International students' and employers' use of rankings:
a cross-national analysis

Forthcoming in Studies in Higher Education

Manuel Souto-Otero[a]* and Jürgen Enders[b]

[a]School of Social Sciences, Cardiff University, Cardiff, UK;
[b]School of Management, University of Bath, Bath, UK

The article examines, primarily based on large-scale survey data, the functionalist proposition that HE customers, students and employers, demand rankings to be able to adopt informed decisions on where to study and who to recruit respectively. This is contrasted to a Weberian 'conflict' perspective on rankings in which positional competition is key. The article concludes that rankings are better understood as instruments in positional competition for a minority of global players. They are a crucial source of information only for particular groups of international students and employers. The empirical analysis further suggests that the state of economic development, cultural aspects and the availability of top-ranked institutions in the home HE system are important factors in explaining differences in the importance of rankings across countries. We conclude by arguing that national governments and HE institutions should re-visit the assumption of a wide-spread importance of rankings for students and employers.

1. Introduction

This paper examines two central assumptions of the global higher education (HE) rankings literature, namely that rankings are the primary guide for international students' choices and that they are a central source of information for employers. The influential 'Berlin Principles' on ranking of HE institutions summarise the assumptions to be investigated, as they affirm that rankings 'respond to the demands from consumers for easily interpretable information on the standing of HE institutions' (UNESCO/ IHEP 2006, 1). Rankings are meant to satisfy a 'public demand for transparency and information that institutions and governments have not been able to meet on their own' (Usher and Savino 2006, 38). Students and employers are thus meant to use rankings when choosing educational destinations and when sorting out job applicants, respectively. International students are expected to be especially receptive to rankings (Hazelkorn, forthcoming), and have become a particular focus of attention given that in some countries they pay substantially higher fees than home students. The effects of rankings on HE institutional strategies and government policies are notorious (Marginson 2006; Enders 2015) and have even some led governments to adopt new initiatives to concentrate funding on a select number of universities. The meritocratic discourse (Young 1958) has extended from individuals to institutions. One of the main arguments to justify such competitive strategies is the need to attract students and ensure the employability of graduates. This raises questions regarding the use of rankings by students and employers on which we focus in this paper. We explore this claim using data from two large surveys, one of international students and one of employers. These are complemented with other secondary data sources that further inform our analysis.

Three questions are explored in this paper:

Q1 Do students and employers use rankings, and to what extent?

Q2 Do different groups of employers and students make differential use of rankings?

Q3 Which factors affect cross-country differences in the use of rankings among these users?

The remainder of this paper proceeds as follows: the next section provides a discussion of the literature on the use of rankings by students and employers and our conceptual perspectives based on functionalist theory and positional competition theory. Section 3 presents our research questions and expectations, the data and methods used and their limitations. Section 4 reports our findings. In the light of these, Section 5 discusses the results of our study and Section 6 concludes pointing at avenues for further research.

2. Literature review

2.1. Students' use of HE rankings

The study of the extent to which students use rankings to inform their application decisions is a growing though limited area of investigation, and empirical research has mainly focused on institutions on the 'front page' and students that attend or aimed to attend elite institutions. The dominant view is that rankings have strong effects: minor changes in an institution's position in the rankings can cause perceptible ebbs and flows in the number and quality of applicants (Monks and Ehrenberg 1999; Dichev 2001; Bowman and Bastedo 2009). Usher and Savino (2006) go further to argue that students compare world rankings with fee levels in order to judge the 'value for money' offered by institutions. Findlay et al. (2010) found that determination to attend a 'world-class' university was the most important factor for UK international students to study abroad while Griffith and Rask (2007) show some importance of league tables for high ability students.

The evidence becomes less univocal looking at a wider student population. McDonough et al.'s (1998) study of 200,000 freshmen in the USA reports a relative modest importance of rankings.

Evidence from Canada, making use of micro-data on university applications, suggests that media rankings do not play a prominent role in informing students (Drewes and Michael 2006). In the UK, Roberts and Thompson (2007) found little influence of ranking on applications: applications are primarily driven by location, local competitors' performance, breadth of the programme offer and the market fit of the course portfolio (see also Chen 2007).

This inconclusive evidence is partly due to certain limitations of the literature. First, many of the studies referenced do not differentiate between reputation and ranking position. Reputation, a general socially mediated belief about the status of a university, is not identical with ranking position. Reputation affected student choices before global rankings appeared, and the effect of reputation in decision-making should not be immediately equated with the effect of ranking information. Second, many studies have an insufficient focus on other factors than ranking positions that are of potential relevance for students – they basically ask about the importance of rankings. Dill and Soo's (2005) literature review proposes a wide range of other factors that can influence students' decision-making, such as availability of subject, teaching reputation, entry requirements, employment prospects for graduates, location, available support, social life and costs. Rankings could thus expected to be only part of a complex set of factors influencing students' decisions (Locke 2007).

Little attention has been paid to variations in the use of rankings by different groups of students. Roberts and Thompson (2007) and Gibbons, Neumayer, and Perkins (2013) find – based on the analysis of UK data – that those giving greater importance to rankings are likely to be a selective group of full-time, young, high achieving students from higher socio-economic backgrounds. Reported gender differences tend to be small (McManus 2002) while the importance of rankings may vary significantly by subject: in business administration the importance of rankings has, for example, been reported as higher than in anthropology (Chen 2007). Hazelkorn (forthcoming) suggests that rankings might be more important for postgraduate students who are more attuned to the value of their qualifications in the academic and non-academic labour market, although she does not test this.

Regarding our third area of interest, geographical variations in the importance of rankings, little work has been done. Only few studies use student micro-data to explore the importance of rankings (McDonough et al. 1998; Drewes and Michael 2006; Chen 2007) and those studies tend to focus on a single country with a bias towards Anglo-Saxon countries. Recent research suggests that classifications and rankings may not be used as extensively in the European HE Area countries as in other regions (Vercruysse and Proteasa 2012), but no empirical work has been done, to our knowledge, to systematically explore intervening factors that would explain cross-national or cross-regional variations.

Conceptual debates and case study work, by contrast, point to a range of factors potentially influencing cross-national variations in the use of rankings: educational expansion and degree of internationalisation in the home country, degree of economic development in the home country, the importance of rankings in the national labour market, position of national HE institutions in global rankings, and their acceptance in the national culture (Szelényi 2006; Usher and Savino 2006; Salmi and Saroyan 2007; Cremonini, Westerheijden, and Enders 2008; Bouwel and Veugelers 2010). This literature argues that as more students access HE and decide to go abroad to differentiate themselves from others, they will demand more information on the quality of international institutions. The labour market effects associated with studying in a top university have been reported to be more important for students from less economically developed countries (Perkins and Neumayer 2011), but may also be important for the achievement of top positions for students from highly developed countries (Brown, Lauder and Ashton 2011). Students from more developed countries may also take a wider set of considerations into account, such as exploration and self-development factors (Souto-Otero 2008; Waters, Brooks and Pimlott-Wilson 2011). The dearth of educational institutions in the home countries can be a motivational factor for many students to become internationally mobile (Rosenzweig, Douglas and Williamson 2006). Analogously, the lack of high-ranking institutions in the home country can lead international students to attach greater importance to rankings. Finally, Cremonini, Westerheijden, and Enders

(2008) argue that in collectivist societies, like East Asian societies, standing out even in a positive sense may not be perceived as desirable and that making ranking-based choices might be regarded as intimidating. In contrast, Teichler (2011) points at the traditionally important role of rankings in East Asia where they already played a role before the age of massification of HE and the rise of international rankings. The relationship of these factors with the use of rankings by students has not been examined using student survey data across a large sample of countries.

In sum, the literature shows inconclusive evidence and some shortcomings from the point of view of our research questions. The literature offers, however, interesting arguments for hypothesis building about the use of rankings and intervening factors that might come into play in understanding the use of rankings by students.

2.2. Employers' use of HE rankings

The literature on the importance of rankings for employers contains two strands: one based on the measurement of the economic returns to attendance to elite universities and one based on interviews with employers about their recruitment practices. Machin and Vignoles (2005) report an economic premium to graduation from elite universities in the USA and UK. However, Chevalier and Conlon (2003) found that attending a 'Russell group' university in the UK does not produce large economic returns. A study of the University of Sussex (2006) reports that only 25% of the UK employers approached cited league tables as their main source of information about quality and standards.

