Recent trends in higher education applications and acceptances

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and

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ABSTRACT: *Using a data set published by the Universities and Colleges Admissions Service (UCAS), patterns of demand and supply for higher education courses from 1996-97 to 1999-00 are analysed. Most universities saw a fall in applications and enrolments following the introduction of tuition fees and maintenance loans, though this effect varies across institutions and regions of the UK. A model of applications and acceptances is developed and tested. Applications are sensitive to each institutions entry standards, reputation and location in the UK. Acceptances depend on teaching funding per head and the number of funded places each institution is given.*

Introduction

This paper identifies the recent trends in Higher Education (HE) recruitment, mainly through a data set published by the Universities and Colleges Admissions Service (UCAS). A series of total applications and acceptances from 1996-97 to 1999-00 is constructed for 97 leading UK universities. Patterns of applications and acceptances are compared over time, between institutions and regions of the UK. Although interesting, broad patterns alone cannot explain why some institutions are more popular than others and if students are attracted to particular regions. Because applications and acceptances are part of a larger system, a model of applications and acceptances is developed and estimated. This helps cast light on the impact, if any, of tuition fees, which were introduced in 1998/99.

From the mid 1980s, HE in the UK experienced a rapid expansion. Between 1983-84 and 1993-94, there was a 54% growth, with the majority taking place among full-time undergraduates, which grew by 67% (HEFCE, 2001a) (see figure 1). After this, growth was more modest, with total student numbers increasing by 6% between 1996-97 and 2000-01. The main cause of this expansion was the growth in the number of 18-21 year olds taking university courses. The age participation index rose from 15% in 1983-84 to 30% in 1993-94

(see figure 2). Participation by mature students has also increased. An ambitious target of 50% participation for the 18-30 age group has been set by the government for 2010. However, which qualifications are to be included in the definition of HE (THES, 2001) is still being reviewed. This may make any comparisons with the above trends spurious.

Figures 1 and 2 near here

HEFCE (2001a) suggest a number of reasons for the growth in student numbers. First, the introduction of the General Certificate of Secondary Education (GCSE) in 1988 (normally taken by students at age 16) improved the staying-on rate after compulsory schooling, through an increase in academic attainment at 16 (see also Mcintosh, 2001; McVicar and Rice, 2001). Secondly, structural changes in the UK economy, particularly the expansion of the service sector, increased the demand for graduate labour. Managerial class employment has increased while the number of unskilled jobs has fallen. Moreover, some traditional non-graduate jobs have been upgraded to graduate status, since they are now more likely to be filled by degree holders. One reason for the rise in income inequality from the late 1970s onwards has been the rise in the graduate premium over less qualified labour and there is greater awareness that `graduateness' is a key factor in labour market success (see Blundell *et al.*, 1997*).* High unemployment in the 80s and early 90s was also an important push factor, especially for ethnic minorities who are strong demanders for HE (see Johnes and Taylor, 1989; Leslie and Drinkwater, 1999; Leslie *et al.* 2002).

Teaching funding is allocated to UK universities according to the number of students each recruits. Recruitment targets have increased since the mid 1980s. For example, the Maximum Aggregate Student Number (MASN)[1] set by the Higher Education Funding Council of

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[1] The MASN is a cap on the number of full-time undergraduate and teacher training students that each institution can recruit. In late 2001, the government was considering removing this cap, so that institutions would be free to recruit as many students as they wish (The Times, 2001).

England (HEFCE) for all HE Institutions (HEIs) grew by 19% between 1994-95 and 2000-01, from 695,434 to 825,341 places (HEFCE, 2001a). However, cumulative enrolments fell short by 21,982 and in the last academic year (2000-01) alone some 14,465 funded places remained unfilled (see figure 3). The post-1992 ('new') universities[2] have experienced the most difficulty in maintaining current recruitment levels (The Times, 2001). This has created major funding problems, because many of them expanded during the 1980s to meet the general rise in student demand. Many universities currently experience difficulties in balancing their budgets (HEFCE, 2001b).

Participating in HE has become more expensive. Students contribute to the cost of university education through the payment of tuition fees and maintenance loans. Non-means tested maintenance loans were introduced in 1990/91 to partially replace means tested maintenance grants, although tuition remained free. Grants remained frozen until 1994/95 with a further shift to a loan element to replace grants. Tuition fees, set at £1000, further increased direct costs in 1998. Tuition fees are charged at a flat rate and students can be either fully or partially exempt. Students are eligible for either all or part of the maintenance loan, which is repaid after graduation at a zero real interest rate, subject to achieving a minimum salary. Tuition fees should not be seen as a major expense, when the overall costs of education are considered. Foregone earnings are a far bigger cost and the results will show that there was in fact little or no impact on applications. The major effect was on acceptances.

Figure 3 near here

The applications process

Approximately 400,000 applicants per annum apply to UCAS for undergraduate courses offered on behalf of 260 UK HEIs, covering around 42,000 separate courses. Postgraduate and part-time students apply to universities directly. The UCAS process is summarized in figure

[2] Post-1992 ('new') universities refer to those institutions that were granted university status following the removal of the divide between the former polytechnics and the pre-1992 ('old') universities.

4. The system is competitive and each applicant is allowed to make up to six applications (four in medicine), at the same or different institutions (usually by the beginning of January in the year they propose to go to university). So in what follows the difference between an applicant (one person) and an application (up to six per person) should be noted. The institutions then make offers, which can be either conditional (i.e. subject to achieving the entry requirements) or unconditional. Applicants make a first (firm) choice and second (insurance) choice. Applicants without any offers automatically enter the clearing process.

The majority of UK applicants receive conditional offers and only know whether they are accepted after receiving the results of their post-16 qualifications.[3] They may be accepted by either their firm or insurance offers. However, applicants without any unconditional offers enter the clearing process, which runs from late August to early October. Institutions who have failed to achieve their target number of students advertise course vacancies and applicants contact institutions directly. Applicants can only accept one of the clearing offers they receive, after which they leave the admissions system. Overall, 76.7% of UK applicants were successful over the period 1996-2000.

Figure 4 near here

Market Trends

UCAS publishes a data set (see www.ucas.ac.uk) on applications and acceptances to courses offered by the HEIs who are members. The focus is on the leading 97 UK universities for which a measure of quality is available, and those applicants classified as UK domiciled, which account for 75.5% of all applications made through UCAS and 74.5% of acceptances, from 1996-2000.

[3] The majority are Advanced (A) levels, Scottish Highers or the General National Vocational Qualification (GNVQ) Advanced. From September 2000, post-16 qualifications are assessed over two years. Entry requirements are converted into a UCAS tariff, whereby points are awarded for the qualifications and grades obtained. This change does not affect the data set, which ends at 1999-2000.

Table 1 ranks institutions according to the total number of applications and acceptances each receives.[4] Many institutions experienced fluctuating demand, with applications rising from 1996-97 to 1997-98 and then falling between 1997-98 and 1998-99. Many applicants in the 1997-98 academic year may have decided not to postpone university entry (e.g. to take a gap year) to avoid paying tuition fees. 31 out of the 40 institutions experienced more than a 5% absolute change in applications between 1996 and 1999, and 35 institutions had more than a 5% absolute change in acceptances. 37 institutions experienced either higher growth in acceptances than applications or a smaller fall in acceptances compared to applications.

