



Marketing, strategy and communications for an educated world

## **Reputation Management for Universities**

Working Paper Series No2

### **University League Tables and The impact on student recruitment**

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### The Knowledge Partnership

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## Summary and Conclusions

This paper attempts to report on the impact of university league tables both in terms of the share of applications received by a university and the academic performance quality of its admissions. We also review the evidence regarding reported use of such tables and their influence.

We define a league table as a *published set of quantitative data designed to present comparative evidence regarding the quality and/or performance of universities.*

### What does the published evidence tell us?

#### International Studies

As the market for higher education evolves, Adam Smith would have noted that there has been an explosion of evidence about HEIs that can be accessed by prospective students and their supporters. Information might not be perfect, but it is widespread and increasingly not in the control of the producers.

Over the past 20 years since *U.S. News* began its annual rankings of US colleges and universities in 1983 the number of league tables designed for both international and domestic audiences has increased. This increased incidence of “university ladders” has undoubtedly been a factor in their increased use by prospective students and others. With the increased incidence of essentially domestic league tables observed in many countries, this also means that international students are likely to be familiar with the concept of rankings.

Rankings are now used in the US, Canada and the UK, but also in China, Australia, Poland, Germany, Italy, Ireland and Spain. There are tables covering Asia and Europe and two global rankings, the Jiao Tong, and the THES.

The web is not only facilitating the use and evolution of formal league tables, in some ways it is a form of ranking in its own right. The Webometrics ranking measures a university’s web-presence and the Stanford Ranking (created by a Stanford student on his blog) uses Google searches.

This research was not designed to evaluate the methodologies of the various tables and ladders. However we have provided some background commentary. Criticisms of league tables tend to fall into the following categories – the currency, veracity, scope/validity and weighting of the data. It is argued that those constructing league tables have a vested interest in them being dynamic. Annual change within rankings is good for business and for publicity.

However others have claimed that what league tables really reflect is long standing reputation largely derived from historical advantage – established universities have stronger research bases, wider reach in terms of awareness and attract disproportional income from public and private sources.

The reality is that whilst UK league tables, and *The Times*, in particular have reported micro level change in the positions of various players, there has been little significant reordering over the years. As such, the league tables merely reinforce stereotypes and market stratification.

Why have league tables emerged in the past 20 years? On the supply-side there has been an increase in publicly available information about spending, teaching and research quality – the raw material of most tables. These are a by-product of the desire for measured accountability in the distribution and use of public funds. A second factor is the “marketisation” of higher education, both at a domestic and global level. Those paying higher fees are more likely to research their options and leagues tables feed off this need. Mass participation has also meant that there is a viable critical mass of readers and users from which to generate income

either through direct sales or as a consequence of readership volumes. The web has facilitated mass dissemination and low cost international publishing. Although universities hate league tables – unless they make a relevant advance in them - there is some evidence that historically they (managers and academics) have been the audience that has been most likely to use them.

This paper has been primarily written for those charged with reputation management in universities – including marketing and communications directors. This community is already aware that league tables are a tool for PR, but they are also in some regard a function/measure of the efficacy of PR in that they draw on the results of surveys of peers (typically academics). Those working in higher education may feel they are objective when completing such surveys but there must be an element of subjectivity in their assessments – and we cite research that claims this to be so. The visibility of your institution's research profile and of your star academics may be a significant variable in the final league position that is attained.

So, league tables are a growth industry but who reads them and who admits they are influential in student choice? Much of the research that addresses these issues is US-based as it has a longstanding history of publishing league tables. However, in terms of the profile of league table users, some consistent evidence is emerging from several countries. Heavy users include:

- Asians
- Males (but not that marked)
- Younger school leavers
- Those from high income backgrounds
- Second generation students
- Higher achievers aiming to enter top institutions
- Applicants more distant from the campus and those who subsequently live on campus

In researching this paper we found no longitudinal studies of the use of league tables and given that each cycle addresses a new cohort, such studies would have only a modest value. However the evidence from individual studies published over the past decade suggests that the proportion of applicants using these sources is increasing and in line with the massification of HE, the rate of growth in use is more evident amongst lower income groups, although the heavy users remain the middle class achievers.

Studies show that more students are claiming the tables influenced their decision-making. However a major US academic study concludes that league tables act as confirmatory devices – giving students a comfort, providing evidence to support decisions they have already made. Our UK research tends to support this thesis. Nonetheless there is some evidence that a better ranking at the top end of a table can lead to increased share and better quality students in the following cycles – so a dynamic impact has been identified.

Several studies, ours included, show that wider or embedded reputation is a stronger factor in influencing student choices than a specific league table position. Reputation is an elusive concept but it is likely that league table positions contribute to a reputation if they can be sustained over a period of time. A study of MBA students found reputation to be the key driver in choice, with league table position located a lowly sixth place. It is argued that the skepticism about the subjective construction of rank lists may contribute to consumers giving them less weight.

It is often claimed that league tables have a greater impact on international students. There is little firm evidence to support this hypothesis. Our study found some weak evidence in this direction and there is ad hoc evidence from Australia that also supports the proposition.

## UK Studies

Taking all the published evidence into account we conclude that UK university league tables are being increasingly used by young applicants. The profile of heavy users is similar to that found in other international studies, but additionally, those attending private schools. Perhaps 1 in 5 of all applicants believe they are influenced by them but a much wider group are aware of them and might have looked at one or more before applying. Careers and sixth-form advisers use various tables on a frequent basis, and may use this knowledge to advise their students (and thus there would be an indirect and less visible impact).

UK newspaper-based tables seem to be much more visible and used than official data such as that on the TQI site (2% claim to have used).

New data from the 2006 entry cohort does seem to confirm that UK league tables are more important for UK bound international students than for home students with 28% of the former saying they were a very important factor.

For UK students The Times is the most used and influential table followed by The Guardian.

## Our Research Findings

Our research was not based on surveys of applicants but on statistical analysis using HESA, UCAS, league table and institutional data.

### Institutional Level

For home students the relationship between the share of applications received and the league table position of a university is very weak (more or less random) with a correlation of less than 0.1<sup>1</sup>. This was not a surprise as application volume is a function of size, portfolio breadth, location, prestige, etc. Turning to international markets, overall there was a very weak positive correlation of 0.3 between rank and the share of international applicants through UCAS. This was in line with expectations but is still indicated no statistical (let alone causal) relationship. Further analysis focusing on just the largest universities and those in the Russell Group revealed no further evidence of an institute level correlation.

Having tracked the share of those HEIs that had achieved a consistent rise in *The Times* league table over the period 1999-2005, we conclude that there is no consistent or persistent statistical relationship between rises in table position and domestic share of UCAS undergraduate applicants. It may be possible that demand in subsequent years was “rationed” as a consequence of the university increasing its published entry grades as a response to its improved position. However, we doubt that this was a major or consistent factor. Also there is no clear relationship at all between a declining rank and share of domestic applications. Other factors are clearly at play. We noted that the performance of local and direct competitors in league tables may have as great an impact as the wider ranking picture. So, if your rank improves but that of your main rival improves by a greater extent, the net market effect may be negative.

In terms of admissions quality we found an overall strong correlation of 0.8 between league table ranking and the relative admissions quality of students. So highly ranked universities get better students – a finding that probably merely confirms what we all felt intuitively to be the case. Examining just those universities that had improved their rank 10 or more places in one year we found that in just over half did the average academic quality of admitted students rise in the following cycle. Of those that fell 10 places or more, we discovered that most had managed to increase the grade average of their next intake! This suggests that longer term (embedded) reputation is likely to override episodic fluctuations in rank.

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<sup>1</sup> Correlation being the measure of a statistical relationship between two variables, where 1.0 is a linear relationship and 0.1 indicating a near random relationship. However, a strong correlation does not confirm a causal relationship

Major rises or falls in league table position of over 10 places are unusual and over 20 places, very rare. In fact only two universities have moved 20 places in one year in *The Times* since 1999. Almost by definition such changes in rank will be located away from the summit of the rankings and both examples involved a move into or out of the bottom quartile. We hypothesized that such changes, although dramatic in one sense, might result in a muted market response as those applicants who take league tables more seriously are more likely to be high fliers evaluating top 20 universities. And so it proved to be the case - in terms of the impact in the next cycle at least.

The wider evidence indicated that it is those applicants that aspire to admission to the top universities that are more likely to use league tables. It is also true that top 10 lists are frequently highlighted in newspapers and on web sites. In addition to the greater exposure from being in the top 10 it might be seen as conferring an additional status. With more than 100 universities to choose from it is probable that applicants and others will create "ladders in their minds" Markets tend to stratify as they mature and the number of entrants grows.

Our findings suggest that elevation to the top 10 had a consistent but modest impact on the market share of home applicants won in the following cycle. In international markets there was weak but positive evidence to show that passing through key glass ceilings such as top 20, top 10, etc, may have a positive impact but the results were not completely consistent. There was evidence that changes in the table had a stronger international impact for universities in London - the main UK destination for international students and a highly competitive region.

#### Subject Level

We obtained application data at subject level from 15 universities that enabled us to complete an analysis of the correlation between rank and application market share at a more granular level. We sampled five subjects that we felt represented a good selection in terms of being selecting and recruiting, established and new, academic/applied/vocational (Computer Science, Chemistry, Nursing, Architecture/Built Environment and Mechanical Engineering).

Overall the results were inconsistent and no clear evidence of cause and effect between league table position and application market share emerged. We make three general observations:

- The impact of a positive rise in the tables might be delayed for one cycle in the overseas market as such markets may have had lagging communication (in the age of instant communications this is perhaps less likely in the future?).
- For established universities a change in rank has less impact generally than for 1992 universities. Perhaps this is because the former have a stronger history and hinterland and thus its image is not shifted so much by a change in any one year. Consistent rises or falls can have an impact but even here the evidence was not very compelling.
- Overall an impact between a change in ranking and share was more evident overseas than domestically.

