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P E R F O R M A N C E

Are Degrees Worth Higher Fees?
Perceptions of the Financial Benefits
of Entering Higher Education

Hubert Ertl, Helen Carasso and Craig Holmes

SKOPE, University of Oxford

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Editor's Foreword

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Abstract

Politicians regularly cite an expected individual economic gain (the 'graduate premium') as a justification for greater private contributions to the cost of higher education, most recently as part of the rationale for the increase in England of the cap on Home/EU undergraduate fees to £9000 from 2012 (e.g. Willetts 2011a). However, the choices that potential students make about whether to apply to university, and if so where and what to study, are not influenced directly by the, necessarily impersonal, and highly contested (Thompson 2012), theoretical and often overly generalised estimates of the financial benefits for recent graduates over their careers (e.g. BIS 2011: 111-115). Rather, views that individual applicants hold about outcomes that they envisage personally can be expected to be significant; these are explored in this paper which is based on research conducted in seven secondary schools/colleges among Year 13 pupils taking courses that would make them eligible to apply for higher education. A questionnaire was followed by focus groups with applicants in five of the participating institutions.

The research found that there are high levels of uncertainty amongst potential applicants regarding the costs and possible financial benefits of studying for a degree. However, attitudes towards the concept of a graduate premium have a strong influence on the propensity of applying to higher education. The differences in the expected cost of studying at different institutions was not a predominant factor in participants' choices about where to apply – this was partly because the difference in costs of studying at different institutions were seen as small and students did not expect to have precise information until they started at university or college.

Introduction

As undergraduate fees at English universities have gradually increased since 1998, a number of studies have considered the extent to which costs, net costs, expected financial outcomes (such as levels of debt) and perceived benefits (in the form of higher lifetime earnings) have influenced the higher education choices of potential undergraduates. They have explored the extent to which the shift in the balance of 'cost sharing' (Johnstone 2004), that places greater financial burdens on individual participants in higher education while reducing those on the state, has affected the decision-making of groups within society differentially.

The first significant shift in this direction in England came in 1998, when a £1000 means-tested student contribution to fees was introduced. At the same time, all grants were abolished, meaning that the only source of support for undergraduates' living costs was Student Loans. The political controversy that surrounded the introduction of these changes focused on the ending of 'free' degrees, however, it was soon clear that attitudes to debt played a major role in the choices made by potential applicants to higher education. A study looking at the 2002 admissions round found:

> Debt aversion, and aversion to debt arising from student loans in particular, may not appear to be economically rational, especially given the in-built safeguards on repayments for low earners. However, decisions and choices are not informed purely by economic calculations. Other important factors, such as cultural values, also play a role… However, given the risks of failure, non-completion and financial hardship associated with HE participation, especially for those from low-income families, debt aversion and concerns about debt may be highly rational. Research clearly shows that the costs of participation and debt levels on graduation are inversely related to the risks involved. They are highest for those with the lowest rates of return on HE and who take the greatest risks – low-income students. (Callender 2003: 155)

It also found that a tolerant attitude to debt made an individual 1.25 times as likely to go to university than someone who was debt-averse. Groups identified as being particularly debt-averse were: those from the lowest social classes; lone parents; Muslims (especially Pakistanis); and members of black and ethnic minority groups (Callender 2003: 10). Although the concept of 'graduate premium' was not one that was promoted strongly by politicians or institutions in the early 2000s, 'a desire to improve labour market prospects' played a strong part in the decision-making of university applicants (Callender 2003: 114).

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The next major shift in undergraduate fees and funding took effect in 2006; looking at applicants entering university with a maximum fee of £3000, members of this group were found to remain highly positive about both the social and the economic value of higher education (Purcell *et al* 2008). Although perceptions of the return on investment in higher education varied by course as well as by institution, there was a view that more expensive courses may be a better investment because of the careers and earning potential they open up (UUK/HEFCE 2010: 41). While cost and possible returns played a role in decision-making relating to higher education, younger applicants and those from higher socio-economic groups were more likely to select a course out of interest or because they thought they were best at this subject, rather than due to career or salary expectations (Purcell *et al* 2008).

Nevertheless, financial considerations were found to have an impact on degree choices, with some groups more concerned about debt than others. Specifically, those from lower socio-economic groups were slightly more likely to be concerned about financial outcomes after graduation than others (CHERI/LSBU 2005, UUK/HEFCE 2010) and financial concerns were significantly more likely to constrain their higher education choices (Callender and Jackson 2008). However, many young people from across the social spectrum made their decisions about whether or not to apply for higher education with limited awareness of the financial support for which they might be eligible (Davies *et al* 2008: 34-35).

Although some concern about student debt is more or less universal, different attitudes to this, and to returns on a degree, were found among young people from different ethnic backgrounds: Asian Bangladeshi were most likely, and Asian Chinese least likely, to be concerned about the levels of debt they would have to repay on graduation (a consideration that is in part related to perceptions of expected graduate premium) (UUK/HEFCE 2010). Similarly, identifying 'the salary I could earn on graduation' as 'very important' in choice of course was only significant for some groups of applicants: males; Chinese; those from low income families; and mature students (Davies *et al* 2010: 8).

The overall upward trend in UCAS applications (shown in Figure 1) nevertheless suggests that, with fees capped at an (index-linked) £3000, the price-sensitivity point was not reached, at least as far as participation in higher education as a whole – rather than at specific universities or for particular subjects – is concerned.

Figure 1: UG applicants and acceptances (000s) 1994-2011 Source: UCAS

Applicants and acceptances via UCAS
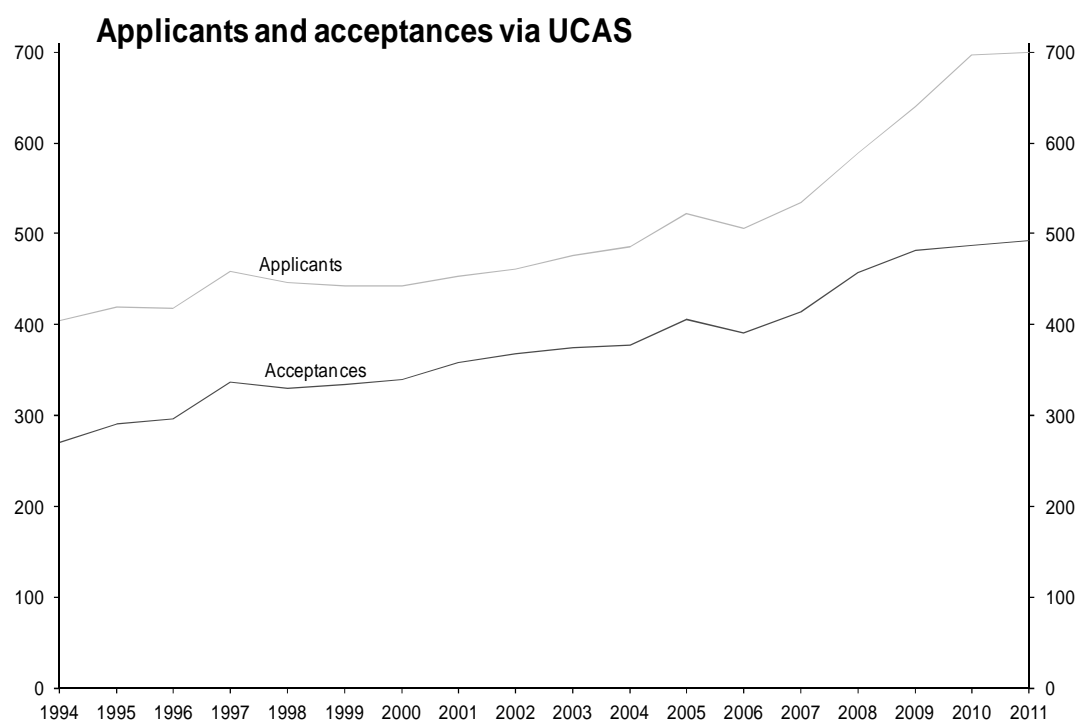
However, the 2012 iteration of an annual panel survey (OpinonPanel 2012) found the prospect of significantly increased tuition fees from that autumn had changed the behaviour of almost a quarter (23%) of applicants; a number of changes were identified, but the most common trend was not to look for a cheaper place to study, but to seek a greater return on investment, by aiming for institutions with higher reputations or courses with higher earnings potential. These effects are not evenly distributed, with an effect size of 0.38 for those from lower socio-economic groups with lower predicted grades, as compared to 0.18 for those from higher socio-economic groups with higher predicted grades.

A separate study conducted among Year 12 students (Wilkins *et al* 2012), also found that financial issues played a key role in intentions about whether to apply to higher education and if so where; however, it found that the effect was most pronounced in the two highest socio-economic groups, where applicants were more likely to be considering alternative options for further study due to their lower cost[1]. Across the sample as a whole, options cited most frequently were: study at a university outside the UK (36.0% of respondents); taking time out to work before

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[1] This may be entirely rational as these students can expect to receive little or no non-repayable support from schemes such as institutional bursaries and the National Scholarship Programme.

entering higher education (25.2%); and study at non-university providers (either private, or FE for HND, followed by a year at university for a bachelor's degree – 18.6%).

However, UCAS data (looking at applications from 2004 to 2012) shows a decline in the application rate of 18 year olds to higher education in 2012 of 1% (when adjusted for demographic changes in the population as a whole). This translates into a number of about 15,000 young people (UCAS 2012a: 4) and may be a similar one-year drop to those seen with increases in fees in 1998 and 2006 (as shown in Figure 1). A more detailed analysis of the 2012 admissions cycle (UCAS 2012b: 30) notes though that there was no 'above-trend' increase in applications from 18 year olds in 2011, as would be expected if a larger proportion of potential entrants had decided to progress to university immediately after leaving school or college, without taking a gap year.

Another study, which compared the profile of admissions in 2012 to that in 2006 (when maximum fees increased to £3000) found that there was no conclusive evidence that the most recent changes in undergraduate fees and funding had discouraged enrolments (Thompson and Bekhradnia 2012); however it suggested that the picture after one year of the new system was not definitive and evidence from further admissions cycles would be needed to establish whether there had been any deterrent effect for all, or some groups of, potential applicants.

Differences are though more marked when considering other groups of the population. The decline in applications from backgrounds with higher participation in higher education (POLAR quintile 5[2]) is 2-3%, compared to 0.1-0.2% for lower participation backgrounds (POLAR quintile 1) (UCAS 2012a: 6) and the trend is significantly more pronounced for mature students. Applicants from England aged over 18 are 15-20% less likely to apply in 2012 than in 2011; this equates to around 30,000 individuals who could have been expected to apply for higher education if rates had remained as in 2011 (UCAS 2012a: 8, para13).

In this context, the current research is designed to explore the reasoning of university applicants which has resulted in differential effects of financial factors on higher education application decisions in different parts of the population, while

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[2] POLAR categorises postcode areas into five quintiles, with quintile 1 comprising the 20% of postcode areas with the lowest higher education progression rates amongst young people and quintile 5 the highest.

recognising that – at present – there is no clear pattern to be found across individual studies. It is relevant to note that, for young applicants from England, there is no significant shift in choice of course or institution either to, or away from, those charging the maximum £9000 from 2012 (UCAS 2012a: 10).