Among the highest 20 institutions for applications, 12 are pre-92 institutions whereas for acceptances 11 are post-92 institutions. The summary statistics suggest that, while the pre-92 sector receives more applications, the number of applications per institution is slightly higher among the post-92 sector. However, the number of acceptances per institution is far higher for the new universities. The most popular institutions in terms of applications tend to be located in the North of England and the Midlands. This is most likely explained by the relatively cheap cost of living in these regions. From the Greater London and South East regions, 8 institutions are among those with the lowest applications and 9 are among those with the lowest acceptances. These trends are indicative. A complete model of applications and acceptances is needed, which is discussed in the next section.

Table 1 near here

Table 2 ranks institutions by the growth in applications and acceptances they experienced between 1996-97 and 1999-00. 12 of the most improving institutions for applications are from the pre-92 sector, whereas 12 with the most improving growth in acceptances are post-92 universities. Brunel University has experienced significantly higher growth than others, which is partly explained by its 1995 merger with the West London Institute of Higher Education. 8 out of the highest 20 institutions experiencing the highest growth in applications and acceptances are located in Greater London and the South East.

[4] The highest 20 and lowest 20 positions are presented. Complete tables are available at

Table 2 near here

University league tables often use the ratio of applications to acceptances as an indicator of the competition for places. This measure has weaknesses, notably it assumes that each institution achieves its target number of acceptances. Secondly, as the model of the next section makes clear, applications and acceptances are endogenous, dependent for example on entrance standards, so it is not apparent what the ratio of two endogenous variables actually means. Nevertheless, this measure is presented in table 3. Not surprisingly, 19 out of the highest 20 institutions are from the pre-92 sector. The only exception is Thames Valley University, which experienced an 87.3% rise in the ratio over the sample period. This outlier can be explained by a fall in acceptances (-43.0%) rather than a large increase in applications (only up 6.7%) from 1996-97 to 1999-00 (see table 1). Among those 20 institutions with the lowest application to acceptance ratio, 13 are post-92 institutions and many have experienced a fall in the level of their acceptances. Oxford and Cambridge universities also appear in the lowest 20. This result is peculiar to these two 'elite' institutions and demonstrates a self-selection effect, whereby only the brightest students who are confident of securing a place at these institutions consider applying. These two outliers also re-inforce the need for a formal model of applications and acceptances.

Table 3 near here

Table 4 presents total applications and acceptances by region. Greater London attracts the most applications and acceptances but also has the most institutions located within it. Relatively, the North West and Yorkshire & Humberside do well given the number of institutions located in these regions. 11 out of the 12 regions experienced a rise in applications between 1996-97 and 1997-98, prior to the introduction of tuition fees. Wales, the North West and the North East experienced significant reductions in applications between 1997-98 and 1998-99. Over the full sample period all regions experienced a rise in acceptances. Except for

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www.mmu.ac.uk/h-ss/eco/Abbott/AAbb.HTM or from the authors on request.

the Eastern region, the growth in acceptances was greater than the rise in applications, a finding confirmed by the results presented in table 1.

Table 4 near here

Theoretical framework

Clearly, it would be a difficult task to model each detail of the complex decision process shown in figure 4, since little of what transpires will be recorded for analysis. There is information on the total applications - the basic demand input - and the final outcomes, namely the total acceptances to each educational institution and course

A three-equation model is proposed to model the acceptance and application process. This will consist of a demand equation (applications), a supply equation (acceptances) and a market clearing condition. The third endogenous variable in this three equation approach will be the realized average entry grade for the institution. In simple terms the idea is that an institution that wishes to expand, *ceteris paribus*, will be required to drop its entry standards. Similarly, raising entry standards can ration supply. Table 5 shows the average entry standards for the highest 20 and the lowest 20 institutions.

Table 5 near here

The demand for courses (AP_{it}) is defined as:

$$AP_{it} = f(P_{it-1}, Z_{it}) \qquad (1)$$

The demand equation is specified for each institution i, where i=1,…..,97 and for the four years of entry t=1,2,3,4. AP_{it} is the number of places demanded for courses offered by institution i at time period t. P_{it-1} is the lagged entry standard of the institution (which might be thought of as roughly equivalent to the price variable in an elementary economics textbook exposition of the market supply and demand model). A good initial hypothesis is that applications should be responsive to entry grades (in lagged form), but whether this actually turns out to be the case is a moot point. The reason for this doubt reflects the institutional

structure of the admissions process. If applicants were limited to just one application, then the case for negative demand price elasticity would be clearer. There is a hierarchy of ability among applicants, and each has some idea of how well they are likely to do in their examinations. If there were just a 'one-shot' chance then only the most able and confident would apply for the hardest courses. A downward sloping demand equation might be expected in this case. But with up to six applications permitted and the fact that clearing offers a second chance, the picture is blurred somewhat.[5]

There may be a Veblen good effect. Courses with high entrance standards may attract more applications because of a `prestige effect' and the Veblen good effect is more likely if applicants can make several applications, as is the case under the UCAS system. It is clear that admissions officers do to some extent engage in this complex problem of signalling quality. If the bid price is lowered this may actually reduce applications because this sends a signal of poor quality. It is also clear that institutions would quickly lose credibility if offer prices and market clearing prices were to diverge significantly.[6] Against this, institutions with low entrance standards may attract additional applications because of the insurance choice effect. Thus the impact of entry grades on applications remains ambiguous. The justification for lagging this variable is that applications are made prior to the realized entry grade being known. Furthermore, advertised entry requirements are only indicative, many institutions will drop grade requirements during clearing.

Z_{it} is a vector of shift variables, which includes a quality ranking variable and dummy variables to represent pre- and post-92 universities, Oxbridge entry, year of entry and regions of the UK where each institution is located. The quality ranking variable is described in table 6 for the highest and lowest 20 institutions, and excludes entrance grades from the measure.

[5] Leslie (2002) presents a theoretical model based on expected utility maximisation, which suggests that applicants will apply for courses with higher entry requirements if they have higher ability. The choice problem is that decisions must be made in advance of the grades being known for the typical applicant.

Table 6 near here

The position of an institution in published league tables may favourably influence the number of applications it receives. The 'new'/'old' university dummy allows for differences in the pattern of applications between the pre- and post-92 universities. Also Oxford and Cambridge universities appear to be special cases, in that that they receive comparatively fewer applications compared to other 'elite' institutions – there is a definite `why bother to apply?' effect at work illustrated by well publicised rejection of candidates with highest A-levels but not apparently made of the `right stuff'. Regional dummies are needed given the conclusions from table 3, suggesting that demand for places could be affected by the location of an institution within the UK. Year dummies account for time differences not otherwise explained, for example the impact of the introduction of tuition fees in 1998 as well as secular trends in HE popularity.

Supply (AC_{it}) is specified as:

$$AC_{it} = g(AP_{it}, P_{it}, X_{it}) \qquad (2)$$

where P_{it} is the current entry standard and X_{it} is a vector of exogenous variables that influence supply. AP_{it} is included since the number of acceptances is conditional on the number of applications. Both P_{it} and X_{it} are instrumented, using the remaining exogenous variables in the system as instruments. and Included in X_{it} is the MASN for each institution, its total teaching funding per head and dummy variables for Oxbridge entry, pre-92 vs. post-92 institutions and the year of entry. The MASN is used for each institution since any change in the institution's recruitment target is likely to be reflected in a change in institutional acceptances. Higher teaching funding per head may act as an incentive for a university to accept more students. A dummy for Oxbridge is included. For many institutions beyond a certain level of acceptances the supply curve is effectively vertical. Consequently the price

[6] However, Oxbridge, which has very high entry standards (see table 5), does not attract a disproportionate number of applications relative to acceptances (see table 3), so the Veblen good effect may be exaggerated.

will simply rise to whatever level is required to clear the market. In terms of the supply and demand model there is a short-run vertical supply schedule. If demand shifts to the right, all the adjustment takes place in a rising price, which then clears the market. There is, however, a maximum price and beyond that other ways of rationing are needed (interviewing etc) – table 5 suggests this maximum value effect for Oxbridge, which traditionally does a lot of pre-screening of applicants. Whether the institution is a 'new' or 'old' university is also likely to influence the level of acceptances (see tables 1 and 2). Dummy variables for the year of entry are also included.