On the whole, Machin and McNally (2007) suggest, following their review of international studies, that there is evidence of some effect to attending elite institutions, but also that this is far from conclusive. Strathdee (2009) argues that research generally does not provide unequivocal support for an independent effect of the reputation of the university attended on employment and income, and advocates a more detailed analysis of the effects of reputation in different subjects: what one studies may be more important than where one studies when looking for a job (James et al. 1989). Morley and Aynsley's (2007) suggest that employers place more emphasis on traditional reputation than on league tables. A recent study among employers in nine European countries (Humburg, van der Velden and Verhagen 2013) identified the prestige or reputation of a university as one factor that employers take into account in recruitment decisions. Employers gave, however, much more weight to factors such as the match of field of study with the job tasks, relevant work experience, the type of degree, or study experience abroad.

No empirical research has been done on variations in the use of rankings by different groups of employers. Recent research on the link between education and the labour market has, however, underlined the value that blue chip multinational corporations attach to the attendance to a few 'world-class' universities (Brown, Lauder, and Ashton 2011). Nevertheless, it is not clear to what extent the views of these 'swot' companies (multinational companies, that take pride on the knowledge-intense requirements of their activities, and the opportunities they provide to their high achieving, globally recruited employees) could be extrapolated to other types of companies: the 'cots', or those companies that in the eyes of the swots provide shelter to a 'lower quality livestock' of graduates. Finally, we found no studies researching cross-national variations in the use of rankings by employers.

In sum, we know little about the role rankings might play in employers' graduate recruitment. Most studies do not pay attention to variations among employers or across countries. However, the work done on multinational companies points at some promising avenues for further empirical investigation that contrast with the notion that rankings are functionally required by employers at large.

2.3. Theoretical perspectives on the role of rankings and research expectations

How can we understand the empirical findings presented above? We build on two main schools of thought (functionalist and positional competition theory) in exploring the role of rankings. As

regards the extent of use of rankings and group differences, the 'functionalist' perspective argues that rankings emerged in co-evolution with educational expansion and internationalisation of student markets. The functionality of rankings is explained with reference to a lexicon of performativity, academic quality and meritocracy, market competition, information supply, and rational student choices (Berger 2001; Dill and Soo 2005; Usher and Savino 2006; Salmi and Saroyan 2007). Such logics and functionalities are meant to apply to the general population of HE users (Varghese 2008) that will use rankings to inform their decisions. As the HE world expands and becomes more complex in terms of institutional stratification and possibilities to study abroad, and more fluid in terms of student flows the need for information increases. Traditional social networks can no longer provide students or employers with the necessary information in such a setting. In a new bewildering world of global mass HE there is a greater need for 'consumer guidance' across the board (Altbach 2004).

An alternative proposition is based on the Weberian perspective of 'positional competition' (Parkin 1979). This explores the struggle for scarce resources, such as top academic credentials, that have value because they give access to preferential status and income streams relative to others in a hierarchy (Brown, Lauder, and Ashton 2011). The relative position in a hierarchy co-determines the benefits to be expected. In this perspective, rankings are expected to be beneficial to some groups of employers and students more than to others: those at the top of the hierarchy (Enders 2015), who engage in their particular exchange of top credentials for top jobs. This expectation builds on what Parkin (1979) defined as rules of 'closure' in the achievement of top positions in the labour market. It is not one's absolute levels of educational achievement, but relative achievement compared to others, that is of primary importance when allocating people to jobs; top credentials are expected to be the key to the very top jobs. The use of information about the ranking of institutions would decrease as one goes further down the list, as the sign value of the credential decreases disproportionally. For positional competition theory the sign (ranking) has become more important than the referent (a quality education), for functionalist theory the sign is an accurate enough representation of the referent.

Building on positional competition theory it could be expected that students who give particular importance to their university of destination (rather than the country of destination) would give more importance to rankings than other groups of students. Students in 'soft fields' (where performance is more difficult to measure at the time of recruitment (Hansen 2001) and where institutional rank may carry greater weight in the labour market), those in undergraduate education (as the number of competitors for jobs could be expected to be lower at the postgraduate level) might also be more likely to use rankings. Employers who are particularly large, internationalised and have a globalised, qualifications-intensive workforce would be expected to attach greater importance to rankings than other types of employers. They are the corporate elites that are able to use their market power to attract 'top talent' and sell it at a premium in the global marketplace (Brown, Lauder, and Ashton 2011) (see Table 1).

As regards cross-national variation, following functionalist theory, the need for ranking information could be expected to be positively, associated with mass HE and internationalisation in HE, because these factors increase the need for ranking information: employers faced with increasing numbers of applicants who have studied abroad, for instance, require more reliable information about the ranking of foreign universities.

According to positional competition theory, massification of HE and expansion of international student mobility are also expected to be positively associated with the importance of the use of rankings, but for different reasons: they could be expected to accentuate positional competition for top jobs, which may result in greater importance being attached to institutional positions in rankings as a tool for differentiation in the labour market.

Table 1. Research questions and expectations.

	Functionalist theory	Positional competition theory
(1) Overall use of rankings by international *students and employers*	Rankings will be a very important source of information	Rankings will be a very important source of information for *some* students and employers only
(2a) Differences in use by groups of *students*	Rankings will be similarly important for different types of international students	International students' use of rankings will be positively associated with: • studying 'soft fields' • attaching greater importance to the host institution than to the host country of study • being an undergraduate student
(2b) Differences in use by groups of *employers*	Rankings will be similarly important for different types of employers	Employers' use of rankings will be positively associated with: larger private, qualifications intensive, more globalised, and training intensive employers
(3) Cross-national variations by home country (international *students and employers*)	Country level use of rankings by employers will be positively associated with: • the degree of massification of HE • the degree of outbound international student mobility	Country level use of rankings by employers and students will be positively associated with: • the degree of massification of HE and • the degree of outbound international student mobility; • an individualistic culture in the home country additionally, it will be negatively associated with: • the level of economic development of the home country • the number of high-ranking institutions in the home country. Students' use will be positively associated with employers' use in the home country

Further expectations regarding cross-national variations can be derived from positional competition theory: the use of rankings by students and employers could be expected to be negatively associated with the level of economic development reflecting that more economically developed countries will, on average, provide more opportunities in the labour market than less economically developed countries. The use of rankings could also be negatively associated with the number of high-ranking institutions in the home country – as the signalling and differentiation value of a credential from a topranked international university could back home be expected to be lower where there are plenty of opportunities to gain credentials from internationally top ranked home institutions. For positional competition theory, a collectivist culture could be expected to be negatively associated with the importance of rankings since individualisation will increase open positional competition. Additionally, and although some international students may be looking to obtain a job in their host country, students' use of rankings would be expected to be positively associated with the importance that employers in the home labour market attach to rankings –

given that if rankings are important for employers they will be relevant for students in their positional competition for jobs (see Table 1).

3. Data and methods

The research questions and associated expectations derived from the literature are summarized in Table 1. The paper makes use of two main data sets, one from the i-Graduate International Student Barometer survey (ISB) 2009 and one from the Flash Eurobarometer 304 on graduate employability. Data from these surveys are used to explore question 1 (through descriptive statistics) and question 2 (through binary logistic regression). As regards question 3, we employ correlation analysis, using data from a range of other sources, described below.

The ISB 2009 subsample used in this paper contains data for 29,741 international students from over 150 countries who chose to study a variety of subjects in Germany, the Netherlands, the USA and the UK.[1] This data set thus provides a more comprehensive view of international students' use of rankings than previously exploited data sets. The survey contained questions on students' background (nationality, age, level and subject of study), and the factors students considered when deciding where to study (Tables A1–A3 for further information). The database allows for the exploration of differences in the importance attached to rankings by gender, study level, subject of study, whether the country or the institution was more important for the student in making the decision on where to study, and region of origin. It does not contain information on previous educational achievement or parental income, also identified as potentially relevant in the literature review. Students were surveyed within four months from the start of their course, which minimises recollection problems. Students are not required to complete the survey by their institutions, so the sample is selfselected, and results should not be generalised beyond our sample. The outcome variable that we use refers to 'position in ranking/league table' in general and does not allow to differentiate between national and international rankings.

