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Research

A report to the Office for Fair Access by
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Education Funding Council for England
(HEFCE).

Have bursaries influenced choices between universities?

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Have bursaries influenced choices between universities?

Purpose

- This analysis investigates whether disadvantaged young people in England have become more likely to choose universities offering higher bursaries.
- It does this by examining millions of higher education application and participation choices made by young people before and after bursaries were introduced.

Key findings

- The introduction of bursaries has not influenced the choice of university for disadvantaged young people.
- Applications from disadvantaged young people have not changed in favour of universities offering higher bursaries.
- Disadvantaged young people have not become more likely to choose conditional offers from universities offering higher bursaries.
- Since bursaries were introduced most of the increase in the participation of disadvantaged young people has been in universities offering lower bursaries.

Structure

1. The **Key Findings** (page 2) section gives the headline results. The **Summary** (page 4) explains how the effect of bursaries on choice is investigated and reports the results from the different analyses used. The **Introduction** (page 10) puts the analysis in context and describes how bursaries and disadvantage are measured. **Trends in participation by bursary group** (page 16) looks at bursaries and entry to higher education through the analysis of participation rates across higher, medium and lower bursary institutional groups. **Trends in patterns of applications** (page 20) investigates whether there have been changes in institutions applied to by young people that relate to the bursaries they offer. **Choosing between conditional offers** (page 25) isolates the influence of bursaries on how applicants respond to the conditional offers that institutions make to them.

Summary

What are bursaries?

2. Bursaries are annual, non-repayable, means-tested grants paid by individual institutions to disadvantaged students. They were introduced as part of the new student finance system in 2006-07 and were intended to play their part within that system in ensuring that disadvantaged people were not deterred from going to university for financial reasons, particularly universities where students from disadvantaged backgrounds were under-represented.

3. Institutions charging maximum fees must offer a statutory minimum bursary to all students eligible for the full maintenance grant but otherwise are free to set bursary levels and eligibility criteria as they see fit, provided their access agreement (setting out their tuition fees and bursary provision) meets with the approval of the Office for Fair Access (OFFA). As a result of this freedom, the amount of bursary offered to students eligible for the full higher education maintenance grant ranges between institutions from a few hundred to a few thousand pounds a year. Since most institutions have opted to charge the maximum permitted tuition fee, this difference in bursary amounts is the main personal finance change from the new student finance system that has the potential to influence people's university choices. In particular, bursaries are the main personal finance incentive tool for institutions that wish to increase their proportions of disadvantaged students from especially low levels – and it was an aim of the bursary system that they would do so.

How we investigate whether bursaries have influenced choice of institution

4. This report addresses the question of whether differential bursaries have changed the institutional choices of young people, especially those from disadvantaged backgrounds. The new analysis¹ in this report progressively isolates institutional choice

¹ This analysis was undertaken at the request of OFFA by Dr Mark Corver at HEFCE. OFFA is responsible for the scope and content of this work.

through examining the type of institutions attended by young people from England, the pattern of applications they made, and how they responded to offers from different institutions. Young participation² data from the mid-1990s to present is used to examine the bursary-related trends in entry to higher education. The institutional choices of English young people for three years either side of the introduction of bursaries is tracked through UCAS³ application data covering four million choices made by one million applicants. How applicants responded to nearly two million conditional offers is studied to see how bursaries have influenced real choices between institutions.

5. Institutions are classified by the level of bursaries they offered from 2006-07. Young people are classified as coming from an advantaged or disadvantaged background by reference to the nature of the neighbourhood they live in, and students who come from a disadvantaged background are shown to be more likely to qualify for bursaries. Combining these classifications allows us to compare the institutional choices made by disadvantaged young people for periods before and after the introduction of bursaries. Changes that are a result of the influence of differential bursaries would be expected to be evident only from 2006-07 and to be more pronounced for the disadvantaged group.

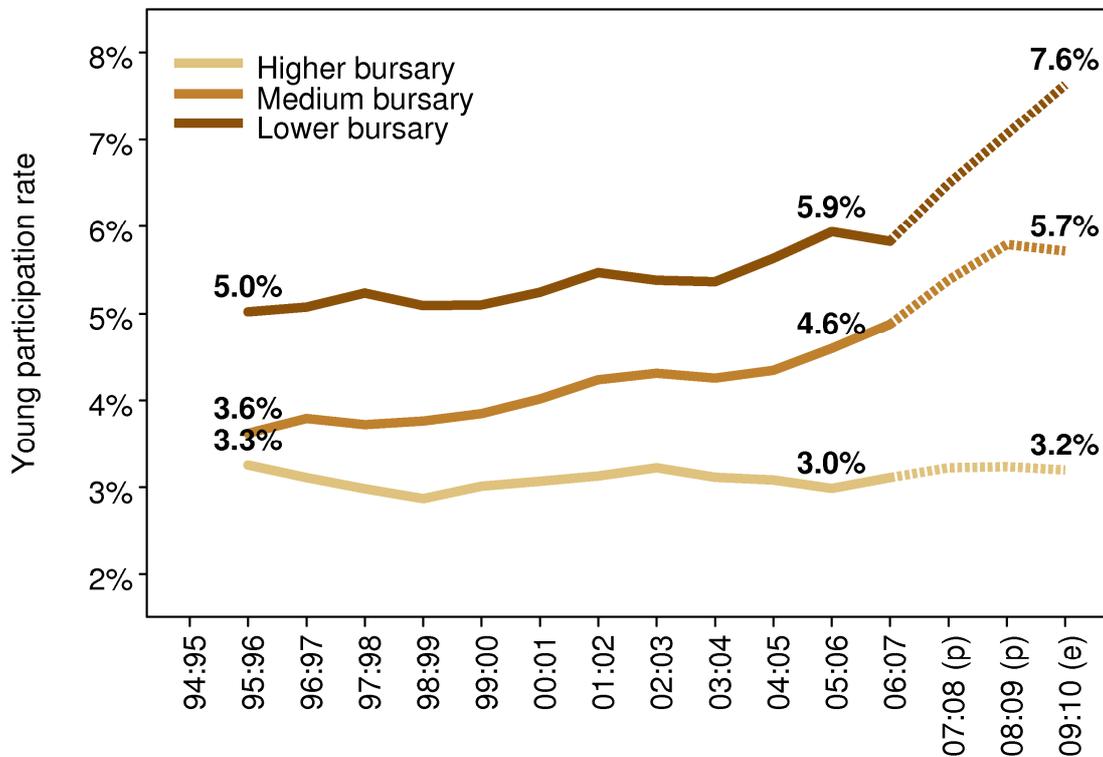
² The participation analysis draws upon data sets provided by the Higher Education Statistics Agency and UCAS. Additional data resources used are the Office for National Statistics National Statistics Postcode Directory and 2001 Census: Standard Area Statistics (England and Wales). Census output is Crown copyright and is reproduced with the permission of the Controller of HMSO and the Queen's Printer for Scotland.

³ UCAS is the organisation responsible for managing applications to higher education courses in the UK and – under an agreement for collaboration for research and analysis purposes – provides HEFCE with data on higher education applications and acceptances. For more information on UCAS see www.ucas.com. OFFA is grateful to UCAS for their assistance in this work.

Trends in participation rates by bursary group

6. If differential bursaries had a strong influence on disadvantaged young people's decisions about entering higher education then it would be expected that there would be increases, following the introduction of bursaries, in their participation rates at higher bursary institutions. Since the introduction of bursaries, disadvantaged young people – who would be more likely to qualify for bursaries – have increased their participation most rapidly in the third of institutions that offer lower bursaries. There have been only small increases for disadvantaged participation in the higher bursary third of institutions and overall young people from disadvantaged backgrounds are no more likely to enter these institutions today than in the mid-1990s. The participation trends do not suggest that the higher bursaries on offer at some institutions have had a material effect on the participation rate of disadvantaged young people in those institutions.

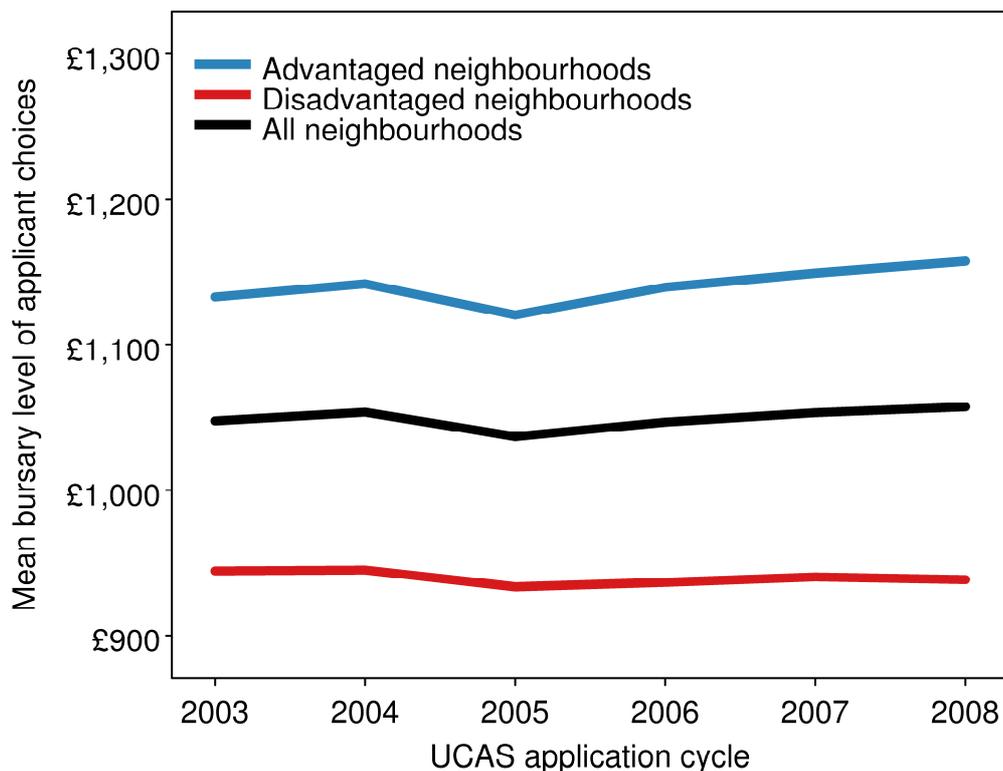
Figure 1 Participation rates of disadvantaged young people in higher bursary, medium bursary and lower bursary institutions



Trends in applications

7. If higher bursaries were attractive to disadvantaged young people then it would be expected that they would, when bursaries were introduced, shift their pattern of applications towards institutions offering higher bursaries. No evidence of this is found in the analysis of the pattern of applications. The average bursary of institutions applied to by disadvantaged young people is around £950 and the pattern of the institutions applied to in this regard did not change when bursaries were introduced. Around 60 per cent of disadvantaged applicants apply to at least one of the higher bursary third of institutions and this proportion did not increase when bursaries were introduced. Applicants from advantaged backgrounds – who are less likely to qualify for bursaries – apply to, on average, institutions with higher bursary values than do disadvantaged applicants. Applicants from all backgrounds apply to institutions with a substantial range in bursaries – averaging £700 for disadvantaged applicants – and around 40 per cent apply to both a higher and lower bursary institution.