In this model the realized average entry grade will adjust to clear the market. Institutions who fail to recruit enough students relative to target have the option of adjusting their entry requirements, whereas institutions that have popular courses will raise the entry standard to ration the available supply but this is subject to certain institutional constraints (discussed later). So grades are endogenous in the education model in the same way price is endogenous in the basic supply and demand framework. This is why the raw application/acceptance data of Table 3 has to be carefully interpreted because both variables are endogenous. The low application to acceptance ratio of Oxbridge is not symptomatic of failure – witness once again the high entrance standards of table 5.

The entry grade variable may not be freely flexible as the equivalent price variable in the simple supply and demand model; rather, there is probably a ratchet effect in operation. Typically courses/institutions will make bid prices or offer grades. Any applicant who reaches the prescribed grade is guaranteed a place. If a greater number than expected reaches the prescribed grade, the institution is obliged to increase the supply of places to meet the demand – there have only been very rare instances when institutions renege on offers. So there are difficulties in an institution making a short-run rise in its price to ration demand. What it can do is raise the bid price in future years. However, no such institutional constraint

is present on the downside to increase supply, other than a negative effect on the credibility of the institution. There is an upper but no lower bound constraint in the short run.[7]

Ideally institutions would wish to meet a set target (with a limited flexibility either way) without recourse to clearing. However, because of the obligation to meet demand at the offer price, there is strong pressure not to underbid the offer price. So the offer price is likely to be optimistic if anything. Clearing can actually be seen as a rational response to this institutional constraint. Nevertheless it is a fact of life that it is the less prestigious institutions that more readily use clearing to clear the market. The 2001/02 round suggests that universities are using clearing more frequently, which is squeezing the less prestigious institutions even more.

The educational model cannot, however, be completed by simply adding the equilibrium condition $AC_{it} = AP_{it}$ as in the simple supply and demand model. There are three reasons for this:

1. Applications are not synonymous with individuals, whereas acceptances are. Each applicant can make up to six applications. So, even in the absence of factors 2 and 3 considered below, market clearing would be associated with around six applications for each acceptance.
2. Not all applicants are accepted. Market clearing is not synonymous with each applicant being accepted, as in the supply and demand model. Should the approach be better termed as an excess demand model? Not necessarily, because in the supply and demand model, the demand variable is the *satisfied* demand. There would be less *satisfied* demand if the price rose. Here applications will include some whose demand will not be satisfied because they achieve a grade below the market clearing level for the particular course/institution that they are prepared to enter. Unlike the

[7] But note the realized grade may rise even though all obligations are met because an unexpected number of entrants significantly exceed the offer price.

simple supply and demand model, this unsatisfied demand is included in the application data.

3. A more subtle reason is that the education model is more akin to a first-degree discriminating monopolist, rather than a competitive market. So even if factors 1 and 2 did not hold, there still would not be a simple market clearing condition. In the supply and demand model, there is one single universal price charged to all. In the education model, the market clearing price is a marginal price `charged to' the lowest qualified candidate that clears the market. Non-marginal candidates will have grades at least as good as the marginal grade. Consequently the *average* grade (which is what is observed) will typically exceed the marginal grade that clears the market.

In summary, the third market clearing equation is a relationship between price, applications and acceptances, which must account for the above factors. No attempt will be made to estimate this third latent equation, but the discussion emphasises that applications and entry grades should be treated as endogenous in the acceptance equation. The applications equation can be estimated by OLS because it contains only one lagged dependent variable in the regressor list.

5. Estimation results

Equations (1) and (2) were estimated by pooling observations on the 97 UK universities over the four years of entry, where figure 5 summarises the variables used.[8] A log-linear specification was adopted so coefficients give elasticities. In the applications equation, Greater London was the default region and 1996-97 the default time dummy.

Figure 5 near here

[8] There were 387 observations because no entry grade data were available for SOAS in 1996.

The OLS estimation for the applications equation is presented in table 7. What it suggests is, first, that lagged entry grades have a significant positive effect on current applications. This suggests a Veblen good effect – in other words those institutions that recruit 'more able' students with higher A/AS points attract more applications. Applicants appear to be attracted to those institutions that require higher entry standards. This line of argument is supported by a significant and positive elasticity for the quality ranking variable, suggesting the higher up the 'league table' an institution appears the more applications it receives. The 0.117 coefficient implies around a 70% advantage between the best and lowest ranked institutions. The New/Old university dummy is significant and positive suggesting that on average post-92 universities achieve more applications. (Roughly a 56% advantage when the log point advantage of 0.45 is transformed as $1 - e^{.45}$.) While many of the post-92 institutions appear in the lower part of the quality ranking 'league table' (see table 6), this sector achieves slightly more applications per institution than the pre-92 sector (see table 1). However, whether this can be regarded as a reflection of success is a moot point because one reason why such places attract applications is for their `insurance' effect. Many of these applications turn out to be ephemeral and are not translated into acceptances.

The Oxbridge dummy is significant and negative, as expected. There appear to be strong regional influences on applications with the dummy coefficients being significant in all but two cases, the South East and Eastern regions. Scotland and Wales both have negative coefficients, relative to Greater London. The strongest positive regional impacts come from the institutions located in the East Midlands and the North West. Notice that the regional dummies are quite powerful, suggesting that location matters rather more than prestige in attracting applicants. Northern Ireland has a particularly strong impact, which may reflect a strong local demand. The year dummies do not have significant coefficients in any case – so the various doomsday predictions concerning the impact of tuition fees on applications are not readily apparent, at least at this early stage.

The instrumental variables estimation results of the acceptance equation are presented in table 8 (instruments used for prices and applications were lagged prices, regional dummies, quality ranking, MASN and Teaching Funding PER Head, Oxbridge, Newold and the time dummies). Surprisingly, current entry grades do not appear to have a significant impact on acceptances.[9] Both the teaching funding per head and MASN variables are significant and positive. This suggests that the allocation of additional student places by the funding councils (i.e. a rise in the MASN) leads to the institution accepting more students onto its courses, while those institutions that are awarded higher teaching funding per head have an incentive to accept more students.

The MASN variable may be tracking some more complex dynamics alluded to in the theoretical discussion, but not directly tracked in the regression equation. Consider a university that `over-recruits' and is obliged to meet an unexpectedly high demand at its offer grades – the case of the horizontal short-run supply schedule. It is probable that such success is rewarded in subsequent years by a higher MASN. It may be that these strong short-run effects dominate the entry grade variable and accounts for its insignificance.

The new/old university dummy is significant and positive, suggesting that the post-92 sector accepts more students, a finding supported by table 1. Oxbridge accepts fewer students. Only one dummy for the year of entry (1997-98) has a significant positive effect on acceptances. There are two possible reasons for this result. First, institutions were forward looking, in the sense they accepted more applicants in the year before tuition fees/maintenance loans were introduced to ensure recruitment was maximized, expecting a fall in applications the year after. Secondly, applicants avoided gap years to avoid the costs of going to university and some applicants would accept second choices, rather than sitting out a year to improve their qualifications.