It is important to be aware though that those starting their degrees in 2012 – the group which forms the subject of this study – were making decisions about complex educational and financial matters in a quasi-market that was evolving around them. The Parliamentary vote to increase the cap on Home/EU undergraduate fees at English universities to £9000 was held on 9 December 2010, by when they were already in Year 12 studying for qualifications which (it is to be hoped) they selected at least partly with options and plans for subsequent study or employment in mind. They have been facing an information deficit similar to that identified within the US higher education system by the Spellings Commission, which found:

> ...a lack of clear, reliable information about the cost and quality of postsecondary institutions, along with a remarkable absence of accountability mechanisms to ensure that colleges succeed in educating students. The result is that students, parents, and policymakers are often left scratching their heads over the answers to basic questions, from the true cost of private colleges (where most students don't pay the official sticker price) to which institutions do a better job than others not only of graduating students but of teaching them what they need to learn. (Spellings 2006: *x*)

Furthermore, students applying for university in 2012 had no comparable experience of earlier cohorts on which to draw. In an attempt to address this information deficit, institutions are being required to produce data about their courses in a standardised format as Key Information Sets (KIS). These have been strongly endorsed by the Minister for Universities and Science, David Willetts:

> One prerequisite for putting students at the heart of the system is to improve radically the information on offer to prospective students. The new Key Information Set and existing initiatives like Unistats and the National Student Survey are important here. Student Charters will be a step forward. But we need to go much further. Our goal should be to make as much information available as we can about different courses, different institutions and different outcomes and to let whoever wants to use this data do so in innovative ways. The best way to encourage improvements in the quality of information is to start using it in more transparent ways.

> There are few things that cost as much as higher education where the costs are so murky. When you receive your Council Tax bill, you often get a pie chart showing what you are getting for your money. Why

shouldn't prospective students be able to see similarly useful information about where their money is being spent? (Willetts 2011b)

The data contained in the KIS is described by HEFCE, which is responsible for its collection and collation, as:

> It gives prospective students access to robust, reliable and comparable information in order to help them make informed decisions about what and where to study…

> It contains information which prospective students have identified as useful, such as student satisfaction, graduate outcomes, learning and teaching activities, assessment methods, tuition fees and student finance, accommodation and professional accreditation. (HEFCE 2012)

However, due to the time taken to develop and test the data collection system and then populate it with accurate information, KIS were launched in September 2012, with information for those applying to higher education in 2013; thus they were not available to the potential applicants studied here. It remains to be seen whether the provision of improved information will offset the conclusion of a recent study of secondary school pupils' views of their need for a higher education qualification, that:

> Our data shows a striking increase in the percentage of young people who believe they can be successful without qualifications since the announcement of the increase in tuition fees. This implies that many young people are now considering whether there are alternative means by which they can pursue their goals; without the need for the expense of a university degree. (Benton 2012: 9)

The Study

Against the background of higher fees for undergraduate study and the provision of new bursaries and scholarships offered by higher education institutions, this study examines the decision-making rationales of students in year 13 in schools and colleges shortly after the UCAS application deadline in January 2012. This target group was chosen because the study was interested in gaining insights into the considerations of the people who were most immediately affected by the new higher education funding regime that came into force with the beginning of the 2012/13 academic year. While engaging with this target group just after the UCAS application deadline ensured that their decisions were still very much at the forefront of their minds, the timing of the investigation also prevented the study from influencing decision-making processes.

One particular focus of the study is the notion of private economic gain of individuals, as this is frequently cited by politicians as a justification of higher private contributions to the cost of higher education. Linked to this is the study's exploration of participants' expectations of debt and future financial benefits of studying. A second focus is on the factors that influence the choice of particular institutions and subjects. Sources of information and guidance are a third area of interest.

Due to the exploratory character of the study, seven different types of schools and colleges in one geographic area (six institutions in Oxfordshire, one in Buckinghamshire) were selected, utilising to some extent the connections the Oxford University Department of Education has with local schools through its PGCE partnership programme. The participating institutions included state comprehensive schools, sixth form colleges and an independent school. Thus, the sample includes individuals from a broad range of year 13 students, however, no attempt was made to structure it to be nationally statistically representative.

In part one of the study, questionnaires were administered to the year 13 cohorts of all participating institutions, either in electronic or paper format. The questionnaire included questions on the following areas:

- background of participants (gender, age, ethnicity, postcode, higher education participation of parents/carers and siblings, etc.),

- their current studies (school, subjects, qualifications),

- their decisions regarding higher education (whether or not to apply to higher education, if yes, where and for what subject),

- their rationales for making these decisions (in particular focussing on financial issues such as expectations of benefits and costs), and

- the main sources of information and guidance used for making their decisions.

The questionnaire mainly consisted of a combination of closed and Likert-scale items. Over 700 questionnaires were returned and analysed using descriptive techniques and factor analysis.

In part two, in order to gain a deeper understanding of the decision making processes and rationales suggested by the questionnaires, five focus group interviews were conducted, each at a different participating institution. With the support of sixth form coordinators at the institutions, groups of five to 12 interviewees were selected for 45 to 60 minute interviews. The 43 focus group participants represented a broad

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range of characteristics and backgrounds in terms of their current and anticipated studies, but all were applying to higher education at the time they were recruited[3].

These interviews generated additional data on the plans and expectations of students beyond their anticipated studies in higher education and deeper insights into the connection between perceived financial burdens and benefits of studying and institutional and subject choices. The focus groups were also used to present the participants with some of the findings from the questionnaire. For instance, participants were asked to comment on the quarter of questionnaire respondents who indicated that they had not thought about the financial implications of entering higher education. Focus group data was analysed by developing and refining themes identified in the literature and the questionnaire data.

In the next sections, results and findings drawn from the questionnaire data are presented. These findings resulted from descriptive analysis of the data as well as common exploratory factor analysis of the questions that elicited Likert scale responses.

Results and Findings

The decision to apply to higher education

The survey collected data on the following characteristics and background variables of respondents: gender, age, ethnicity, school attended, home postcode, higher education participation of parents and siblings, and qualifications and subjects currently studied.[4] The questionnaire then asked whether respondents have applied to higher education or not. Table 1 provides an overview of the likelihood of applying for different groups of respondents in our sample.

This overview shows that just under three-quarters of respondents applied to higher education, with female respondents significantly more likely to apply than male respondents, in line with higher application rates of female students nationally (UCAS 2012b: 7). Asian respondents were the most likely to apply, whereas respondents of mixed ethnicity were the least likely to apply. Respondents who were studying for A-levels were significantly more likely to apply to higher education than

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[3] One participant had withdrawn her application by the time the focus group took place and another (in a different group) it transpired in discussion, had decided not to apply to higher education.

[4] For a breakdown of the main background variables of the participants in the sample see Appendix 1, Section 1.

students who were working towards other types of qualifications. The likelihood of applying for respondents who would be the first in their immediate family to participate in higher education is lower (70.5%) than for respondents who have parents and/or siblings in higher education (75.3%), but this difference is not statistically significant.

Table 1: Likelihood of applying to higher education according to selected student characteristics.

	All respondents	Female	Male	White	Black	Asian	Mixed	A levels	Other qualif.	1st in family	not 1st i. f.
Applied	73.4%	78.6%	66.4%	71.5%	85.3%	88.5%	62.5%	77.8%	50.9%	70.5%	75.3%
Not Applied	26.6%	21.4%	33.6%	28.5%	14.7%	11.5%	37.5%	22.2%	49.1%	29.5%	24.7%
Significance	-	**	ref.	ref.	*	**		ref.	**	ref.	
N	723	416	307	589	34	61	24	591	114	207	481

Note: Differences in likelihoods (relative to the indicated reference group) tested using two-sided Student's t-test. **=significant at 5% or lower level; *=significant at 10% level, ref.=reference group.

Of the nearly three-quarters of respondents that had applied to higher education, the vast majority (88.4%) applied for an undergraduate degree (BA, BSc, etc.), with Foundation Degrees accounting for 6.7% of applicants. Given that our sample is focused on the cohort of young students in year 13 of school or college who are studying full time for a level 3 qualification, it is perhaps not surprising that only three respondents of the 531 applicants applied for a part-time course. Over half of the respondents (56.8%) gave at least one Russell Group university in the list of institutions they applied for. Just over a quarter (26.5%) of respondents had only post-1992 institutions in their lists of institutions.

In terms of the schools covered by the questionnaire survey, the respondents from the independent school had the highest propensity to apply to higher education (97.1%), significantly higher than the corresponding figures for respondents from the two Sixth Form Colleges (66.0 and 70.2%) and for the three state comprehensive schools (ranging from 60.8 to 83.1%).[5]

The information respondents gave on their home postcode was used to classify the geographical areas respondents live in according to rates of progression to higher

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[5] See Appendix 1, Section 2, for school level data.

education (using POLAR 2).[6] The respondents from the various schools and colleges differed markedly in terms of coming from higher or lower participating areas. Figure 2 illustrates the mean POLAR values of respondents from the six institutions.

Figure 2: Mean POLAR 2 values for participating schools/colleges
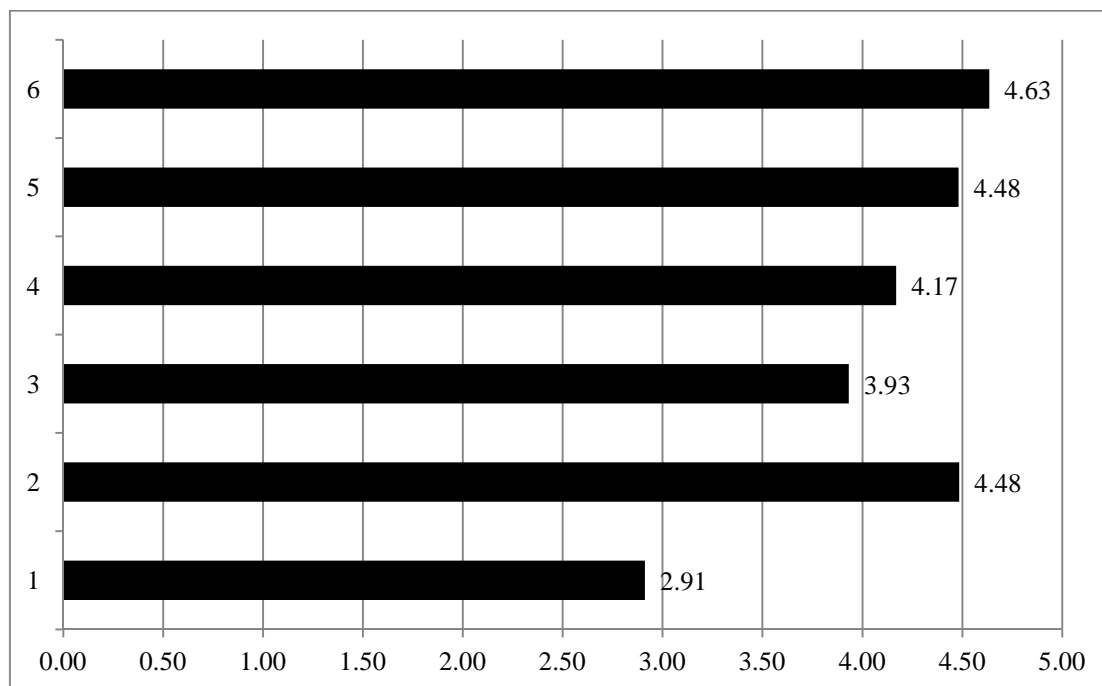
Key:

Institutions 1, 2, 4: state comprehensive schools

Institutions 3, 5: Sixth form colleges

Institution 6: Independent school

POLAR (participation of local areas) values: the higher the value, the higher higher education participation in a postcode area

Despite the differences in the background of respondents from different institutions, using the POLAR 2 classifications did not produce a clear picture in terms of propensity for applying to higher education amongst respondents to the questionnaire, with differences in mean POLAR scores between respondents who applied and who did not apply to higher education being small (see Table 2). Respondents from the lowest higher education participation quintile had the highest application rate, which seems counter-intuitive. However, the small number of respondents who fell into POLAR quintile 1 might distort the picture to some extent.