We drilled down into the data to examine the relationship between league table rank at subject level and the quality of the admitted students in that subject (A-level points).

In many subjects there is a strong correlation between rank in the subject table and average A-level entry scores (in the following cycle) – for example business – but in many there is not. The report explores the reasons for this.

## The RAE

In addition to evaluating the impact of *The Times* league table we also carried out analysis to test the undergraduate market impact of the ratings that universities received in the 2001 RAE. Research ratings and citations are an important component of many league tables and thus we felt it would be useful to investigate their impact as a single variable. Also, with the next RAE at the forefront of university minds, it was a topic area of investigation.

The key research questions that we have attempted to answer in this phase were:

*At subject level is there a relationship between RAE ratings and the average academic quality of students admitted?* The answer is yes in some subjects (business, law, chemistry, etc) but not in others. Our evidence indicates that the relationship between the RAE score and the quality of undergraduate admissions can be a positive one but that it varies DRAMATICALLY across the subject range.

*Did an improvement in RAE result in a subsequent improvement in student admission quality?* Typically those departments that gained a higher grade were able to improve their intake quality in the next full cycle, relative to the set as a whole whereas those that declined in the RAE typically lost ground in the student quality stakes. However:

- The impact was neither strong nor consistent across the five subjects.
- Top universities were able to rise above a poor or declining RAE (we suggest as a result of being able to fall back onto their embedded and/or university-wide reputation).

*What was the student quality impact of elevation to 5\* (world class)?* Interestingly, achieving the 5\* for the first time had no obvious positive impact on student quality and typically those elevated to this “world class” actually lost ground in terms of recruitment quality! Perhaps the academics in these departments were less focused on undergraduate domestic applicant conversion?

In Computer Science we found an *inverse* relationship between RAE rating change and subsequent change in relative undergraduate entry quality. Impact of elevation to 5\* appeared to have neither a clear nor strong impact. Those that lost 5\* in 2001 actually improved their position with regard to student quality.

In Chemistry we conclude that those institutions that improved their RAE rating in 2001 were typically able to recruit a better quality entry cohort in 2002 relative to those who had not improved their RAE standing. Achieving 5\* had no clear impact.

For Mechanical Engineering the universities that improved their RAE rating in 2001 experienced a modest increase in their relative entry quality and those that fell had the reverse. Those universities that achieved a 5\* for the first time subsequently saw their admissions quality decline.

As the great majority of universities improved their RAE rating in Nursing, analysis was more problematic. However the evaluation did suggest a relationship between a relative change in RAE rating and the relative quality of students, with those improving their relative RAE standing subsequently gaining an edge in terms of student quality.

The RAE unit of assessment relevant to Architecture is Built Environment. Overall the RAE had only a modest impact in this subject but a consistent relationship between a relative change in RAE and relative entry quality was noted.

# 1 Introduction

This paper is part of a series that is being produced by The Knowledge Partnership that explores the issue of reputation and its management. Reputation is a critical asset for all providers of high value intangible services, and is particularly important for those working in professional services such as education.

Paper 1 in this series (available from The Knowledge Partnership) explored the concept of reputation in the specific context of higher education and was based largely on qualitative research conducted with staff, students and prospective students.

## Section 1 Literature Review

The first part of this paper introduces the various league tables and the evidence that has been generated regarding their use and importance in decision-making. The research has tended to be based on primary quantitative research of a retrospective nature. Students have been asked if they had referred to various published tables, and whether they believed that they had influenced their choices.

1. A summary of the various international and “domestic” university league tables published in UK and elsewhere, with a commentary that draws on various published research papers.
2. A review of the academic evidence regarding the use and impact of league tables, from the US, the UK and Australia.
3. Evidence from various professional studies as to the role and importance of league tables in relation to UK undergraduate choices.

## Section 2 Emerging Empirical Evidence on UK League Tables

This part of the paper is largely concerned with new findings relating to an analysis of UK university performance in terms of application market share and admissions quality and the extent to which this correlated with league table positions and rank changes and research ratings (RAE).

Stage one of the research was conducted during 2006. It takes a different approach to most studies in that it explores whether there is a statistical relationship between league table positions over time and the quality of undergraduate students admitted or share of UCAS applicants won at **institutional level**. We have calculated share movements for UK domestic, EU and overseas markets, and evaluated the impact of consistent rises and falls in a university’s rank. Accepting the limitations of this approach, we set out to explore whether a consistent improvement in league table position led to higher average entry scores and market share.

Most commentators *within* the HE sector believe that it is at subject level that league tables have the most impact. This seems logical given a decade and more of research findings indicating that “subject” is a key driver in applicant choice. We explored the relationship between league table position and movement over time and share/achieved A-level grades at **subject level** in more detail.

We also created correlation coefficients for each subject area relating to quality of the students admitted at each university.

With the next Research Assessment Exercise looming we have also attempted to evaluate the impact of a significant increase or decline in RAE ratings. Whilst the RAE is not primarily

about marketing, many feel that the RAE has a direct impact on reputation. Indeed many universities limit the number of academics within their submissions as a means of maximizing the rating, perhaps at the expense of short-term financial gain.

Obviously RAE ratings have an impact on league table positions as they are an important component of the rankings, and thus their impact will be felt indirectly through the wider research. However, isolating the impact of this variable will be of value to those engaged in reputation management. We aimed to measure any observable impact in terms of overall share and share within peer sets.

## 2 A Cook's Tour of HE League Tables

Before we proceed it might be worth setting down some ground rules through answering the most fundamental question – what is a League Table? We define a league table as:

*A published set of quantitative data designed to present comparative evidence regarding the quality and/or performance of universities.*

We make no distinction between datasets created within higher education or for commercial or benchmarking purposes. If they are in the public domain they will have an impact on reputation, image and choices made by employers, funding agencies or donors, students and academic staff – it would be counter-intuitive to think otherwise. The key questions that this paper and other research have tried to address include:

- Who is most influenced by these tables?
- Which league tables have most influence?
- Are these tables becoming more influential?

**For those new to higher education or to the whole business of league tables a short summary of the main league tables published in the UK and in some key overseas markets maybe useful.**

### 2.1 UK League Tables

Over the past 5 years a number of league tables have appeared to complement the qualitative student/applicant guides to HE that are more overtly designed to facilitate choice between HEIs. **Daily Telegraph** (discontinued) used teaching quality as its sole criterion (it then produced the “table of tables” which simply aggregated the average of ranks from rival tables!). The discontinued **Financial Times** table used 17 criteria, variously weighted, and included a survey of employers in association with the Association of Graduate Employers.

Although these ranking tables are now discontinued, the nature of the Internet means that the positions obtained by universities in these two tables may still be having an influence some years on.

**The Sunday Times** first published its rank of UK universities in 2001 and uses some more innovative measures such as head teacher perceptions and data from the National Student Survey.

**The Guardian** first published its university tables in its *University Guide* in 2003. It has traditionally included and/or given greater weighting to the factors that teachers and others in its prime readership groups would respond to more positively such as teaching quality, valued added measures, inclusiveness and staff student ratios. As a result of the factors used, several 1992 universities (former polytechnics) have been located much higher in this table than in many others.

**The Times** (Good University Guide) is aimed at applicants, parents and international students. It first appeared in 1992 and it has been observed that it presents a list of universities that descend in an order that could be described as “intuitive” or “traditional”. This is a function of the data sets it has used and the relative weighting given to each (and specifically to research assessment grades). Its rankings have been less dynamic over time than some others.

**The Times Higher** publishes the “raw” tables used by The Times and thus ranks universities by individual criteria such as student satisfaction (NSS), completion, facilities spending and

entry standards. It also uses HESA data to construct additional lists based on teaching and research staff, research income and permanent staff

Although the above ranking lists are published in book or newspaper form, they are also accessible on the web. Some can be manipulated by the user allowing tailored rankings to be developed based on self-determined weightings/criteria. Some argue this will undermine the "official" lists and their reputation impact, but others stress that it is the "official" listing that carries the most reputation or status weight whereas the individualised online lists may have greater impact in individual choice.

## **2.2 Other National League Tables**

**Various national rankings of universities have been published since the magazine *U.S. News* began its annual rankings of US colleges and universities in 1983.**

**As a background to the report this section provides a brief summary of some of the HE league tables in Europe, North America and Australia.**

### **USA**

In the mid 1970s British sociologist A H Halsey constructed a rank of UK universities from a survey of academics. A decade or so later (1983), the director of data and research at the **U.S. News & World Report** began that magazine's annual rankings of US colleges and universities. It is based on a combination of statistics and surveys of university faculty and staff members. The precise methodology used by the U.S. News rankings has changed many times, and the data are not all available to the public. The rankings create a strict hierarchy of colleges and universities. The most important factors in the rankings are:

- Peer assessment: a survey of the institution's reputation among presidents, provosts, and deans of admission of other institutions
- Retention: six-year graduation rate and first-year student retention rate
- Student selectivity: scores of admitted students, proportion of admitted students in upper percentiles of their high-school class, and proportion of applicants accepted
- Faculty resources: average class size, faculty salary, faculty degree level, student-faculty ratio, and proportion of full-time faculty
- Financial resources: per-student spending
- Graduation rate performance: difference between expected and actual graduation rate
- Alumni giving rate

**The Princeton Review**, a company based in New York City known for its test preparation courses, education services and books first published its annual "best colleges rank" in 1992.