Tables 7 & 8 near here

[9] A random effects panel data model was also estimated, but this also revealed little success with a

Concluding Comments

A number of conclusions can be drawn from this investigation of the changing pattern of applications and acceptances to UK universities. First, many institutions have experienced uncertain demand for their 'products', with fluctuating applications and acceptances. Established patterns were disrupted by the introduction of tuition fees in 1998. While some institutions suffered a fall in applications, demand recovered in the last year of the sample. The main impact of tuition fees appears to have been a fall in the overall application/acceptance ratio from 6.67 to 6.27 in 1997/98, and tables 7 and 8 suggest that this fall was mainly being driven from the acceptance side. Acceptances have grown at a faster rate than applications. For the full sample of universities, applications grew by 0.34% from 1996 to 1999, but acceptances increased by 10.16%. Universities appear to have overestimated the negative demand side impact of tuition fees and perhaps there was a somewhat panic stricken over-reaction.

A number of further factors may have added to the tuition fee effect on acceptances. First, institutions have become less selective in the face of limited growth in applications but with a need to maximize acceptances to maintain funding. Secondly, more applicants are achieving their conditional offer(s) – with a process of grade inflation operative in the face of little change in entry standards. It is clear that factors specific to a given institution play an important role in determining the level of applications and acceptances. Specifically, the ranking (prestige) of an institution, its location in the UK and whether it is a pre-92 university or former polytechnic are all important factors. There is a well-defined Oxbridge effect, which discourages applications except from those who might be expected to achieve the highest qualifications.

So what does this work suggest about the possibility of increasing participation in HE to meet government targets of a 50% participation overall in HE? The large rise in demand for HE

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instrumented entry grade and applications variable.

experienced in the 1980s is unlikely to be replicated in the future, as traditional sources of student supply have been exhausted. Indeed, the 2001/02 round strongly suggests that universities are meeting target numbers by increasing the proportion accepted of those who apply. The question is if the quality of provision can be maintained in the face of these trends, or whether a substitution towards a well-defined two-tier system with an increasing proportion of HND/Foundation course type provision is necessary. If applications are to be increased, recruitment strategies must aim to widen access to HE to applicants among currently under-represented groups.

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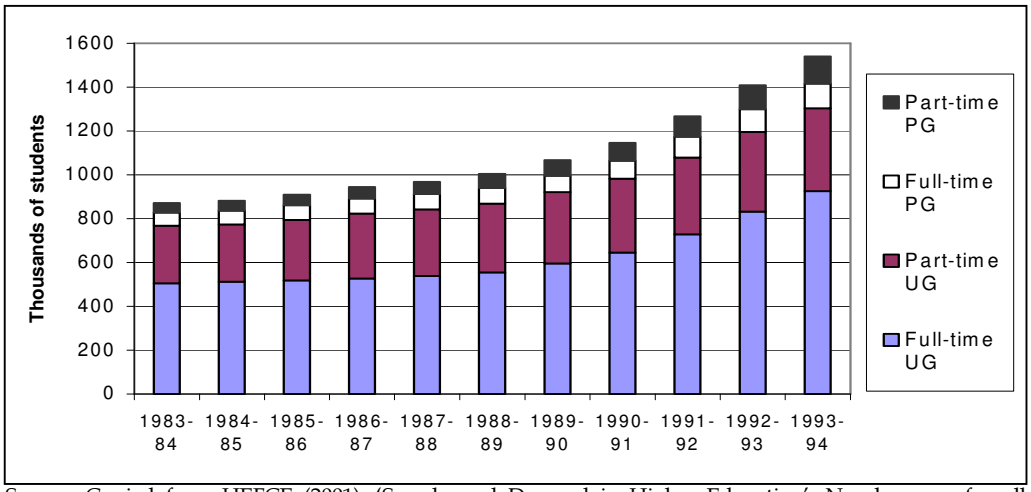
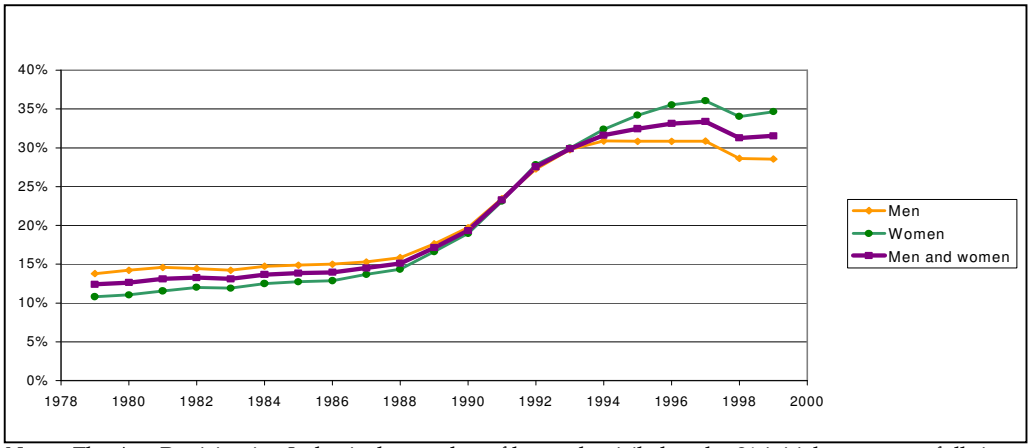
Figure 1: Number of students by level of course and mode of study



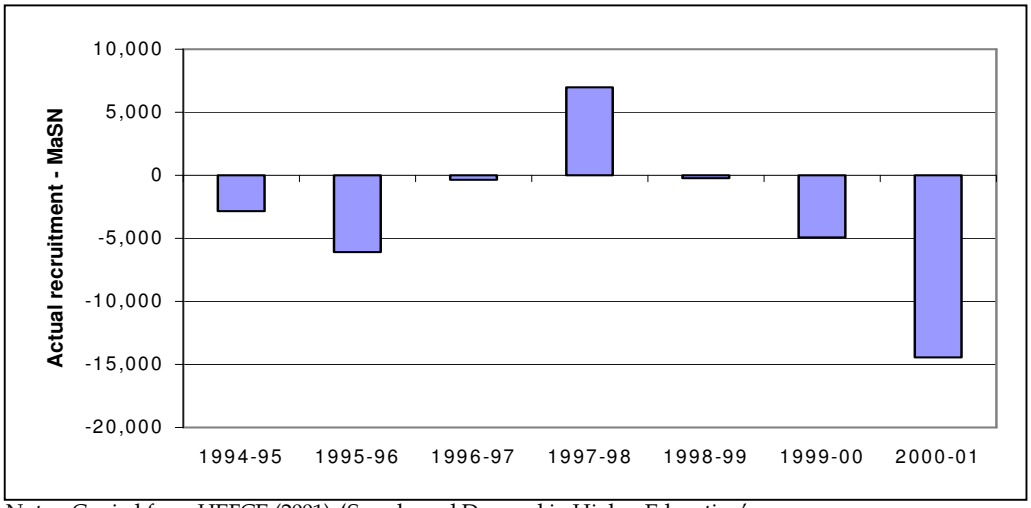
Source: Copied from HEFCE (2001), 'Supply and Demand in Higher Education'. Numbers are for all students for all HEIs in Great Britain. Years are academic years.

Figure 2: Age Participation Index (API) by gender (1979-99)



Notes: The Age Participation Index is the number of home domiciled under 21 initial entrants to full-time and sandwich undergraduate courses of HE, expressed as a proportion of the averaged 18-19 year-old population of Great Britain. From HEFCE (2001), 'Supply and Demand in Higher Education'.