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[6] See http://www.hefce.ac.uk/whatwedo/wp/ourresearch/polar/

Note that this analysis was conducted before the new POLAR data (POLAR 3) became available and is based on data on higher education participation of 2007.

For quintiles 2 to 5 the expected positive correlation between background and application rate was found: respondents with postcodes in the higher quintiles (i.e. areas with higher participation in higher education) are more likely to apply to higher education.

Table 2: Propensity of applying to higher education according to POLAR 2 classification of postcodes

POLAR 2 quintile	applied	not applied	application rate	overall N in sample	share
1	14	2	87.5%	16	2.6%
2	26	12	68.4%	38	6.1%
3	51	23	68.9%	74	11.8%
4	162	57	74.0%	219	35%
5	212	66	76.3%	278	44.5%
Mean POLAR 2	4.14	4.08			

Key:
POLAR (participation of local areas) quintile 1: 20% of postcode areas with lowest higher education participation, quintile 5: 20% of postcode areas with highest higher education participation.

However, there also seems to be a 'school effect' that has an impact on students' likelihood to apply to higher education that is not directly linked with the geographic background of students (in terms of the participation of their local community in higher education). This can be illustrated by comparing the mean POLAR value and the higher education application rate of institutions (see Appendix 1, Section 2). Somewhat predictably, the independent school (school 6) in the sample has the highest mean POLAR value and also the highest application rate (97.1%). However, the participants at school 1, a state comprehensive school, had the lowest mean POLAR value by some margin but also had the second highest higher education application rate (83.1%).

Financial considerations regarding higher education

Expected earnings

Participants who applied to higher education were asked about their expectations regarding their earnings in their first job after graduation. This was done using a series of income brackets (0-£15,000, £15-21,000, etc.) and an option 'don't know / have not thought about this'. This latter option was selected by 28.6% of respondents, indicating a high degree of uncertainty about, or little engagement with, questions of future earnings. This figure was particularly high for respondents who only applied to

post-1992 universities (31.5%). A further 28.4% of respondents indicated that they expect annual earnings below the loan repayment threshold of £21,000. The share of respondents who expect their earnings after graduation to be below the repayment threshold varies with gender (female: 32.6%, male: 21.2%) and first in family in higher education (37.2%) or not (24.9%). Of those who expected the earnings in their first job to be below the repayment threshold, 24.7% did not expect to repay their loan in full. For those who expected to earn above the threshold in their first job, this figure was lower (13.8% for those expecting earnings between £21,000 and £30,000, and 13.4% for those anticipating a first job salary in excess of £30,000).

Only 16.3% of respondents expect a salary of more than £30,000 after graduation, with clear variation according to gender (female: 12.8%, male: 22.2%). There is also a measurable difference in the expectation of high earnings between applicants who would be the first of their family in higher education (11.5%) and those who would not (18.2%) (see Figure 3). This possibly demonstrates a lack of knowledge about the graduate labour market on the part of respondents who come from families with no higher education experience.

Figure 3: Income expectations (in £) according to higher education experience of family
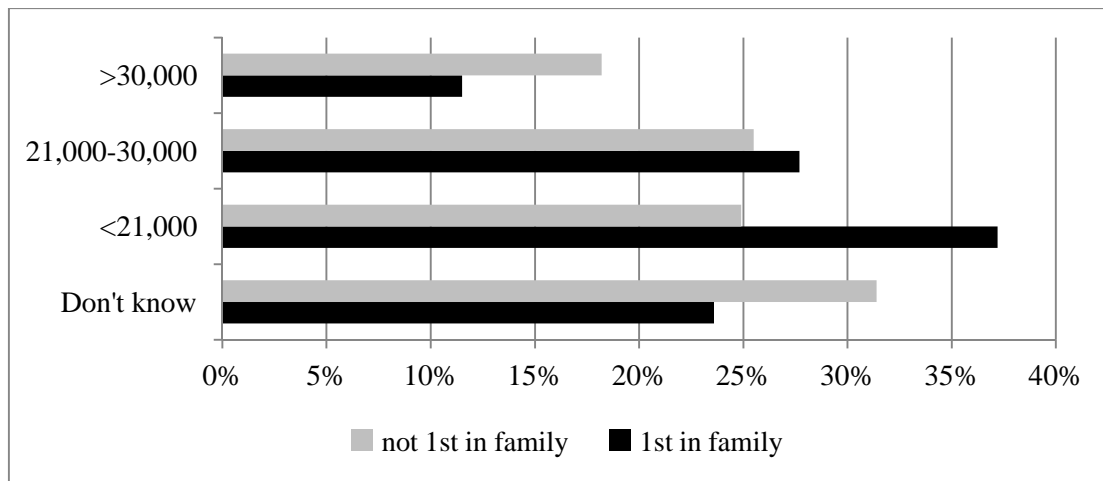
A higher proportion of applicants to pre-1992 university applicants (8.1%) expect earnings above £30,000 than do applicants to post-1992 universities (4.8%). There is no clear pattern in income expectations according to POLAR quintiles.[7]

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[7] For the full distribution of income expectations see tables in Appendix 2, Section 1.

Expected debts

Participants who applied to higher education were also asked about the level of debt they expected to accumulate during their studies. Again, the questionnaire used clustered answer ranges to generate this data, including the option of 'don't know / have not thought about this', which was selected by 20.7% of respondents. This option was chosen by fewer respondents who would be the first in their family to enter higher education (16.2%) than respondents who would follow members of their immediate family (23%). Thus respondents who cannot draw on family experience of higher education are more likely to look into the issue of debt. Possibly as a result of this, first in family respondents are more likely (27.7%) to expect high levels of debt (over £40,000) than their counterparts (21.3%).

Again, there are significant gender differences in the expectations of the financial aspects of studying, with male respondents expecting higher debts overall (see Figure 4).[8] The expectation of accumulating debt is linked to levels of concern about debt. Overall, just over 40% of respondents indicated that they were 'concerned' or 'very concerned' about this debt. Unsurprisingly, students who expected higher levels of debt were more concerned about debt (see Table A2.9). The results also show a clear gender difference: while 48.6% of female respondents indicated concern about debt, the corresponding figure for male respondents is 27.5%.[9]

Figure 4: Debt expectations (in £) according to gender

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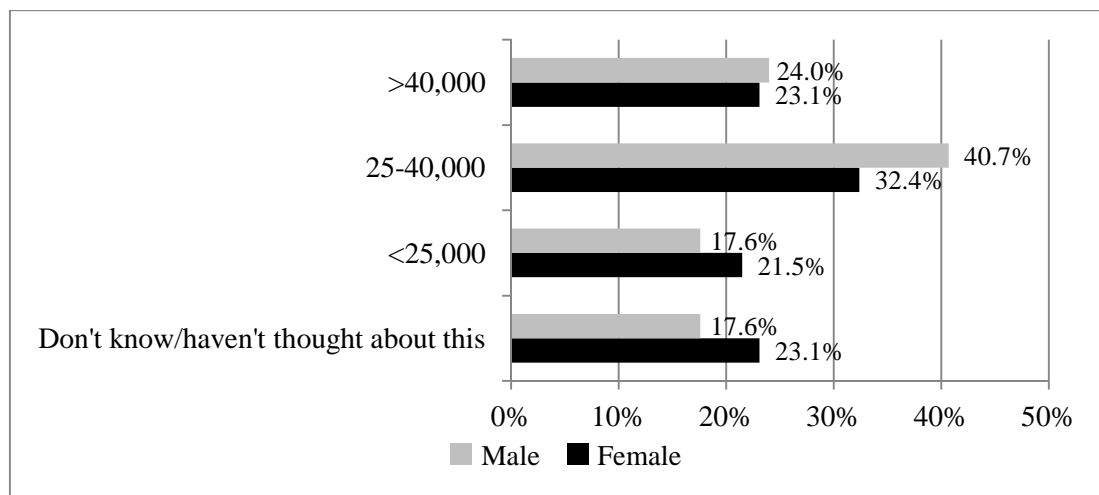
[8] For the full distribution of debt expectations see tables in Appendix 2, Section 2.

[9] For the full information on debt concern see tables in Appendix 2, Section 3.

Expected repayment period

When applicants to higher education were asked to estimate the time they expect they would take to pay back the debt accumulated during their higher education studies, 20.0% of respondents selected the option 'I don't expect I will pay back all the debt'. The corresponding figure for respondents who gave a post-1992 institution as their first choice is significantly higher (30.3%), reflecting the lower earnings expectations of these respondents. The proportion of Russell Group applicants who did not expect to pay back their debts in full is only 15.2%. A sizable minority of respondents (9.4%) did not expect to incur any debts.

Overall, 49.8% of respondents expected a long repayment period (10-30 years), a figure that rises to 51.0% amongst female respondents and to 57.6% among students who were concerned about higher education debt. First generation higher education applicants were also more likely to expect long repayment periods (58.5% as opposed to 46.4% for those with a family history of attending university).

Figure 5: Loan repayment expectations according to POLAR groupings
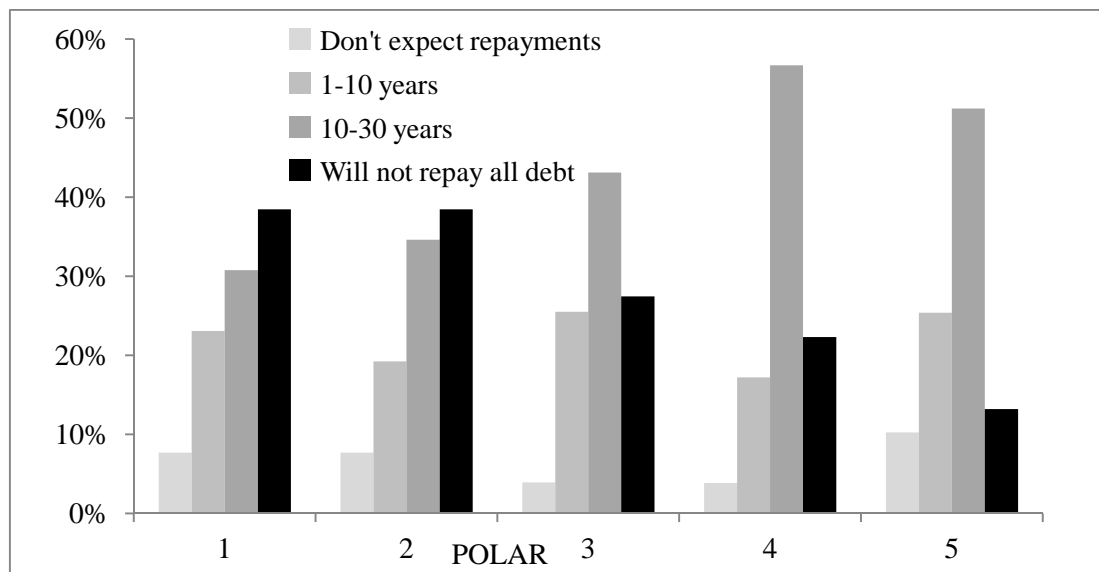
Expectations regarding debt repayment are correlated to the expected amount of debt. Therefore, the share of respondents who do not expect to repay their debt in full is highest (25.4%) amongst those who expect to accumulate debts of over £40,000. Conversely, the proportion of respondents who expect a short repayment period (less than 10 years) is highest (33.3%) amongst those who expect low levels of debt. Unsurprisingly, respondents who expect long repayment periods are more likely

to be concerned about debt (see Table A2.13). There are some variations by POLAR group – those from higher groups are less likely to expect not to pay back all their debt and (consequently) more likely to expect to repay in full between 10 and 30 years, as seen in Figure 5.[10]

Graduate premium

The questionnaire contained a question regarding the respondent's view on the monetary benefits of higher education. Respondents were asked if and how much they thought graduates earned more than non-graduates with the same qualification at the point of school-leaving. Figure 6 shows the distribution of answers to this question. While nearly 78% of respondents believed that graduates earned more, only 22% expected that graduates earned significantly more (over £5,000) per year.