**The University of Florida Research Rankings** has ranked US universities since 2,000. It uses objective data such as research publications, citations, recognitions and funding from publicly accessible sources

**Vanguard College ranking** is a ranking of research-doctorate universities that uses objective data from the National Research Council

**The Washington Monthly's "College Rankings"** began as a research report in 2005 and introduced its first rankings in the September 2006 issue. It offers American university and college rankings based upon the following criteria:

- Performance as an engine of social mobility
- Fostering scientific and humanistic research
- Promoting an ethic of service to country

**The Center**, a US research body, started publishing its annual ranking of the top US research universities in 2000.

Among the rankings dealing with individual fields of study is the **Philosophical Gourmet Report** a ranking of philosophy departments. The most popular ranking of **Law Schools** is the annual Top Graduate Schools version from US News & World Reports magazine. Beyond this popular and mainstream list, there are numerous other rankings of law schools, which include:

- Cooley Rankings
- Gourman Report
- Hylton Rankings
- Law School 100
- Leiter Rankings

## **Europe**

The Deutsche Akademische Austauschdienst (German academic exchange service) and the German weekly news magazine *Stern (now in Die Zeit)* has published the Centrum für Hochschulentwicklung (**centre for higher education development**) ranking of Germany's 250 universities since 1998.

The Centre conducts regular surveys of approximately 130,000 students about their experiences and satisfaction. It also asks 16,000 academic staff to name the three institutions in their field of study that they would recommend to someone as the best places to study. Two-thirds of the German rank is based on these surveys and the balance is based on data from independent sources. The German rank reports results for each indicator by discipline.

The **Sunday Times** compiles a league of Irish universities based on a mix of criteria, for example:

- Average points needed in the Leaving Certificate (end-of-secondary-school examination) for entry into an undergraduate course
- Completion rates, staff-student ratio and research efficiency
- Quality of accommodation and ports facilities
- Non-standard entry (usually mature students or students from deprived neighborhoods)

There are also national tables in Italy, Poland and Spain.

## **Canada**

The weekly Canadian news magazine **Maclean's** first published its ranks of Canadian universities in 1991. Their criteria include characteristics of the student body, classes, faculty, finances, the library, and reputation.

The rankings are split into three categories: primarily undergraduate (HEIs that focus on undergraduate studies), comprehensive (HEIs that focus on undergraduate studies but have a graduate program), and medical doctoral (HEIs that have a very wide selection of postgraduate programs).

## **Australia**

Ross Williams and Nina Van Dyke of the University of Melbourne's institute of applied economic and social research published their '**International standing of Australian universities**' in 2004. This was aimed as much at academics and HE administrators and policy makers as at prospective students, whereas **The Good University Guide**, aimed

squarely at prospective students, uses a 4 star rating by factor and does not attempt to create a single university level ranking using arbitrary weightings. Its factors include:

- Entry Flexibility
- Rating of the educational experience by graduates
- Cultural diversity of the student body
- Success in getting a job
- Graduate starting salary
- Positive graduate outcomes

## **China**

The **Netbig** ranking started in 1998 and uses criteria such as prestige (survey), resources, academic achievements and student selectivity.

In 2004 the table produced by the **Research Center for China Scientific Evaluation and the China Youth Daily** was first published and was more of a UK style table involving media and non official sources. The list divides 1,683 universities and colleges across China into six categories: comprehensive and minority ethnicities' universities; colleges of agriculture, science and technology; normal universities; medical universities; colleges of language, economy and law; and institutes of physical culture and art education. Schools in each category are ranked according to two specific criteria: attainments in scientific and technological innovation and competitiveness in human and social science research.

Usher and Savino (2006)<sup>2</sup> argue that China's rankings place much more weight on research indicators than any other ranks in the world and that British university ranks give particular weight to criteria related to staff and student quality. They conclude that there are large differences between university league tables in terms of what they measure, how they measure it and therefore in their implicit definition of 'quality'. They find that very few league tables "normalize" their figures for institutional size or measure the value that institutions add and suggest that the indicators used in most university ranks are really measuring some underlying characteristic such as institutional age and funding per student.

## **2.3 International League Tables**

The first international (but not global) university ranking was *Asia's Best Universities* published by the magazine *Asiaweek* from 1997 to 2000. The first world rank was Shanghai Jiao Tong University's institute of higher education's *Academic ranking of world universities* which was first published in 2003. It and the *Times Higher Education Supplement's World university rankings* are the only current world university ranks.

**The Jiao Tong** league table was based on a project to provide independent rankings of Universities around the world on behalf of the Chinese government. Criteria include:

- Volume of articles published by Science or Nature
- Nobel Prize and Fields Medal winners

The **Times Higher Education Supplement** has published the Higher World University Rankings annually since 2004, a list of 200 ranked universities from around the world. The THES uses a number of criteria:

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<sup>2</sup> Usher A and Savino M 2006 World of Difference: A Global Survey of University League Tables.

- Peer review (3,700 academics)
- 5 years of citations (previously 10 years)
- Staff-student ratios

**Newsweek** magazine (US) published a ranking of the Top 100 Global Universities in 2006 utilizing selected criteria from the above two rankings, with the additional criterion of library holdings (number of volumes).

The **Webometrics** ranking of universities is based entirely on the web-presence of the university (an assessment of the size and sophistication of the website). As such it is unlikely to accurately reflect the academic performance directly, but will reflect Internet-based activities of the universities. One refinement of the Webometrics approach is the G-Factor methodology, which counts the number of links only from other university websites. The G-Factor is an indicator of the popularity or importance of each university's website

A University ranking using Google search engine is also provided by a Stanford student on his blog **Stanford ranking**.

The **European Commission** compiled a list of the 22 European universities, measuring the impact of their scientific output. This ranking was compiled as part of the Third European Report on Science & Technology Indicators, prepared by the Directorate General for Science and Research of the European Commission in 2003 (updated 2004). Although it only considers the top European institutions, comparison statistics with the rest of the world are provided in the full report.

The **Swiss Federal Government's** Zentrum für Wissenschafts und Technologiestudien (Centre for Science and Technology Studies) first published its 'Champions league' in 2002 and ranks research institutions by their performance in research journal publications. The centre ranks the top 683 institutions by 4 measures:

- total research journal publications (an indicator of size);
- number of publications in subfields with a substantial number of publications (an indicator of influence);
- publications in qualified subfields as % of all publications (an indicator of concentration);
- citations per research publication (an indicator of research impact).

There is a wide range of international rankings relating to **business education**. Ones often quoted by UK business schools include the Social Science Research Network, the Financial Times MBA Ranking and the Financial Times Survey of European Business Schools

## **2.4 Continuity and Veracity - A Commentary**

**This paper is not designed to provide a critique of the various league tables and their methodologies. However, given the purpose of our research we considered the following comments were relevant.**

### **A Moving Target**

League tables produced by publishers need to have a degree of volatility otherwise there would be no change to report and no need for the readers to buy, read or browse the latest version.

For those of us interested in mapping and tracking changes over time, there are many caveats and footnotes to insert as the goalposts are always moving (a criticism of the U.S.

News & World Report in particular). A dramatic change in a university's position may reflect not a significant improvement or decline in its performance but a change in the factors used or weightings applied by the table editor. So, when observing ranking movement within a specific table readers should note:

- It is rare for the data sets or weightings used to stay the same for too long as the guides need to present a changing picture.
- The data used comes in different cycles – teaching quality reports can be 10 years old and the RAE comes around every 5+ years.
- New datasets become available such as fees and bursaries, results from the National Student Survey or Home Office data on crime by postcode.

## **Data Imperfections**

Many commentators point to the imperfections in the tables. These tend to fall under four categories:

1. The currency of the data – often these data are 5 years old or more (ancient history for the typical 17-year-old).
2. The veracity of the data, which primarily rests on the original methodology and the subsequent analysis and reporting. In some cases the data relies on self reporting by universities (either directly to the publisher or indirectly to a third party). Some years ago one university created a post to “clean up its data” and it is noted that it climbed over 10 places the subsequent year. This is not to claim that the institution cheated in any way; it simply realized that its own data collection and management inadequacies were directly impacting on its reputation - akin to employing a careful accountant to fill in your tax return. The following extract was downloaded from another (leading) UK university, and simply illustrates that data accuracy is now an emerging component of reputation management. Whether this material should be accessible to the general public rather than be limited to an Intranet is perhaps also a point for discussion in the context of reputation management?

....it is The Times table which receives the closest scrutiny, especially in overseas markets, and—despite some questions about the reliability of the figures—it is apparent that the University's perceived position has drifted downwards in recent years. Action has already been taken to remedy our showing in some components of the tables. It became apparent to us some years ago that other universities were using different criteria to record information on library and computing expenditure, and we have already changed our return to reflect this. However, given that data used to construct the table is three years out of date, changes will take time to filter through the system.

3. The scope of the data and whether what is being used to build the table reflects its known importance to the end user or simply its availability.
4. The weighting given to each component to create the overall composite scores – do the weightings reflect the true relative value to the end user or do they reflect the values of the publisher and its commercial interests?

Ranks have also been criticized because their measures are not valid (they don't actually measure what they purport to measure, thus research income is not a valid measure of research quality because the empirical disciplines receive much more funding than the heuristic or humanities disciplines); because their measures and weights are arbitrary; because they are unreliable (differences in results are due to flaws in the measure not in the performance of the things being measured); and because they combine measures that are contradictory, or at least not coherent. Some ranks rely heavily on reputation surveys which

are often criticized as simply quantifying the common ignorance or prejudice of the people being surveyed.