Figure 3 HEI actual recruitment against MASN target



Notes: Copied from HEFCE (2001), 'Supply and Demand in Higher Education'.

Figure (4): The UCAS Scheme

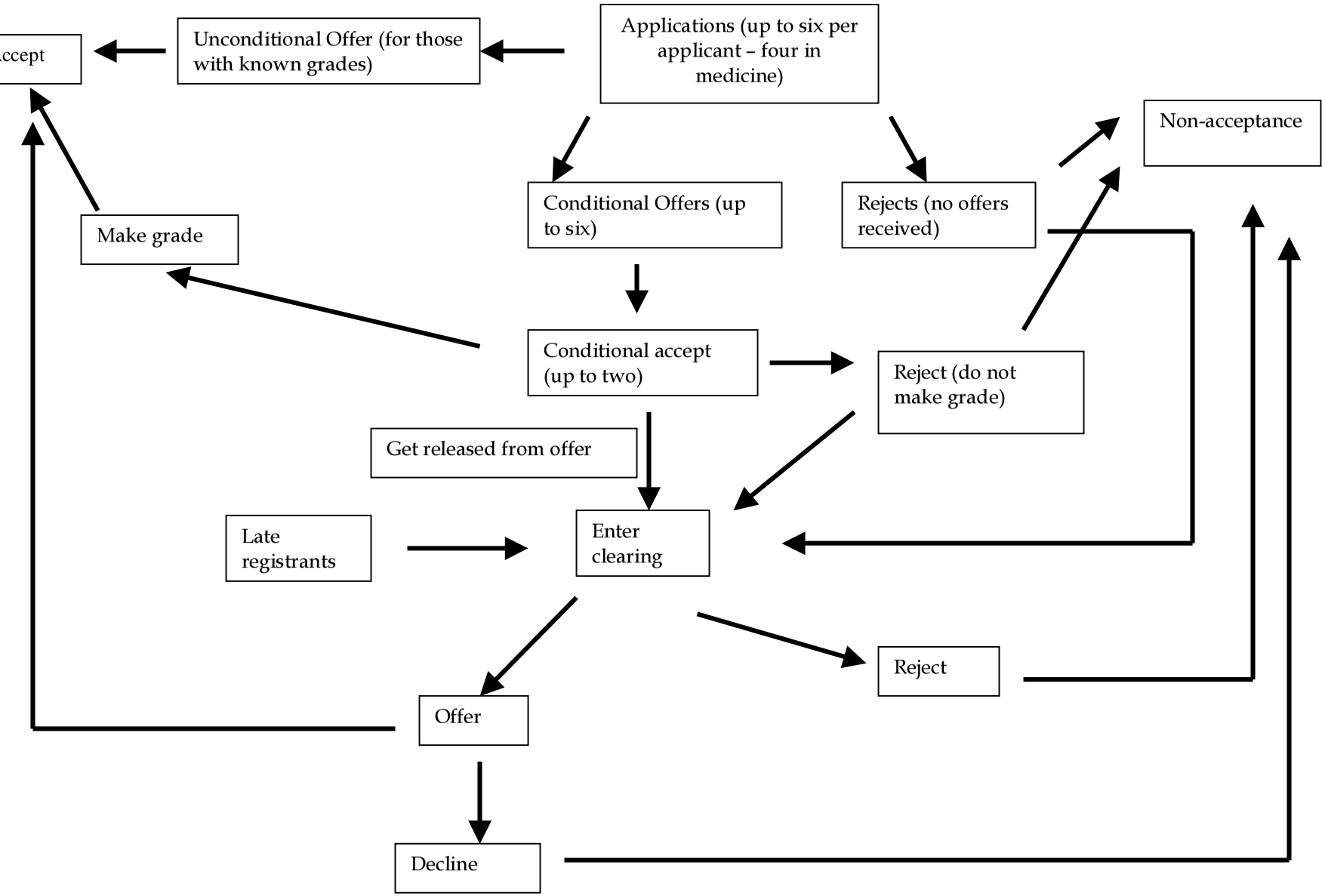


Figure 5: List of Variables, Definitions and Sources.

Variable	Description
UK Applications	Total UK applications by institution, 1996-97 to 1999-00. Source: UCAS.
UK Acceptances	Total UK acceptances by institution, 1996-97 to 1999-00. Source: UCAS.
Entry grades	Average A-level/AS level points achieved by students on entry to each institution, 1996-97 to 1999-00. Source: Times Higher Education Supplement (THES)., www.thesis.co.uk.
Lagged Entry Grades	Average A-level/AS level points achieved by students on entry to each institution , 1995-96 to 1998-99. Source: THES
Quality ranking	Quality ranking of institutions based on information published by the THES on 1. average teaching quality score; 2. average RAE score; 3. student-staff ratio; 4. graduate destinations (in terms of the proportion of graduates in work or further study 6 months after graduation) 5. The proportion of firsts and upper-second class degrees awarded by the institution. Each component was ranked and then an overall rank computed with weights of 2.5 for teaching and 2 for research. This methodology follows that used in the Sunday Times League Table 2001.
Newold	Dummy variable, which equals 1 if the institution is post-92 institution and 0 if the institution is pre-92.
Oxbridge	Dummy variable, which equals 1 if the institution is either Oxford or Cambridge university and 0 otherwise.
Regional dummies	Equals 1 if the institution is located in the classified region and 0 otherwise.
Year dummies	Equals 1 for the year of application and 0 otherwise.
MASN	Maximum Aggregate Student Number for each institution. Obtained from information published by HEFCE and the Scottish, Welsh and Northern Ireland Higher Education Funding Councils.
TFPH	A proxy for total teaching funding per head defined as total teaching funding divided by the MASN for each institution. Source: HEFCE and the Scottish, Welsh and Northern Ireland Higher Education Funding Councils.

Table 1:
Total UK applications by institution, 1996-1999

Highest 20 institutions

Applications							Acceptances						
nk	institution	1996-1997	1997-1998	1998-1999	1999-2000	% Growth 1996-1999	rank	institution	1996-1997	1997-1998	1998-1999	1999-2000	% Growth 1996-1999
1	University of Leeds	37119	37978	37232	37795	1.82	1	The Manchester Metropolitan University	5102	5664	5520	5424	6.31
2	University of Nottingham	36589	36809	34051	33531	-8.36	2	Sheffield Hallam University	4062	5526	5622	5248	29.20
3	University of Manchester	37255	38376	36353	33003	-11.41	3	University of Leeds	4905	4646	4635	5049	2.94
4	Sheffield Hallam University	30016	32553	31337	31587	5.23	4	University of the West of England	3512	4718	5070	4875	38.81
5	The Manchester Metropolitan University	35339	38479	34306	31351	-11.28	5	The Nottingham Trent University	4560	4637	4265	4798	5.22
6	University of Bristol	28997	30638	31264	31172	7.50	6	De Montfort University	4143	4753	4954	4792	15.66
7	University of Sheffield	33705	33125	32003	29893	-11.31	7	University of Central Lancashire	2869	3927	3448	4556	58.80
8	De Montfort University	22385	23557	24465	29289	30.84	8	University of Manchester	4449	4146	4030	4294	-3.48
9	The Nottingham Trent University	34361	38175	32252	29133	-15.21	9	Leeds Metropolitan University	3065	3726	3926	4224	37.81
0	University of Ulster	27046	28304	27696	28301	4.64	10	Middlesex University	3692	4536	4136	4076	10.40
1	University of Birmingham	33270	30935	28697	28281	-15.00	11	University of Glasgow	3275	3874	3711	4047	23.57
2	University of Southampton	22841	22435	24090	26853	17.56	12	University of Birmingham	3856	3616	3725	3849	-0.18
3	Leeds Metropolitan University	22527	24565	26635	26043	15.61	13	University of Northumbria at Newcastle	2725	3625	3404	3697	35.67
4	University of Edinburgh	25371	26437	24029	25713	1.35	14	University of Southampton	2765	3036	3607	3657	32.26
5	University of the West of England	18426	20725	23549	25098	36.21	15	University of Wolverhampton	3178	3588	3493	3636	14.41
6	Liverpool John Moores University	29333	28754	25663	23356	-20.38	16	University of Ulster	2373	3226	3419	3626	52.80
7	University of Warwick	19368	19786	20361	23129	19.42	17	Staffordshire University	2994	3220	3688	3578	19.51
8	University of Liverpool	25835	26948	25381	22921	-11.28	18	University of Edinburgh	3414	3319	3288	3567	4.48
9	Middlesex University	22742	24157	23862	22702	-0.18	19	Liverpool John Moores University	2838	3627	3419	3559	25.41
0	University of Glasgow	21445	22625	22534	22416	4.53	20	University of Liverpool	3015	3156	3407	3550	17.74