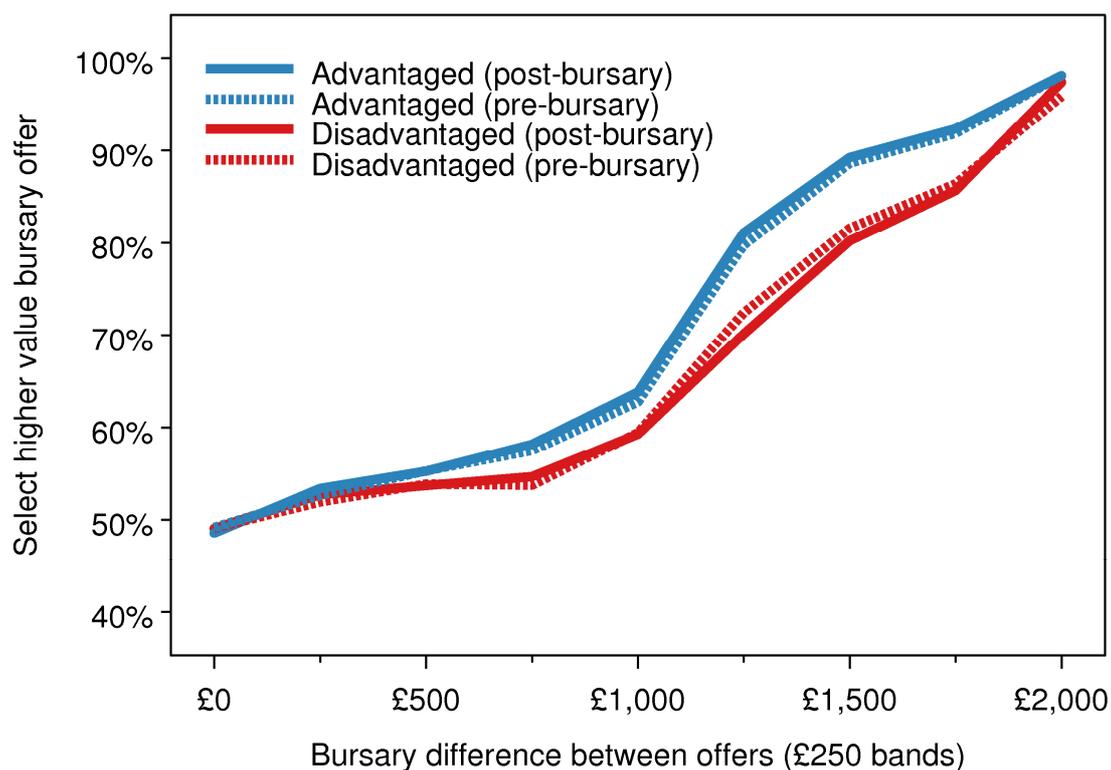
Figure 2 Average bursaries of institutions applied to, by applicant background



Choosing between conditional offers

8. Many applicants are made multiple conditional offers by institutions; the choice made by the applicant at this stage is a sensitive measure of how credible candidates choose between real options. There is no indication of an effect of differential bursaries on the choices of disadvantaged applicants. Disadvantaged applicants do prefer to choose conditional offers with higher value bursaries. But this preference is more marked for advantaged applicants, and substantially the same prior to the introduction of bursaries. The bursaries themselves do not appear to be influencing applicants' choices between conditional offers.

Figure 3 Proportion of applicants who choose a higher value bursary offer over a lower value bursary offer, by the difference in bursary value



9. Applicants from all backgrounds are found to prefer to select conditional offers with higher, more difficult to satisfy, offers. Applicants from disadvantaged backgrounds appear to be selecting offers that are lower in terms of tariff points than those selected by those from advantaged backgrounds. However, when analysed in terms of how likely the applicant is to satisfy the offer made then it is found that applicants from all backgrounds are equally ambitious in their decision-making.

10. Statistical models of how applicants choose between conditional offers are used to check that an influence of bursaries is not being masked by concurrent changes in other factors important for choosing institutions, such as the academic competition for courses. These models find no detectable effect of the introduction of differential bursaries on the choice of institution by disadvantaged young people.

Conclusion

11. The analysis of participation rates, application patterns and choices between offers gives a clear and consistent finding: differential bursaries have not influenced the choice of institution for disadvantaged young people.

Introduction

Participation trends since the mid-2000s

12. In the second half of the 2000s young participation in higher education increased and significantly widened: young people from the most disadvantaged backgrounds were 30 per cent more likely to enter higher education at the end of the decade than five years previously⁴. Most of the increases in participation, especially for those from disadvantaged backgrounds, occurred at institutions where, on average, students had lower levels of prior attainment⁵. The participation rate of disadvantaged young people in HE at institutions where students had, on average, higher prior attainment has not increased. Since the mid-2000s the relative participation of advantaged and disadvantaged young people in these institutions has stayed the same – the national trend for widening participation in this period is not evident in these institutions, but they have not seen participation narrow either.

13. In 2006-07 a new student finance system was introduced in England covering tuition fees, student support and bursaries. From the analysis of participation trends spanning this change it now seems clear that the new system has not been associated with any material reduction in young participation in higher education - especially so for those from disadvantaged backgrounds - either overall or at particular types of institution.

⁴ Higher Education Funding Council for England (2010) Trends in young participation in higher education: core results for England. Issues paper 2010/03. Bristol: HEFCE

⁵ Office for Fair Access (2010) What more can be done to widen access to highly selective universities? (Annex C) Publication 2010/03. Bristol: OFFA

What this analysis investigates

14. What has not yet been examined in the same detail is whether the one component of these changes that has led to real institutional differentiation – the level of the bursaries available for students from lower income backgrounds– has had an effect on the choice of institution. In particular, have disadvantaged young people been attracted to institutions that, since 2006, have offered higher levels of bursaries? Is there evidence of this attraction in the pattern of institutions they apply to, how they choose between offers, and where they enter higher education?

15. This report uses new analysis of higher education application and participation data to answer these questions of differential bursaries and institutional choice. It does not look at whether the environment of statutory minimum bursaries together with state student support has altered people's decisions about whether or not to participate in higher education, nor does it examine the influence of bursaries on the choices of older people, or other objectives of bursaries (such as reducing the numbers of students who do not complete their course).

What are bursaries and what were the aims of the bursary policy?

16. Bursaries were introduced as part of the new student finance system in 2006-07. They are annual, non-repayable, financial support provided by institutions directly to students and are in addition to any state support (grants and loans) that students receive. Institutions are free to design their bursaries as they see fit beyond the requirement for institutions that charge the maximum tuition fees to provide a minimum bursary (£300 in 2006-07) to students on full state support. Overwhelmingly institutions have chosen to create means-tested bursaries to direct support to students from backgrounds up to a defined income level.

17. The primary aim of bursaries was, alongside increases in state support, to minimise the risk that people from the poorest backgrounds would be put off entering higher education as a consequence of the higher tuition fees charged. A secondary aim

was that institutions with further to go in securing a more representative intake of students would offer higher value bursaries in order to attract more disadvantaged students to apply and enter their institution. In other words, it was intended that differential bursaries would be used as a tool for changing young people's choice of institution. In designing their bursary schemes, some institutions also had other objectives such as to help widening participation overall, help reduce student non-completion and help reduce term time working.

Measuring bursary levels for institutions

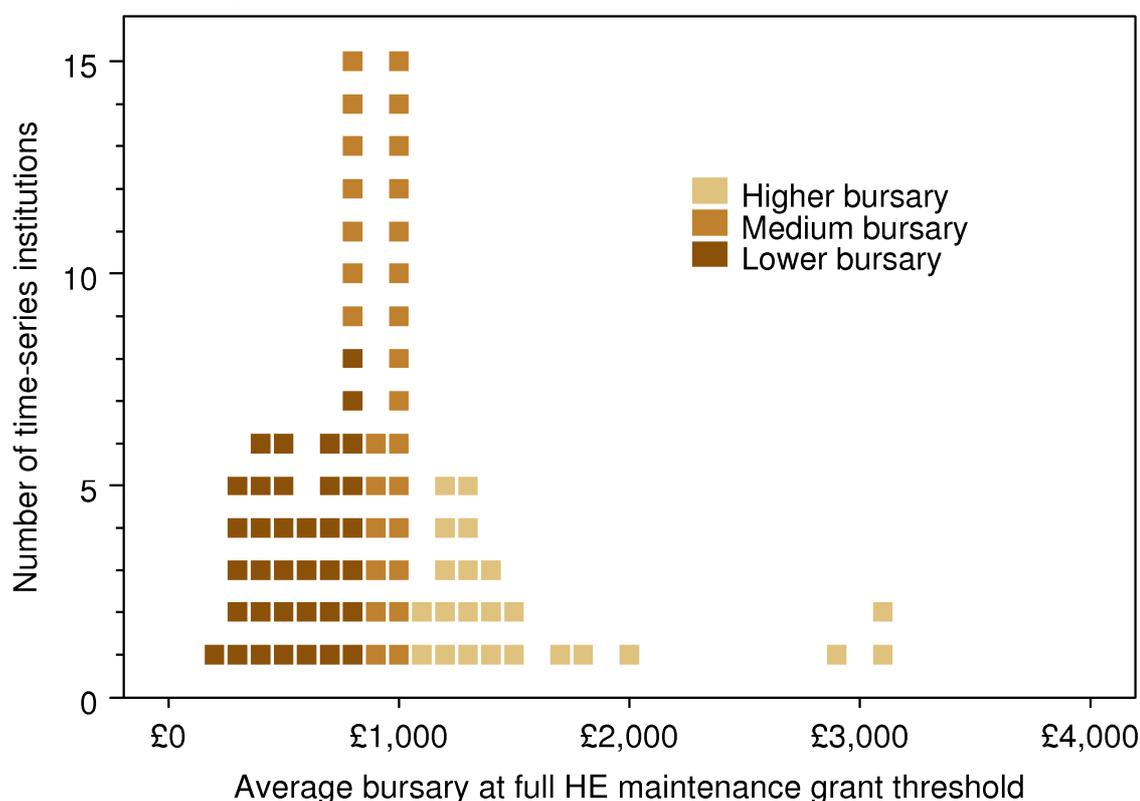
18. Institutions determine their bursary schemes to meet their own objectives, leading to a range of bursary levels and eligibility criteria across institutions. We summarise this complexity for analysis purposes by taking a common measure of the value of bursary that a student at the upper income threshold⁶ for the full HE maintenance grant would receive. This value is averaged over schemes covering the academic years 2006-07 to 2009-10⁷. Figure 4 shows the distribution of this bursary statistic for each institution included in this analysis. This measure of the value of bursaries offered varies across institutions from a few hundred pounds per year to a few thousand pounds per year. In some of the analysis we use three, roughly equal-sized groups of institutions that are defined by bursary level. These groups are *higher bursary* institutions (where the bursary offered at the full state support threshold averaged £1,050 or more per year),