Van Raan<sup>3</sup> argues that even academics are not that well informed as the correlation between *The Times Higher Education Supplement's* peer review scores and its score of citations per academic staff member was just 0.5% (essentially arbitrary).

Some 60% of Shanghai Jiao Tong University's rank is for exclusively science measures: Nobel prizes, Field medals, *Nature* and *Science* articles and Science Citation Index.

Dill and Soo<sup>4</sup> conclude that all university ranks have the first 2 flaws, of reduction and invalidity, and some are also unreliable.

### **Access to Third Party Data**

As the market for higher education evolves, Adam Smith would have noted that there has been an explosion of evidence about HEIs that can be accessed by prospective students and their supporters. Information might not be perfect, but it is widespread and increasingly not in the control of the producers.

In addition to the published league tables we have in recent years conducted research that has identified a number of other "league tables" (using the definition above) that at least some prospective students and staff have referred to when evaluating the opportunities presented by universities. For example, raw RAE scores are used and particularly by those from independent schools or aiming for academic careers (or advancing one) and by prospective international postgraduates.

Leach<sup>5</sup>, reminds us that: "universities hate being ranked because they spend increasing amounts on marketing to an increasingly money-fixated market of students who want value-for-money for their £3,000 per year. Rankings can scupper carefully created brands" (the article fails to note that it is not only those modern brand building universities that have fear but also established institutions who, for many years, could rely purely on the less defined and even less transparent notion of reputation). However, Leach only speculates that these tables could impact on recruitment.

The article points out that one reason the rankings are popular is that *the alternative sources of data are distinctly limited*. The quasi-official Teacher Quality Information website has much of the information any diligent student could want before making an informed choice, but according to Leach is so *user-unfriendly you'd think they were trying to keep it secret*. Leach believes the National Student Survey (NSS) has promise but for the moment, any claims to national credibility remain undermined by the absence of most of the Scottish universities and of Oxford, Cambridge and Warwick, thanks to the opposition of the students unions.

In the context of international students we would offer Google search lists as the new league table for the web generation. Savvy students know that this is an imperfect measure but for those unprepared to wade through masses of data, this is an attractive and intuitive means of evaluating the popularity of a university (or its site at least) and of its professionalism (those on page one of a search list are managing their presence on the web through search engine optimization techniques).

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<sup>3</sup> Van Raan, A. (2005) Challenges in ranking of universities', powerpoints of paper presented to the first international conference on world class universities, Jiao Tong University, Shanghai, 16-18 June.

<sup>4</sup> Dill, D & Soo, M (2005) Academic quality, league tables, and public policy: a cross-national analysis of university ranking systems, *Higher Education* 49: 495–533.

<sup>5</sup> Leach 2006 (Education Guardian) May 2, 2006 The informed choice  
<http://education.guardian.co.uk/universityguide2006/story/0,,1761775,00.html>

## 3 The Use and Impact of League Tables - A Literature Review

### 3.1 International Studies

**In this section we review the findings from some of the major studies from outside the UK regarding the impact of HE League tables.**

In their 1995 study, Hossler and Foley<sup>6</sup> concluded that rankings had a very insignificant bearing on the college decision-making process for most US students but that they “serve only as confirmatory devices, helping them to feel comfortable with decisions they have already made”. As will be shown in our latest analysis of UK data, this may well be the case here too with regard to the *conservative* Times league table.

In the USA, a UCLA academic study of 220,000 freshmen at 432 HEIs<sup>7</sup> showed that league tables were a very important factor for 11%, of some importance for 30%, and of no importance to 60%. Those most likely to use and give weight to league tables were Asian Americans, those from high income backgrounds, second generation students, higher achievers and probable postgraduates (as undergraduates). The study found that wider reputation was a stronger factor – an illusive variable but surely one that league table positions contribute to over a period of time? The study suggests that a rise in position was more likely to have an impact on supply-side decision-making (with universities raising their entry requirements in the cycle after an increased rank) than in the market.

It is also argued that as student demand<sup>6</sup> and the quality of student intake determine 15% of the *US News and World Report's* rank, this has encouraged institutions to offer more places by early entry schemes thus placing more pressure on places filled during the main selection period, and to allocate financial support by students' entry score not financial need.

Another US study by Monks and Ehrensberg<sup>8</sup> found that a *less good* rank in the US News and World Report table led to pressure of admissions quality:

- A greater proportion of applicants being accepted
- Lower SAT scores being presented
- A lower overall yield in the quality of admissions

At Cornell, rising from 14 to 6 in the 1999 News and World Report table led to 3% reduction in admissions rate (more selective), an 8 point SAT average increase (quality) and in the following cycle a 10% application volume growth.

In her 2002 study of the impact of magazine rankings on decision-making in the US, McManus Howard<sup>9</sup> concludes that:

*Over the past 20 years, college rankings in national magazines such as US News & World Report have become an annual “phenomena” in American higher education...and are now part of the landscape in our system of higher education.*

The main finding of her study was that the majority (57%) of first-time, full-time freshmen indicated rankings were either a very important or somewhat important factor in selecting their

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<sup>6</sup> Hossler & Foley, 1995

<sup>7</sup> McDonough, Antonio, Walpole, and Perez 1998

<sup>8</sup> Monks, J., & Ehrenberg, R. G. (1999). U.S. News & World Report's college rankings: Why they do matter. [Electronic version]. *Change*, 31(6), 42-52.

<sup>9</sup> McManus Howard M (2002) Student Use of Rankings in National Magazines in The College Decision-making Process, The University of Tennessee, Knoxville

college or university. The results suggest an increase in the impact and level of importance placed on college rankings since the McDonough study. Other results included:

- More than twice the proportion of students attending high ranking liberal arts institutions (77%) said rankings were very important/important than those from low/unranked ranked colleges (32%).
- For students attending public institutions, 51% of freshmen placed some level of importance on college rankings while 63% of participants attending private schools viewed rankings as very or somewhat important.
- 58% of males compared with 56% of females considered rankings to be important in selecting a school of choice. While this differential was found to be statistically significant the author did not consider there was a practical disparity in the use of tables by gender.
- The study found that younger students aged below 19 (57%) were more likely to consider tables important in choice than older students aged 20 and above (45%).
- Students who lived on-campus (59%) placed a higher level of importance on rankings than their colleagues living off-campus without family (35%) or off-campus with family members (34%).
- Students who lived 10 miles or less from campus placed significantly less importance on rankings (39%) than their colleagues who lived farther away. However, the majority of students (65%) who attended a college or university over 500 miles from home considered rankings as very important or somewhat important. The data showed that as distance increased so did the proportion of students placing weight on rankings. This is consistent with the findings from the McDonough study.
- Those who obtained A averages (65%) in high school placed higher levels of importance on rankings than their peers earning a B average (44%) or a C or below average (34%).
- Students in the Lower Income category (family earnings up to \$24,999) placed lesser importance on rankings (51%) than their peers in other income classifications. Conversely, the majority of students (69%) in the Upper Income category (earnings of \$150,000 or higher) indicated rankings were very important or somewhat important in the college decision-making process.

The aforementioned studies by Hossler and Foley and by McDonough et al both found that league tables were more widely used by middle and upper income groups. However, this more recent study suggests that over time the use of such sources by those in the lowest income groups becomes more commonplace.

A high percentage of Asian American students (73%) regarded rankings in news magazines as very important or somewhat important while 55% of White/ Caucasian students indicated some level of importance. Slightly fewer African American and Hispanic/Latino students (54%) attached some importance to ratings. In their study of college ratings, McDonough and her colleagues found Asian American students more likely to see the rankings as very important as compared to other racial or ethnic groups.

It is often claimed that league tables have a greater impact on international students. There is little firm evidence to support this hypothesis. There is some ad hoc evidence. At September 2004 the University of Melbourne was 15% below its target for international student enrolments. In November 2004 the *Times Higher Education Supplement* ranked the

university at 22 in its first *World university rankings*, and by the following March the University had comfortably met its target.<sup>10</sup>

Usher and Savino<sup>11</sup> argue that world university ranks continue to have a powerful effect on international students' preferences. Prospective students and their agents compare universities' world rank with their tuition fees to judge quality-for-money, which they combine with impressions of institutions' environment and other factors to choose their destination. They conclude that university ranks not only influence prospective international students' choice of institution, they are increasingly influencing domestic students. Ranks reinforce readers' views of universities' overall standing and disseminate them to a wider audience. Similarly league tables will affect the perceptions of governments and institutions' capacity to attract staff, influence universities' choice of institutional partners and affect industry funding.

However, we have been in email conversation with Australia's leading researcher in the field of league tables, Gavin Moodie of Griffith University and he remains to be convinced that there is any compelling evidence that these tables have a substantial impact:

*I have found little actual evidence of their (league table) effect. The US News & World Report, which of course publishes the most prominent US university ranks, claim that their effect is over-stated, but I haven't seen any evidence for that statement either.*

His view is supported by research with 4,000 aspiring MBAs by Nunzio Quacquarelli<sup>12</sup>, director of the World MBA Tour, who found that the most important factor in choosing an MBA was a school's wider reputation, followed by the track record of its careers service, return on financial investment, availability of scholarships and other financial aid, and the range of subjects that the school specialised in. Traditional business school rankings came only sixth in order of importance. Rankings were thought to be too static and the basis for their production questionable.

### **3.2 Evidence on the Impact of UK League Tables**

The Binary Divide Revisited study<sup>13</sup> found that 12% of undergraduate students claimed that league tables had been an important influence in their choice of university with 60% saying they were a general influence in the market (i.e. they knew of others that had been influenced by them). Consistent with US studies it was students from independent schools and Asians that more likely to agree they had been influenced by them.