able 1 (continued):
otal UK applications by institution, 1996-1999

owest 20 institutions

Applications							Acceptances						
k	institution	1996-1997	1997-1998	1998-1999	1999-2000	% Growth 1996-1999	rank	institution	1996-1997	1997-1998	1998-1999	1999-2000	% Growth 1996-1999
8	Thames Valley University	7852	7480	10178	8378	6.70	78	The Robert Gordon University	1371	1459	1467	1617	17.94
9	University of Stirling	10012	9446	9059	8375	-16.35	79	University of Bradford	1740	1835	1723	1509	-13.28
0	Anglia Polytechnic University	8270	8586	7789	8201	-0.83	80	Imperial College	1075	1191	1393	1441	34.05
1	Oxford University	8270	8039	8007	8091	-2.16	81	Royal Holloway, University of London	1181	1434	1265	1300	10.08
2	Goldsmiths College, University of London	8607	8270	8249	8086	-6.05	82	University of Stirling	1190	1271	1245	1285	7.98
3	Royal Holloway, University of London	7538	7494	7928	8033	6.57	83	Keele University	1153	1276	1186	1279	10.93
4	University of Wales, Aberystwyth	7550	7431	7842	7878	4.34	84	Dundee	1407	1419	1344	1278	-9.17
5	University of Wales, Bangor	6675	7533	7310	7698	15.33	85	UMIST	1213	1273	1268	1258	3.71
6	London School of Economics and Political Science	6919	6789	7102	7655	10.64	86	University of Abertay Dundee	1109	983	1020	1226	10.55
7	Keele University	9455	9462	8249	7541	-20.24	87	Goldsmiths College, University of London	963	1297	1234	1215	26.17
8	University of Dundee	8927	8799	7658	7330	-17.89	88	Aston University	1244	1438	1453	1190	-4.34
9	University of Paisley	6256	6211	6819	6720	7.42	89	University of Essex	851	1000	1008	1182	38.90
0	Heriot-Watt University, Edinburgh	5950	6555	6717	6686	12.37	90	University of St Andrews	922	1082	1336	1152	24.95
1	The Robert Gordon University	7216	6238	6208	6543	-9.33	91	City University	1017	948	1098	1151	13.18
2	University of St Andrews	6722	6477	6335	5893	-12.33	92	Heriot-Watt University Edinburgh	1170	1224	1077	1108	-5.30
3	University of Essex	4818	4453	4592	5355	11.15	93	Thames Valley University	1926	1743	1323	1097	-43.04
4	University of Surrey	5952	5841	5556	5117	-14.03	94	University of Surrey	957	1048	1011	1052	9.93
5	University of Abertay Dundee	4522	4342	3848	4638	2.57	95	London School of Economics and Political Science	500	592	516	632	26.40
6	School of Oriental and African Studies, University of London	2543	2194	1990	1799	-29.26	96	School of Oriental and African Studies, University of London	409	454	432	443	8.31
7	University of Wales, Lampeter	1458	1396	1441	1099	-24.62	97	University of Wales, Lampeter	476	489	398	375	-21.22

es: series obtained from the raw data produced by UCAS (www.ucas.com). Data ranked on the basis of the 1999 figures.

Table 1 (continued): Summary Statistics

	Number of institutions	Applications				Acceptances			
		1996-97	1997-98	1998-99	1999-00	1996-97	1997-98	1998-99	1999-00
All institutions	97	1505343	1560508	1531762	1510452	225974	248998	244750	248999
Post-92 universities	43								
Total applications		668837	705104	685633	666958	111992	128241	125229	125106
applications /acceptances per institution		15554	16398	15945	15511	2604	2982	2912	2909
Pre-92 universities	54								
Total applications		836506	855404	846129	843494	113982	120757	119521	123893
applications /acceptances per institution		15491	15841	15669	15620	2111	2236	2213	2294

Table 2:
Percentage growth in UK applications and acceptances by institution, 1996-1999

Highest 20 institutions

Applications			Acceptances		
rank	institution	% growth 1996-1999	rank	institution	% growth 1996-1999
1	Brunel University	122.98	1	Brunel University	100.54
2	University of Huddersfield	59.06	2	London Guildhall University	75.26
3	University of the West of England	36.21	3	University of Central Lancashire	58.80
4	UMIST	33.84	4	University of Ulster	52.80
5	University of Bath	33.00	5	University of North London	40.00
6	De Montfort University	30.84	6	University of Wales, Bangor	39.11
7	Loughborough University	30.63	7	University of Essex	38.90
8	King's College, University of London	29.11	8	University of the West of England	38.81
9	Aston University	26.99	9	Leeds Metropolitan University	37.81
10	University of Warwick	19.42	10	University of Northumbria at Newcastle	35.67
11	University of Southampton	17.56	11	University of Brighton	34.09
12	Imperial College	16.27	12	Imperial College	34.05
13	Leeds Metropolitan University	15.61	13	University of Southampton	32.26
14	University of Wales, Bangor	15.33	14	University of Westminster	31.74
15	Heriot-Watt University, Edinburgh	12.37	15	University of Huddersfield	29.49
16	Coventry University	12.31	16	Sheffield Hallam University	29.20
17	University of Brighton	11.94	17	London School of Economics and Political Science	26.40
18	University of Westminster	11.88	18	Goldsmiths College, University of London	26.17
19	University of Essex	11.15	19	Liverpool John Moores University	25.41
20	London School of Economics and Political Science	10.64	20	University of Paisley	25.08

Table 2 (continued):
Percentage growth in UK applications and acceptances by institution, 1996-1999