The data on employers' use of rankings come from the Flash Eurobarometer 304 on graduate employability. This is a high quality data set that gathered samples for the 27 EU countries plus Norway, Iceland, Croatia and Turkey for employers with 50 or more employees that had recruited HE graduates in the past five years and/or were planning to recruit such graduates in the following five years. Samples were drawn according to simple random sampling procedures. Country samples varied between 100 employers for smaller countries to 400 employers for larger countries. The survey collected information on the needs and perceptions of graduate recruiters (Tables A1, A2 and A4 for further information). Between August and September 2010, 7036 chief human resource officers or chief executive officers (EU-27 countries = 6335) were interviewed by phone using simple random sampling procedures. The question that we employ as an outcome variable (Tables A1 and A2) referred to the importance that employers attached to recruiting graduates from national and/or international HE institutions with high international rankings/very good reputations. The survey question thus encompassed the dimensions of rankings and international reputation and can therefore be seen as providing an overestimation of the importance of rankings in recruitment.

In addition, we make use of international data sets frequently employed in HE studies. These include data from Eurostat (percentage of the population 25–34 having attained HE in 2010, indicating recent expansion of access to HE in Europe for EU-27 countries), the World Bank (GDP per capita 2010 in 'current USD' indicating level of countries' economic development), the Shanghai Academic Ranking of World Universities (Number of institutions in the Top 100 in the ranking, 2007) and UNESCO (Outbound international student mobility ratio per country, 2009; population 25 years or older who had completed tertiary education, indicating expansion of access to HE worldwide[2]) to explore factors associated with the importance students and employers from different countries assign to rankings, through correlational analysis (Tables A1 and A2 for further information). We further use data provided by the Hofstede's Centre on 'Cultural dimensions scores' rating countries on a collectivist/individualist scale.

Several indicators used are frequently employed in the literature to capture aspects such as level of

economic development (GDP), study levels (sub-BA, undergraduate, postgraduate taught, postgraduate research), gender, region of origin, fields of study (see Tables A1 and A2 in the appendix for further details). The operationalization and measurement of some variables deserves some additional comments:

- Qualifications intensity' in the workforce: This indicator provides data on the percentage of employees who are HE graduates in the organisations included in the European employer survey and is used as a proxy in the absence of more direct measures of 'knowledge-intensity'.

- Globalisation of the composition of staff: This is measured as the percentage of employees with HE degrees recruited from outside Europe. The indicator is thus restricted to staff with HE degrees – that are most relevant for our analysis – rather than all staff.

- Internationalisation of operations: This indicator captures the percentage of the day-to-day operations of the organisation involving dealings with people in or from other countries.

- On the job upskilling: While the indicator used is conceptually sound (indicating percentage of employees with HE degrees participating in further training), its two-year reference period is relatively long, and concentrates responses towards the higher values in this variable.

- Ownership: We include type of ownership (public/private), to check if results for these different sectors of employment differ, widening the perspective of positional competition theory that tends to focus on private sector companies alone (Brown, Lauder, and Ashton 2011).

- Expansion of access to HE: We use two indicators, one from Eurostat and one from UNESCO – for the analysis that includes non-EU countries. The indicator from UNESCO is broader than that from Eurostat, but was chosen due to data availability for the countries we covered. We chose to measure access as attainment rather than enrolment, as completion gives a better insight about the competition new students could expect in the graduate labour market that they aspire to enter upon completion of their studies.

- National culture: Hofstede's collectivism/ individualismscores rank countries on a scale from 0 (fully collectivist) to 100 (fully individualist), based on the response to the same attitude survey questions by essentially matched samples in each country for which the scales are available (initially 40 in the 1980s). In this scale, individualism pertains to societies in which ties with individuals are loose and individuals are expected to look after themselves or their immediate family. Collectivism pertains to societies with high levels of integration and cohesiveness within groups, which protect individuals in exchange for loyalty. This scale has been exhaustively tested and has been employed in a large number of studies (see Hofstede, Hofstede and Minkov 2010; for a discussion of common criticisms to Hofstede's cultural dimensions, see Hofstede 2002).

- National HEIs ranking position: While several international rankings are available, their degree of overlap is relatively high. Shanghai Academic Ranking is one of the most visible and established international HE rankings. The results reported made use of the top 100 institutions in the Shanghai Ranking. Additional analysis using the top 500 institutions yielded very similar results.

- Outbound international student mobility: The measurement of international student mobility presents a number of definitional issues reviewed by Kelo, Teichler, and Wächter (2006). Nevertheless, the indicator used gives a good indication of the level of full degree study abroad, while taking into account the degree of access to HE in a given

country.

The analysis undertaken is based on frequencies and cross-tabulations to ascertain the level of importance of rankings for students and employers in our samples. Second, binary logistic regression was employed to examine the factors that are associated with high levels of importance of university rankings for students and employers. The conversion of the outcome variable into a dichotomous variable enables a more straightforward interpretation of regression coefficients and is consistent with our interest in the argument of the 'decisive' importance of rankings for students and employers. For all regressions there are no high correlations between factors as revealed by VIF tolerance values. Regarding goodness of fit, the regression for employers yields a non-significant result for the Hosmer–Lemeshow test. The regression for students yielded significant results for all variables, which could be due to the large sample size (see Kramer and Zimmerman 2007). We report on statistical significance levels for the results associated with the student sample for reference only; given the way in which the sample was constructed and its size we do not aim to generalise our results beyond our sample. For the employer regression (which only covers EU countries), we included country dummy variables for each country. We do not report the coefficient estimates for those variables in the main text, but provide them in the appendix. As Pontusson, Rueda and Way (2002) note, the country dummies control for the values that observations for a country share by representing the variance unique to that country. This helps to control for omitted variable bias and facilitates the estimation and interpretation of coefficients by clearing out the influences of country-specific factors. For the student regression we used world regional dummies, which are reported.

4. Findings

4.1. Students' use of HE rankings

The functionalist perspective assumes that rankings are a crucial source of information for international students. Table 2 does not confirm this view: rankings are only number eight on the 'very important' category, after reputational and quality factors, and aspects such as fees or personal safety. Other factors such as course title, hardly a news grabber or institutional shaker, are of similar importance for students as ranking positioning. The data also suggest that students differentiate between ranking, reputation and quality. The correlations between ranking on the one hand and reputation for career purposes, departmental reputation, institutional reputation, quality of research and quality of teaching on the other hand are all below 0.5.

Table 2. Factors affecting international students' choice of destination.

	Very important (%)	Important (%)	Unimportant (%)	Very unimportant (%)
Quality of teaching	81	16	1	2
Reputation (value in my career of a qualification from this university)	64	30	4	2
Quality of research	56	33	8	3
Institution reputation	54	39	5	2
Department reputation	48	42	8	3
Personal safety	44	39	12	5
Cost of education (fees)	41	42	14	4
Position in ranking/league table	*37*	*44*	*15*	*4*
Specific course title	37	42	16	5
Country	36	49	12	3
Opportunities full-time work in this country following my studies	32	34	25	9
University scholarship/ bursary	31	35	27	8
Length of course	31	47	18	3
City/location	28	47	21	4
Social life	24	50	21	4
Opportunity for long-term employment/permanent residence	24	36	30	11
Personal recommendation	23	46	24	7
Reputation of an individual (academic supervisor and professor)	23	37	29	11
How people would behave towards me as an international student	19	39	30	12
Friends or family already living/ studying in the country	13	24	39	25
Immigration and visa application process	13	28	31	27

Source: IBS 2009, own calculations.

The international students' characteristics associated with rankings being a 'very important factor' informing their decisions are reported in Table 3. The results for gender suggest that rankings are more important for male students.

Consistent with the expectations of positional competition theory, the odds of reporting rankings as very important increase for students for whom the choice of host institution was more important than the choice of host country. However, postgraduate rather than undergraduate students and those studying in 'harder' fields attach more importance to rankings.

As regards cross-national and regional differences, rankings are seen as more important among Asian students and even more important among African students (reference category), raising questions regarding the relationship between individualism and ranking importance, an aspect to which we return below. Table 3 suggests that being from an economically developed region that has high numbers of leading institutions in global rankings and is more individualistic (Europe and North America), or being from Oceania decreases the odds of considering rankings as very important. Country level data (Table A5) shows that in Europe rankings are more likely to be considered very important in Southern and Eastern European countries (e.g. Romania and Bulgaria). Outside the EU, this pattern, where students from less developed countries pay more

attention to rankings, is roughly maintained.