⁶ The income component of eligibility for the full HE maintenance grant depends on Household Residual Income. For the young entrants and applicants we consider in this report this will typically be based on the gross annual incomes of the resident parents of the young person, with deductions relating to dependent children and pension contributions. For 2008/09 the upper threshold of Household Residual Income that qualifies for full state support was £25,000.

⁷ The average is calculated over years where the institution reported a bursary scheme. This includes any guaranteed bursary at this income threshold where there is not a statutory obligation to do so but excludes any bursary conditional on, for example, academic merit. These data are obtained from OFFA's statistical databases. Substantial changes in the amount of bursary offered by an institution year-to-year are rare.

medium bursary institutions (those offering bursaries between £760 and £1,050) and lower bursary institutions (those offering £760 or less).

Figure 4 Distribution of time-series institutions by average bursary at the full HE maintenance grant household residual income threshold



19. All the analysis in this report relates to applications, choices or entry to a large, representative subset of 87 English institutions⁸ - 'time-series institutions'. This subset is chosen to ensure that comparisons through time are comparing like with like. The bursary characteristics we calculate for institutions only relate, by definition, to what institutions have offered from the start of the bursary programme in 2006-07. However, since these measures relate to institutions – and we have ensured that the subset of institutions used is consistent through time – then we can use these bursary values for analysis that covers the periods both before and after the introduction of bursaries. For example, we can calculate the proportion of applicants who choose an offer from a higher bursary

⁸ These institutions are selected to avoid any mergers, data access permissions or other changes that might distort the analysis of trends (see paragraph 11, OFFA 2010).

institution over an offer from a lower bursary institution for both before and after bursaries were introduced. This is possible because the higher and lower bursary grouping of institutions relates not to what was offered in a particular year but to a static grouping of individual institutions that are constant across the period.

Using area background as an indicator of bursary eligibility

20. Bursaries are generally means-tested and directed towards students from lower-income backgrounds. Accordingly any personal finance influence of bursaries on applicant decision-making should be restricted to those applicants who are likely to qualify for bursaries (if this aspect of bursaries is understood by applicants, and they appreciate that variation exists between institutions⁹).

21. We classify applicants by how likely they would be to qualify for a bursary by grouping them according to the nature of the neighbourhood where they are living whilst applying to higher education. For this analysis we rank neighbourhoods by the proportion of children who live in families with at least one graduate parent¹⁰, forming five groups from the most disadvantaged to the most advantaged. This grouping gives a high degree of discrimination in terms of both entry rates to higher education¹⁰ and entry rates to higher-tariff institutions⁵. For the purposes of this work we avoid grouping areas by the Income Deprivation Affecting Children measure. Although this classification would more directly relate to income background it is known to have a more complex and

⁹ “Higher education students’ awareness, knowledge and take-up of bursaries and scholarships”. (OFFA 2009/07, www.offa.org.uk/publications) reports a survey of HE students who were receiving the HE maintenance grant (some, but not all of these, would also be eligible for bursaries). Around 40 per cent of these students had heard of bursaries before or whilst applying through UCAS and a further 14 per cent probably became aware before the offer decision stage (calculated from pages 62-66) so at least half of these probably bursary-eligible students had heard of bursaries early enough to influence their choice of institution. A large majority (86 per cent) of those who had heard about bursaries believed they varied between institutions (page 130).

¹⁰ See paragraphs 58 to 60 in HEFCE 2010/03⁴.

geographically patterned relationship with entry to higher education¹¹ that could distort the trends.

22. We use two broad groups to represent disadvantaged and advantaged backgrounds¹² and, in turn, to identify different likelihoods of qualifying for a bursary. We define the 40 per cent of neighbourhoods with the lowest proportions of children having graduate parents as the disadvantaged group. The 20 per cent of neighbourhoods with the highest level of graduate parents are taken as the advantaged group. In 2008-09, 43 per cent of entrants from the disadvantaged group of neighbourhoods were assessed as having a Household Residual Income that would qualify them for the full HE maintenance grant¹³. That proportion is 2.4 times higher than the 18 per cent found for entrants from the advantaged group of neighbourhoods. So it is reasonable to expect any bursary-induced influences to be more pronounced for young people from the disadvantaged group.

¹¹ See HEFCE 2010/03, paragraphs 65-68.

¹² The rationale for using this grouping when looking at groups of institutions is given in OFFA 2010/03⁵ (paragraph 28).

¹³ Student Loans Company data was linked to the HESA student records for this analysis. For 2008-09 43 per cent of 18-year-old English entrants to time-series institutions were assessed to be at or below the Household Residual Income threshold (£25,000) that would qualify for the full HE maintenance grant. For similar entrants from the advantaged group 18 per cent were assessed as at or below that threshold.

Trends in participation by bursary group

23. OFFA 2010/03⁵ developed a methodology for reporting young participation in institutional groups defined by the average tariff scores of their entrants. A modification of this methodology allows the analysis of similar trends by the bursary institutional groups defined in paragraph 18. Figure 5 shows the young participation trends¹⁴ of disadvantaged young people in each of these three bursary-defined institutional groups.

24. Young people from disadvantaged backgrounds are more likely to enter lower bursary institutions (7.6 per cent for 09:10 cohort¹⁵) than they are to enter higher bursary institutions (3.2 per cent for 09:10 cohort), and have been so from the mid-1990s to today. The participation rate in lower bursary and medium bursary institutions has increased since the mid-2000s. The participation rate in lower bursary institutions did fall for the 06:07 cohort¹⁶, but not by an amount that is untypical for the series, and a similar fall is found for advantaged young people. Subsequent cohorts showed sharp rises. The participation rate in higher bursary institutions has not substantially changed over the whole period.

25. Young people living in advantaged areas are more likely to enter higher bursary institutions than lower bursary institutions (Figure 6) – the reverse of the case for young people living in disadvantaged areas. Participation in higher bursary institutions is higher now than in the mid-1990s but there has been no clear trend in recent years.

¹⁴ UCAS data is used in part or full to help estimate the participation rates for the 07:08, 08:09 and 09:10 cohorts, see paragraph 40 in HEFCE 2010/03⁴. All parts of the participation trend that rely on UCAS-based estimates are shown with dashed lines. On the cohort axis (p) denotes projected cohorts (these are unlikely to change materially), (e) denotes estimated cohorts (these are more likely to change).

¹⁵ The young participation analysis relates to age cohorts, for example the 06:07 cohort is that group of young people who were aged 18 on 31 August 2006 and entered higher education in academic year 2006-07 or 2007-08.

¹⁶ The participation measure includes entrants from two consecutive academic years (entry at age 18 or 19). As such it is not possible to identify a single cohort with the 2006-07 academic year that bursaries were introduced but the main effect would be evident for the 06:07 cohort.

Figure 5 Participation rates of disadvantaged young people in institutional bursary groups