An unpublished study in 2003 by the author found that school advisers thought that around 1 in 5 students were influenced by newspaper league tables, citing *The Times* as the most popular.

The latest *Student Experience Report*<sup>14</sup> found that 20% said league tables had been a factor in choice (19% 2005).

In a small study of 25 school sixth-form advisers undertaken by Roberts in 2006<sup>15</sup>, 17 said that if a potential HE applicant asked them where they might find information that allowed them to compare one university with another in terms of their quality they would point them to

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<sup>10</sup> Australian Universities' Directors of International forum 2005.

<sup>11</sup> Usher, Alex and Savino, Massimo, 2006 *A world of difference: a global survey of university league tables*. Education Policy Institute's *Journal of Higher Education Policy and Management* Volume 28 No2

<sup>12</sup> Quacquarelli N quoted by Bawden in *Guardian Unlimited* 8/9/2005

<sup>13</sup> The Binary Divide Revisited Jeff Marshall Barkers

<sup>14</sup> Student Experience Report (MORI/UNITE) 2006

<sup>15</sup> Roberts 2006 a small study facilitated by Swansea University of Wales of 25 heads of sixth-form drawn primarily from Southern England and SE Wales.

*The Times* League Table. *The Guardian* was second followed by Heap (Degree Course Offers) and the Virgin Alternative publication.

84% of the sixth-form advisers said they personally referred to the Times League Tables - only 12% said this was just rarely or never. *The Sunday Times* and *The Guardian* Tables generated a similar response suggesting wide use.

We have produced a table with indexed results combining perceived use by applicants and frequency of use by school advisers to provide some form of ranking of rankings (note this was a small sample).

**Table 1**

<b>Data Source</b>	<b>Index</b>
Times	2.25
Guardian	1.83
Sunday Times	1.74
QAA	1.74
National Student Survey	0.78
RAE	0.71
THES	0.63

In this small scale study those from independent and comprehensive schools responded similarly.

When asked what percentage of the applicants at their school/college referred to one or more newspaper league tables the responses ranged from 5% to 90%. Independent schools tended to respond with figures of 40% and higher, whereas with one exception, all comprehensive school responses were 30% or lower.

It therefore appeared that use of these tables was skewed to the private schools and that the majority of applicants are still not referring to them (although compared with earlier studies there is evidence to suggest increasing use – and in this study six out of ten advisers confirmed that the proportion of their applicants referring to these tables had increased in the previous five years, whilst four in ten felt there had been no increase). It was in the state sector where the observed *increase* in use was reported to be the stronger. An independent school respondent noted that approximately half will *glance at the information but far less will be seriously guided by it*. Almost seven out of ten felt the tables had some impact, compared with small proportions who felt they had either a ‘significant’ or ‘no impact’.

The study Higher Expectations (2007)<sup>16</sup> reports that 41% of first year home students looked at *The Times* league table before making their choices, compared with 34% for *The Guardian* 11% for the *Sunday Times* and 6% for the *THES*. Only 2% had used the TQI site (national student survey). Overall 61% had used one or more league table type of data (70% for overseas students).

A university being strong in league tables was thought to be a very important choice factor by 16% of UK students (54% important). 28% of overseas students thought this was a very important factor (64% important).

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<sup>16</sup> Higher Expectations (to be published April 2007) Opinionpanel Research and The Knowledge Partnership

## 4 The Impact of UK League Tables

### 4.1 Background

In this section we present our new findings. In the research on league tables we made a decision to focus on the impact of *The Times* League Table for the following reasons:

- It was the most cited by school advisers (Roberts 2003) and by a selection of heads of sixth-form in a small study conducted by The Knowledge Partnership at a sixth form conference in Swansea in 2006
- 15% of students claimed to have used *The Times* more than any other table, according to MORI/UNITE 2005,
- In book form, it sells over 20,000 copies and has significant web and news media exposure

The decision to focus on *The Times* has subsequently been supported by the finding that 41% of UK respondents in the 2006/7 study Higher Expectations said they had looked at it – ahead of *The Guardian* and the *Sunday Times*.

Using HESA, UCAS and institutional data we have attempted to measure the impact of this league table on the patterns of demand by students, both in terms of quantity (application share) and quality (admissions grades).

The first part of the research focused at institutional level, the second part focused on subject level impact

### 4.2 Institution-level Analysis

#### **The Relationship between Rank and Share of Applications**

For home students the relationship between the share of applications received and the league table position of a university is very weak (more or less random) with a correlation of less than 0.1. This was not a surprise as application volume is a function of size, portfolio breadth, location, prestige, etc.

Turning to international markets, overall there was a very weak positive correlation of +0.3 between rank and the share of international applicants through UCAS. This was in line with expectations but is still indicating no statistical (let alone causal) relationship. The stronger result may in part be due to more active marketing of credentials to international students/enquirers and unlike the domestic market, places are not limited so there is a greater incentive for top universities to recruit more actively. Interestingly the correlation was much weaker within the Russell Group than across the sector as whole.

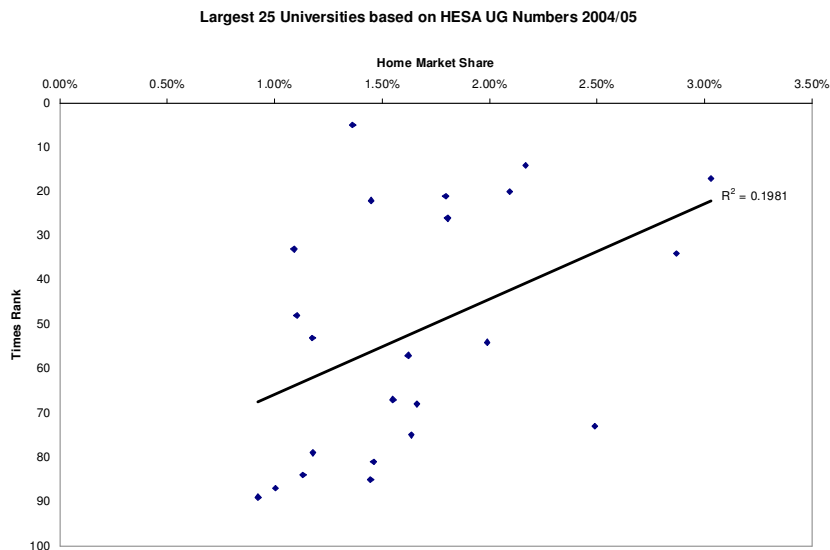
So the relationship between overall university ranking and share of student applications is weak. This might be explained by two factors that can be investigated using published data - subject mix (investigated further in the next section) and the size of the institution.

Small and highly selective university institutions, such as LSE, are always likely to skew any analysis of the relationship between market share (volume) of applicants and quality measures or league table rank. To account (to some extent) for the size and subject reach/spread variable we evaluated the largest 25 universities as measured by the number of undergraduate students.

For domestic students, we found a very weak correlation between market share and a university's *Times* rank (0.2 and essentially random). There were two significant outliers:

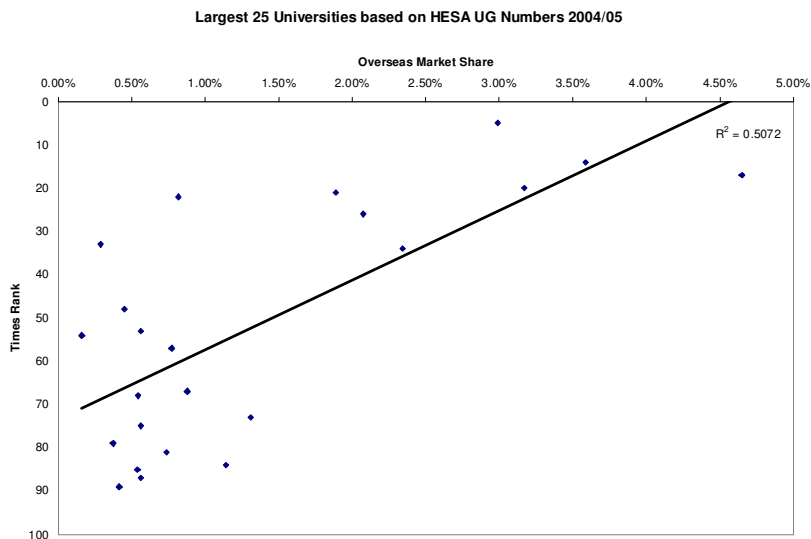
- ❖ Manchester Metropolitan had a much higher share at 2.49% of the market than its rank at 73<sup>rd</sup> would have suggested and this may be attributed to the fact that its portfolio is very wide thus it competes in a large portion of the market as measured by subject areas, but also to the attractiveness of the city of Manchester as a study location (for migrating students) and convenient to the large applicant population in the local vicinity.
- ❖ Warwick was ranked 5<sup>th</sup> but only captured 1.36% of the market. This university is highly selective and also has a very high number of part-time undergraduates which could have skewed the result somewhat.

**Chart 1 UK Share – Rank Correlation for Largest 25 universities**



For overseas students there was a much more evident correlation between market share and *Times* rank (0.51). The identified outlier was the University of Glasgow with 0.82% of the market but ranked 22<sup>nd</sup> in the league table.

**Chart 2 International Share – Rank Correlation for Largest 25 universities**



To test this further we isolated the 19 (then) universities in the Russell Group for further analysis to try and account for the variable of status. Here we found an inverse relationship between rank and share. This probably tells us very little other than some smaller institutions in the Group such as LSE are highly ranked and some of the larger ones less so.

We also tested the correlation between rank and share for the 1992 universities. We found no correlation which was not a surprise – applications are primarily driven by location and the breadth of the offer and the market fit of the course portfolio.