Figure 6: Views on graduate premium

I don't know / I have never thought about this	14.85%
The graduate will earn a lot more each year (>£5000)	22.06%
The graduate will earn some more each year (£2001-£5000)	36.18%
The graduate might earn a little more each year (<£2000)	19.56%
They will both earn about the same	5.59%
The non-graduate will earn more	1.76%
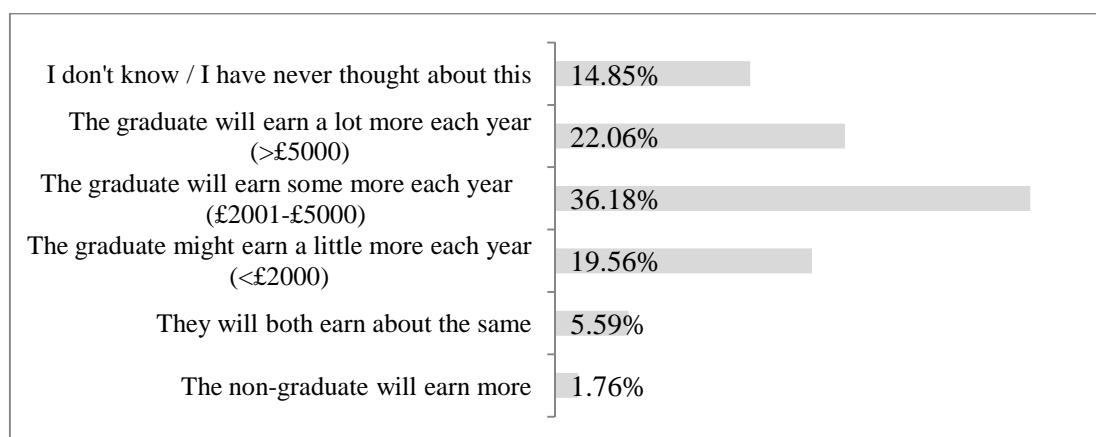
There was some variation depending on whether respondents would be the first in their immediate family to go to higher education or not: while 80.4% of students who have family members with higher education experience considered there to be a gap in earnings, the corresponding figure for first in family respondents was only 72.4%. This variation is important since the attitude towards the notion of a graduate premium has a strong influence on the propensity for applying to higher education: whereas only 19.8% of respondents who believed in a graduate premium did not apply to higher education, the corresponding figure for respondents who did not believe in a graduate premium is 46.9%.

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[10] For the full distribution of repayment expectations see tables in Appendix 2, Section 4.

Rationales underpinning higher education decisions

Reasons for applying to higher education

The 528 respondents who indicated that they applied for a place in higher education were asked how important items on a list of considerations were in their decision making. This question used a five-point Likert scale format, providing the options of 'very important', 'important', 'slightly important', 'hardly at all', 'not at all'[11]. The list of 13 considerations suggested ranged from items focused on the subject chosen, to the future benefits of studying, to items on the financial implications of their decision. Table 3 lists the considerations suggested in the order of perceived importance, combining 'very important' and 'important' responses into an approval rate for each item. The table also reports the mean score for each item and the standard deviation of responses.

Table 3: Responses to 'How important were the following considerations in your decision making?'

		AR[12]	Mean	SD
1	I am interested in learning more about my subject	81.6%	3.08	1.35
2	A further qualification will help me to get a better job	79.4%	2.97	1.35
3	A further qualification is essential for my intended profession/career	68.4%	2.68	1.61
4	A further qualification will help me to get a job with higher earnings	63.1%	2.47	1.57
5	As jobs become scarcer I am more likely to find one if I have a higher qualification	43.9%	1.77	1.59
6	I am doing well academically so it seems to make sense to continue my studies	36.6%	1.64	1.47
7	The financial support I could get	23.3%	1.08	1.44
8	The amount I would have to pay	20.3%	1.02	1.39
9	It's what my family/friends/teachers expect me to do	14.8%	0.92	1.25
10	I don't know what I want to do next so I might as well go to university	11.4%	0.66	1.16
11	There are no jobs available so I might as well study for longer	9.1%	0.54	1.06
12	It's what everyone in my family has done	6.6%	0.44	0.97
13	It's what all my friends are doing	4.7%	0.43	0.87

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[11] These ratings were translated into a 4-0 scale for the quantitative analysis.

[12] AR = Approval Rate – share of respondents that regarded item as 'very important' or 'important'.

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The results indicate that interest in the subject (item 1) and considerations concerning the future career-related benefits of having a degree (items 2, 3, 4, 5) are the most important issues for students' decisions about whether or not to continue to higher education. Item 4 gives an indication of the degree to which respondents have taken the prospect of earning more in the future (i.e. graduate premium) into account, an issue discussed in a previous section. Items that indicate that higher education is regarded as a 'default' option that is entered without any particular reason (items 6, 10, 11) are less important than those that indicate a career-related rationale. Short-term financial considerations (items 7, 8) are also less important, with social expectations least important (items 9, 12, 13).

A common factor analysis of the data generated by the question about the considerations that guided the decisions of respondents concerning whether or not to apply to higher education revealed five underlying factors,[13] with the first factor explaining 73% of the total variance in responses. Table 4 gives the loadings of each of these five factors onto each of the questions. The first factor was most strongly connected to questions about fees and financial support. The second factor was connected to questions about job and earning prospects. The third factor related to questions about the lack of alternative options to further study (including no jobs and uncertainty about what to do next). The fourth factor identified is connected to social norms, where the respondent may have felt they were expected to go to university. The final factor relates to an interest in further study for its own sake.

The factor scores for each respondent are calculated using a linear projection. Table 5 compares mean factor scores between different groups. The most important factor, which is linked to financial concerns, is significantly different within two groups – those with and without other family members in higher education and those with different levels of concern about future debt. Concerns about future prospects (and the benefits of having a degree for future earnings and employment opportunities) are stronger for those applying to pre-1992 universities (especially those applying to Russell Group universities), and for those who believe that graduates do earn more than non-graduates. By contrast, those who do not believe in a graduate premium are more strongly influenced by feelings that there are no

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[13] For more details on the way the common factor analysis was conducted and the criteria used for determining the number of factors see Appendix 3.

alternatives to higher education. Finally, the motivation to study further for its own sake is more strongly felt by those applying to pre-1992 universities.

Table 4: Factors influencing the decision to apply to higher education

Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
I am interested in learning more about my subject	0.2428	0.1533	-0.1285	-0.0495	0.3269
A further qualification is essential for my intended profession/career	0.1438	0.3547	-0.1864	0.1627	0.0152
A further qualification will help me to get a better job	0.1048	0.6358	0.0595	0.0612	0.1025
A further qualification will help me to get a job with higher earnings	0.1654	0.6656	0.0718	0.1538	-0.0228
It's what all my friends are doing	0.1836	0.0851	0.3304	0.5157	0.0546
It's what everyone in my family has done	0.1609	0.1285	0.1395	0.5696	0.0117
It's what my family/friends /teachers expect me to do	0.1218	0.1581	0.1928	0.5770	-0.0102
The amount I would have to pay	0.7370	0.0889	0.1696	0.1048	0.0206
The financial support I could get	0.7479	0.1472	0.1113	0.1122	0.0475
I don't know what I want to do next so I might as well go to university	0.1716	0.0055	0.6606	0.2190	-0.0021
There are no jobs available so I might as well study for longer	0.2393	0.1744	0.5832	0.1586	0.0005
As jobs become scarcer I'm more likely to find one if I have a higher qualification	0.1919	0.4389	0.3602	0.0768	0.0729
I am doing well academically so it seems to make sense to continue my studies	0.2497	0.2783	0.2186	0.2240	0.2956
Factor name	*Financial*	*Job prospects*	*Default*	*Social*	*Learning*

Note: Principal factor analysis; varimax rotation

The questionnaire asked participants who had applied to higher education whether they planned to take a gap year and if so whether they would use the year to earn money for financing their higher education studies. Of the 17% of respondents that were planning a gap year, two-thirds indicated that they would want to earn money to help to pay for their subsequent studies.

Table 5: Factor cross-tabulation, question 10

	Financial	Prospects	Default	Social	Learning	n
Female	-0.043	-0.025	-0.050	-0.024	0.009	319
Male	-0.069	0.036	0.078	0.040	-0.012	208
Difference	*-0.112*	*-0.060*	*-0.128**	*-0.064*	*0.021*	
Pre-1992	-0.010	0.063	-0.016	0.008	0.066	347
Post-1992	-0.014	-0.118	-0.060	-0.021	-0.132	126
Difference	*0.004*	*0.182***	*0.044*	*0.028*	*0.198****	
Russell Group	-0.037	0.089	0.000	0.053	0.086	270
Non-Russell Group	0.031	-0.078	-0.052	-0.062	-0.079	205
Difference	*-0.068*	*0.168***	*0.050*	*0.115**	*0.165****	
Not first in HE	-0.049	0.042	0.019	0.064	0.007	367
First in HE	0.134	-0.085	-0.064	-0.160	-0.008	153
Difference	*-0.182***	*0.127**	*0.083*	*0.224****	*0.015*	
Doesn't believe in graduate premium	-0.01	-0.21	0.23	0.11	-0.03	81
Believes in graduate premium	-0.01	0.05	-0.04	-0.01	0.01	416
Difference	*0.003*	*-0.257****	*0.276****	*0.121*	*-0.042*	
Not concerned about debt	-0.177	0.024	-0.002	0.039	0.021	303
Concerned about debt	0.264	-0.024	0.020	-0.040	-0.028	204
Difference	*-0.441****	*0.048*	*-0.022*	*0.079*	*0.049*	

Notes: Significance of difference in scores tested using two-sided Student's t-test. ***=1% significance, **=5% significance * = 10% significance.

Institutional choice

Participants were asked to which institution they had applied. 73.6% of respondents applied to at least one pre-1992 university, of whom 75.3% applied to at least one Russell Group university. This was followed by a question about the relative importance of a series of aspects that might influence their decision about where to apply. This question used a five-point Likert scale format, providing the options of 'very important', 'important', 'slightly important', 'hardly at all', 'not at all'. This was done by providing a list of 15 aspects and asking respondents to evaluate their importance on a 5-point Likert scale (from 'very important' to 'not at all important'). Table 6 reports the results for this question in the same way as for the previous Likert scale question.

Table 6: Responses to 'How important were the following aspects in your decision on where to apply?'