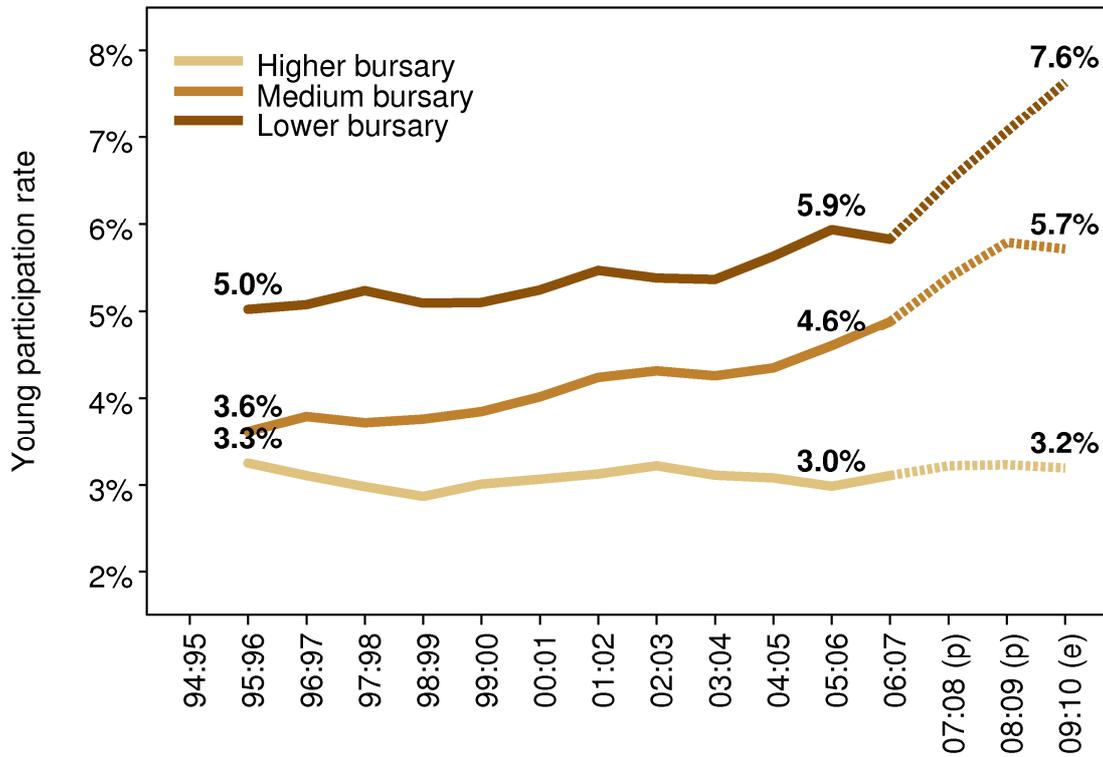
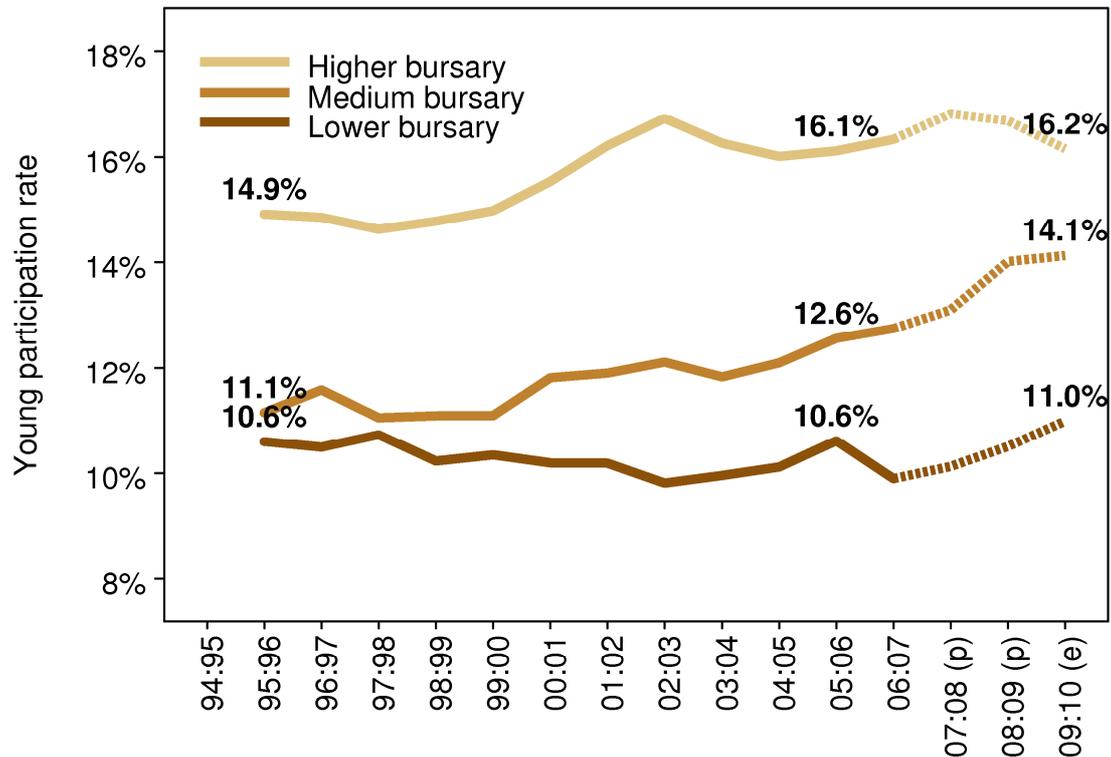
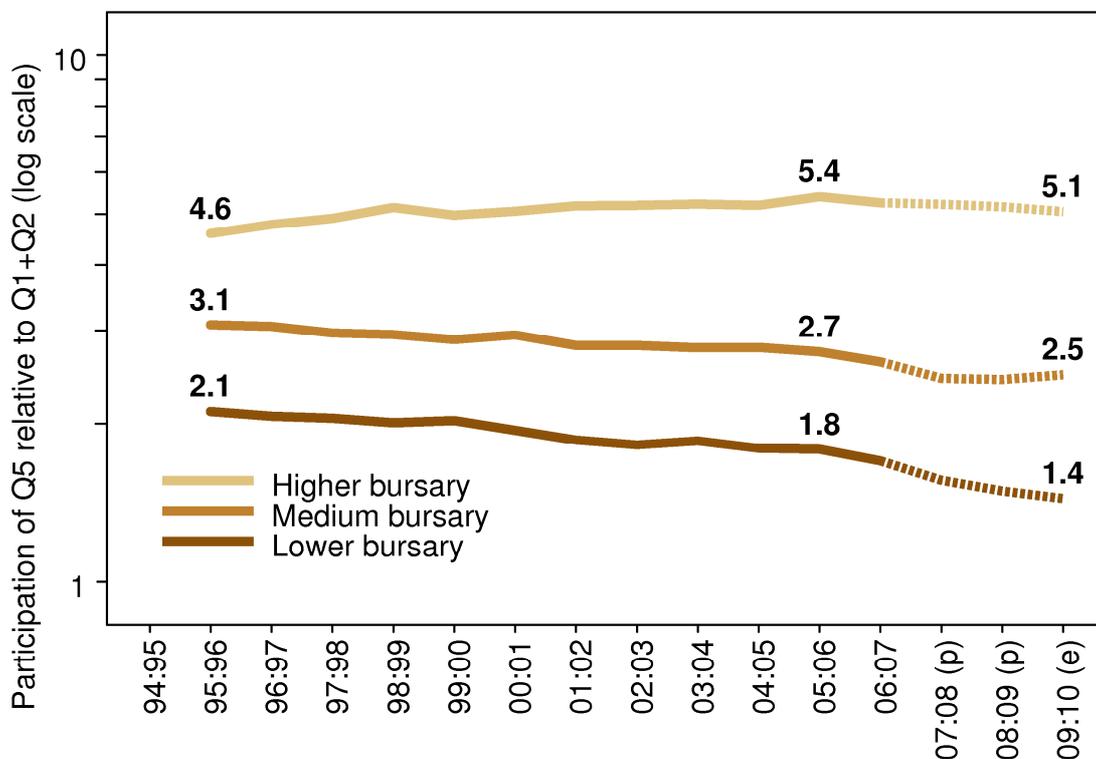


Figure 6 Participation rates of advantaged young people in institutional bursary groups



26. Figure 7 plots the relative participation rate in each bursary group of young people from the most advantaged areas compared to those from the disadvantaged areas; that is, for each cohort how much more likely are the most advantaged 20 per cent of young people to participate compared to the most disadvantaged 40 per cent of young people. All the relative participation rates are greater than one: young people from advantaged backgrounds are more likely to enter HE in any of the bursary groups, at any time, than young people from disadvantaged backgrounds.

Figure 7 Participation rates of advantaged young people relative to that of disadvantaged young people, by institutional bursary group



27. The participation of advantaged young people relative to that of disadvantaged young people is greatest in higher-bursary institutions. Advantaged young people were 4.6 times more likely to enter these institutions than disadvantaged young people in the mid-1990s, rising to reach 5.4 times for the 05:06 cohort, before falling to 5.1 times for the 09:10 cohort. Relative participation differences are smallest for lower bursary institutions and have been reducing from 2.1 in the mid-1990s to 1.8 in the mid-2000s,

and 1.4 for the 09:10 cohort. There are no material changes to these trends that are associated with the introduction of bursaries.

28. The young participation trends for bursary groups show that since bursaries were introduced the participation rate of disadvantaged young people – who would be more likely to qualify for bursaries – has increased most rapidly in the group of institutions that offer the lower bursaries. There have been only small increases in disadvantaged participation in higher bursary institutions – young people from disadvantaged backgrounds are no more likely to enter these institutions than in the mid-1990s. The relative participation of advantaged and disadvantaged young people in the different bursary groups of institutions confirms this and the trends do not show abrupt changes following the introduction of bursaries. Overall, the young participation trends do not suggest that differential bursaries have had a material effect on which institutions disadvantaged young people attend.

Trends in patterns of applications

29. If bursaries did have a material influence on the choice of institution then one place where this would be expected to manifest itself is a shift in applications towards higher value bursary institutions following the introduction of bursaries. This shift would be expected to be greatest for those applicants – from disadvantaged backgrounds – who would be most likely to qualify for a bursary. Looking at patterns of applications in this way should reveal any preference for higher bursaries from disadvantaged applicants even if applicants are not able to convert this preference into entry through being unable to secure or satisfy an offer.

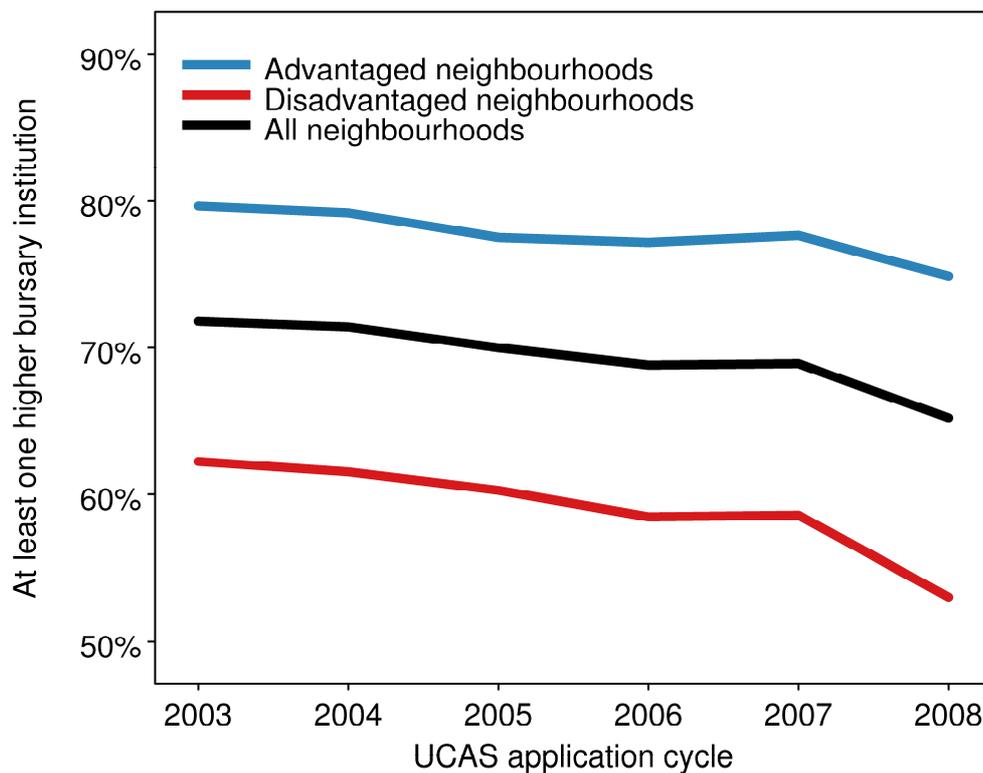
30. Applications to higher education can be investigated using UCAS data. For this – and the subsequent choice analysis – we look at the applications (up to six per applicant until 2008 when it was reduced to five) in the UCAS main scheme¹⁷ from applicants who would be aged 18¹⁸ at the end of the cycle, are domiciled in England, and apply to the time-series English institutions. Over the 2003 to 2008 UCAS entry cycles this analysis population covers nearly four million qualifying applications made by one million applicants.

