circumstances have prevented them from having as advanced and as deep and developed an education as more traditional students. Some Scottish universities, especially higher tariff ones, have expressed ambivalence about supporting students who might not be ready to hit the ground running (Boliver, Powell and Moreira, 2018). However, there is much good practice across the sector on which to draw, not least within lower tariff universities, which have long supported contextually disadvantaged students to succeed at degree level.

Appropriate indicators of contextual disadvantage

But what are the best indicators of socioeconomic disadvantage to use to ensure that contextual offers and other widening access interventions reach their intended beneficiaries? The Scottish Government's access targets are all set in terms of SIMD, despite the fact that, as an area-level measure, it is acknowledged to be a poor proxy for the circumstances of individuals (Scottish Government 2016; CoWA 2016b; Gorard et al. 2017). Put simply, not all disadvantaged people live in disadvantaged areas, and not all people who live in disadvantaged areas are disadvantaged. We evidence this by drawing again on data for the population of 4th year (S4) pupils in Scottish state schools in 2007 and 2008 and cross-tabulating SIMD20 status with free school meal (FSM) status. Individuals in receipt of free school meals are, by definition, disadvantaged since they must meet eligibility requirements in terms of family income and receipt of certain welfare benefits, and so this is a highly valid indicator which can be expected to yield few or no false positives (although its binary nature means there will be some false negatives). Moreover, FSM status is officially verified information that is available from official records, making it a highly reliable indicator of disadvantage. Since SIMD20 is a good proxy for the socioeconomically disadvantaged status of individuals, it should capture all young people in receipt of free school meals. On the contrary, however, our analysis revealed that only about half of all free school meal recipients lived in SIMD20 areas (48%). Thus, using SIMD20 to decide who is entitled to the access threshold means that we would be excluding half of those we definitely know should be included. This alarmingly high rate of false negatives is also evident in statistics presented by Paterson, Hunter Blackburn and Weedon

(2019). They show that more than half of the nation's disadvantaged households, as measured by social class background or household income, are not located in SIMD20 areas.⁷

The other problem with using SIMD is that some people who live in deprived neighbourhoods are not themselves deprived and are not the intended beneficiaries of these access thresholds. Including them in statistical returns would give a misleading picture of progress. Among the population of S4 pupils attending Scottish state schools in 2007 and 2008, 75% of those who were SIMD20 residents were not receiving free school meals and we simply do not know what proportion of this 75% are in fact deprived. Evidence provided by Paterson, Hunter Blackburn and Weedon (2019) suggests that the rate of false positives is likely to be non-trivial. Their estimates from survey data indicate that at least one-fifth of all households located in SIMD20 areas are not in fact disadvantaged.⁸ If SIMD20 is used to decide who is entitled to an access threshold, we could be in a position where we are giving adjusted entry requirements to people who are not disadvantaged at all, they just happen to live in SIMD20 postcodes. This would of course be the opposite of what widening access policies intend to do.

It is worth noting that Scotland is not alone in using a highly flawed area-level metric to set and monitor progress towards widening access targets. In fact, the situation is worse in England where the preferred metric, POLAR (HEFCE 2017), refers to the higher education participation rate of young people in a given area rather than socioeconomic disadvantage *per se*, and aggregates data for very large geographical units each containing some 8,000 residents on average.⁹ Unsurprisingly, therefore, POLAR has been shown to produce even more false negatives and even more false positives than other area-level measures more similar to SIMD, such as the Income Deprivation Affecting Children Index (IDACI) and the consumer classification measure known as ACORN (Boliver, Gorard, and Siddiqui forthcoming).

In both the Scottish and English contexts, if the goal is genuine equality of access to university, we must use officially verified individual-level measures of socioeconomic disadvantage. Social class background, as suggested by Paterson, Hunter Blackburn and Weedon (2019), is one possible alternative, although its reliability is questionable due to the difficulties involved in verifying self-reported social class information (but cf. Fisher and Begbie 2019). Two immediately more promising options are free school meal status or low household income, which are not only highly valid indicators of socioeconomic disadvantage but also, because they can be officially verified, highly reliable.

Recent developments

The latest statistics indicate that Scottish universities have recently begun to improve the representation of young people from the most deprived neighbourhoods as measured by SIMD20. Figures for the sector as a whole rose to 15.6% in 2017/18 after having hovered at 14% or less since baseline figures were collected in 2013/14 (SFC 2019). As such the sector as a whole is likely achieve its 2021 target of 16% from SIMD20 areas slightly ahead of schedule.

⁷ More specifically, 59% of all households represented by someone in a working class occupation or long-term unemployed (NS-SEC categories 5-8) were located outside of SIMD20 areas, as were 51% of all low income households with net annual incomes of £15,000 or less. See also ECU 2016 for a similar pattern of findings concerning undergraduate entrants to Scottish universities in 2013/14.