		N	AR	Mean	SD
1	Content of course	518	85.5%	3.24	1.25
2	Facilities for study	509	70.1%	2.60	1.51
3	Reputation of institution	524	68.1%	2.56	1.46
4	Success of graduates in getting jobs	524	55.2%	2.06	1.68
5	Professional accreditation of course	524	49.6%	1.90	1.72
6	Social life	524	48.9%	2.00	1.55
7	Wanted to go away from home	524	32.4%	1.45	1.53
8	Sports facilities	524	26.1%	1.19	1.48
9	Recommendations of teacher(s) family member(s) friend(s)	524	16.6%	0.86	1.30
10	Bursaries/scholarships available	524	15.8%	0.82	1.29
11	High level of fees	524	13.5%	0.72	1.24
12	Wanted to live at home	524	8.8%	0.42	1.06
13	Low level of fees	524	5.3%	0.46	0.96
14	It's where my family/friends have gone in the past	524	3.2%	0.22	0.70
15	It's where my friends are going	524	2.7%	0.22	0.65

The content of the course was the most important aspect for respondents when choosing their university, corresponding with the interest in learning more about the chosen subject in the earlier question on the main considerations for entering higher education (see Table 3). For more than two-thirds of respondents study facilities and the reputation of the institution played a very important or important part in their institutional choice, followed by career-related aspects (transition to the labour market and professional accreditation of course) with approval rates of around 50%. The social life offered by an institution was important or very important for just under half of respondents, nearly double the approval rate for sports facilities. As in the previous question on reasons for studying, social expectations and recommendations (items 9, 14, 15) were relatively less important in deciding on an institution. Short-term financial considerations were not considered as important by many respondents (items 10, 11, 13). Linked to this is a low approval rate for item 12 'Wanted to live at home', which also has financial implications which were deemed less important by respondents. Indeed, the approval rate of item 7 ('Wanted to go away from home') was more than three times higher than that for item 12.

The factor analysis identified five factors underlying the institutional choice.[14] Once again, financial considerations are most important – here, it is the concern about

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[14] See Figures and Tables in Appendix 3 for Eigenvalues and loadings of the identified factors.

the levels of fees and bursaries at a particular institution that matters. This concern is combined with giving significance to recommendations by teachers or family members, which suggests individuals that care more about cost also rely more heavily on personal advice. This first factor explains 77% of the total variance in responses. More objective differences in the quality of institutions and courses also matter, as captured by the second and fourth factor. As with the previous analysis, decisions made by friends and family also matter. Finally, some individuals are motivated by being able to get away from home and enjoy the social life aspects of university.

Table 7 compares predicted scores for these factors between different sub-groups. Concerns about cost are higher for men, for those applying to post-1992 universities (as compared to those applying to Russell Group universities) and, unsurprisingly, for those concerned about the debt burden. Those who expect to earn above the repayment threshold in their first job after graduation were also more concerned with costs. This suggests cost is less of a concern if individuals do not expect to start repayments immediately. We may also tentatively conclude from this that respondents view repayments as an income-contingent obligation (like a tax) rather than as a debt, and are therefore happy to delay it and worry less about its size. If they viewed it like a regular debt (like a mortgage or a credit card bill), then we would expect individuals who anticipate longer repayment periods to be more concerned about the total cost.

Respondents who have applied to pre-1992 (including Russell Group) institutions were more concerned about the reputation and quality of the institution. Those anticipating higher earnings (both for themselves, and in general) were more motivated by the quality of the institution, perhaps reflecting a belief that the choice of institutions matters for achieving success in the labour market after graduation.

Male respondents were more motivated by the choices of their peers, either those made by friends or those made previously by family members. Respondents who did not believe graduates earn more were also more motivated by this. Course quality does not appear to be a factor that differs much across the various subgroups, however, a concern about the social aspects of going to university does matter. Those applying to the older universities, those who are not the first to go to university and those who anticipated higher earnings when they completed their studies were more influenced by social life issues.

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Table 7: Factor cross-tabulation, question 17

	Cost	Institution quality	Peers	Course quality	Social life	n
Female	-0.090	0.023	-0.080	0.004	-0.082	306
Male	0.148	-0.038	0.127	-0.015	0.130	199
Difference	*-0.238****	*0.061*	*-0.207****	*0.018*	*-0.212****	
Pre-1992	-0.047	0.086	-0.020	0.003	0.046	338
Post-1992	0.061	-0.195	0.003	-0.003	-0.084	123
Difference	*-0.108*	*0.281****	*-0.023*	*0.006*	*0.131***	
Russell Group	-0.095	0.145	0.004	-0.002	0.060	263
Non-Russell Group	0.095	-0.168	-0.029	-0.002	-0.044	200
Difference	*-0.190***	*0.312****	*0.033*	*-0.001*	*0.104***	
Not first in HE	-0.009	0.017	0.020	-0.004	0.044	351
First in HE	0.048	-0.038	-0.048	0.005	-0.124	145
Difference	*-0.057*	*0.055*	*0.068*	*-0.009*	*0.168****	
Doesn't believe in graduate premium	0.099	-0.294	0.111	-0.072	-0.101	80
Believes in graduate premium	-0.035	0.058	-0.030	0.012	0.019	404
Difference	*0.134*	*-0.352****	*0.141**	*-0.084*	*-0.120*	
Not concerned about debt	-0.062	0.028	-0.013	-0.004	0.058	300
Concerned about debt	0.090	-0.045	0.016	0.007	-0.081	201
Difference	*-0.152***	*0.072*	*-0.029*	*-0.011*	*0.139***	
Above threshold first job earnings	0.148	0.175	0.035	0.057	0.108	215
Below threshold first job earnings	-0.232	-0.202	-0.087	-0.047	-0.147	144
Difference	*0.380****	*0.377****	*0.122**	*0.104*	*0.255****	

Notes: Significance of difference in scores tested using two-sided Student's t-test. ***=1% significance, **=5% significance * = 10% significance.

Reasons for not applying to higher education

The 134 participants who did not apply to higher education were asked about their reasons for not applying. Table 8 summarises the results on this question. Out of a list of 13 possible reasons, immediate financial considerations ('I want to earn money', 'I don't want to get into debt') were the two most frequently mentioned. This is in stark contrast to participants who applied to higher education, for whom short-term financial considerations were not overly important (see Table 3). Items that indicate a preference for entering the labour market over studying ('I want to find a job straight away', 'I want to do an apprenticeship') were also important for those not applying to higher education. Similar to the results about the main reasons for applying, social expectations of family, friends and teachers did not play a major role for respondents not applying to higher education.

Table 8: Responses to 'What considerations influenced your decision not to apply to either university or college (Select all that are relevant)?'

	AR	Mean	SD
I want to earn money	59.7%	2.48	1.56
I don't want to get into debt	44.8%	1.97	1.57
I want to find a job straight away	40.3%	1.75	1.66
I want to do an apprenticeship	35.8%	1.57	1.58
I am not interested in further study	20.1%	1.24	1.34
My intended career does not require a further qualification	17.2%	1.07	1.32
I don't think I would fit in at university or college	11.2%	0.78	1.18
A further qualification will not help me to get a job with higher earnings	11.2%	0.81	1.20
I have got an offer of a job so I want to take it up while I can	9.0%	0.60	1.14
No-one in my family has ever been to university before	4.5%	0.34	0.91
I cannot combine further study with my family commitments	3.0%	0.34	0.81
None of my friends are going to university or college	2.2%	0.25	0.72
It's not what my family/friends/teachers expect me to do	2.2%	0.33	0.77

A significant number of respondents (29) provided one or more reasons for not applying to higher education in a free text field provided after the Likert scale question on this issue. Eight respondents expressed uncertainty regarding what to study (e.g., 'Don't know what I want to study so didn't bother applying') or, more generally, what to do next (e.g., 'Unsure of what I want to do'). Six respondents had not applied because they wanted to do a gap year or go travelling and five respondents each wanted to follow other types of education (additional A levels or professional qualifications) or career paths (e.g., 'I want to have my own business and do it myself').

The parallel analysis identified five underlying factors for not applying to higher education. Financial motivations are once again the most important factor – in this case, it was the prospect of lost earnings that was most strongly influencing the decision not to apply to higher education. This first factor explains 67% of the total variance in responses. Second is the ability to find employment and follow a career path without a higher education qualification. The third factor relates to the attitudes of family and friends – the obverse of the social norm reasons given by those who had decided to go to university. The fourth factor combines aversion to debt and a sense that university is not the sort of place where they belong, suggesting that some non-appliers were concerned with all the negative perceptions around going to university

(some of which are highlighted in the media, such as the debt burden and the image that students are a particular 'type' of person). The final factor is related to family commitments and the alternative of an apprenticeship, and does not have an obvious interpretation. It is excluded from the remainder of the analysis.[15]

Table 9 compares mean factor scores across a number of groups. Unlike previous analyses, there are far less distinctions between the groups. A concern about lost earnings was stronger for those who are not planning to apply to higher education later in the year, for those who would be the first in their family to go onto university and for those that did not believe that graduates will earn more. All of these differences are as we would expect. Similarly, those who were not applying for university later and those who did not believe in the graduate premium scored higher for having an alternative career plans that did not require attending university. The one significant difference between male and female students was the influence of negative perceptions about university – male students were much influenced by concerns about not fitting in and going against family norms.

Table 9: Factor cross-tabulation, question 24

	Lost earnings	Career	Negative social	Negative perceptions	n
Female	0.010	0.032	-0.175	-0.042	62
Male	0.021	-0.002	0.140	0.015	73
Difference	*-0.011*	*0.034*	*-0.315***	*-0.056*	
Not applying later	0.102	0.039	-0.016	0.000	96
Applying later	-0.441	-0.229	-0.215	0.036	28
Difference	*0.543****	*0.268**	*0.199*	*-0.036*	
Not first in HE	-0.089	0.015	0.043	-0.031	83
First in HE	0.211	-0.055	-0.086	0.031	46
Difference	*-0.300***	*0.070*	*0.129*	*-0.062*	
Doesn't believe in graduate premium	0.108	0.140	0.003	-0.061	54
Believes in graduate premium	-0.167	-0.154	-0.032	0.043	70
Difference	*0.275**	*0.294***	*0.035*	*-0.104*	

Notes: Significance of difference in scores tested using two-sided Student's t-test. ***=1% significance, **=5% significance * = 10% significance.

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[15] See Figures and Tables in Appendix 3 for Eigenvalues and loadings of the identified factors.

Sources of information and advice

All 652 respondents to the questionnaire were asked where they sought information and advice when deciding whether or not to apply to university[16]. They were asked to choose as many of the 13 options stated as relevant for them and to provide further sources. Table 10 provides an overview of the answers to this question and shows that advice from a student's teachers and social network are particularly important. UCAS and university open days follow closely in this respect.

Table 10: Responses to 'When reaching your decision about whether or not to study, where did you seek advice (Select all that apply)?'

	AR	Mean	SD
Teachers or tutors at school	61.2%	2.44	1.33
Parents/carers	49.1%	2.02	1.56
University open days	45.9%	1.83	1.69
UCAS	45.2%	1.91	1.57
Friends/family who are now or have recently been at university	35.9%	1.51	1.55
Universities own publications/www site	28.8%	1.26	1.51
University directories league tables or comparison www sites	26.4%	1.19	1.48
Other family or friends	23.9%	1.15	1.43
Careers fairs	11.7%	0.67	1.13
OFFA	1.4%	0.19	0.60

Factor analysis indicated there are four underlying patterns for the use of information sources in the decision to apply to higher education. The first underlying factor combines items on formal sources of information (such as UCAS, university websites and open days) and explains 83% of the total variance in responses. The second factor brings together informal sources (such as parents or friends), and a third factor loads onto information from OFFA (Office for Fair Access) and careers fairs – there is not an obvious interpretation here. Information from teachers is the fourth factor.[17]

Table 11 compares factor scores across groups. As this survey question was asked both to those who applied to higher education and to those who did not, we can compare scores for information sources between the two. Those who did apply relied

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[16] KIS were not published for candidates applying for 2012 entry, but will be available to subsequent cohorts.