¹⁷ The UCAS main scheme is the main application pathway and is open to applications made between the 1 September and 15 January. To clarify the analysis we apply some further restrictions to our analysis population: applications must have received conditional offers or been rejected (in particular applications that are withdrawn are excluded, as are the small numbers of unconditional offers) and applicants must have a tariff score recorded.

¹⁸ We look at age group to avoid complicating the offer analysis with applicants who already have their entry qualifications or are retaking them.

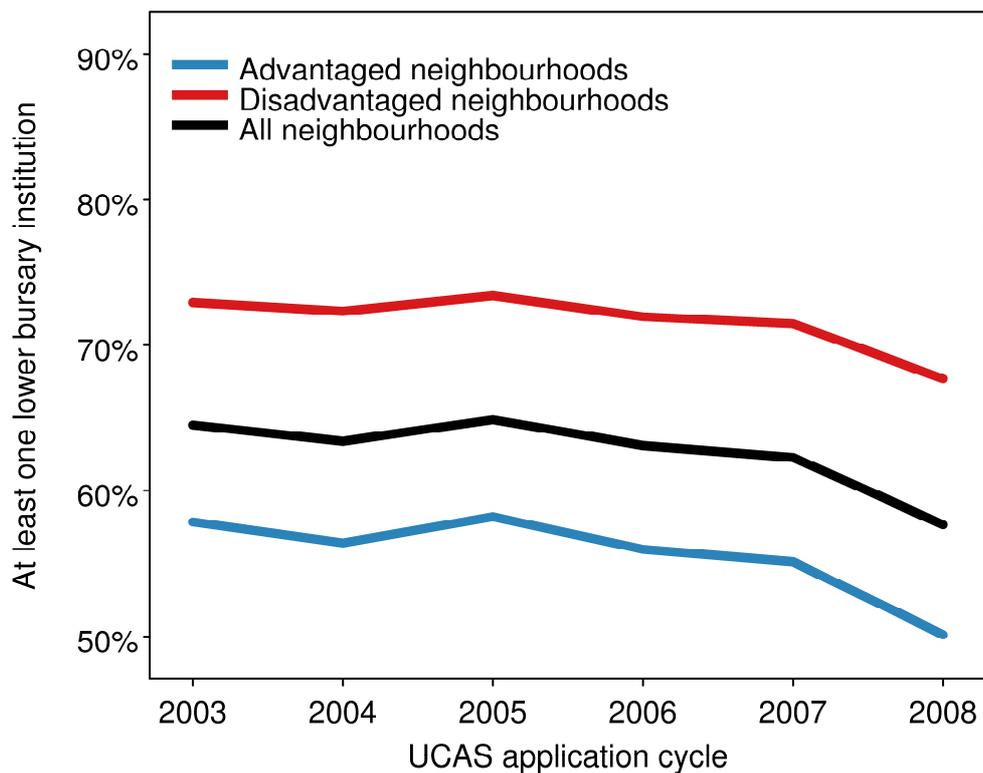
31. Overall, around 70 per cent of these applicants applied to at least one higher bursary institution (Figure 8), with this proportion being higher – around 80 per cent – for those from the most advantaged neighbourhoods and lower – around 60 per cent – for those from less advantaged areas. The sharp fall in 2008 is attributable to the reduction of the maximum main scheme choices per applicant from six to five in that year. There is no sign of a discontinuity in this trend when bursaries were introduced for applicants in the 2006 cycle; that is, there is no evidence that more applicants chose to apply to these institutions as a response to the higher bursaries they were suddenly offering relative to other institutions.

Figure 8 Proportion of applicants that apply to a higher bursary institution



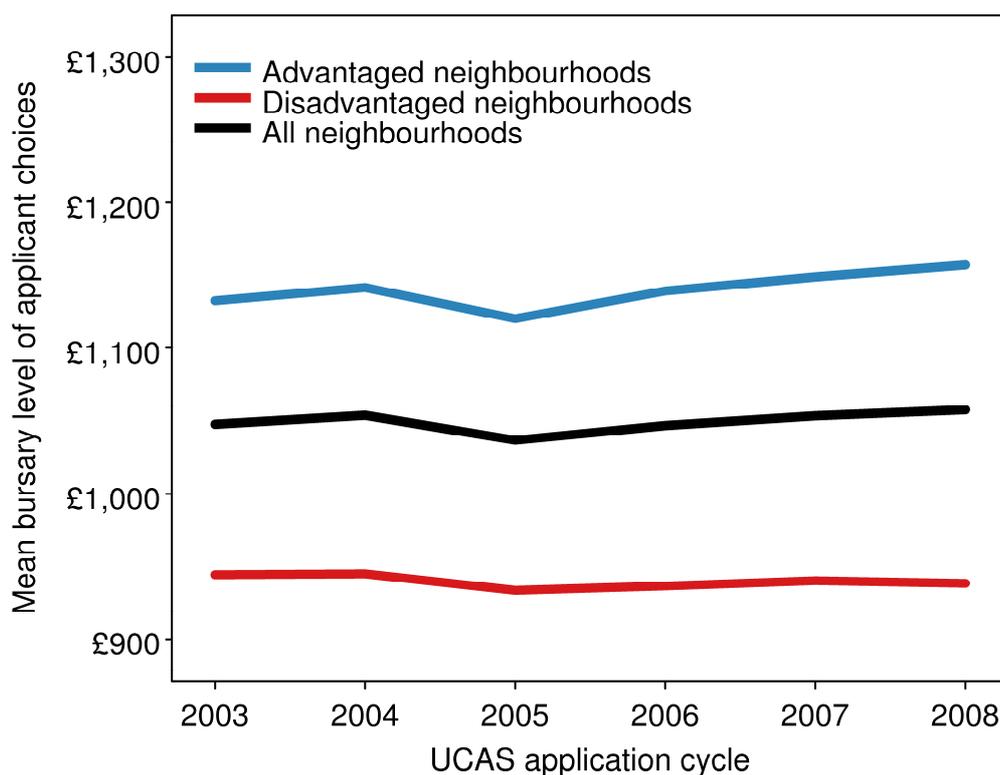
32. Around 65 per cent of applicants include a lower-bursary institution in their applications (Figure 9) – a similar proportion to those including a higher bursary institution. A greater proportion – typically just over 70 per cent – of applicants from disadvantaged backgrounds apply to a lower bursary institution than do advantaged applicants (just under 60 per cent); this is a reversal of the position for higher bursary institutions where a greater share of advantaged applicants applied compared to disadvantaged applicants. Aside from the fall for all groups in 2008 (again attributable to the reduction in the number of permissible choices from six to five) there is no clear trend over the period.

Figure 9 Proportion of applicants that apply to a lower bursary institution



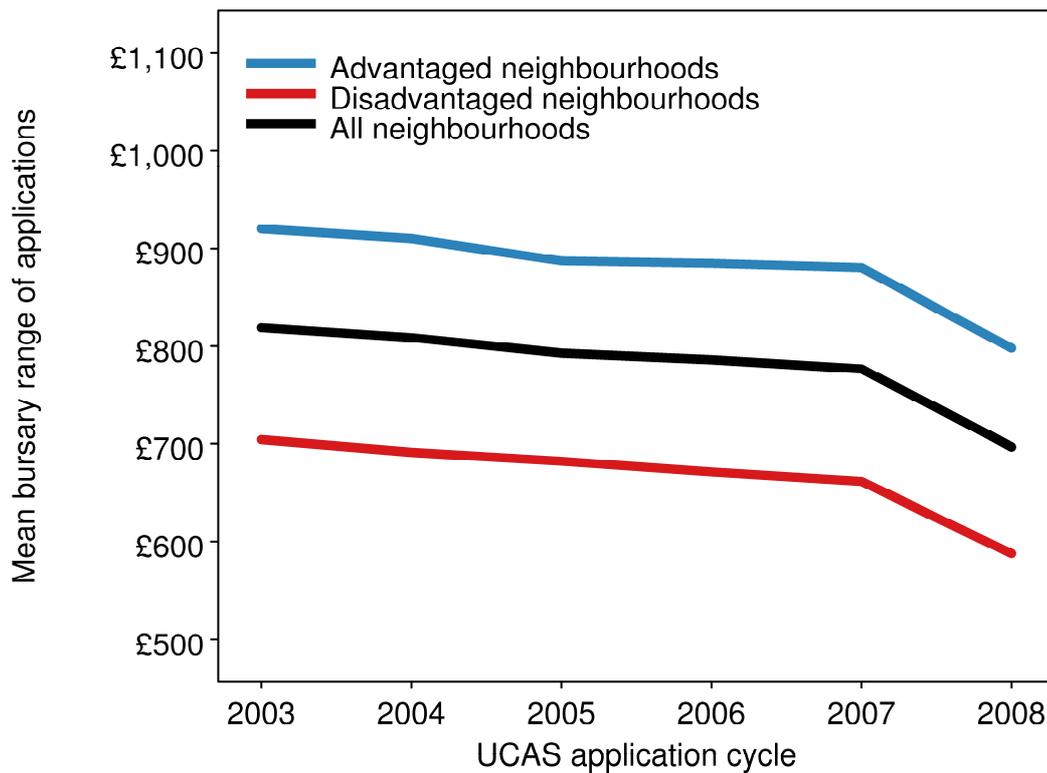
33. The bursary characteristics of applicant choices can also be summarised as the average (mean) bursary across the institutions to which each applicant has applied. This can capture more subtle shifts in bursary preferences within the bursary groups. Figure 10 shows this average bursary of applicant choices by the background of the applicant. The average bursary across the applications of advantaged young people averages around £1,150 over the period, while for applicants from disadvantaged backgrounds it is around £200 lower at around £950. There is no material change in the bursary pattern of applications when bursaries are introduced; in particular there is no material increase in the average bursary from a change in the institutions applied to by disadvantaged young people.