Lowest 20 institutions

Applications			Acceptances		
rank	institution	% growth 1996-1999	rank	institution	% growth 1996-1999
78	University of Manchester	-11.41	78	Aston University	-4.34
79	University of St Andrews	-12.33	79	University of Glamorgan	-4.82
80	University of Aberdeen	-12.53	80	University College London	-5.02
81	University of East Anglia	-12.60	81	Heriot-Watt University Edinburgh	-5.30
82	University of Surrey	-14.03	82	University of Sheffield	-6.16
83	University of Kent at Canterbury	-14.50	83	University of Hull	-6.21
84	University of Birmingham	-15.00	84	University of Aberdeen	-6.25
85	The Nottingham Trent University	-15.21	85	University of Sussex	-7.77
86	University of Reading	-15.50	86	University of Newcastle Upon Tyne	-8.00
87	University of Stirling	-16.35	87	University of Dundee	-9.17
88	Napier University	-17.79	88	University of Sunderland	-9.97
89	University of Dundee	-17.89	89	University of Luton	-11.35
90	University of Wolverhampton	-18.83	90	University of Portsmouth	-11.89
91	University of Sussex	-19.44	91	Napier University	-12.39
92	Keele University	-20.24	92	University of Bradford	-13.28
93	Liverpool John Moores University	-20.38	93	South Bank University London	-15.89
94	University of Wales, Lampeter	-24.62	94	University of Plymouth	-18.68
95	University of Plymouth	-26.57	95	University of Wales, Lampeter	-21.22
96	School of Oriental and African Studies	-29.26	96	Glasgow Caledonian University	-27.73
97	University of Luton	-33.78	97	Thames Valley University	-43.04

Notes: series obtained from the raw data produced by UCAS (www.ucas.com).

Table 3: UK applications to acceptances, 1996-1999

rank	institutions	1996-1997	1997-1998	1998-1999	1999-2000	% growth: 1996-1999
Highest 20 institutions						
1	London School of Economics and Political Science	13.84	11.47	13.76	12.11	-12.47
2	University of Bristol	11.12	11.77	11.82	11.80	6.12
3	City University	10.07	11.24	10.10	9.77	-3.01
4	University of Warwick	9.11	9.02	9.00	9.71	6.54
5	University of Nottingham	12.25	12.15	11.79	9.45	-22.84
6	King's College, University of London	8.19	8.61	9.24	9.00	9.95
7	University of Sheffield	9.39	9.40	10.24	8.88	-5.49
8	University College London, University of London	8.72	8.34	8.36	8.72	0.06
9	University of York	9.20	9.21	9.72	8.62	-6.32
10	Aston University	6.32	5.79	6.24	8.39	32.75
11	University of Exeter	8.57	8.40	8.42	8.13	-5.06
12	University of Bath	6.98	8.29	9.35	8.00	14.69
13	University of Ulster	11.40	8.77	8.10	7.81	-31.52
14	University of Manchester	8.37	9.26	9.02	7.69	-8.22
15	Thames Valley University	4.08	4.29	7.69	7.64	87.33
16	University of Newcastle Upon Tyne	7.60	7.78	7.67	7.59	-0.16
17	University of Reading	8.92	7.88	8.04	7.53	-15.50
18	University of Leeds	7.57	8.17	8.03	7.49	-1.08
19	University of Birmingham	8.63	8.56	7.70	7.35	-14.84
20	University of Southampton	8.26	7.39	6.68	7.34	-11.11
Lowest 20 institutions						
78	Staffordshire University	5.47	4.75	4.86	4.74	-13.31
79	University of Wales, Bangor	5.59	4.71	4.27	4.63	-17.10
80	University of Essex	5.66	4.45	4.56	4.53	-19.98
81	University of Sunderland	4.26	4.05	4.13	4.40	3.35
82	University of East London	5.92	5.40	5.03	4.40	-25.73
83	University of Teesside	4.59	4.01	4.11	4.28	-6.78
84	University of Wales, Swansea	4.44	4.19	4.73	4.28	-3.67
85	Anglia Polytechnic University	4.31	4.13	4.56	4.24	-1.60
86	University of Wolverhampton	5.94	4.55	4.64	4.21	-29.06
87	University of Lincoln and Humberside	3.85	2.92	3.24	4.16	8.11
88	London Guildhall University	6.82	4.93	4.67	4.13	-39.37
89	University of Wales, Aberystwyth	4.18	3.74	4.03	4.12	-1.54
90	School of Oriental and African Studies	6.22	4.83	4.61	4.06	-34.69
91	The Robert Gordon University	5.26	4.28	4.23	4.05	-23.12
92	University of Abertay Dundee	4.08	4.42	3.77	3.78	-7.22
93	University of Paisley	3.90	3.04	3.33	3.35	-14.12
94	Cambridge University	3.53	3.36	3.19	3.30	-6.49
95	University of Wales, Lampeter	3.06	2.85	3.62	2.93	-4.32
96	Oxford University	2.81	2.73	2.63	2.73	-2.69
97	University of Central Lancashire	4.19	3.36	3.90	2.66	-36.44
	For all 97 institutions	6.67	6.27	6.26	6.07	-8.99

Notes: series obtained from the raw data produced by UCAS (www.ucas.com). Data ranked on the basis of the 1999 figures.

Table 4: Regional distribution of UK applications and acceptances, 1996-1999

Region	Number of institutions located in the region	Applications						Acceptances					
		rank	1996-1997	1997-1998	1998-1999	1999-2000	Change: 1996-1999	rank	1996-1997	1997-1998	1998-1999	1999-2000	Change: 1996-1999
Greater London	20	1	255345 -	274298 (7.42%)	278215 (1.43%)	272492 (-2.06%)	6.72%	1	36283 -	42015 (15.80%)	40490 (-3.63%)	42017 (3.77%)	15.80%
Yorkshire & Humberside	9	2	177497 -	185904 (4.74%)	188417 (1.35%)	187755 (-0.35%)	5.78%	2	25753 -	28503 (10.68%)	28432 (-0.25%)	28650 (0.77%)	11.25%
North West	8	3	179957 -	185457 (3.06%)	177400 (-4.34%)	163944 (-7.59%)	-8.90%	3	23963 -	27125 (13.20%)	26297 (-3.05%)	27736 (5.47%)	15.75%
Scotland	13	4	151785 -	153247 (0.96%)	145740 (-4.90%)	145532 (-0.14%)	-4.12%	4	26020 -	26844 (3.17%)	26447 (-1.48%)	26487 (0.15%)	1.79%
East Midlands	6	5	136456 -	143285 (5.00%)	137225 (-4.23%)	139164 (1.41%)	1.98%	7	18518 -	20452 (10.44%)	19337 (-5.45%)	20730 (7.20%)	11.95%
West Midlands	8	6	138697 -	135005 (-2.66%)	134226 (-0.58%)	134945 (0.54%)	-2.71%	5	19243 -	21403 (11.22%)	21825 (1.97%)	21316 (-2.33%)	10.77%
South West	6	7	115474 -	119530 (3.51%)	120599 (0.89%)	119591 (-0.84%)	3.57%	8	16478 -	17035 (3.38%)	17036 (0.01%)	17222 (1.09%)	4.52%
South East	9	8	112041 -	116284 (3.79%)	113427 (-2.46%)	114265 (0.74%)	1.98%	6	18730 -	20085 (7.23%)	20722 (3.17%)	20835 (0.55%)	11.24%
North East	5	9	83463 -	88473 (6.00%)	82677 (-6.55%)	80306 (-2.87%)	-3.78%	9	13475 -	14988 (11.23%)	14315 (-4.49%)	14179 (-0.95%)	5.22%
Eastern	5	10	51758 -	54260 (4.83%)	55169 (1.68%)	54145 (-1.86%)	4.61%	10	11186 -	12693 (13.47%)	12036 (-5.18%)	11613 (-3.51%)	3.82%
Wales	6	11	58510 -	58760 (0.43%)	54102 (-7.93%)	53231 (-1.61%)	-9.02%	11	11148 -	11678 (4.75%)	11627 (-0.44%)	11470 (-1.35%)	2.89%
Northern Ireland	2	12	44360 -	46005 (3.71%)	44565 (-3.13%)	45082 (1.16%)	1.63%	12	5177 -	6177 (19.32%)	6186 (0.15%)	6744 (9.02%)	30.27%
TOTAL	97		1505343 -	1560508 (3.66%)	1531762 (-1.84%)	1510452 (-1.39%)	0.34%		225974 -	248998 (10.19%)	244750 (-1.71%)	248999 (1.74%)	10.19%

otes: series obtained from the raw data produced by UCAS (www.ucas.com). The figures in parentheses are the year on year percentage changes. Data ranked on the basis of the 1999 application and ceptances figures.