Table 3. Binary logistic regression (odds ratios): rankings being 'very important' for international students.

	0.95*
Gender	(0.026)
Level of study	1.04**
	(0.020)
Field of study	0.96***
	(0.014)
Importance destination country vs. institution	1.33***
	(0.021)
Region Asia	0.86***
	(0.045)
Region Europe	0.55***
	(0.030)
Region Latin America and the Caribbean	0.81**
	(0.068)
Region Northern America	0.46***
	(0.033)
Region Oceania	0.43***
	(0.070)
Number of observations:	25016
LR χ^2 (9)	813.40

Source: IBS 2009, own calculations.
Note: Standard errors in brackets.
*$p < .1$.
**$p < .05$.
***$p < .01$.

Exceptions are the rich 'Asian tigers' (Taiwan, Singapore and Hong Kong), where rankings are highly important.

We explore how these patterns can be understood by examining the association between the importance of rankings for students (measured as the national average considering rankings 'very important') and five factors identified as driving the importance of rankings in our literature review. (The countries included in the analysis are all those presented in Table A5 of the appendix for which data are available.)

The results presented in Table 4 are based on statistical correlations at the national level. The results are thus suggestive of associations and should be interpreted with caution, but provide a number of interesting insights.

Table 4. Pearson correlations between importance of rankings for students and associated factors in 45 countries.

	Individualistic Culture	Number of HEIs in Top 100 ranking	Economic development	HE expansion	Outbound international student mobility
Importance ranking to students	−0.742	−0.259	−0.534	−0.361	0.010
Sig (2-tailed)	0.000	0.086	0.000	0.017	0.951
N	44	45	45	43	42

Data sources: Individualistic Culture: Hofstede's centre (http://geert-hofstede.com/national-culture.html); Number of HEIs in top 100: Shanghai Academic Ranking of World Universities; Economic Development: World Bank; HE expansion: UNESCO; Outbound international student mobility: UNESCO.

As expected by both functionalist and positional competition theory, the correlation is negative and strong for the state of expansion of students' home country's HE system. The degree of outbound student mobility from the home country is positively associated with students' use of rankings, but the relationship is not statistically significant.

As expected by positional competition theory, the correlation is negative for the degree of economic development in the students' home country and the number of high-ranking institutions in their home country. The lack of opportunity to study at home and at national high-ranking universities is a motivational factor for students to look at rankings.

Unexpectedly for positional competition theory, a more collectivist culture is associated with greater importance of rankings for students. This pattern holds for global regions, with African and Asian students being more likely to use rankings, as well as within the EU.

4.2. Employers' use of HE rankings

Table 5 looks at the importance of rankings for employers in the EU-27 countries. In the vast majority of countries, rankings are very important to less than a fifth of employers. Again, the importance of rankings is highly stratified across users, and more limited than suggested by functionalist theory.

Table 5. National differences in the importance of international rankings for employers.

	Very important (%)	Important (%)	Unimportant (%)	Very unimportant (%)	DK/NA[a] (%)	N
Cyprus	40.6	35.6	14.9	8.9	0.0	101
Greece	32.5	35.5	19.5	11.5	1.0	200
Malta	29.0	29.0	29.0	9.0	4.0	100
Latvia	24.3	26.7	30.2	16.3	2.5	202
Ireland	20.5	38.0	27.0	10.5	4.0	200
Romania	26.4	34.3	23.4	12.9	3.0	201
Slovakia	25.1	27.1	34.0	12.3	1.5	203
Portugal	22.1	33.8	31.9	8.8	3.4	204
Bulgaria	18.9	39.3	29.9	9.5	2.5	201
Poland	18.9	34.0	30.3	15.1	1.7	403
Spain	18.2	24.9	33.2	21.7	2.0	401
Lithuania	13.5	30.0	36.5	18.0	2.0	200
Italy	12.0	34.0	32.5	19.5	2.0	400
Luxembourg	11.9	27.7	44.6	13.9	2.0	101
Czech Republic	11.4	18.8	36.6	32.2	1.0	202
Slovenia	11.3	34.3	39.7	13.7	1.0	204
Belgium	10.9	23.4	39.8	23.4	2.5	201
Hungary	9.4	29.7	33.7	24.8	2.5	202
UK	10.0	26.2	36.2	25.8	1.8	400
Netherlands	9.0	27.5	43.0	18.0	2.5	200
Estonia	8.5	21.0	40.0	28.0	2.5	200
Austria	5.5	22.0	50.0	22.0	0.5	200
Denmark	4.4	22.9	45.4	26.8	0.5	205
France	3.7	19.3	28.0	47.8	1.2	404
Germany	1.8	18.0	54.5	25.2	0.5	400
Finland	8.5	22.5	54.5	14.5	0.0	200
Sweden	6.0	15.0	52.0	26.5	0.5	200
EU-27	11.3	26.1	36.9	24.1	1.6	6,335

Source: Flash Eurobarometer 304, own calculations.
[a] Do not know/no answer.

The characteristics of those employers who show greater odds of considering rankings highly important are remarkably consistent with the expectations of positional competition theory. They are larger work organisations, with more internationalized operations, those that are more qualifications intensive, and that provide greater opportunities for on the job up-skilling and have more globalised composition of staff (Table 6).

Amongst these variables, the size of the effect of globalisation of staff is particularly high. It is interesting to note that public employers show greater odds of considering rankings highly important than private companies.While positional theory has concentrated in the analysis of the private sector (Brown, Lauder, and Ashton 2011) employers in the public sector have greater odds of attaching high levels of importance to rankings than their private sector counterparts.

Country effects detected by the country dummy variables (provided in the appendix) are large, indicating – as expected by positional theory – that national contexts matter. When compared to Belgium (baseline) the odds ratios to indicate rankings as very important information for recruitment are much higher in a number of countries primarily located in Southern and Eastern Europe. Small, less economically developed and more collectivist Eastern and Southern European countries thus dominate the top of the list. For employers in Central and Northern European countries rankings are much less often highly important. It should be noted that for a number of countries the results are not statistically significant (see Table A6).

Table 6. Binary logistic regression (odds ratios): international rankings being 'very important' for employers' recruitment decisions.

Base outcome: did not mention	
Size	1.27**
	(0.11)
Type of ownership (private contrasted to public – public base)	0.60***
	(0.11)
Internationalisation of operations	1.19***
	(0.03)
Qualifications intensity in the workforce	1.11***
	(0.02)
On the job upskilling	1.09*
	(0.05)
Globalisation of the composition of staff	1.25***
	(0.05)
Number of observations:	5505
LR χ^2 (33)	1074.634

Source: Flash Eurobarometer 304, own calculations.
Note: Standard errors in brackets.
*$p < .1$.
**$p < .05$.
***$p < .01$.

Table 7 correlates, for EU-27 countries, importance of rankings for students (measured as the national average considering rankings 'very important') and employers (measured as the national average considering rankings 'very important' for recruitment), with five factors identified as driving the importance of rankings in our literature review. The results are very similar for both of these groups: direction of the relationship, strength of correlation and level of significance are similar for all factors.

As expected by positional competition theory, the results yield significant correlations between the importance given to rankings by students on the one hand and the importance of rankings to employers on the other hand (see also Figure 1 –where numbers indicate percent deviation from the average).

Both, employers' and students' importance of rankings, are significantly correlated with the number of home country HEIs in the Top 100 in rankings, with culture in the home country, and with economic development. While the negative signs for the number of top 100 institutions in the country and for economic development are consistent with positional competition theory, the positive relationship with culture is – as already given in Table 4 – contrary to the expectations of positional theory: greater collectivism is associated with higher importance to rankings.

Correlations between the importance given to rankings by students and employers and the state of HE expansion and outbound international student mobility are not significant. Two of the set of variables presented are strongly (above 0.5) correlated among each other: rankings' importance to employers and culture (−.564), and economic development and outbound international student mobility (.525).

Table 7. Pearson correlations between importance of rankings for students and international rankings for employers and associated factors EU-27.