### **Impact of consistent rise in the league tables**

Only 8 from around 100 universities displayed a consistent rise in the table over the period of analysis (1999-2005).

The results showed no consistent or persistent statistical relationship between rises in table position and domestic share of UCAS undergraduate. However, it may be possible that demand in subsequent years was “rationed” as a consequence of the university increasing its published entry grades as a response to its improved position. However, we doubt that this was a major or consistent factor.

### **Impact of consistent decline in the University level tables**

9 universities displayed a consistent pattern of decline in the table over the period of analysis

Overall there was no clear relationship at all between a declining rank and share of domestic applications. Other factors are clearly at play, such as changes to the course portfolio, changed perceptions of the attractiveness of the city/location image, etc, improved marketing and PR offsetting diminished credentials, improvements elsewhere in the portfolio of credentials, etc. The performance of local and direct competitors may have an impact too – the position relative to these may be more critical for some HEIs than their position relative to the whole sector.

### **Changes in ranking & student quality**

We have evaluated the evidence of a relationship between a strong climb or serious fall in the tables and the quality of the admitted students based on HESA data. We found an overall correlation of between 0.75 and 0.81 between league table ranking and the relative admissions quality of students. So highly ranked universities get better students – a finding that probably merely confirms what we all felt to intuitively be the case. So, we went further in order to test the dynamic impact of league table rankings on admissions quality.

Examining just those universities that had improved their rank 10 or more places in one year we found that in just over half did the average academic quality of admitted students rise in the following cycle. Of those that fell 10 places or more, we discovered that most had managed to increase the grade average of their next intake! This suggests that longer term (embedded) reputation is likely to override episodic fluctuations in rank.

### **The market share impact of a significant annual change in rank**

Major rises or falls in league table position are the subject of much celebration or hand wringing within the universities concerned, but do these apparently significant changes in credentials have any observable impact in terms of demand?

In *The Times* league table a movement of more than 10 places in any one year is unusual and over 20 places, very rare. In fact only two universities have moved 20 places in one year

since 1999. Almost by definition such changes in rank will be located away from the summit of the rankings and both examples involved a move into or out of the bottom quartile.

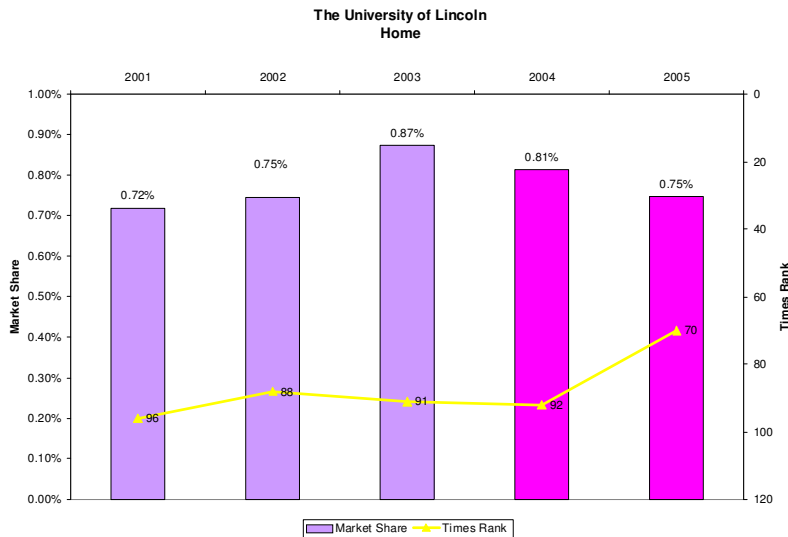
We hypothesized that such changes, although dramatic in one sense, might result in a muted market response as those applicants who take league tables more seriously are more likely to be high fliers evaluating top 20 universities. And so it proved to be the case - in terms of the impact in the next cycle at least.

The University of Lincoln improved in rank from 92<sup>nd</sup> in 2004 to 70<sup>th</sup> in 2005 (22 places) but its impact on domestic market share of applicants was negative. However, its share of overseas applications did improve somewhat.

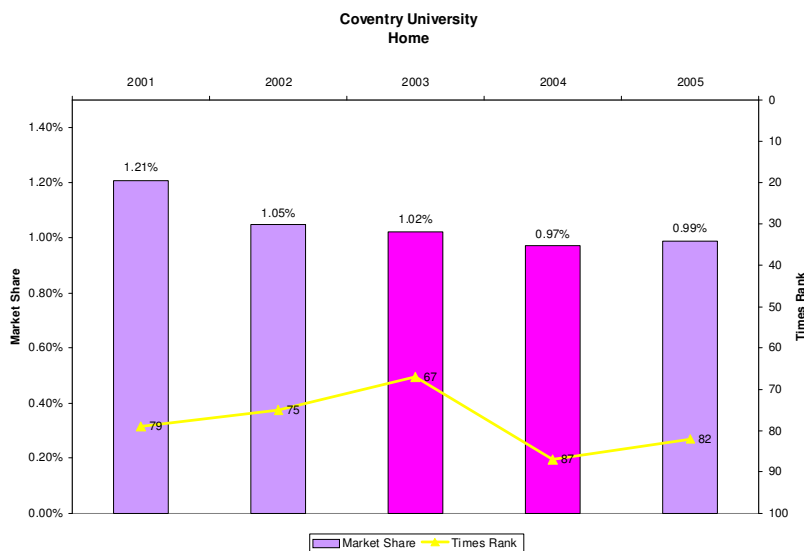
Coventry University fell in the Times league table from 67<sup>th</sup> in 2003 to 87<sup>th</sup> in 2004 – a decline of 20 places. A small decline in the domestic share was observed but no more than the decline in previous years when its rank improved. Overseas share fell when the rank improved and declined when it increased – a somewhat counter-intuitive result!

The charts below illustrate the data for domestic applications.

**Chart 3 University of Lincoln**



**Chart 4 Coventry University**



## **The Impact of the “Top 10”**

The wider evidence indicated that it is those applicants that aspire to admission to the top universities that are more likely to use league tables. It is also true that top 10 lists are frequently highlighted in newspapers and on web sites. In addition to the greater exposure from being in the top 10 it might be seen as conferring an additional status.

With more than 100 universities to choose from it is probable that applicants and others will create “ladders in their minds”<sup>17</sup> to divide universities into categories – the best, good, OK and so on. League tables seem designed to help prospects to categorize and sub divide universities and thus facilitate the creation of “category ladders”. Markets tend to stratify as they mature and the number of entrants grows.

To test the impact of the top 10, we isolated the seven universities that had either moved into or out of this group over the period 2003-2005. In six cases we found that entering or leaving this elite group had the predicted impact on applications. However, Durham had a slightly higher share before entering the top 10 than in either of the two subsequent years, when it was within the top 10 and improving its rank therein.

Our findings therefore suggest that elevation to the top had a consistent but modest impact on domestic market share.

For international markets there was weak but positive evidence to show that passing through key barriers such as top 20, top 10, etc, may have a positive impact but the results were not completely consistent. There was evidence that changes in the table had a stronger impact in London (the main UK destination for international students and a highly competitive region), than elsewhere.

### **4.2 Subject Level Analysis**

We obtained application data at subject level from 15 universities that enabled us to complete an analysis of the correlation between rank and application market share at a more granular level. As the number of institutions was small the results can only be reported as indicative (although many thousands of applications were involved). Within the analysis we made an attempt to factor in location, status and size. In particular we examined the data from the London based universities in relation to overseas students given London is the main UK destination.

We sampled five subjects that we felt represented a good selection in terms of being selecting and recruiting, established and new, academic/applied/vocational.

Overall the results were inconsistent and no clear evidence of cause and effect between league table position and subject market application share emerged.

The table is a summary of our findings. We make three general observations:

- The impact of a positive rise in the tables might be delayed for one cycle in the overseas market as such markets may have had lagging communication (less likely to be the case in 2007)
- For established universities a change in rank has less impact generally than for 1992 universities. Perhaps this is because the former has a stronger history and hinterland and thus its image is not shifted so much by a change in any one year. Consistent rises or falls can have an impact but even here the evidence was not very compelling.

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<sup>17</sup> See Reiss and Trout: Positioning - the battle for your mind

- Overall an impact between a change in ranking and share was more evident overseas than domestically

Columns 2 and 3 show the statistical relationship between rank and share taking data over 6 years. It was moderate in mechanical engineering and weak for other subjects.

Column 4 summarizes the dynamic impact of change in rank on share. Only in computing and chemistry can we report any clear evidence of a relationship. Of course universities might adapt their entry requirements in response to rank change and this would have a moderating impact on demand. The right-hand column summarizes the impact of entry or exit from the subject top 10. The evidence of a relationship was strongest in mechanical engineering, but weak in other areas (insufficient data available to evaluate for chemistry).

**Table 2**

<b>Subject Area</b>	<b>Domestic Correlation Share- Rank</b>	<b>International Correlation Share- Rank</b>	<b>Rank Movement Share Impact</b>	<b>Top 10 impact</b>
Mechanical Engineering	0.4	0.5	Overall weak	Positive impact home and particularly overseas
Nursing	0.1	0.0	Very weak	Being consistently in the top 10 correlated with strong performance but episodic membership of top 10 had no positive impact
Computer Science	0.1	0.0	Some positive evidence of a relationship – more so when a university rank rises than when it falls	Inconsistent pattern
Chemistry	0.6	0.3	Some positive evidence of a relationship – more so when a university rank rises than when it falls	No clear evidence
Architecture	0.0	0.0	Positive relationship but weak and inconsistent	Even those consistently in the top ten have highly fluctuating market shares. Entering top 10 for first time had a positive impact

### **Subject Rank – Student Quality Correlation**

We drilled down into the data to examine the relationship between league table rank at subject level and the quality of the admitted students in that subject (A-level points).