⁸ More specifically, 21% of SIMD20 households included someone in a higher social class position (NS-SEC categories 1-2) and 26% had net household incomes greater than £30,000 per annum. See also ECU (2016).

⁹ MSOAs are used for England and Wales, intermediate zones for Scotland and super output areas (SOAs) for Northern Ireland. Previous versions of POLAR used census wards (HEFCE 2014). For further information about the current version of the measure, POLAR4, see HEFCE (2017).

At the level of individual universities, the number of institutions yet to reach the 10% target set for 2021 declined from 8 in 2015/16 to 6 in 2017/18 (SFC 2019). Of the 6 universities yet to reach the 10% target, all saw an increase between 2015/16 and 2017/18 in the proportions of new entrants drawn from the most deprived neighbourhoods. The most striking increases were for two of Scotland's most academically selective and prestigious universities: at St Andrews the figures increased from 5.1% to 7.5% in the space of two years, while Edinburgh University saw a rise from 5.6% to 8.1% (SFC 2019).

As discussed above, the highly problematic nature of SIMD as a measure of socio-economic disadvantage means that these improved figures are likely to be less a cause for celebration than they appear. Indeed, as Paterson, Hunter Blackburn and Weedon (2019) show, one-fifth of the increase in the higher education participation rate for SIMD20 residents between 2011/12 and 2014/15 was attributable to students from the managerial and professional class backgrounds (NS-SEC 1-2) and not to those from disadvantaged groups. And while the higher education participation rate for those from lower social class backgrounds (NS-SEC 5-7) grew by 25% among the sub-set from SIMD20 postcodes during the same period, the corresponding figure for lower social class students living outside of SIMD20 areas was just 2%. These findings give further credence to the argument advanced above that area-level metrics tend to do less good than would appear, and in fact have the potential to do more harm than good.

In 2019, all Scottish universities set access thresholds for 2021/22 entry as mandated by government, including universities which had not previously routinely reduced entry requirements for disadvantaged applicants. For example, for admission to its BA English programme, the University of St Andrews previously required AAAB at Higher level for all applicants, with the exception of a small number of contextually disadvantaged applicants admitted with BBBB via its supported first year *Gateway* programmes. For 2021/22 entry, all St Andrews' applicants identified as contextually disadvantaged will be required to achieve one grade lower than the previous standard entry requirement (AABB rather than AAAB), while all applicants *not* deemed contextually disadvantaged will be required to achieve one more Higher qualification at grade A than was the case previously (AAAAB rather than AAAB). As a result of this contextualisation, St Andrews' stands a good chance of meeting the 10% target by 2021. However, as argued above, it is likely that a sizeable proportion of these additional entrants from SIMD20 areas will not in fact be disadvantaged, and that many genuinely disadvantaged individuals who do not live in SIMD20 zones will not benefit at all from the introduction of access thresholds. Moreover, even if SIMD20 was not a poor proxy for individual-level socioeconomic disadvantage, it is apparent that St Andrews, and other highly selective Scottish universities, will need to set their access thresholds much more ambitiously if anything like full proportional representation is to be achieved. It remains to be seen whether the Scottish Government will ask universities like St Andrews to go beyond the 10% target after 2021. The evidence presented in this paper indicates that more stretching future targets would be achievable, albeit more challenging if SIMD20 was abandoned in favour of a more valid measure of socioeconomic disadvantage such as free school meal status or low income household.

In closing it is worth noting that, at the time of writing, the Scottish Government is continuing to measure progress on widening access principally in terms of SIMD20. However, in his latest annual report, the Commissioner for Fair Access stated that 'the Access Data Working Group [of the Scottish Government] has recommended that FSM [free school meals] registration should be used as an individual-level indicator' (Commissioner for Fair Access 2019: 24). This is a welcome development which, if and when it comes to fruition, promises to substantially

improve the extent to which access thresholds and other widening access initiatives reach their intended beneficiaries.

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Figure 1. Percentage of 18 year olds entering higher education institutions (panel A), and entering higher tariff institutions (panel B) by Scottish Index of Multiple Deprivation (SIMD) quintile, 2006-2015 (Source: UCAS 2015)