	Ranking importance to employers	Individualistic Culture	Number of HEIs in Top 100 ranking	Economic development	HE expansion*	Outbound international. student mobility
Importance ranking to students	0.675	−0.647	−0.591	−0.369	−0.199	0.157
Sig (2-tailed)	0.000	0.001	0.001	0.058	0.319	0.435
N	27	24	27	27	27	27
Importance ranking to employers		−0.564	−0.402	−0.406	−0.058	0.279
Sig (2-tailed)		0.004	0.037	0.036	0.773	0.159
N		24	27	27	27	27

Data sources: Ranking importance to employers: i-Graduate; Individualistic Culture: Hofstede's centre (http://geert-hofstede.com/national-culture.html); Number of HEIs in too 100: Shanghai Academic Ranking of World Universities; Economic Development: World Bank; HE expansion: Eurostat; Outbound international student mobility: UNESCO.
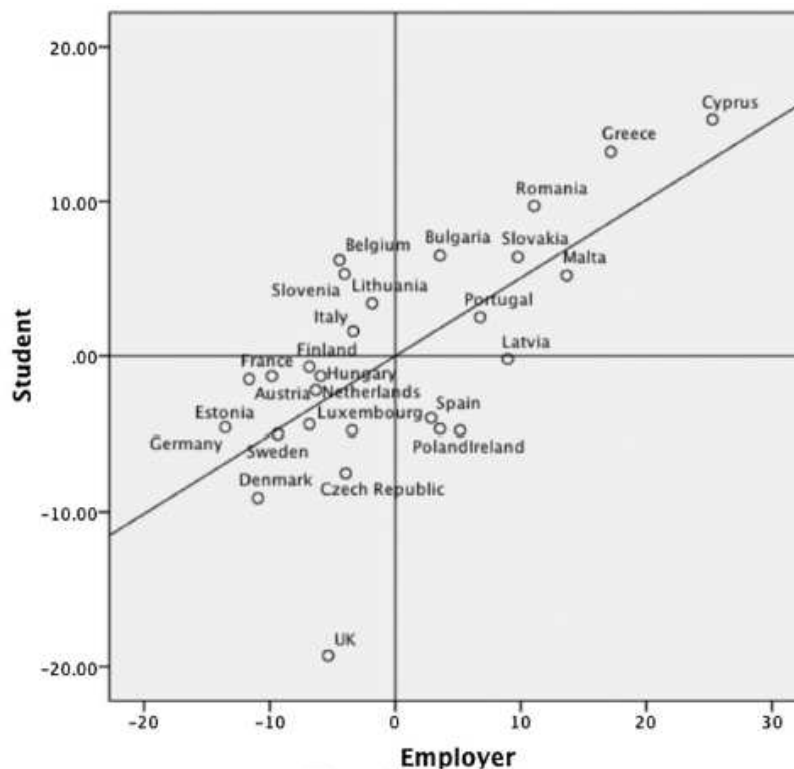
Figure 1. Levels of 'high importance' of rankings for international students (by country of origin) and employers in EU countries. Sources: Own elaboration from IBS 2009 and Flash Eurobarometer 304.

5. Discussion

HE rankings are among other things being used to justify political and institutional decisions under the assumption that they are key sources of information for students and employers. Functionalist accounts argue that they provide a tool to create hierarchies under a meritocratic principle, by making universities performance more transparent and enable students and employers to make better decisions.

Such functionalist accounts of the overall influence of rankings present them as informing and influencing students and employers to a large extent. Our analysis of international student and employer micro-data suggests differently: rankings are not as important as they are often portrayed to be in informing and influencing these potential users. Other factors, such as reputation, fee levels or quality of teaching, are more important than rankings; even if we look at the student target groups that are expected to be more responsive to rankings (international students) and use indicators that are likely to overestimate the effects of rankings on employers. This may be because students and employers do not accept the sign (rankings) as an accurate measure of the referent (quality education) or because students – especially those who are not at the top of the performance and aspirations dyad – adopt diversified strategies to stand out in the labour market. The positional competition that the logic of investment stimulates can be played in more than one way, for instance choosing certain subjects or places where current or future employment opportunities are likely to be good, rather than highly rated universities. International students may follow personal development 'consumption' rather than investment logics in deciding where to study. They may also follow other signals, institutional reputations or information obtained through social networks rather than ranking logics. Our results also suggest

that regional and country effects are large, which raises questions regarding the extent to which HE is globalised, de-territorialised or borderless.

Overall, positional competition theory is more informative than functionalist theory to explain who makes use of rankings. Our analysis of students' and employers' use of rankings shows the segmentation prevalent in both groups in our sample. Employers with greater odds of placing high importance on rankings are larger, qualifications intensive, more globalised in terms of operations and staff and more training intensive work organisations, all of which is in line with expectations based on positional competition theory. The effects of type of ownership (public/ private) is also significant. Students with greater odds of placing high importance on rankings attached greater importance to the institution than to the host country. The odds increase – against expectations- at more advanced levels of HE, and also for graduates from 'harder' fields compared to the humanities and social sciences – which deserves further investigation. Students from Africa and Asia exhibit greater odds of placing high importance on rankings than students from other regions, as do males compared to females. Both employers and students who exhibit greater odds of attaching high importance to rankings in our sample therefore have particular profiles.

It seems doubtful to us that rankings could inform HE 'customers' more generally, unless we accept a number of unfeasible meritocratic assumptions; a 'meritocratic paranoia in which there is only one way to measure 'value', linked to academic performance as defined by rankings. A first assumption is that stakeholders are bestowed with the capacity and inclination to review and understand rankings and act accordingly. For most employers, the differences between the National Yang Ming University, Southern Methodist University and Swansea University (all in the top 500 of the SJT ranking 2012) will, however, be opaque. How many of them will be interested in taking the time to check the last edition of one or more of the available rankings and understand them? Employers collect a wealth of information about candidates; the institution attended is only one factor they consider. Teichler (2011) also raised questions regarding whether students have the energy, interest or skills to meaningfully interrogate league tables. Ball et al. (2002) show, for example, that the understanding of national rankings varies significantly by social class, and students often guess the ranking position of universities wrong. The current proliferation of rankings may simply add to the confusion of casual 'users'.

A second assumption is that the 'meritocratic' criteria put forward by rankings will be accepted internationally. Yet, how likely is this in the light of the current geographic biases of rankings? Our analysis shows that rankings inform a minority of international students only. International rankings – those on which the Eurobarometer focused –cover only a few institutions per country. Can we assume that, for example, German and French employers will accept such ranking orders as a prime criterion in recruitment, overlooking the in-depth knowledge they have of national institutions and their social networks? Our analysis suggests differently.

A third assumption is that 'rankings beat reputation' because students and employers really want a meritocracy based on annual performance measurement. HE reputational hierarchies have worked because they are manageable (the institutions at the top are few and highly visible) and relatively stable, which offers certain advantages for users. They do not need to be checked every May. Many students will prefer a large degree of certainty in the HE hierarchy rather than a fluid meritocracy because degrees are credentials for life, and individuals will likely prefer that the positioning of universities does not vary too much too quickly. Some authors suggest that over time, rankings increasingly become reputation, rather than reputation being an independent indicator (Bastedo and Bowman 2010; Enders 2015). In our sample, students still make differential use of reputation and rankings, and perceptions of institutional reputation rate higher than ranking information. In fact, the large majority of international students in our sample from the UK and USA, countries with highly stratified HE systems and a long ranking tradition, do not consider rankings 'very important'.

When we move on to the correlational analysis at the national level, using data for European countries, the results suggest a tight link between the importance of rankings for international students and the importance of rankings for employers in their home country. Our findings also

reveal a significant (negative) correlation of the importance of rankings to students and employers with the presence of national HE institutions that rank at the top in the global rankings and the degree of national economic development, as expected by positional competition theory. On the whole, positional competition theory is more powerful in predicting national variations than functionalist theories, and can also better accommodate why employers' and students' use of rankings is interrelated.