[17] See Figures and Tables in Appendix 3 for Eigenvalues and loadings of the identified factors.

much more heavily on official information and teachers. Those that did not apply relied more heavily on informal sources, OFFA and careers fairs. Care should be taken with interpretation here. We are not able to say that those looking at formal sources were, consequently, more likely to apply. Without additional information, it is equally likely that those who were more likely to apply to higher education anyway would look at university and UCAS information. Similarly, those who were less pre-disposed to applying may have preferred to speak to friends and relied on information from OFFA (perhaps because they were from a family with little background in attending university) and careers fairs (because they were already thinking about non-higher education jobs).

Table 11: Factor cross-tabulation, question 26

	Formal	Informal	Careers	Teachers	n
Didn't apply to HE	-0.427	0.226	0.081	-0.177	154
Applied to HE	0.105	-0.112	-0.047	0.062	473
Difference	*-0.532****	*0.338****	*0.127****	*-0.239****	
Female	-0.004	0.000	-0.031	0.021	367
Male	-0.004	-0.019	0.049	-0.031	278
Difference	*0.000*	*0.019*	*-0.080***	*0.052*	
Pre-1992	0.156	-0.107	-0.052	0.066	322
Post-1992	0.129	-0.120	-0.038	0.127	123
Difference	*0.027*	*0.013*	*-0.014*	*-0.061*	
Russell Group	0.151	-0.031	-0.055	0.075	248
Non-Russell Group	0.161	-0.195	-0.028	0.087	198
Difference	-0.010	0.164**	-0.027	-0.012	
Not first in HE	0.013	0.067	0.003	-0.016	442
First in HE	-0.041	-0.152	0.006	0.036	195
Difference	*0.054*	*0.219****	*-0.003*	*-0.051*	
Doesn't believe in graduate premium	-0.162	0.036	0.047	-0.145	130
Believes in graduate premium	0.035	-0.023	-0.012	0.032	500
Difference	*-0.197***	*0.059*	*0.059*	*-0.177****	
Not concerned about debt	0.101	-0.119	-0.018	0.040	287
Concerned about debt	0.182	-0.016	-0.035	0.097	193
Difference	*-0.082*	*-0.103*	*0.017*	*-0.057*	

Notes: Significance of difference in scores tested using two-sided Student's t-test. ***=1% significance, **=5% significance * = 10% significance.

When asked in a separate question about the main sources of information concerning the cost of studying for a degree, respondents who applied to higher education indicated very similar sources. However, this time UCAS was the most widely used source of information (by over 70% of respondents), followed by university open days. Only then teachers or tutors at schools and parents and carers are mentioned (see Table A2.15, Appendix 2). The lack of experience with the new fee and financial support regime on the side of teachers and family members may be a reason for this result.

Decision to apply to university: further analysis

The analysis tested the factors that affect the decision to apply to university using a logistic regression. The model estimates the marginal effects of various individual characteristics on the probability of survey respondents applying to HE. This analysis aimed at a better understanding of the factors associated with a higher probability of choosing to apply to higher education. It does not make any claims about causality.

A number of variables were included which the above analysis would suggest has an effect on the decision to apply to HE, for example demographic information on gender and racial background. The analysis looks at the effect of whether anyone in the family has applied to higher education in the past, and the POLAR 2 code for the individual's postcode. Academic qualifications are included via an indicator variable for whether the student is currently doing A levels, and a second one for if the student is currently doing AS levels. The reference group for these variables are those doing all other qualifications, including BTECs, NVQs and the IB.

Finally, the analysis includes measures which capture individual attitudes and perceptions about university and its value. One of the variables captures whether the student believes in the graduate premium. It would have been desirable to include a measure of whether the student is concerned about debt, but this was not asked to non-appliers, so this variable was constructed using the question that asked about reasons they did not apply to HE. The student is considered to be concerned about debt if they list that as a reason for not applying. However, this variable needs to be treated carefully, as it is potentially endogenous if non-appliers respond to the two questions differently. For instance, if they were asked about why they did not apply, they might mention debt as being a factor (as there was the option to do so), even if it was not the major factor and even if they are not in general concerned about debt.

Finally, the factor scores for the sources of information used, as discussed above, were included. Several specifications of the model were tested, shown in Table 12. Figures in brackets are the p-values of the coefficients.

Table 12: Specifications of model

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FEMALE	0.485**	0.440**	0.428**	0.492**	0.745***	0.550**	0.876***
	(2.60)	(2.33)	(2.21)	(2.36)	(2.93)	(2.34)	(2.91)
WHITE	-0.907***	-0.814**	-0.788**	-0.698**	-1.203**	-0.946**	-1.443***
	-(2.90)	-(2.59)	-(2.45)	-(2.05)	-(2.50)	-(2.57)	-(2.77)
POLAR2	0.138	0.131	0.135	0.133	0.215*	0.217*	0.354**
	(1.47)	(1.38)	(1.39)	(1.28)	(1.75)	(1.82)	(2.35)
FIRST IN HE		-0.142	-0.070	-0.067	-0.064	-0.148	-0.161
		-(0.71)	-(0.34)	-(0.30)	-(0.24)	-(0.58)	-(0.51)
A LEVELS			1.468***	1.269***	0.428	1.324***	0.388
			(4.90)	(3.88)	(1.03)	(3.44)	(0.74)
AS LEVELS			0.740	0.557	0.521	0.821	0.940
			(1.53)	(1.07)	(0.77)	(1.40)	(1.18)
A LEVELS * AS LEVELS			-1.043**	-0.775	-0.499	-1.170*	-1.105
			-(1.97)	-(1.37)	-(0.68)	-(1.81)	-(1.29)
GRADUATE PREMIUM				1.127***	1.381***	0.843***	1.214***
				(4.89)	(5.09)	(3.12)	(3.65)
DEBT CONCERN					-1.335***		-1.193***
					-(5.08)		-(3.96)
FORMAL						1.144***	1.880***
						(5.83)	(6.41)
INFORMAL						-0.763***	-0.685***
						-(4.08)	-(2.85)
CAREERS						-0.910***	-1.605***
						-(3.00)	-(3.99)
TEACHERS						0.516**	0.231
						(1.96)	(0.69)
CONSTANT	1.020**	1.050**	-0.129	-0.935	0.570	-0.555	0.958
	(2.25)	(2.27)	-(0.24)	-(1.57)	(0.77)	-(0.84)	(1.12)
N	621	611	610	566	516	540	492
Pseudo R²	0.0246	0.0214	0.0568	0.0974	0.1600	0.2326	0.3468

The estimations show that female students are more likely to apply to university than male students, even after controlling for a number of other factors. White students apply in smaller numbers – this could be explored further and to look at black and Asian students separately, but the small numbers do not allow it. From the earlier analysis, it can be supposed that this result is driven by the higher application numbers of Asian students in tis sample.

Perceptions about earnings are important – students that believe graduates earn more than non-graduates are far more likely to apply. Students doing A-Levels, the traditional pathway into higher education, are more likely to go into higher education in some of the specifications. However, once attitudes towards debt are controlled for, this variable loses its significance. This could be interpreted as either meaning that A-Level students do not have a greater propensity to apply to higher education than others, once other demographic and perception factors are controlled for, or that there are some problems with the 'concern about debt' variable, as indicated above.

Finally, the table shows that the 'sources of information' variables are an important predictor of the decision to apply to HE. It is not immediately clear why that might be the case. Firstly, it could be that those who are predisposed towards going to university look for information in different places to those who are less certain about wanting to apply. Secondly, it could be that formal guidance actively encourages applications, while informal guidance makes higher education seem less desirable. To investigate this in more detail, the connection between the use of formal and informal information and family expectations is further investigated. In particular it seem important to question, for those who apply to HE, the use of formal and informal information for those who reported that one of the reasons for applying was because their family expected them to. For those not applying, how information sources relate to family expectations about not going to university seems particularly relevant. Table 13 shows these comparisons.

It becomes clear that non-appliers whose family do not expect them to go to higher education use formal information sources less and tend to rely more heavily on informal sources, which includes family members. This suggests these expectations are important – having taken negative information from their family about going to university, these students are less likely to make use of other information and will therefore be likely to base their decisions on their family's initial expectations for them. For appliers, those with family who expect them to go to higher education use

both formal and non-formal information sources more. Here, positive informal information (such as a family push for the student to go university) seems to encourage the student to look for more information from other sources.

Table 13 – Family expectations of appliers and non-appliers

	N	Formal	Informal
Non-appliers			
Family expects them not to apply	63	-0.6585	0.4057
Family does not expect them not to apply	91	-0.0919	0.1008
Difference		0.5666***	-0.3049***
Mean		-0.3237	0.2255
Appliers			
Family expects them to apply	193	0.3133	0.0698
Family does not expect them to apply	280	-0.0387	-0.2376
Difference		-0.3520***	-0.3074***
Mean		0.1049	-0.1122

Therefore, it can be conjectured (given the data generated for this study) that the information source effect in the regression partly reflects family expectations. Positive expectations jointly lead to greater use of formal sources of information and greater rates of application. Negative expectations lead to both a heavy reliance on informal sources of information and lower rates of application.

Discussion and Conclusion

Financial considerations clearly influence the decisions potential applicants make with regard to higher education. The data presented here show that views regarding the graduate premium have a profound impact on the decision of sixth formers about whether or not to apply to higher education. This is compounded by the effect that expectations potential applicants' families have on consulting different sources of information on higher education institutions and programmes. For those that are applying to university, financial issues relating to labour market success and careers remain a big factor in that decision, while financial issues relating to course cost play some part in the choice of institution. Indirect experience of higher education, through family, friends or local community, plays a role in the way perceptions about these

financial issues are formed – first-generation appliers tend to be more pessimistic about the financial benefits of going to university, and more concerned about student debt.

While differences in expected cost of studying at different institutions was not the only factor in choices about where to apply, the high level of debt prospective students expect plays an important role in their decisions about higher education. Questions of employability upon graduation are regarded as highly important.

The levels of selectivity that prospective students sampled for this study demonstrated suggested that the Clearing process might operate differently as fees increased, with a reduced number of applicants accepting places on courses or at institutions that they have not previously considered and short-listed. In practice, however, UCAS data on the 2012 admissions cycle (released 13 September 2012) showed a slight increase in places accepted in Clearing 2012, over Clearing 2011 (52,570 as opposed to 49,740), contradicting this possible implication of the findings of this research. It may be that, for applicants who have made a commitment to going to university, the intentions and motivations expressed during this research (conducted more than six months before the start of the new academic year) are less influential just a few weeks before enrolment, making them more open to consider a wider range of courses and institutions than they had originally planned.

This research was not able to clarify conclusively at what point in their decision-making process potential applicants consider the cost implications of studying for a degree. There are some indications cost considerations influence decisions at a number of stages in different ways, but what triggers these considerations remains less clear. This study also highlighted some of the main sources of information potential applicants use when making their decisions and point at connections between which sources of information are used and some of the outcomes of these decisions. Data from the focus group interviews conducted (not reported in this paper) also raises the question whether potential applicants have sufficient information on the cost of studying at specific higher education institutions. There is perceived to be little differentiation between the *net* cost of attending different institutions, an issue that the introduction of key information sets could, at least partly, address.