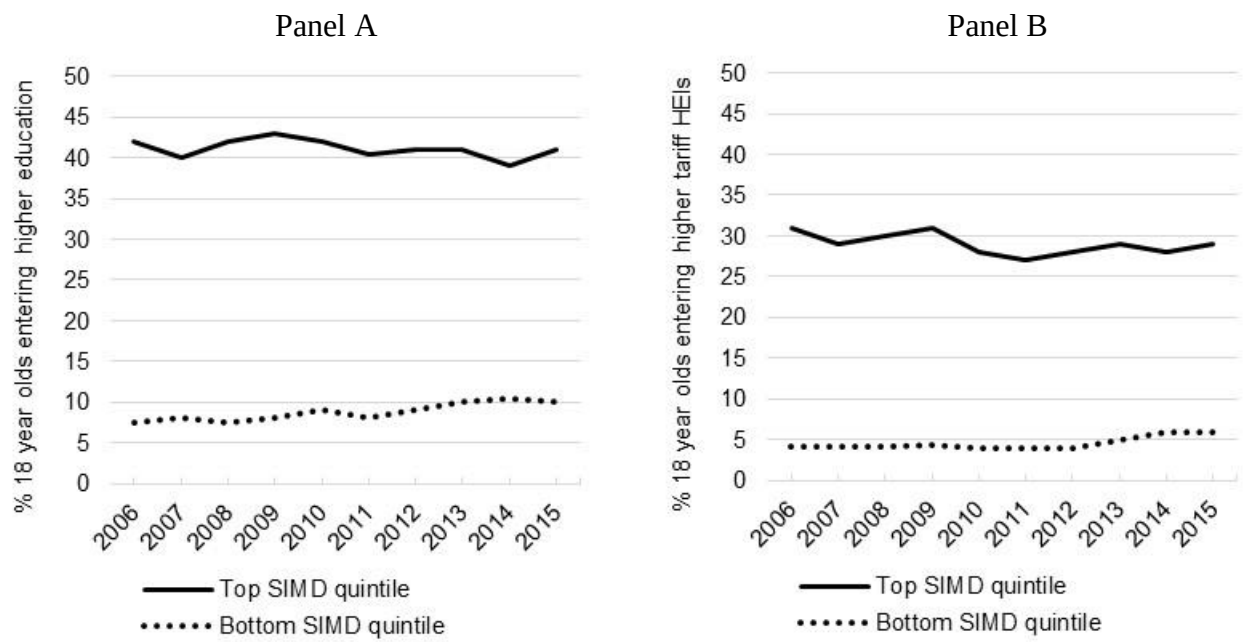


Figure 2. Higher achievement by the end of 6th year (S6) for all state school pupils in 4th year (S4) in 2007/8 or 2008/9

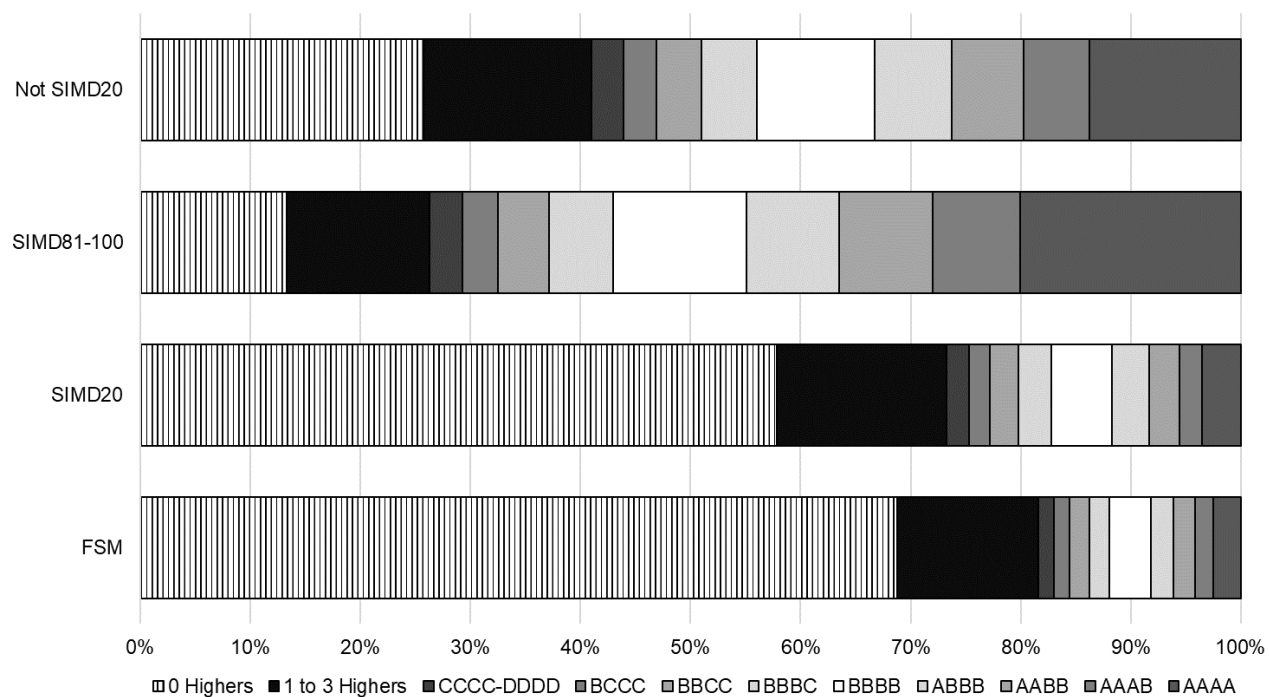


Figure 3. Statistical relationship between Higher attainment and degree success among young entrants to higher tariff universities in Scotland