Contrary to what was expected by functionalist and positional competition theories, expansion of HE at home or the degree of international mobility of the student population are not significantly associated with the importance of rankings for international students in our (EU-27) sample - although expansion of HE became significant in the sample of 45 countries. The results for culture are also surprising from the point of view of positional competition theory, given that it is in more collectivist cultures – according to Hofstede's index – that rankings are more important. The argument that greater collectivism could lead to a lesser effect of rankings seems to ignore the importance that is often attached to educational performance in collectivist societies (Teichler 2011). In individualist societies, the 'consumption' element of international HE for self-development may be stronger than in collectivist societies that may be more concerned with how the departure of a member of the community can help that community – or family – in the future.

For Europe, countries reporting high importance for employers and students tend to be Southern and Eastern European, although there are also some exceptions to this rule. In Central and Nordic European countries, the importance attached to rankings is lower than average. In the UK the importance attached to rankings by students is particularly low. This geographical distribution can be mapped to different 'welfare regimes' (Esping-Andersen 1990), and deserves further research: in countries with less developed welfare states, such as Southern (Ferrera 1996) and Eastern European countries, students and employers tend to attach greater importance to rankings, whereas in countries where welfare regimes are more generous (central Europe and specially Nordic countries), the importance of rankings is lower. In liberal countries (UK, Ireland) importance is low for students, and moderate for employers.

6. Conclusion

Our study shows that research on the use of rankings by students and employers can gain some further analytical purchase by applying positional competition theory and by empirically investigating characteristics of users as well as national factors affecting the use of rankings. Our results suggest that the ranking game has, so far, been more about positional competition struggles than about widely spread information use.

Some of our findings point at a more complex set of explanatory factors in the use of rankings than a universalistic perspective on positional competition theory is likely to cover. Rather than following ranking logics, usersmay follow labour market signals or consumption logics. Our findings also support the thesis of differential use of rankings by employers, being of high importance for 'swot' companies while other employers seem to rely more on local knowledge and affiliations that point at network theory as a useful tool in understanding their graduate recruitment. Our findings as regards the role of 'cultural factors' question a simple logic along a collectivist/individualist dimension and suggest that links with theories of 'welfare state regimes', that take into account a wider set of cultural and institutional factors within nations, deserves further empirical exploration.

While we could employ unusually rich and big international data sets, our findings need to be interpreted with caution given some data limitations. As regards international student data, our findings cannot be generalised beyond our self-selected sample and our data set does not provide information on student characteristics that would allow to test one of the assumptions derived from positional competition theory: the preferential use of rankings by high achieving students with high socio-economic backgrounds. This is an aspect for future research. As regards employers' data, we are confined to Europe and our data are likely to overestimate the use of rankings (since the survey does not discriminate rankings from reputation).

Our study has contributed to filling the gap in understanding the factors influencing the differential use of rankings in positional competition. Further in-depth research is needed to contextualise the competitive logics at work in the global HE landscape and how they interact with rankings providing 'social order' for their potential users.

Disclosure statement
No potential conflict of interest was reported by the authors.

Notes
1. The survey is undertaken by i-Graduate on behalf of a large number of universities in the four countries. The analysis cannot identify the country of destination under the rules of data access agreed with the organization from which the data were obtained.
2. These UNESCO data on the expansion of higher education – rather than Eurostat data on recent expansion – are used in Table 4 given the inclusion of non-European countries in the analysis reported in that table.

References

Altbach, P. 2004. "Higher Education Crosses Borders: Can the United States Remain the Top Destination for Foreign Students?" Change: The Magazine of Higher Learning 36: 18–25.

Ball, S., J. Davies, M. David, and D. Reay. 2002. "'Classification' and 'Judgement': Social Class and the 'Cognitive Structures' of Choice of Higher Education." British Journal of Sociology of Education 23 (1): 51–72.

Bastedo, M. N., and N. A. Bowman. 2010. "The U.S. News and World Report College Rankings: Modeling Institutional Effects on Organizational Reputation." American Journal of Education, 116: 163–83.

Berger, M. 2001. "Why the USNWR Law School Rankings are Both Useful and Important." Journal of Legal Education 51 (4): 487–502.

van Bouwel, L., and R. Veugelers. 2010. Does University Quality Drive International Student Flows?. Discussion Paper #7657, London: Centre for Economic Policy Research.

Bowman, N. A., and M. Bastedo. 2009. "Getting on the Front Page: Organizational Reputation, Status Signals, and the Impact of U.S. News and World Report on Student Decisions." Research in Higher Education 50: 415–36.

Brown, P., H. Lauder, and D. Ashton. 2011. The Global Auction. The Broken Promises of Education, Jobs and Incomes. New York: Oxford University Press.

Chen, L. H. 2007. "Choosing Canadian Graduate Schools from Afar: East Asian Students' Perspectives." Higher Education 54 (5): 759–80.

Chevalier, A., and G. Conlon. 2003. Does It Pay to Attend a Prestigious University? London: Centre for the Economics of Education.

Cremonini, L., D. Westerheijden, and J. Enders. 2008. "Disseminating the Right Information to the Right Audience: Cultural Determinants in the Use (and Misuse) of Rankings." Higher Education 55: 373–385.

Dichev, I. 2001. "News or Noise? Estimating the Noise in the U.S. News University Rankings." Research in Higher Education 42 (3): 237–266.

Dill, D. D., and Soo, M. 2005. "Academic quality, league tables, and public policy: A cross-national analysis of university ranking systems." Higher Education 49: 495–533.

Drewes, T., and C. Michael. 2006. "How Do Students Choose a University? An Analysis of Applications to Universities in Ontario, Canada." Research in Higher Education 47: 781–800.

Enders, J. (2015) "The Academic Arms Race : International Rankings and Global Competition For World-Class Universities" In The Institutional Development of Business Schools, edited by A. W. Pettigrew, E. Cornuel, and U. Hommel, 155–175. Oxford: Oxford University Press.

Esping-Andersen, G. (1990) The Three Worlds of Welfare Capitalism. Cambridge: Polity Press.

Ferrera, M. 1996. "The' Southern Model' of Welfare in Social Europe." Journal of European Social Policy 6 (1): 17–37.

Findlay, A. M, R. King, A. Geddes, F. Smith, M. A. Stam, M. Dunne, A. Skeldon, and J. Ahrens. (2010). Motivations and Experiences of UK Students Studying Abroad. BIS Research Paper No. 8. Dundee: University of Dundee.

Gibbons, S., E. Neumayer, and R. Perkins. 2013. "Student Satisfaction, League Tables and University Applications." SERC Discussion Paper 142, September 2014.

Griffith, A., and K. Rask. 2007. "The Influence of the US News and World Report Collegiate Rankings on the Matriculation Decision of High-Ability Students: 1995–2004." Economics of Education Review 26: 244–55.

Hansen, M. N. 2001. "Education and Economic Rewards: Variations by Social-class Origin and Income Measures." European Sociological Review 17 (3): 209–231.

Hazelkorn, E. Forthcoming. "The Effects of Rankings on Student Choices and Institutional Selection." In Access and Expansion Post-Massification: Opportunities and Barriers to Further Growth in Higher Education Participation, edited by B. W. A. Jongbloed, and J. J. Vossensteyn. London: Routledge.

Hofstede, G. 2002. "Dimensions do not exist: A reply to Brendan McSweeney." Human Relations 55 (11): 1355–61.

Hofstede, G., G. J. Hofstede, and M. Minkov. 2010. Cultures and Organizations: Software of the Mind. New York: McGraw Hill.

Humburg, M., R. van der Velden, and A. Verhagen. 2013. The Employability of Higher Education Graduates: The Employers' Perspective, Final report. Brussels: European Union.

James, E., N. Alsalam, J. C. Conaty, and T. Duc-Le. 1989. "College Quality and Future Earnings: Where Should You Send Your Child to College?" The American Economic Review 79 (2): 247–52.

Kelo, M., U. Teichler, and B. Wächter, eds. (2006). EURODATA: Student Mobility in European Higher Education. Lemmens: Bonn.

Kramer, A. A., and J. E. Zimmerman. 2007. "Assessing the Calibration of Mortality Benchmarks in Critical Care the Hosmer–Lemeshow Test Revisited." Critical Care Medicine 35 (9): 2052–56.

Locke, W. 2007. Ranking Universities: Criteria and Consequences. London: Centre for Higher Education Research and Information.

Machin, S., and S. McNally. 2007. Tertiary Education and Labour Markets. Paris: Organisation for Economic Cooperation and Development.