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Appendix 1: Description of sample

1. Respondents

	Respondents	Share
Gender:		
female	423	56.70%
male	323	43.30%
Ethnicity:		
White	610	81.77%
Black	35	4.69%
Asian	62	8.31%
Mixed	26	3.49%
Other	1	0.13%
I prefer not to provide this information	12	1.61%
Age:	Average: 17.6	
17	351	47.76%
18	320	43.54%
19	43	5.85%
20+	7	0.95%
No information provided	13	1.90%
First in family in higher education		
Yes	221	31.00%
No	492	69.00%
Qualifications currently studied for (Select all that apply):		
AS-levels	320	26.58%
A-levels	619	51.41%
International Baccalaureate	20	1.66%
Other Baccalaureate	4	0.33%
BTEC	104	8.64%
NVQ	8	0.66%
Diploma	19	1.58%
Advanced Diploma	28	2.33%
AVCE	0	0.00%
Extended Project	59	4.90%
Other	23	1.91%

2. Schools/Colleges

The sample of schools and colleges includes four state comprehensive schools (1, 2, 4, 7), two sixth form colleges (3, 5) and one independent girls' school (6). School 1 is in Buckinghamshire; all institutions are located in Oxfordshire. Due to the small number of responses from school 7, responses from this school were excluded from institution-level analysis.

School/College	Respondents	Share
1	118	17.25%
2	182	26.61%
3	47	6.87%
4	97	14.18%
5	162	23.68%
6	70	10.23%
7	8	1.17%

	Applied to HE	Application rate	POLAR 2 mean
1	98	83.1%	2.91
2	139	76.4%	4.48
3	33	70.2%	3.93
4	59	60.8%	4.17
5	107	66.0%	4.48
6	68	97.1%	4.63

Appendix 2: Results from questionnaire

1. Expected earnings

Table A2.1: Responses to 'How much do you expect to earn in your first job after you finished your degree?'

	Respondents	Share
£0 – £15,000	34	6.5%
£15,001 – £21,000	114	21.9%
£21,001 – £30,000	139	26.7%
£30,001 – £40,000	47	9.0%
£40,001 – £50,000	14	2.7%
>£50,000	24	4.6%
don't know/have not thought about this	149	28.6%
Total	**521**	**100.0%**

Table A2.2: Expected earnings according to gender, 1st in family in higher education

	Overall		Female		Male		First in HE		Not first in HE	
Don't know	149	28.6%	94	30.0%	55	27.1%	35	23.6%	112	31.4%
<21,000	148	28.4%	102	32.6%	43	21.2%	55	37.2%	89	24.9%
21,000-30,000	139	26.7%	77	24.6%	60	29.6%	41	27.7%	91	25.5%
>30,000	85	16.3%	40	12.8%	45	22.2%	17	11.5%	65	18.2%
Total	**521**		**313**		**203**		**148**		**357**	

Table A2.3: Expected earnings according to type of institution applied to

	Overall		Pre-1992 HEI		(of which) Russell Group		Post-1992 HEI	
Don't know	149	28.6%	95	27.6%	76	28.6%	39	31.5%
<21,000	148	28.4%	100	29.1%	78	29.3%	34	27.4%
21,000-30,000	139	26.7%	92	26.7%	68	25.6%	35	28.2%
>30,000	85	16.3%	57	16.6%	44	16.5%	16	12.9%
Total	**521**		**344**		**266**		**124**	

Table A2.4: Expected earning according to POLAR 2 quintiles (adult higher education participation in an area)

	Quintile 1		Quintile 2		Quintile 3		Quintile 4		Quintile 5	
Don't know	3	18.8%	12	25.0%	24	28.6%	49	28.3%	41	29.5%
<21,000	2	12.5%	17	35.4%	25	29.8%	49	28.3%	38	27.3%
21,000-30,000	6	37.5%	14	29.2%	21	25.0%	49	28.3%	33	23.7%
>30,000	5	31.3%	5	10.4%	14	16.7%	26	15.0%	27	19.4%
	16		48		84		173		139	

2. Expected debts

Table A2.5 Responses to 'How much do you expect to owe by the time you have completed the course for which you are applying now (including through Student Loans and from other lenders)?'

	Respondents	Share
£0 – £5,000	41	7.9%
£5,001 – £10,000	12	2.3%
£10,001 – £15,000	11	2.1%
£15,001 – £20,000	16	3.1%
£20,001 – £25,000	26	5.0%
£25,001 – £30,000	59	11.3%
£30,001 – £35,000	50	9.6%
£35,001 – £40,000	75	14.4%
£40,001 – £45,000	45	8.6%
£45,001 – £50,000	33	6.3%
>£50,000	45	8.6%
don't know/have not thought about this	108	20.7%
Total	521	100.0%

Table A2.6: Debt expectations according to gender, 1st in family in higher education

	Overall		Female		Male		First in HE		Not first in HE	
Don't know	108	20.7%	72	23.1%	36	17.6%	24	16.2%	82	23.0%
<25,000	106	20.3%	67	21.5%	36	17.6%	29	19.6%	70	19.6%
25,000-40,000	184	35.3%	101	32.4%	83	40.7%	54	36.5%	129	36.1%
>40,000	123	23.6%	72	23.1%	49	24.0%	41	27.7%	76	21.3%
Total	521		312		204		148		357	

Table A2.7: Debt expectations according to type of institution applied to

	Overall		Pre-1992 HE		(of which) Russell Group		Post-1992 HEI	
Don't know	108	20.7%	63	18.4%	49	18.4%	33	26.6%
<25,000	106	20.3%	58	16.9%	42	15.8%	28	22.6%
25,000-40,000	184	35.3%	129	37.6%	99	37.2%	44	35.5%
>40,000	123	23.6%	93	27.1%	76	28.6%	19	15.3%
Total	521		343		266		124	

3. Concern about debt

Table A2.8: Responses to 'How concerned are you about owing money after your studies in higher education?'

	Responses	Share
hardly at all	125	24.04%
slightly concerned	185	35.58%
concerned	117	22.50%
very concerned	93	17.88%
Total	520	

Table A2.9: Expected debt levels and concern about debt

Expected debt level	Concerned about debt		Not concerned about debt	
Don't know	39	36.4%	68	63.6%
<25,000	29	28.2%	74	71.8%
25,000-40,000	82	45.3%	99	54.7%
>40,000	58	47.5%	64	52.5%
Total	208	40.5%	305	59.5%

4. Expected repayment period

Table A2.10: Responses to 'How long do you think it will take you to pay back the debt accumulated during your higher education studies?

	Responses	Share
I don't expect any debts	48	9.4%
1-5 years	32	6.3%
6-10 years	76	14.8%
11-15 years	61	11.9%
15-25 years	106	20.7%
25-30 years	88	17.2%
I don't expect that I will pay back all the debt	101	19.7%
Total	**512**	**100.0%**

Table A2.11: Expected repayment period according to gender, 1st in family in higher education

	Overall		Female		Male		First in HE		Not first in HE	
Don't exp. debt	48	9.4%	38	12.3%	10	5.0%	10	6.8%	36	10.3%
1-10 years	108	21.1%	53	17.2%	52	26.1%	21	14.3%	82	23.5%
11-30 years	255	49.8%	157	51.0%	96	48.2%	86	58.5%	162	46.4%
Will not pay back all debt	101	19.7%	60	19.5%	41	20.6%	30	20.4%	69	19.8%
Total	**512**		**308**		**199**		**147**		**349**	

Table A2.12: Expected repayment period according to type of institution applied to

	Overall		Pre-1992 HEI		(of which) Russell Group		Post-1992 HEI	
Don't exp. debt	48	9.4%	35	10.4%	32	12.2%	5	4.1%
1-10 years	108	21.1%	72	21.3%	52	19.8%	26	21.3%
11-30 years	255	49.8%	176	52.1%	139	52.9%	54	44.3%
Will not pay back all debt	101	19.7%	55	16.3%	40	15.2%	37	30.3%
Total	**512**		**338**		**263**		**122**	

Table A2.13: Expected repayment period and concern about debt

Expected repayment period	Concerned about debt		Not concerned about debt	
Don't exp. debt	10	21.7%	36	78.3%
1-10 years	33	30.8%	74	69.2%
11-30 years	118	46.8%	134	53.2%
Will not pay back all debt	44	43.6%	57	56.4%
Total	**205**	**40.5%**	**301**	**59.5%**

Table A2.14: Expected repayment period and expected levels of debt

Expected repayment period	Expected debt Don't know		<£25,000		£25-40,000		>£40,000	
Don't exp. debt	17	16.5%	28	26.7%	1	0.6%	1	0.8%
1-10 years	24	23.3%	35	33.3%	36	20.0%	13	10.7%
11-30 years	44	42.7%	34	32.4%	100	55.6%	77	63.1%
Will not pay back all debt	18	17.5%	8	7.6%	43	23.9%	31	25.4%
Total	**103**		**105**		**180**		**122**	

5. Sources of information

Table A2.15: Responses to 'Where have you looked for information and/or advice on the cost of studying for a degree (Select all that apply)?'

	Mentions	Share of respondents
UCAS	381	72.57%
University open days	267	50.86%
Teachers or tutors at school	251	47.81%
Universities' own publications/www site	234	44.57%
Parents/carers	197	37.52%
Student Loans Company	179	34.10%
From friends/family who are now or have recently been at university	100	19.05%
University directories, league tables or comparison www sites	83	15.81%
Other family or friends	74	14.10%
Bank/building society	35	6.67%
Careers fairs	35	6.67%
Independent financial advice (e.g. www sites such as moneysavingexpert.com)	32	6.10%
Other (please specify)	12	2.29%
OFFA	1	0.19%
Total	**1881**	**525**

Appendix 3: Factor analysis

1. Method

Questions 10, 17, 24 and 26 elicit a series of Likert scale responses. We conducted an exploratory common factor analysis on each of these questions to find out if there was a small number of underlying themes or latent variables driving the responses. To choose the number of factors included, we applied a number of criteria. Firstly, we look at a scree plot of the eigenvalues of the factor analysis (which indicate the amount of variance in the scores given to the questions explained by each factor, in descending order). Typically, factors are included if they are before a point in the scree plot where there is a discrete drop in eigenvalues, followed by a levelling off. In most cases, this did not produce a clear idea of where the cut-off was, so we generally relied on a more rigorous procedure called a parallel analysis. This produces a random dataset with the same numbers of observations and variables as the original data. A correlation matrix is computed from the randomly generated dataset. When the eigenvalues from the random dataset correlation matrix are larger than the eigenvalues from the factor analysis, the factors are no better than random noise.

Once a set of factors was found by these computational methods, the final criteria applied was that each factor should have a meaningful interpretation. Factors which most heavily related to two or more seemingly unrelated issues are excluded from our subsequent analysis.

2. Factors influencing decision to apply

Question 10 consisted of 13 items about the importance of different considerations in the decision to apply to a higher education institution. The parallel analysis indicated there are five underlying factors (see Figure A3.1), with the first factor explaining 73% of the total variance in responses.

3. Factors influencing institution choice

Question 17 consisted of fifteen items about the importance of different motivations in the choice of which higher education institutions to apply to. The parallel analysis indicated there are five underlying factors (see Figure A3.2), with the first factor explaining 77% of the total variance in responses.