Figure 10 Average bursary levels of applicant choices, by background



34. The difference in bursary value between the lowest bursary institution and the highest bursary institution in the set of applications made by the applicant is shown in Figure 11. On average applicants from disadvantaged backgrounds have a bursary range of around £700 across their choices (the average minimum for this group is £600 and the average maximum is £1,300 pounds). For advantaged applicants this range is greater at around £900, reflecting the difference in the average bursary of the institutions applied to between the advantaged and disadvantaged groups. These ranges are substantial relative to the average bursaries on offer, and show that applicants from both advantaged and disadvantaged backgrounds are applying to institutions across the spectrum of bursary values. Around 40 per cent of applicants apply to both a higher and a lower bursary institution and this proportion varies little by applicant background.

Figure 11 Average bursary range of applicant choices, by background



Choosing between conditional offers

35. The best opportunity to isolate applicant preferences occurs not at the application stage, nor the entry stage, but in the middle of the application cycle when the applicant chooses between a limited set of institutions. At this point applicants can be holding up to six (five from 2008) conditional offers (an offer from an institution of a commitment to provide a place that is conditional on, usually, specified levels of attainment in examinations later that year). Applicants choose one of these conditional offers as their conditional firm choice – if they subsequently satisfy¹⁹ this offer then the institution is committed to accept the applicant and the applicant is committed to going²⁰. Applicants can respond to one further conditional offer by declaring it as their conditional insurance choice – if they fail to satisfy their conditional firm offer, but do satisfy this offer then their insurance offer institution must admit them. Any further conditional offers the candidate may hold are declined.

36. This decision-making process is recorded within the UCAS applications data, offering a way to isolate applicant preferences for institutions – and, in turn, to analyse how bursary levels have influenced those preferences. The strength of this approach is that by this stage in the application process it is reasonable to assume that each conditional offer the applicant holds is a viable option for them (given that they chose to apply to it), that the applicant will have had the opportunity and motivation to compare the offers (including bursaries) and that the institution has judged the candidate as sufficiently credible to make a conditional offer. Applicants have a genuine choice and – after weighing up the attractiveness of each offer, including their judgement of how likely they are to satisfy the offer set – they reveal their preference by declaring one conditional offer as their firm choice.

¹⁹ An applicant satisfies the offer by either achieving the terms of the offer ('300 tariff points', for example) or, if they do not meet the offer, being close enough to it, or offering other circumstances, so that – at the institution's discretion – the applicant is accepted.

²⁰ Or taking no further part in the application process (for instance, entering UCAS Clearing) unless the institution chooses to release the applicant from their obligation.

37. Since not all applications lead to a conditional offer, the average range of bursary values across the conditional offers held by an applicant holds is reduced compared to applications (reported in Figure 11). But for applicants who hold multiple conditional offers (the basis of the subsequent analysis) the reduction is slight, leaving a typical range of around £650 for those from disadvantaged backgrounds and around £800 for those from advantaged backgrounds. This range is substantial relative to the average bursary for a conditional offer so there is clear scope for any influence of bursaries to be expressed in the choices applicants make between conditional offers²¹.

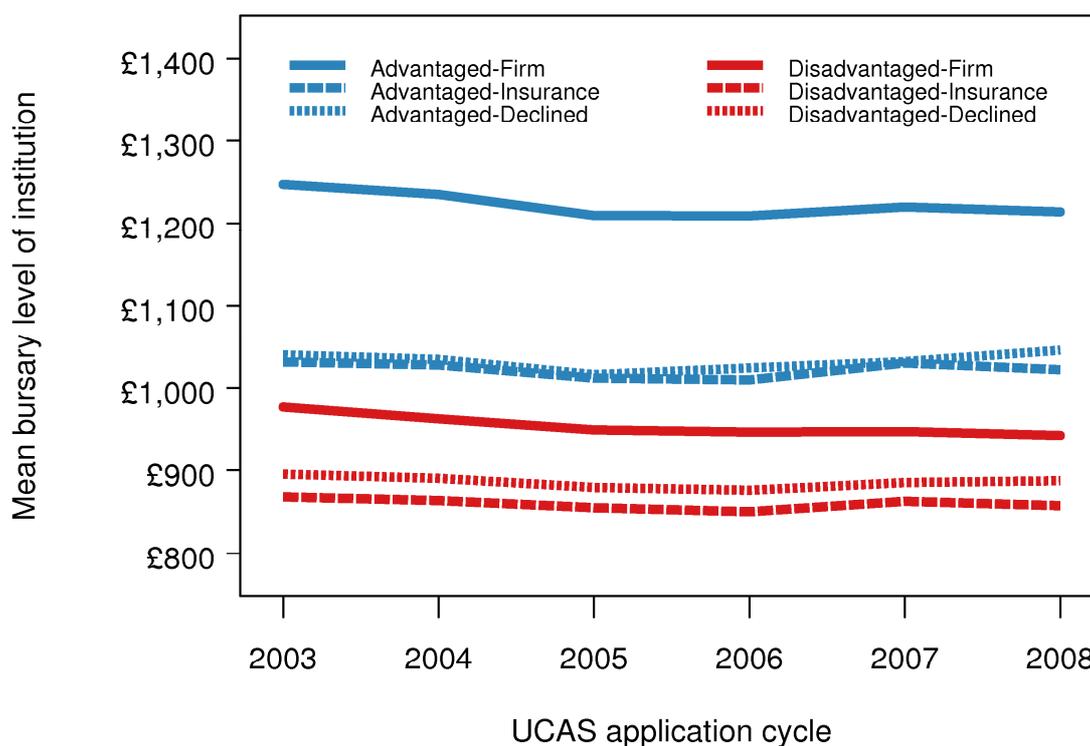
38. The extent to which bursaries influence the choice between conditional offers should be revealed by comparing the bursary patterns of choices made both before and after bursaries were introduced and for groups with differing likelihoods of getting a bursary. We do this in three ways. Firstly, we look at the overall pattern of how young people are responding to offers to identify any sharp changes in the bursary profile that are concurrent with the introduction of bursaries. Secondly, we look in detail at whether the introduction of bursaries has influenced the straight choice between a pair of conditional offers. Both of these approaches implicitly assume that other significant factors that may influence choices stay roughly constant as bursaries are introduced. A statistical model of multiple factors can allow for this and in the final section we describe whether these models indicate an influence of bursaries when any concurrent variation in other choice-influencing factors is taken into account.

²¹ The average bursary range for disadvantaged applicants of around £650 is over half of the average maximum bursary offer they hold (around £1,200). However, applicants eligible for these bursaries would also be eligible for the HE maintenance grant (averaging around £2,800 over the period that we define the bursary average over) and the HE maintenance loan (averaging around £3,300 over this period, outside London). Taking these further resources for maintenance into account, the average range of bursaries across conditional offers represents only around 9 per cent of the total state and bursary support for maintenance, rising to around 16 per cent if the maintenance loan is disregarded.

Trends in the responses to conditional offers

39. Of the analysis population of 18-year-old English applicants described earlier (paragraph 30), around 400,000 were made three or more conditional offers and made each of the possible firm, insurance and decline responses – 1.8 million responses in total. Figure 12 plots the mean bursary level for each type of offer response for this subset of applicants who made all three responses²².

Figure 12 Institutional bursaries by applicant response and background



40. The bursary levels for all the response categories from advantaged applicants (the blue lines) are higher than for any of the response categories for disadvantaged applicants (the red lines). This would be expected from the higher bursary values of applications made by advantaged applicants reported earlier (paragraph 33). The mean bursary for the firm offer (the solid lines) is higher than for offers that are declined (narrow dashes) or chosen as insurance (wide dashes).

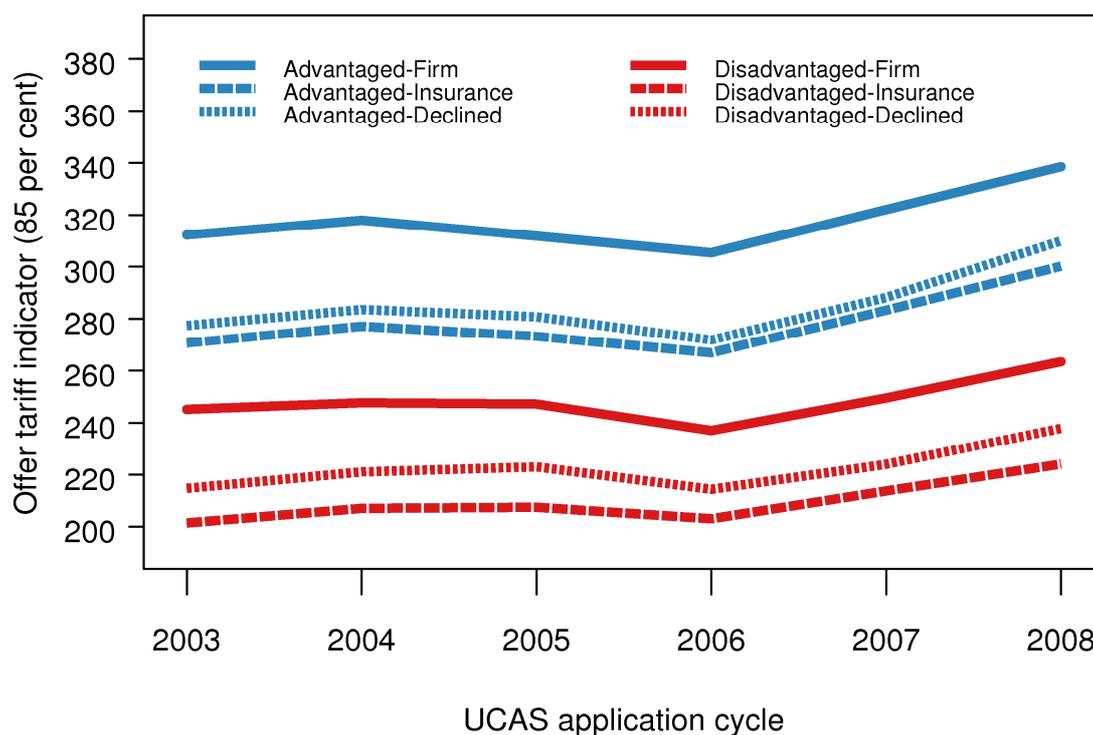
²² Where there are multiple decline responses for an applicant the contribution to the analysis of each response is weighted so that each applicant makes the same contribution to the group mean, regardless of how many responses they made.