Table 5: Average A/AS points by institution, 1996-1999						
rank	institutions	1996-1997	1997-1998	1998-1999	1999-2000	% growth: 1996-1999
Highest 20 institutions						
1	Cambridge University	29.6	29.7	29.7	29.8	0.68
2	Oxford University	28.7	29.2	29.3	29.4	2.44
3	LSE	27.3	27.7	27.9	28.3	3.66
4	Imperial College	27.3	27.5	27.8	28.0	2.56
5	University of Warwick	25.1	25.9	25.9	27.0	7.57
6	University of Edinburgh	25.9	26.4	26.2	26.5	2.32
7	University of Nottingham	26.1	25.9	26.2	26.1	0.00
8	Bristol	25.6	26.4	26.7	26.0	1.56
9	University of York	23.8	24.5	25.4	26.0	9.24
10	Bath	22.8	24.4	25.3	25.6	12.28
11	University College London	23.4	25.1	25.3	25.3	8.12
12	Durham	24.8	25.2	25.1	25.1	1.21
13	University of Sheffield	24.8	25	25.8	25.1	1.21
14	King's College	22.7	23.3	24.7	24.5	7.93
15	University of Glasgow	22.8	23.5	24.1	24.2	6.14
16	University of Wales College of Cardiff	22.3	22.8	23.3	24.0	7.62
17	University of Manchester	23.6	24	24	24.0	1.69
18	University of St Andrews	24	25	23.3	24.0	0.00
19	UMIST	21	22.5	22.6	23.7	12.86
20	Birmingham	24.1	24.3	24.6	23.6	-2.07
Lowest 20 institutions						
78	Coventry University	12.3	13.3	13.3	13.4	8.94
79	University of Teesside	11.9	12.7	13.1	13.4	12.61
80	University of Westminster	13	13	13.8	13.2	1.54
81	University of Glamorgan	11.9	11.9	13.1	13.1	10.08
82	University of Lincoln and Humberside	12	12.3	13.4	13.1	9.17
83	Anglia Polytechnic University	12.4	12.4	13.8	13.0	4.84
84	De Montfort University	12.8	13.4	13.3	13.0	1.56
85	Staffordshire University	12.6	13.3	13.1	12.8	1.59
86	University of Luton	12.1	10	11.2	12.5	3.31
87	South Bank University London	10.5	11.1	11.8	12.5	19.05
88	University of Sunderland	11.7	12.2	12.2	12.4	5.98
89	University of Wolverhampton	12.9	12.8	12.2	12.1	-6.20
90	University of East London	11.5	12	11.7	12.0	4.35
91	University of Greenwich	11.8	11.6	12.1	12.0	1.69
92	Thames Valley University	11.1	9.3	10.6	12.0	8.11
93	London Guildhall University	11.8	12.3	11.3	11.7	-0.85
94	Middlesex University	12.5	13	13.1	11.4	-8.80
95	Napier University	12.8	13.9	12.6	11.2	-12.50
96	University of North London	8.5	8.7	11.1	10.8	27.06
97	University of Paisley	11	10.6	12.5	10.8	-1.82
	Average	17.64	18.23	18.52	18.68	5.89

Table 6: Quality Rankings by institution					
Highest 20 institutions					
rank		1996	1997	1998	1999
1	Cambridge University	97	95	97	97
2	Imperial College	64	94	94	96
3	Oxford University	95	96	96	95
4	University of York	87	88	87	93
5	University of St Andrews	96	87	88	93
6	University of Nottingham	88	82	90	92
7	London School of Economics and Political Science	89	97	95	91
8	University of Edinburgh	94	80	90	90
9	Loughborough University	83	62	71	89
10	University of Bristol	90	90	89	88
11	Lancaster University	92	84	92	87
12	University of Durham	93	93	72	86
13	University of Manchester	86	89	82	85
14	University College London, University of London	82	80	86	84
15	University of Birmingham	84	85	81	83
16	University of Leeds	44	73	75	82
17	University of Cardiff	79	79	85	81
18	University of Hull	80	60	73	80
19	University of Bath	91	76	67	79
20	University of Essex	62	70	68	78
Lowest 20 institutions					
78	University of Greenwich	35	41	17	20
79	University of Glamorgan	17	31	26	19
80	Staffordshire University	12	32	22	17
81	Anglia Polytechnic University	29	22	10	17
82	University of Central England in Birmingham	4	28	14	15
83	University of Central Lancashire	9	9	23	15
84	Liverpool John Moores University	28	10	15	14
85	University of Abertay Dundee	15	7	7	13
86	University of Hertfordshire	22	20	18	12
87	University of East London	21	18	12	11
88	University of Huddersfield	56	25	21	10
89	Leeds Metropolitan University	46	14	8	9
90	London Guildhall University	13	13	11	8
91	Bournemouth University	6	1	2	7
92	University of Lincoln & Humberside	38	3	1	6
93	University of Derby	11	6	5	5
94	University of Paisley	7	33	13	4
95	South Bank University London	1	4	6	3
96	University of Teesside	5	5	4	2
97	Thames Valley University	2	2	3	1

Notes: The quality rankings were obtained from raw data published on each institution's average TQA score; average RAE score; graduate destinations; proportion of firsts and 2:1s and student-staff ratio/ TQA scores were given a weight of 2.5 and research a weighting of 2. Data ranked on the basis of the 1999 figures.

Table 7: OLS estimation results- application equation Regressand: UK Applications		Number of observations = 387 F(18, 368) = 29.52 R-squared = 0.34
Regressor	Estimate	t-ratio
constant	7.22	13.33
Lagged entry grades	0.578	3.05
Quality ranking	0.117	3.71
Newold	0.450	4.07
Oxbridge	-0.487	-5.34
Regional dummies		
Scotland	-0.282	-2.94
Wales	-0.558	-2.90
Northern Ireland	0.590	4.54
North East	0.185	2.24
North West	0.427	3.94
Yorkshire & Humberside	0.302	3.04
West Midlands	0.178	1.93
East Midlands	0.481	5.56
Eastern	-0.091	-1.04
South East	-0.132	-1.27
South West	0.286	3.06
Year dummies		
1997-98	0.001	0.02
1998-99	-0.026	-0.39
1999-00	-0.042	-0.60

Table 8: Instrumental variables estimation results - acceptances equation Regressand: UK Acceptances		Number of observations = 387 F(3, 383) = 457.3 R-squared = 0.91
Regressor	Estimated coefficient	t-ratio
Constant	-1.924	-2.90
Entry grades	-0.075	-0.71
Teaching funding per head	0.181	1.62
Maximum Aggregate Student Number	0.606	6.26
Newold	0.087	2.27
Oxbridge	0.240	2.58
UK applications	0.310	4.17
1997-98	0.068	2.99
1998-99	0.020	0.61
1999-00	0.038	1.07

Note: Variables are described in Fig.(5).