Machin, S., and A. Vignoles. 2005. What's the Good of Education. Princeton, NJ: Princeton University Press.

Marginson, M. 2006. "Dynamics of National and Global Competition in Higher Education." Higher Education 52: 1–39.

McDonough, P. M., A. L. Antonio, M. B. Walpole, and L. X. Perez. 1998. "College Rankings: Democratized Knowledge for Whom?" Research in Higher Education 39 (5): 513–37.

McManus H. M. 2002. Student Use of Rankings in National Magazines in the College Decision making Process. Knoxville: The University of Tennessee.

Monks, J., and R. G. Ehrenberg. 1999. The Impact of U.S. News & World Report College Rankings on Admissions Outcomes and Pricing Policies at Selective Private Institutions. (Working Paper #7227). Washington, DC: National Bureau of Economic Research.

Morley, L., and S. Aynsley. 2007. "Employers, Quality and Standards in HE: Shared Values and Vocabularies or Elitism and Inequalities?" Higher Education Quarterly 61 (3): 229–49.

Parkin, F. 1979. Marxism and Class Theory. A Burgeois Critique. London: Tavistock.

Perkins, R., and E. Neumayer. 2011. Geographies of Educational Mobilities: Exploring Unevenness, Difference and Changes in International Student Flows. Working Paper, London: School of Economics & Political Science.

Pontusson, J., D. Rueda, and C. R. Way. 2002. "Comparative Political Economy of Wage Distribution: The Role of Partisanship and Labour Market Institutions." British Journal of Political Science 32 (2): 281–308.

Roberts, D., and L. Thompson. 2007. University League Tables and the Impact on Student Recruitment, Reputation Management for Universities. Working Paper Series No. 2. Leeds: The Knowledge Partnership.

Rosenzweig, M. R., A. I. Douglas, and J. G. Williamson. 2006. "Global Wage Differences and International Student Flows." Brookings Trade Forum, Global Labor Markets? 57–86. Accessed from https://muse.jhu.edu/journals/brookings_trade_forum/

Salmi, J., and A. Saroyan. 2007. "League Tables as Policy Instruments: Uses and Misuses." Higher Education Management & Policy 19 (2): 1–38.

Souto-Otero, M. 2008. "The Socio-economic Background of Erasmus Students: A Trend Towards Wider Inclusion?" International Review of Education 54 (2): 135–154.

Strathdee, R. 2009. "Reputation in the Sociology of Education." British Journal of Sociology of Education 30 (1): 83–96.

Szelényi, K. 2006. "Student Without Borders? Migratory Decision-Making Among International Graduate Students in the U.S." Knowledge, Technology & Policy 19 (3): 64–86.

Teichler, U. 2011. "Social Context and Systemic Consequence of University Rankings: A Meta Analysis of the Ranking Literature." In University Rankings: Theoretical Basis, Methodology and Impacts on Global Higher Education, edited by J. C. Shin, R. K. Toutkoushian, and U. Teichler, 55–73. London: Springer.

UNESCO/IHEP. 2006. "International Partnership Issues Groundbreaking Principles on Ranking of Higher Education Institutions." Accessed June 3, 2012, from http://www.che.de/downloads/Berlin_Principles_IREG_534.pdf

University of Sussex School of Education. 2006. "Needs of Employers and Related Organisations for Information About Quality and Standards of Higher Education." Report to HEFCE, UK.

Usher, A., and M. Savino. 2006. A World of Difference: A Global Survey of University League Tables. Toronto: Educational Policy Institute.

Varghese, N. V. 2008. Globalisation of Higher Education and Cross-border Student Mobility. Paris: UNESCO, IIEP.

Vercruysse, N., and V. Proteasa. 2012. Transparency Tools Across the European Higher Education Area. Flemish Ministry of Education and Training. Accessed from http://www.ehea.info/Uploads/%281%29/brosura_v1_v12_vp_120419_text.pdf

Waters, J. L., R. Brooks, and H. Pimlott-Wilson. 2011. "Youthful Escapes? British Students, Overseas Education and the Pursuit of Happiness." Social & Cultural Geography 12 (5): 455–69.

Young, M. 1958. The Rise of Meritocracy. London: Transaction Publishers.

Appendix

Table A1.   Data sources and variable definition.

Data source	Variable	Definition and categories
Outcome variables [and research question 1]		
IBS 2009	Ranking importance in international students' decision-making	'How important were the following factors when deciding where to study?' *Position in ranking/ league table* – very unimportant/unimportant/ important/very important/ not applicable (coded: very important=1; other categories=0)
Eurobarometer 304	Ranking importance in employers' recruitment decision-making	'How important it is for you to employ graduates from HE institutions with high international rankings (with good reputations)?' –very important/ important/ unimportant/ very unimportant (coded: very important = 1; other categories = 0)
Covariates: regression analysis (students) [research question 2]		
IBS 2009	Study level	Certificate or similar; undergraduate; postgraduate taught; postgraduate research
IBS 2009	Field of study	23 initial categories were recoded into 4 categories: hard sciences; architecture and engineering; social sciences; humanities.[a]
IBS 2009	Importance of country vs. institution in the selection process	Country more important; do not know; institution more important.
IBS 2009	Gender	Male; female
IBS 2009	Region of origin	Six categories: Africa, Asia, Europe, Latin America and the Caribbean, Northern America and Oceania
Covariates regression analysis (employers) [research question 2]		
Eurobarometer 304	Employer size	50–249 employees; 250 employees or more in the country of the respondent
Eurobarometer 304	Type of ownership	Public or mixed; private
Eurobarometer 304	'Qualifications intensity' in the workforce	Percentage [11 bands from 0%; 1–10% to 91–100%] of employees who are HE graduates
Eurobarometer 304	Internationalisation of operations	Percentage [5 bands: 'none', less than 10%, 10–24%, 25–50%, more than 50%] of the day-to-day operations of the company involving dealings with people in or from other countries
Eurobarometer 304	On the job upskilling	Percentage of employees [4 bands: 'none', less than 10%, 10–50%, more than 50%] with HE degrees who participated in training in the previous two years

23

Table A1. (Continued.)

Data source	Variable	Definition and categories
Eurobarometer 304	Globalisation of the composition of staff	Percentage of employees [8 bands from none, more than 0% to less than 5%; 5–10%; 11–20%; 21 to 30% and so on until more than 50%] with HE degrees who are recruited from outside Europe
Correlation analysis [research question 3]		
IBS 2009	Ranking importance in international students' decision-making	'How important were the following factors when deciding where to study?' *Position in ranking/ league table* –very unimportant/ unimportant/ important/ very important/ not applicable (coded: very important = 1; other categories = 0)
Eurobarometer 304	Ranking importance in employers' recruitment decision-making	'How important it is for you to employ graduates from HE institutions with high international rankings (with good reputations)?' –very important/ important/ unimportant/ very unimportant (coded: very important = 1; other categories = 0)
World Bank	Level of economic development	GDP per capita 2010 in current USD
UNESCO (used in Table 4)	Expansion of access to HE	'Educational attainment': Percentage of the population 25 years or older who have completed tertiary education (ISCED 5–6) (2010)
Eurostat (used in Table 7)	Expansion of access to HE	Percentage of the population 25–34 who have completed tertiary education (2010)
Hofstede, Hofstede, and Minkov (2010)	National culture	'Cultural dimensions scores' – ranks countries on an collectivist/individualist scale from 0 (fully collectivist) to 100 (fully individualist). In this scale individualism pertains to societies in which ties with individuals are loose and individuals are expected to look after themselves or their immediate family. Collectivism pertains to societies with high levels of integration and cohesiveness within groups, which protect individuals in exchange for loyalty.
Shanghai Academic Ranking of World Universities	National HEIs ranking position	Number of institutions in the top 100 in the Shanghai Academic Ranking of World Universities[b] (2007, to allow for the fact that students will be checking the last rankings prior to making their applications)
UIS/ UNESCO database	Outbound international student mobility	Outbound mobility ratio (total number of tertiary students from a given country studying abroad, expressed as a percentage of total tertiary enrolment in that country in 2010)

[a]Individuals on the categories 'other' and 'multidisciplinary' studies were excluded as they could not be easily allocated to one group.
[b]The analysis for institutions in the top 500 produced almost exactly the same results.