41. Applicants clearly prefer, on average, conditional offers from institutions that offer higher bursaries. This is true for applicants from both advantaged and disadvantaged backgrounds. Measured by the difference in bursary value, the preference for higher bursaries is more marked for the advantaged group (who are less likely to qualify for bursaries). Neither the average bursary value of the firm choice, or its margin over the offers that are declined, changes when bursaries were introduced in 2006. As a set, these patterns indicate that differential bursaries have not influenced how applicants choose between conditional offers. The clear preference for offers from higher bursary institutions must be due to some characteristic that is related to the bursaries institutions offer, has institutional differentials that are broadly constant through time, and is at least as attractive to applicants from advantaged backgrounds as those from disadvantaged backgrounds.

42. One candidate for such a factor is suggested by Figure 13 that shows the same responses by background but plots a measure of the likely offer level²³ rather than the bursary support. On average the conditional firm offer is more demanding than the offers that are declined, and the insurance offer is less demanding again. There is no change in this pattern when bursaries are introduced.

²³ Information about offer levels is recorded by UCAS but, due to the complex nature of offers, is not readily quantifiable. For this analysis we make an estimate of the offer level by using statistical models that look at how the recorded tariff score attained by applicants relates to their probability of satisfying the firm conditional offer they hold. This is done for units of 'courses' defined as combinations of subject areas, institutions and application cycle. We express the likely level of the offer as the tariff score we estimate is needed to give an 85 per cent chance of satisfying the conditional offer. This 85 per cent probability is between the observed probabilities of satisfying conditional firm and insurance offers and so is taken as indicative of the degree of certainty that applicants desire. The actual offer made can include academic or other criteria that are not reflected in the tariff score, and the tariff score may include qualifications not relevant to the offer. As such, our offer measure is not intended as a direct estimate of the terms of the offer made but rather as an indication of the recorded tariff score that is typically consistent with the applicant satisfying the offer.

Figure 13 Estimated offer levels by applicant response and background

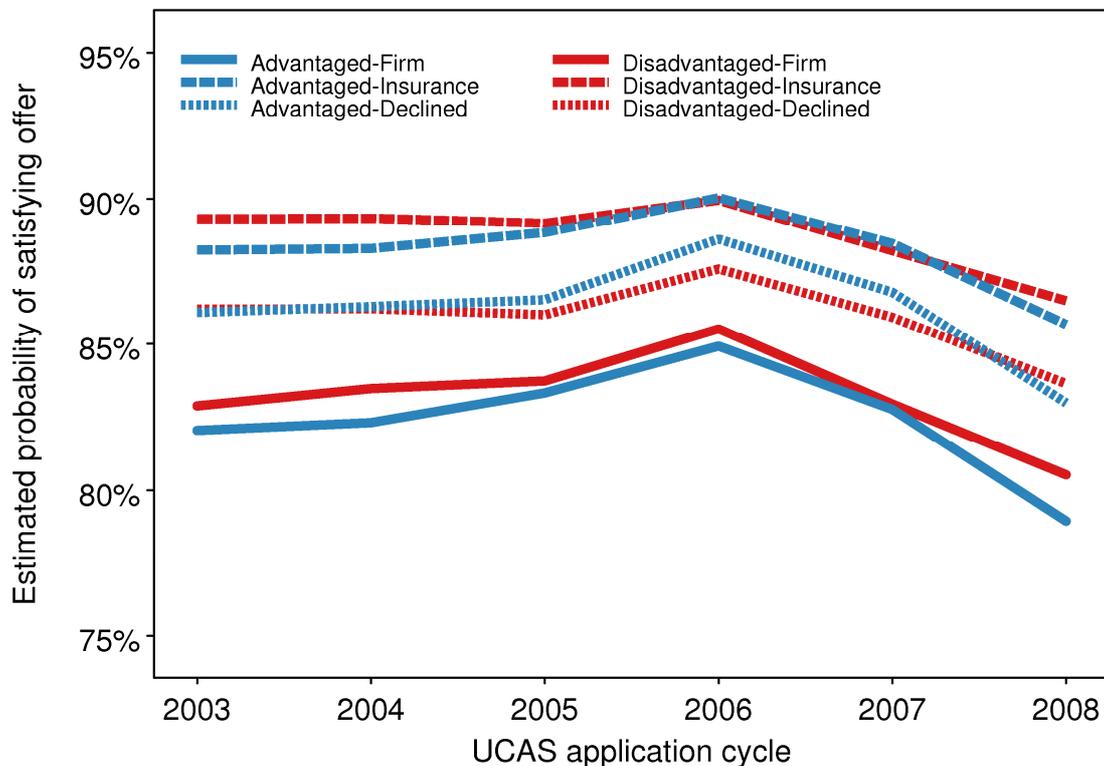


43. This result would be consistent with applicants preferring institutions that have higher entry requirements whilst simultaneously wishing to maintain a relatively easier-to-satisfy offer to reduce the risk of being unplaced when the examination results are known. Since institutional bursary levels and the average tariff scores of their entrants (and, by implication, entry requirements) are associated²⁴, then this behaviour would explain why the preference for higher bursary offers is not stronger for those applicants more likely to qualify for bursaries and why this preference does not alter when bursaries were introduced.

²⁴ See OFFA 2010⁵, Figure 5.

44. We can also estimate the probability that an applicant would have satisfied an offer if they had selected it as their conditional firm (given their subsequent attainment). The average of this probability for each response type is shown in Figure 14. Applicants from both advantaged and disadvantaged backgrounds are, on average, less likely to satisfy their conditional firm choice than they are the offers that they declined. This presentation also makes it clear that, on average, applicants are more likely to satisfy the offer selected as their insurance choice than they are to satisfy either their firm choice or the offers that they declined.

Figure 14 Estimated applicant probabilities of satisfying offers, by offer response and applicant background



45. Figure 13 showed that the likely offer levels for the conditional firm choice were substantially higher for advantaged applicants compared to disadvantaged applicants. Figure 14 gives a different perspective through taking into account the lower average attainment of disadvantaged applicants and expressing the offer as the estimated probability of the applicant satisfying the offer. Here it is clear that applicants from different backgrounds are making very similar choices between offers in terms of how likely it is that they will satisfy the offer once their own attainment levels are taken into

account. In particular, applicants from both advantaged and disadvantaged backgrounds have, overall, near identical probabilities of satisfying their conditional firm offers.

Applicants from advantaged and disadvantaged backgrounds appear to be showing equal ambition when considering whether to risk offers that are more demanding relative to their likely attainment levels²⁵.

Choosing between pairs of conditional offers

46. The analysis of applicant responses suggests that the factors leading to the selection of the insurance choice are different from those of selecting a firm choice or declining an offer. It is then clearer to investigate applicant choice as the simple decision between making a firm commitment to a firm offer or declining it. In the analysis population there are 580,000 applicants who made both firm and declined responses to conditional offers (1.9 million conditional offers in total).

47. One way of investigating this data is, for each applicant, to pair the offer they chose as their conditional firm with the offers that they declined (forming a comparison pair for each offer they declined, 1.3 million in total). With this structure each pair of offers can be regarded as a straight choice where one has to be selected as the conditional firm and one declined²⁶. The outcome of this decision can be examined against the properties of each offer, including any difference in bursary.

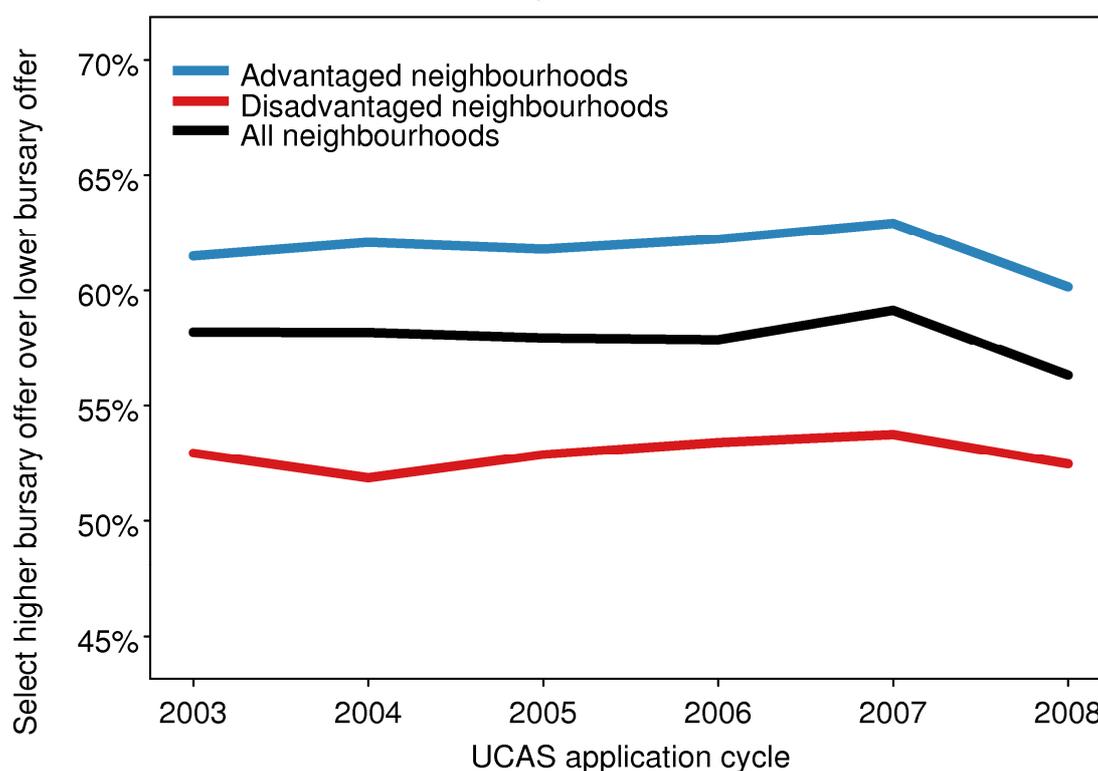
48. This paired data structure allows reporting of how applicants respond to a straight choice between a conditional offer from a higher bursary institution and a conditional offer from a lower bursary institution. Of the 580,000 young applicants who made firm and declined responses some 160,000 (210,000 offer pairs) held at least one conditional offer from both a higher and a lower bursary institution and went on to select one of those as

²⁵ Assuming that institutions do not make systematically different offers to applicants from disadvantaged backgrounds, and that the offer level of the firm choice does not influence subsequent attainment.