Figure A3.1: Eigenvalues of factors underlying the decision to apply to higher education
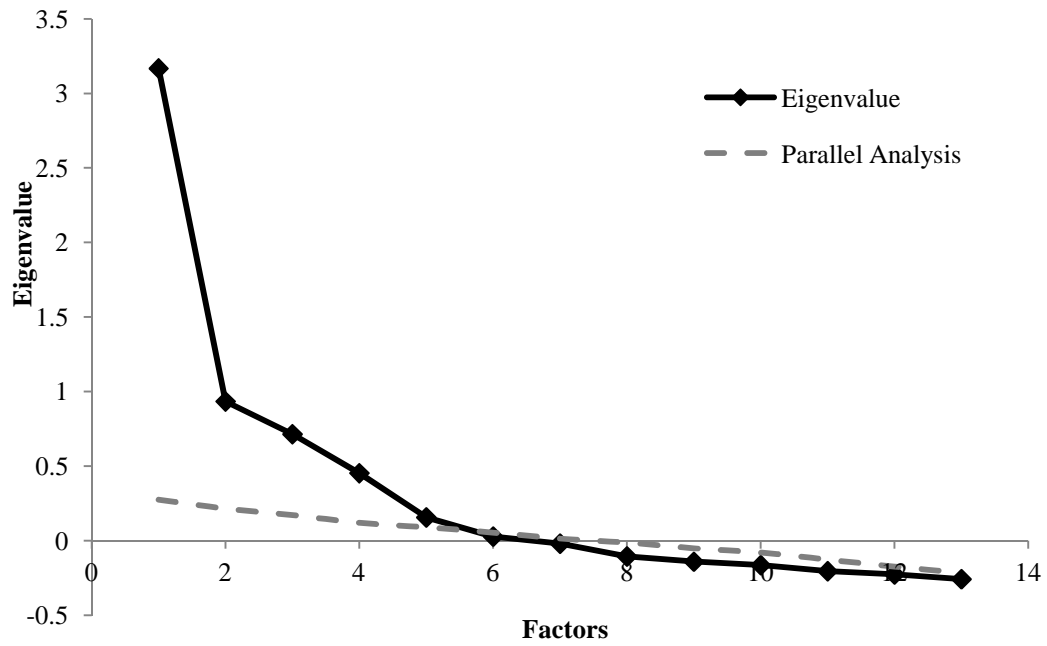

Figure A3.2: Eigenvalues of factors underlying the decision where to apply
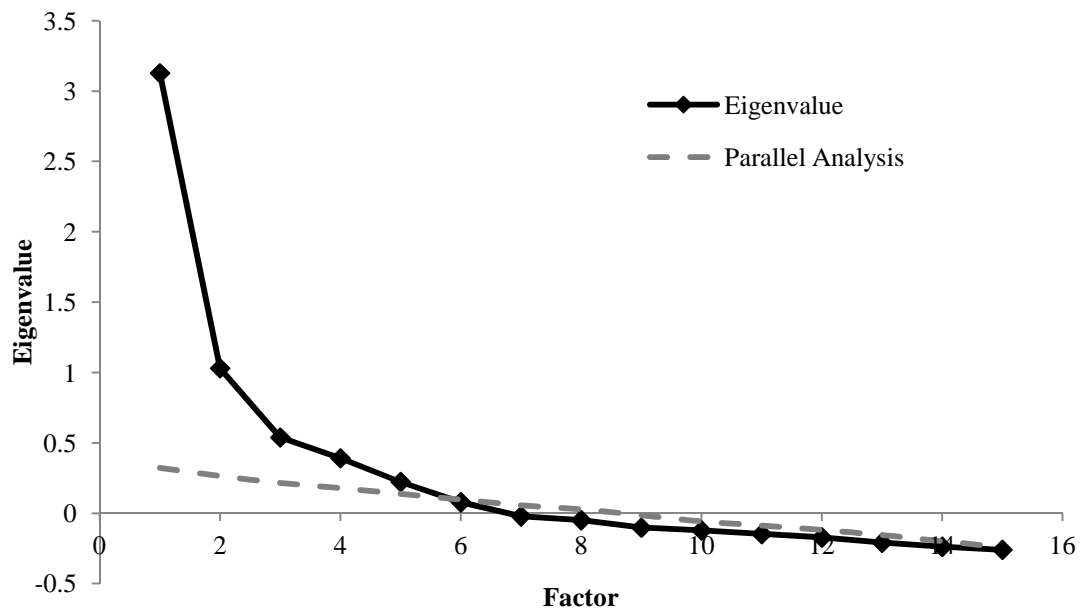
Table A3.1: Factors influencing the decision where to apply

Question	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Content of course	0.0234	0.1602	-0.0365	0.5252	-0.0253
Facilities for study	0.1793	0.2511	-0.0151	0.5408	0.0707
Reputation of institution	-0.0059	0.5156	0.0829	0.1705	0.0456
Professional accreditation of course	0.2215	0.6265	0.0287	0.1245	0.0765
Success of graduates in getting jobs	0.1902	0.6115	0.0246	0.116	0.0511
Social life	0.1709	0.3902	0.1242	0.0325	0.4493
Sports facilities	0.3519	0.2104	0.1769	0.0784	0.337
Wanted to live at home	0.2264	0.0221	0.3322	0.0188	-0.275
Wanted to go away from home	0.2602	0.0235	-0.0086	0.0249	0.4365
Its where my friends are going	0.3142	0.0984	0.5179	-0.0887	0.1178
Its where my family/friends have gone in the past	0.1955	0.0239	0.5274	0.0103	0.0275
High level of fees	0.6041	0.2633	0.211	0.0718	0.1785
Low level of fees	0.4876	0.0702	0.286	0.1262	-0.0088
Bursaries/scholarships available	0.5277	0.2233	0.1336	0.1737	0.067
Recommendations of teacher(s) family member(s) friend(s)	0.4516	0.1499	0.1156	-0.0595	0.081
Factor name	*Cost*	*Institution quality*	*Peers*	*Course quality*	*Social life*

Notes: Principal factor analysis; varimax rotation

4. Factor influencing decision not to apply

Question 24 contained 13 items about the importance of different motivations for those who decided not to apply to higher education. The parallel analysis indicated there are five underlying factors (see Figure A3.3, which also clearly shows a discrete drop-off in eigenvalues at this point). Table A3.2 shows the factor loadings for these factors. Financial motivations are once again the most important factor – in this case, it is the prospect of lost earnings that is most strongly motivating the decision not to apply to higher education. Second to that is the ability to find employment and follow a career path without a higher education qualification. The third factor relates to the attitudes of family and friends, which are the opposite of the social norm reasons given by those who had decided to go to university.

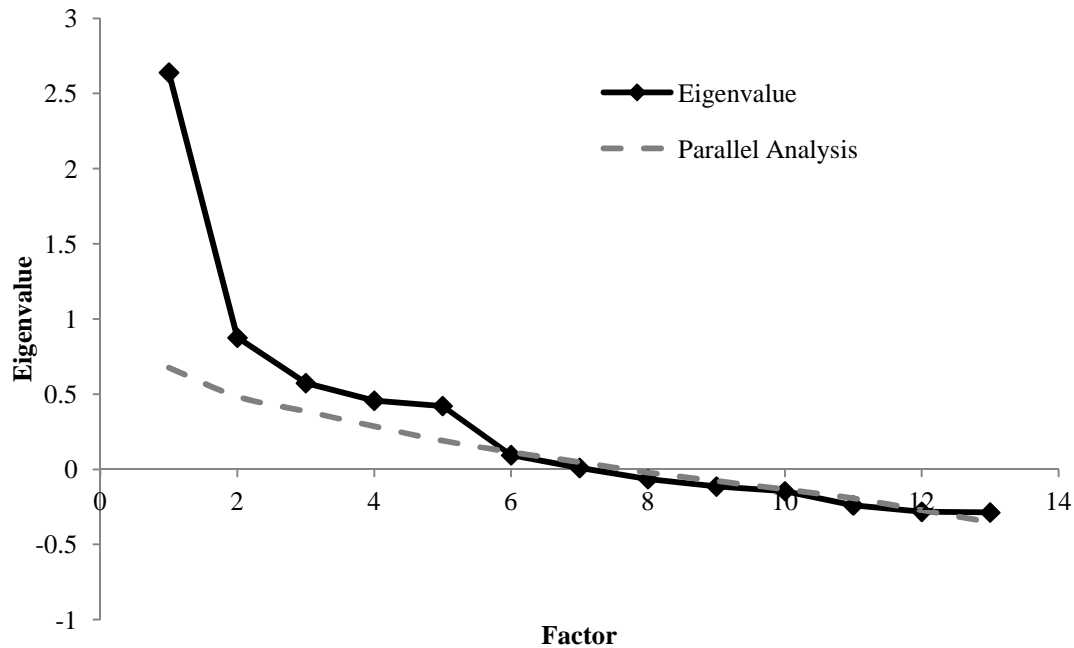**Figure A3.3: Eigenvalues of factors underlying the decision not to apply**

Table A3.2: Factors influencing the decision not to apply

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
I am not interested in further study	0.3000	-0.0114	0.1555	-0.0614	0.1314
I want to find a job straight away	**0.7609**	0.2606	0.0555	0.0374	0.0034
I want to do an apprenticeship	0.1103	0.0709	0.1497	0.1584	**0.5091**
I want to earn money	**0.7261**	0.0432	0.1389	0.0350	0.1505
I don't think I would fit in at university or college	-0.0442	-0.0384	0.2196	**0.3996**	0.1866
No-one in my family has ever been to university before	0.1135	0.1463	0.1647	**0.4461**	0.1031
I don't want to get into debt	0.1086	-0.0165	0.0632	**0.4958**	0.0490
I cannot combine further study with my family commitments	0.3089	0.2135	0.0546	0.0469	**0.4371**
My intended career does not require a further qualification	0.2726	**0.6005**	0.0596	-0.0679	0.253
A further qualification will not help me to get a job with higher earnings	0.3703	**0.5642**	0.1064	0.1810	-0.0753
None of my friends are going to university or college	0.1783	0.0926	**0.6306**	0.0614	0.2186
It's not what my family/friends/ teachers expect me to do	0.1340	0.0963	**0.5402**	0.1828	-0.1173
I have got an offer of a job so I want to take it up while I can	0.0461	**0.4035**	0.3522	-0.0828	-0.0359
Factor name	*Lost earnings*	*Career*	*Negative social*	*Negative perceptions*	*Apprenticeship*

Notes: Principal factor analysis; varimax rotation

5. Sources of information when deciding to apply

Question 26 asked ten questions about the importance of sources of information for students as they decide whether or not to apply to higher education. The parallel analysis indicated there are four underlying factors (see Figure A3.4). The first factor explains 83% of the total variance in responses. Table A3.3 shows the loadings for these four factors. The two most important factors are those linked to formal information sources (such as UCAS, university websites and open days) and informal sources (such as parents or friends). A third factor loads onto information from OFFA and careers fairs – there is not an obvious interpretation here. Information from teachers is the fourth factor.

Table A3.3: Factors influencing the use of sources of information

	Factor 1	**Factor 2**	**Factor 3**	**Factor 4**
UCAS	**0.5419**	-0.0490	-0.0293	0.3328
Teachers or tutors at school	0.2347	0.2267	0.0083	**0.3927**
University directories league tables or comparison www sites	**0.6692**	0.1334	0.1166	0.0235
OFFA	0.3368	0.2893	**0.3730**	-0.0701
Universities own publications/www site	**0.6615**	0.0513	0.0898	-0.0158
Careers fairs	0.3002	0.2313	**0.4029**	0.0557
University open days	**0.5617**	-0.0485	0.1283	0.1974
Friends/family who are now or have recently been at university	0.1313	**0.5179**	0.0752	0.0410
Parents/carers	-0.0506	**0.5473**	0.0337	0.0662
Other family or friends	0.0513	**0.5873**	0.1447	0.0059
Factor name	*Formal*	*Informal*	*Careers*	*Teachers*

Notes: Principal factor analysis; varimax rotation

Figure A3.4: Eigenvalues of factors underlying the data regarding sources of information