In many subjects there is a strong correlation between rank in the subject table and average A-level entry scores (in the following cycle). These are not independent variables as the A-level performance impacts on the league table position the following year. It is also highly likely that admissions tutors in higher ranked departments will set higher entry requirements, thus a virtuous circle is created.

**Table 3** Correlation - Rank and Student Quality (illustrative extract)

Business	0.8
Dance and Drama	0.7
Social Work	0.5
Chemistry	0.4
Law	0.3
English	0.3
Nursing	0.2

For **business** we found a very strong correlation of 0.8 suggesting that well-qualified students in this market (in which there are a lot of choice of provider) orientate to the leading schools in the table (or simply that the best schools are overtly selective).

In **nursing** we found the correlation to be very weak. This was expected as nursing students tend to come from the lower-middle classes/state schools (perhaps less credentials-oriented) and tend to enter HEIs in their local region (convenience being important). Also, the university attended probably makes little difference to the immediate career prospects of graduates

However some of the other results were counter-intuitive at first glance. Why would there be such a strong correlation between rank and entry quality for dance and drama? Is the place of study a status factor in this market? Why such a low correlation for chemistry, law and English?

In the case Law we feel that because entry is very competitive and as most students present strong qualifications, the variance across this market would be small. The same may be true for English which is mostly confined to the established research led universities. For chemistry a similar effect may be a play – in that there are fewer universities in the market and most are strong in terms of wider reputations. In this context league tables are simply one (small) factor in choice.

## 5 The Impact of UK Research Assessment Ratings

### 5.1 Background

In addition to evaluating the impact of *The Times* league table we also carried out analysis to test the undergraduate market impact of the ratings that universities received in the 2001 RAE. Research ratings and citations are an important component of many league tables and thus we felt it would be useful to investigate their impact as a single variable. Also, with the next RAE at the forefront of university minds, it was a topic area of investigation.

The key research questions that we have attempted to answer in this phase were:

- At subject level is there a relationship between RAE ratings and the average academic quality of students admitted?
- Did an improvement in RAE result in a subsequent improvement in student admission quality?
- What was the student quality impact of elevation to 5\* (world class)?

Due to changes in the way that achieved entry standards were recorded in 2002 (a reflection of the UCAS tariff system) it was not possible to easily compare the average quality of entry year-on-year. We therefore ranked the institutions in terms of their average entry quality for each year (entry quality rank), so as to be able to evaluate whether a change in RAE rating in 2001 had a *relative impact* on the quality of students recruited in the next cycle.

We sampled the same five subject areas that we felt were a good cross section.

- Computer Science
- Chemistry
- Nursing
- Architecture/Built Environment.
- Mechanical Engineering

### 5.2 Overall Correlation between RAE and student admissions quality

Using HESA data we examined the relationship between the RAE scores for each subject area and the average points achieved by the admitted students using the same definitions as the editors of the tables. We converted the RAE rating scales into a more linear scale to account for 3a and 3b and 5\* ratings. We accept that this form of scaling is open to criticism as a basis for measuring correlations and would therefore offer the following data on a cautionary basis.

We make no specific claims as to cause and effect in relation to these two variables but the data is interesting. Let us assume for the sake of argument that the table does represent some measure of causal relationship. It would suggest that those universities wishing to achieve strong student intake quality as measured by academic performance at entry would need to score highly in the RAE for some subjects such as civil engineering, law and chemistry but that in other subjects the RAE is irrelevant – namely veterinary, pharmacy, philosophy, etc.

It is those subjects at the foot of the table that need the most contextualising. For certain subjects the correlation is weak because all the active universities require AAA or similar for entry (e.g. veterinary, medicine etc). For nursing the weak correlation is a function of the market where entry to a course is not driven by academic standards and in most cases

students select a regional provider. Research has not been so well developed in this subject and many providers are post 1992 universities.

**Table 4 Correlation between RAE rating and student admission quality (A-level points)**

Subject	
Civil Engineering	0.8
Law	0.8
Chemistry	0.8
Land & Property Management	0.8
Russian & East European Languages	0.8
Environmental Science	0.8
Business Studies	0.8
Electrical and Electronic Engineering	0.8
Geology	0.8
Psychology	0.8
Dentistry	0.1
Medicine	0.1
Nursing	0.1
Philosophy	0.1
Middle & Eastern African Studies	0.1
Anatomy & Physiology	0.02
History of Art	0.02
Pharmacology and Pharmacy	0.00
Veterinary Medicine	0.00

### 5.3 Overall impact of a rise or fall in RAE rating on student quality

Our evidence indicates that the relationship between the RAE score and the quality of undergraduate admissions can be a positive one but that it varies DRAMATICALLY across the subject range.

We tracked admissions quality before and then after the 2001 RAE in the five subjects. Overall across the subjects we evaluated, research rating change had only modest impact on student admissions quality. Typically those departments that gained a higher grade were able to improve their intake quality in the next full cycle, relative to the set as a whole whereas those that declined in the RAE typically lost ground in the student quality stakes. However:

- The impact was neither strong nor consistent across the five subjects.
- Top universities were able to rise above a poor or declining RAE (we suggest as a result of being able to fall back onto their embedded and/or university-wide reputation).
- Interestingly, achieving the 5\* for the first time had no obvious positive impact on student quality and typically those elevated to this “world class” actually lost ground in terms of recruitment quality! Perhaps the academics in these departments were less focused on undergraduate domestic applicant conversion?

## 5.4 RAE Subject Impact

We now provide a little more detail on the results by subject:

### Chemistry

There was a stronger correlation between the 1996 RAE score and achieved entry quality in 2001 ( $R^2=0.7$ ) than between 2001 RAE and entry standards in 2002 ( $R^2=0.6$ ).

It is useful to identify and evaluate the outliers. In 2001 Queens Belfast has a 3b rating but much higher than predicted intake quality. This is primarily a function of its location. In 2002 two universities, one rated 5 and one 5\* under-performed in terms of quality of entry relative to their research credentials. Location and status may have played a part here too but we conclude that most probably these departments simply under-priced as student quality is to some extent a function of the entry requirements that are set.

There were 36 institutions for which an RAE score was available for both 1996 and 2001 and data on achieved entry standards for 2001 and 2002.

- 14 had the same rating for both 1996 and 2001
- 18 improved their rating
- 4 achieved a 5\* rating for the first time
- None received a lower rating in 2001 than in 1996

For those that experienced no change in RAE rating, allowing for one outlier that skewed the average results, typically their relative intake quality remained unchanged

For those whose RAE rating improved in 2001, there was typically a very modest improvement in entry quality, relative to the set as a whole (an average of 1-2 place improvement in rank place from a list of 36). We therefore conclude that those institutions that improved their RAE rating in 2001 were typically able to recruit a better quality entry cohort in 2002 relative to those who had not improved their RAE standing.

We hypothesized that those who received a 5\* rating in 2001 for the first time would show an increase in their relative entry quality standing as the department could have marketed itself as world class. However across the four institutions – University of Bristol, University of Durham, Imperial College and University College London, no clear pattern emerged. Imperial College and UCL showed no change, Durham improved its entry relative to the set but Bristol declined a little.

### Mechanical Engineering

There was a stronger correlation between the 1996 RAE score and achieved entry quality in 2001 ( $R^2=0.5$ ) than between 2001 RAE and entry standards in 2002 ( $R^2=0.3$ ). However, both of these correlations are weak.

Of those institutions receiving a 3a rating in 1996 Northumbria stands out as having a lower entry standard than the rest for 2001. In the same year those receiving grade 5 all had entry standards in excess of 23 points (just lower than BBC) except Liverpool which was lower at 21. Huddersfield stood out in 2001 as having the lowest entry standards amongst those with a grade 4.

There were 29 institutions for which an RAE score was available for both 1996 and 2001 and data on achieved entry standards for 2001 and 2002. Of these 29:

- 9 had the same rating for both 1999 and 2001
- 16 improved their rating

2 achieved a 5\* rating for the first time  
2 received a lower rating in 2001 than in 1996

For the group that experienced no change in RAE rating the average change in entry rank was very negligible - a marginal fall that could be assigned to the fact that most universities increased their RAE, so the credentials of these universities actually declined on a relative basis. Within this group there were two outliers with Nottingham Trent strongly improving the relative quality of its intake whereas University College London saw its relative entry quality fall.

The universities that improved their RAE rating in 2001 experienced a modest increase in their relative entry quality. There were three outliers. University of Northumbria significantly increased its relative entry quality as did the University of Edinburgh, whereas the University of Portsmouth's fell back. In 2001 Northumbria had attracted significantly lower quality students than its RAE would have predicted, so it may have taken stock of this and repositioned?

Cardiff University and King's College London both received a lower RAE rating in 2001 than in 1996. As predicted both of these institutions saw their admissions quality fall relative to their competitors.

We therefore conclude that those institutions who improved their RAE rating in 2001 were, on average, able to win a relatively better quality entry cohort in 2002 than those who had not improved their RAE standing and particularly those who saw their rating fall.

We hypothesized that those who received a 5\* rating in 2001 for the first time would show an increase in their relative entry quality standing as the department could have marketed itself as world class. However, the two institutions who achieved this in mechanical engineering (University of Liverpool and University of Southampton) both saw their relative student admissions quality decline somewhat.

## **Nursing**

No correlation between the RAE score and achieved entry quality was evident relating to either the 1996 and 2001 assessments.

We anticipated that nursing students and providers would have been less status conscious and research driven.