Table A2. Descriptive statistics.[a]

	Range	Min/max	SD	Mean
Ranking importance international students (EU)	35	11–46	7.26	30.40
Ranking importance international students (Global[b])	43	11–54	9.00	34.13
Ranking importance international employers (EU)	39	2–41	9.66	15.41
Gender	1	0–1	0.50	0.52
Study level	3	0–3	0.70	1.69
Field of study	3	1–4	0.94	2.49
Importance of country vs. institution in the selection process	2	1–3	0.89	2.39
Employer size	1	0–1	0.42	0.24
Type of ownership	1	1–2	0.44	1.75
Internationalisation of operations	4	1–5	1.37	2.55
'Qualifications intensity' in the workforce	10	1–11	2.47	3.88
On the job upskilling	3	1–4	0.98	2.94
Globalisation of the composition of staff	7	1–8	0.78	1.29
Level of economic development (EU)	96276	6581–102857	20848	32228
Level of economic development (Global[b])	101834	1023–102857	22161	28352
Expansion of access to HE Europe (EU)	27	21–48	9.30	34.08
Expansion of access to HE global (Global[b])	56	4–60	11.08	25.14
National culture (EU)	62	27–89	17.93	59.04
National Culture (Global[b])	77	14–91	21.87	50.77
National HEIs ranking position (EU)	11	0–11	2.51	1.07
National HEIs ranking position (Global[b])	54	0–54	8.21	2.11
Outbound international student mobility (EU)	129	1–130	28.46	12.26
Outbound international student mobility (Global[b])	130	0–130	23.52	8.85

[a]Region of origin is not included in the table. Further information and frequencies for that variable are provided in Tables A1 and A3.
[b]Global refers in the table to the sample of 45 countries (EU27 countries plus the non-European countries outlined in Table A5, except Taiwan, for which data was not available for a sufficient number of indicators). Numbers in the range, maximum and minimum values are rounded.

Table A3. Demographic characteristics of the sample: students

Gender	
Male	48%
Female	52%
Age	
Up to 20	16%
21–25	49%
26–30	24%
Over 30	11%
Study level	
Certificate/ Foundation degree	4%
Undergraduate	34%
Postgraduate taught	52%
Postgraduate research	10%
Study area	
Hard sciences	22%
Architecture and engineering	15%

(*Continued.*)

Table A3. (*Continued.*)

Gender	
Social sciences	53%
Humanities	9%
More important	
Country	28%
Do not know	5%
Institution	67%
Region of origin	
Africa	8%
Asia	46%
Europe	34%
Latin-America and Caribbean	4%
Northern America	8%
Oceania	1%

Source: IBS 2009.
Note: Numbers are rounded and may not add up to 100.

Table A4. Demographic characteristics of the sample: employers.

Company size	
50–249	76%
250+	24%
DK/ NA	0%
Graduate recruitment last 5 years	
Have recruited and plan to recruit more	68%
Have recruited but not planning to recruit more	25%
Did not recruit but planning to recruit	6%
DK/NA	2%
Ownership structure	
Public	25%
Private	74%
DK/ NA	1%
Economic sector	
Industry	31%
Non-public services	24%
Public services	18%
Trade, accommodation and food services	14%
Construction, transport and ICT	13%
DK/ NA	0%

Source: Flash Barometer 304.
Note: Numbers are rounded and may not add up to 100.

Table A5. Differences in the importance of rankings for international students by country and region of origin.

	Very important	Important	Unimportant	Very unimportant	Difference with whole sample average on 'v. important'	N
EU						
Cyprus	45.7%	42.4%	9.3%	2.7%	+8.11%	335
Greece	43.6%	41.9%	10.4%	4.1%	+6.01%	675
Romania	40.1%	41.4%	15.0%	3.5%	+2.51%	481
Bulgaria	36.9%	43.4%	15.8%	3.9%	-0.69%	507
Lithuania	33.8%	51.7%	11.4%	3.0%	-3.79%	263
Italy	32.0%	43.3%	19.6%	5.1%	-5.59%	593
France	28.9%	41.2%	24.6%	5.3%	-8.69%	679
Spain	26.4%	42.3%	23.3%	8.0%	−11.19%	326
Germany	25.8%	42.0%	26.0%	6.2%	−11.79%	1691
Poland	25.7%	48.4%	20.9%	5.0%	−11.89%	641
Ireland	25.6%	39.2%	26.9%	8.3%	−11.99%	446
Non-EU						
Pakistan	54.2%	36.8%	6.5%	2.5%	+16.61%	448
Nigeria	53.7%	35.0%	8.7%	2.6%	+16.11%	778
Taiwan	48.3%	41.6%	8.2%	2.0%	+10.71%	404
India	47.7%	41.5%	7.8%	3.0%	+10.11%	2461
Hong Kong	47.6%	42.9%	7.1%	2.4%	+10.01%	508
Turkey	45.8%	41.3%	9.3%	3.6%	+8.21%	528
Singapore	43.6%	44.6%	11.8%	0.0%	+6.01%	339
Iran	43.4%	44.9%	9.5%	2.2%	+5.81%	274
Malaysia	42.6%	46.2%	9.6%	1.6%	+5.01%	437
Thailand	42.4%	47.5%	8.3%	1.9%	+4.81%	314
Saudi Arabia	40.6%	48.1%	7.9%	3.3%	+3.01%	239
South Korea	37.4%	48.2%	12.2%	2.3%	−0.19%	353
China	35.8%	50.9%	10.1%	3.2%	−1.79%	4523
Russian Fed.	34.6%	41.5%	20.4%	3.5%	−2.99%	402
Brazil	32.9%	44.9%	18.5%	3.7%	−4.69%	216
Canada	30.2%	41.4%	22.4%	5.9%	−7.39%	526
Japan	30.1%	48.7%	18.3%	2.9%	−7.49%	279
USA	26.6%	41.8%	25.7%	5.8%	−10.99%	1640
Norway	25.8%	44.0%	25.0%	5.2%	−11.79%	248
World regions						
Africa	46.1	39.2	11.5	3.2	+8.51	2092
Asia	42.0	45.6	9.5	2.9	+4.41	13333
Latin Am. /Caribbean	39.2	40.8	14.7	5.3	+1.61	1095
Europe	30.3	43.2	21.0	5.5	−7.29	9770
North America	27.8	41.6	24.8	5.8	−9.79	2176
Oceania	26.3	46.9	20.2	6.6	−11.29	243

Source: IBS 2009.

Table A6. Binary logistic regression (odds ratios): international rankings being 'very important' for employers recruitment decisions –including country variables

Base outcome: did not mention	Sample
Size	1.27**
	(0.11)
Type of ownership (private contrasted to public –public base)	0.60***
	(0.11)
Internationalisation operations	1.19***
	(0.03)
Workforce qualifications intensity	1.11***
	(0.02)
On the job upskilling	1.09*
	(0.05)
Globalisation staff	1.25***
	(0.05)
Country variables	
Belgium baseline	
Czech Republic	1.60
	(0.44)
Denmark	0.56
	(0.68)
Germany	0.20***
	(0.40)
Estonia	0.99
	(0.98)
Greece	6.12***
	(0.37)
Spain	2.56***
	(0.33)
France	0.51*
	(0.37)
Ireland	2.47*
	(0.50)
Italy	1.91*
	(0.34)
Cyprus	5.72**
	(0.85)
Latvia	3.56**
	(0.56)
Lithuania	1.76
	(0.60)
Luxembourg	1.09
	(1.32)
Hungary	1.36
	(0.44)
Malta	4.87
	(1.13)
Netherlands	1.09
	(0.41)
Austria	0.60
	(0.55)
Poland	3.22***
	(0.34)
Portugal	4.31***
	(0.38)

(*Continued.*)

Table A6. (*Continued.*)

Base outcome: did not mention	Sample
Slovenia	1.25
	(0.74)
Slovakia	4.29***
	(0.43)
Finland	1.13
	(0.56)
Sweden	0.52
	(0.56)
UK	0.97
	(0.35)
Bulgaria	2.66**
	(0.42)
Romania	4.74***
	(0.35)
Number of observations	5505
LR χ^2 (33)	1074.634

Source: Flash Barometer 304. Own calculations.
Note: *$p<.1$; **$p<.05$; ***$p<.01$; Standard errors in brackets.