²⁶ In these analyses each pair is weighted so that each applicant makes the same contribution to the analysis group regardless of how many comparison pairs they have.

their conditional firm offer, declining the other. Figure 15 shows what proportion of these applicants chose the offer from the higher bursary institution as their conditional firm offer.

Figure 15 Proportion of applicants who choose a higher bursary institution offer over an offer from a lower bursary institution



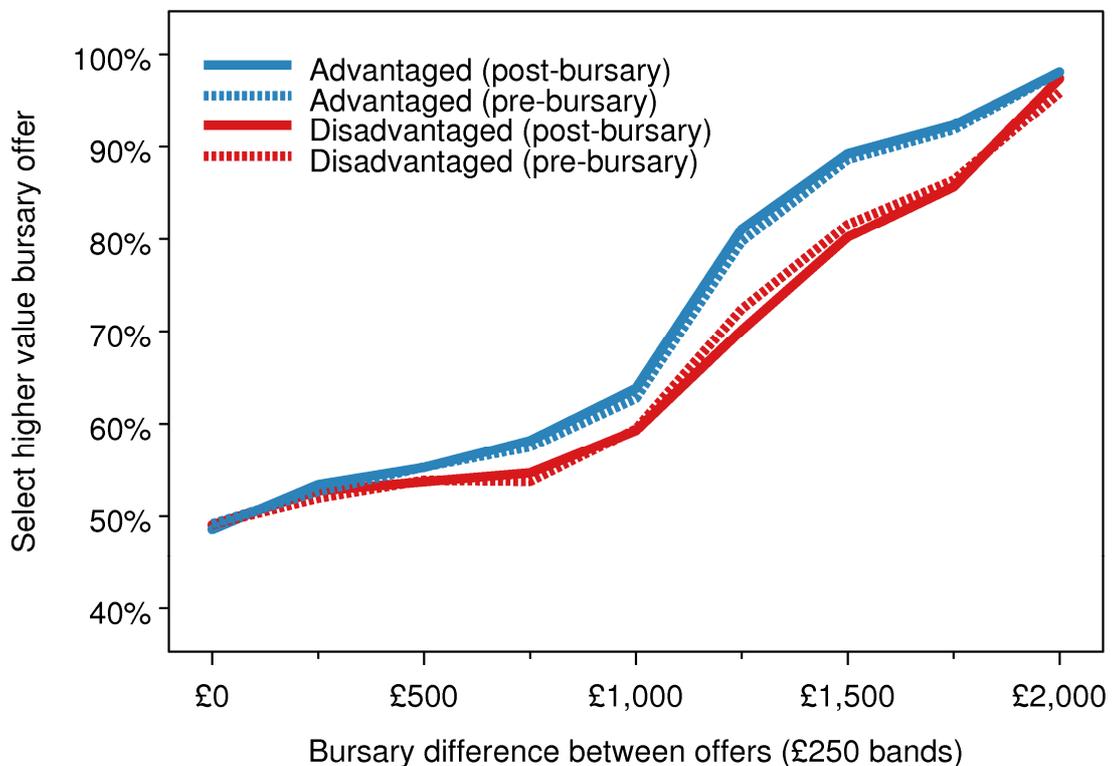
49. The conditional offer from the higher bursary institution is more likely to be chosen as the conditional firm offer than the offer from the lower bursary institution, with the preference stronger for those from advantaged backgrounds. There is no marked change in the degree of preference of either group following the introduction of bursaries. Again it seems unlikely that the bursary offer itself is the reason why applicants are choosing higher bursary institutions since there is no additional preference for higher bursary institutions that is concurrent with the introduction of bursaries and associated with likely eligibility for them.

50. Three institutions in our analysis subset offer markedly larger bursaries (averaging over £2,800 per year) than other institutions. The trends in selecting each of these much higher bursary institutions over any other offers held does not show any

material change that is concurrent with the introduction of bursaries and differentiated by background. Applicants show a high degree of preference for offers from these institutions throughout the period which limits the scope for increasing their attractiveness further through high bursaries. Nevertheless it does suggest caution in assuming that if the value of bursaries on offer between institutions was more differentiated this would, as a matter of course, influence the choices of applicants from disadvantaged backgrounds.

51. Offer pairs that have different bursary values, but do not necessarily span the higher and lower bursary institution groups, are another way of looking at the association between bursary values and choice between conditional offers. There are 320,000 applicants from advantaged or disadvantaged backgrounds with 700,000 offer pairs that differ in bursary value. Figure 16 shows the proportion of applicants who select the offer with the higher bursary value against the margin of that bursary difference (a small number of offer pairs where the difference exceeds £2,000 are excluded).

Figure 16 Proportion of applicants who choose a higher value bursary offer over a lower value bursary offer, by the difference in bursary value



52. Again applicants clearly prefer to select conditional offers with higher bursary values as their firm choice. This preference is relatively small when the bursary values differ by only hundreds of pounds but becomes larger when the bursary difference increases to more than £1,000. This preference for higher bursary offers is shown by those from advantaged (blue lines) and disadvantaged (red lines) backgrounds with the preference appearing stronger for those from advantaged backgrounds. For both backgrounds, the degree of preference is near identical before and after bursaries were introduced: it cannot be the bursary offer itself that is causing the preference for higher value conditional offers.

Allowing for other factors that may influence offer choices

53. The analysis of the overall application and choice patterns could overlook an effect of bursaries if this was masked by some other, coincident, change in institutional or applicant factors. For instance, if the attainment of advantaged young people increased faster than that of disadvantaged young people at the same time bursaries were introduced, and if this led to elevated demand for institutions that also had high bursaries, then high bursary institutions might increase their entry requirements more rapidly than other institutions. In this scenario, higher bursaries could be attracting disadvantaged applicants, but the effect would not be evident if there was a balancing deterrent effect from these institutions being more difficult to gain entry to.

54. A statistical model of how applicants select between conditional offers can take into account simultaneously several different factors that might affect how young people choose between offers, allowing any conditional (that is, conditional on other factors staying the same) effects of bursaries on choice to be estimated. How applicants choose between offers is complex, with many different potential factors. We do not attempt to capture all of this complexity but instead focus on whether there is any evidence of the influence of bursaries on choice once a set of potentially masking key factors is taken into account.

55. Our work on modelling choices between conditional offers has led us to select a number of factors that are important to the choice decision or may have changed as bursaries were introduced. These are:

- The academic standing of the course (measured by the average tariff points of those holding firm conditional offers, used in polynomial form in the model)
- The likely level of the offer relative to the applicant's attainment (the difference between the applicant's tariff score and the estimated score required for an 85 per chance of satisfying the offer, used in polynomial form in the model)
- The distance between the institution and the applicant's home (used in polynomial form in the model), considered in combination with whether they intend to remain at home or not
- Whether the offer is made by the University of Cambridge or the University of Oxford (these institutions have a different application timetable and pattern of responses)
- Whether the offer is from an institution that has an unusually large proportion of its places in a single subject group
- The mean bursary value of the institution (used in polynomial form in the model) considered in combination with both whether the applicant is disadvantaged or not and whether the offer was made before or after the introduction of bursaries .

56. There are a number of ways to model offer choice. One is to extend the analysis of the comparison pairs of conditional firm and conditional declined offers described in paragraph 31. Taking just one comparison pair at random from each applicant²⁷ and assigning one of the conditional offers as 'offer A' and one as 'offer B' allows a dichotomous outcome of 'selects offer A as firm over offer B' for 570,000²⁸ offer pairs. How the probability of this outcome changes with the characteristics of offers can then be

²⁷ To avoid issues with the independence of observations.

²⁸ This total is less than the 580,000 applicants in paragraph 46 as around 10,000 applicants are not included due to missing data on one or more of the factors used in the model.

modelled with a standard logistic regression using terms capturing the difference in characteristics between the pair of offers.

57. The fitted model is found to be generally unbiased in predicting which offer will be selected as the conditional firm by period, applicant background, and estimated selection probability. The factors listed earlier are all found to be important in predicting which offer is selected as the conditional firm choice. No statistically significant effects are found for the interaction of the bursary level, whether the applicant is disadvantaged, and the period that the bursary scheme was in operation. In other words, when a set of key factors is taken into account there is no additional influence of bursaries on institutional choice for disadvantaged applicants following the introduction of bursaries.

58. These results are confirmed by a discrete choice model that considers all of the firm and declined responses of each applicant simultaneously. These models are computationally more difficult to fit so that the data was split for two models, one for the 0.9 million firm or declined choices made by men, one for 1.0 million firm or declined choices made by women. The results from these models are very similar to that from the pair comparison model. In particular, there is no statistically significant effect of the introduction of bursaries on the choices of disadvantaged applicants.

59. These results are consistent with the finding of the analyses of the patterns of applications and choices that bursaries are not influencing the institutional choice of disadvantaged young people. This finding stands when important factors for institutional choice are taken into account in the models making it unlikely that there remains a further unmeasured factor powerful enough to mask a material influence of bursaries.

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