There were 18 institutions for which an RAE score is available for both 1996 and 2001 and data on achieved entry standards for 2001 and 2002.

Of these 18:

1 had the same rating for both 1999 and 2001  
16 improved their rating  
1 received a lower rating in 2001 than in 1996

As the great majority of universities improved their RAE rating in this subject analysis was more problematic. University of Liverpool experienced no change in RAE rating but marginally improved its relative entry quality in 2002.

Hull, Liverpool John Moores and Glasgow Caledonian Universities improved their student quality significantly relative to the market as a whole whereas both City University and Oxford Brookes University saw a significant decline. King's College London received a lower RAE rating in 2001 than in 1996 and the relative quality of its admissions fell also.

Given the pattern of change in RAE ratings it is hard to draw firm conclusions for nursing, but the evaluation did suggest a relationship between a relative change in RAE rating and a change in the relative quality of students.

## **Architecture**

The RAE unit of assessment relevant to Architecture is Built Environment.

There was a stronger correlation between the 1996 RAE score and achieved entry quality in 2001 ( $R^2=0.5$ ) than between 2001 RAE and entry standards in 2002 ( $R^2=0.3$ ).

In the 1996 RAE Edinburgh University stands out as having one of the highest entry standards at 28 points but only a grade 3 RAE rating. This pattern was also evident in the 2001 RAE chart. The University therefore over achieved in attracting high quality students, perhaps due to a longstanding reputation? De Montfort University received an RAE score of 4 in both assessments but had consistently lower quality admissions than others of the same rating.

There are 19 institutions for which an RAE score was available for both 1996 and 2001 and data on achieved entry standards for 2001 and 2002.

Of these 19:

5 had the same rating for both 1999 and 2001  
11 improved their rating  
3 received a lower rating in 2001 than in 1996

For those whose RAE rating improved in 2001, the average improvement in relative admissions quality was very small. Cambridge University, University College London and Queen's Belfast all received a lower RAE rating in 2001 than in 1996. UCL and Queen's both fell slightly in relative admissions quality whereas Cambridge stayed the same.

Overall the RAE had little observed impact in this subject but a consistent relationship between a relative change in RAE and relative entry quality was noted.

## **Computer Science**

There was a stronger correlation between the 1996 RAE score and achieved entry quality in 2001 ( $R^2=0.6$ ) than between 2001 RAE and entry standards in 2002 ( $R^2=0.5$ ).

In the 1996 RAE Glasgow University stood out in the 5\* rating group as having a much lower achieved entry relative to the set as a whole. This was also true for Dundee in the grade 5 group and Napier of those with grade 2.

There were 72 institutions for which an RAE score was available for both 1996 and 2001 and data on achieved entry standards for 2001 and 2002.

Of these 72:

29 had the same rating for both 1999 and 2001  
33 improved their rating  
3 achieved a 5\* rating for the first time  
3 dropped from a 5\* rating in 2001 from 1996  
4 received a lower rating in 2001 than in 1996

Even amongst those where the RAE rating remained unchanged significant changes in entry quality in the next cycle was evident. For those whose RAE rating improved in 2001, there

was an average decline in relative entry quality in the following cycle. However, on a case by case basis, the changes were significant but contradictory in direction!

Of the four institutions who received a lower RAE rating in 2001 all managed to improve their entry quality relative to the market as a whole.

In this subject there appears to be an inverse relationship between relative RAE changes in rating and subsequent change in relative entry quality.

Three institutions – University of Manchester, University of Southampton, and University of Edinburgh achieved a 5\* for the first time but no clear pattern or strong evidence emerged as to an impact on entry quality.

Of the three institutions that lost a 5\* rating, one improved their intake significantly, with the other two little or no change.

## 6 References and Further Reading

Asiaweek's report 'Asia's best universities'

<http://www.asiaweek.com/asiaweek/features/universities2000/>

Australian universities' directors of international forum (2005) *Survey of applications and acceptances*, semester 1, 2005, updated 21 February, mimeo.

Banker R D, Charnes A, Cooper W W (1984) 'Some models for estimating technical and scale inefficiencies in data envelopment analysis', *Management Science*, 30: 1078-92, cited in Emrouznejad, A (1995) *Data Envelopment Analysis Home Page*, <http://www.DEAzone.com>, last viewed: 25 February 2006.

Bannister, G. (1996). U.S. News' college rankings a valuable tool. *Indianapolis Business Journal*, 17(31), 6-7.

Bowden, Rachel (2000) 'Fantasy higher education: university and college league tables', *Quality in Higher Education*, Vol. 6, No. 1, pp 41-60.

Carrico, C S, Hogan, S M, Dyson, R G & Athanassopoulos, A D (1997) 'Data envelope analysis and university selection', *The Journal of the Operational Research Society*, 48(12), 1163–1177, cited in Dill *et al*, 2005.

Centrum für Hochschulentwicklung (Centre for higher education development) ranking of Germany's 250 universities <http://www.daad.de/deutschland/en/2.2.9.html>

Charnes, A, Cooper, W W & Rhodes, E (1978) 'Measuring the efficiency of decision making units', *European Journal of Operational Research* 2, 429-444, cited in Emrouznejad, A (1995) *Data Envelopment Analysis Home Page*, <http://www.DEAzone.com>, last viewed: 25 February 2006.

Dill, David D & Soo, Maarja (2005) 'Academic quality, league tables, and public policy: a cross-national analysis of university ranking systems', *Higher Education*, 49, pp 495–533.

Finnie, Ross & Usher, Alex (2005) *Measuring the quality of post-secondary education: concepts, current practices and a strategic plan*, Canadian Policy Research Networks, Kingston, Ontario, cited in Usher & Savino, 2006.

Gibbons, Michael, Limoges, Camille, Nowotny, Helga, Schwartzman, Simon, Scott, Peter & Trow, Martin (1994) *The new production of knowledge: the dynamics of science and research in contemporary societies*, Sage, London.

Hossler, D. (1998). Everybody wants to be number one: The effects of the media's college rankings. In G. I. Maeroff (Ed.), *Imaging education: The media and schools in America* (pp. 161-177). New York: Teachers College Press.

Hossler, D., & Foley, E. M. (1995). Reducing the noise in the college choice process: The use of college guidebooks and ratings. In R. D. Walleri & M. K. Moss (Eds.), *Evaluating and responding to college guidebooks and rankings* (pp. 21-30). New Directions for Institutional Research, no. 88. San Francisco: Jossey-Bass Publishers.

Ince M (2005) 'World university rankings methodology', *Times Higher Education Supplement*, 28 October, <http://www.thes.co.uk/worldrankings/story.aspx>

Jimmy Leach May 2, 2006 The informed choice

<http://education.guardian.co.uk/universityguide2006/story/0,,1761775,00.html>

*Macleans* rankings of Canadian universities <http://www.macleans.ca/universities/>

McDonough, P. M., Antonio, A. L., Walpole, M. B., & Perez, L. X. (1998). College rankings: Democratized college knowledge for whom? *Research in Higher Education*, 39(5), 513-537.

Marshall, J. *The Binary Divide* Revisted Barkers London

Michael S (2005) The cost of excellence. The financial implications of institutional rankings, *International Journal of Educational Management*, vol 19 no 5, pp 365-382.

Michael, Steve O (2005) 'The cost of excellence. The financial implications of institutional rankings', *International Journal of Educational Management*, vol 19 no 5, pp 365-382.

Monks, J., & Ehrenberg, R. G. (1999). U.S. News & World Report's college rankings: Why they do matter. [Electronic version]. *Change*, 31(6), 42-52.

Newman, John Henry (1959, first published 1853) *The idea of a university*, (1<sup>st</sup> ed) Image Books, New York.

Opinionpanel Research and The Knowledge Partnership (2007) Higher Expectations (to be published April 2007)

Princeton Review *Best colleges*

<http://www.princetonreview.com/college/research/rankings/rankings.asp>

Quacquarelli N quoted by Bawden in Guardian Unlimited 8/9/2005

Shanghai Jiao Tong University's institute of higher education's world academic ranking of universities <http://ed.sjtu.edu.cn/rank/2004/2004Main.htm> > in 2003

*Sunday Times*' rank of UK universities <http://www.timesonline.co.uk/section/0,,716,00.html>

The *Times Higher Education Supplement's* 'World university rankings'

<http://www.thes.co.uk/worldrankings/>

*TheCenter* ranking of top US research universities <http://thecenter.ufl.edu/research2003.html>

Turner, David (2005) 'Benchmarking in universities: league tables revisited', *Oxford Review of Education*, Vol. 31, No. 3, pp. 353-371.

*U.S. News* annual rankings of US colleges and universities

[http://www.usnews.com/usnews/edu/college/rankings/rankindex\\_brief.php](http://www.usnews.com/usnews/edu/college/rankings/rankindex_brief.php)

Usher, Alex and Savino, Massimo (2006) A world of difference: a global survey of university league tables *Journal of Higher Education Policy and Management* Volume 28 No 2

VAN RAAN A (2005) 'Challenges in ranking of universities', powerpoints of paper presented to the first international conference on world class universities, Jiao Tong University, Shanghai, 16-18 June.

Williams, Ross & Van Dyke, Nina (2004) *The international standing of Australian universities*, Melbourne Institute of Applied Economic and Social Research, The University of Melbourne, Parkville, <http://www.melbourneinstitute.com/austuniv/mainpaper.pdf>

Zentrum für Wissenschafts und Technologiestudien (Centre for Science and Technology Studies) *Champions league* [http://www.cest.ch/Publikationen/2004/four\\_rankings2002.pdf](http://www.cest.ch/Publikationen/2004/four_rankings2002.pdf)