

# UNIVERSITY MARKET POWER AND FEES THEY GET YOU COMING AND GOING?

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ABSTRACT. Universities are simultaneously competitors and monopolists. They compete for applicants but act as local monopolists with respect to their students. The theory of the firm would predict that universities set their application fee at a competitive level, while charging monopolistic fees (e.g., transcript fees) for student services.

I construct a unique dataset of 248 “National Universities” to test this conventional wisdom. I find that application fees are competitive—they are set in accordance with costs, not demand (i.e., applications). Transcript fees are not set in accord with either monopolistic or competitive theory. In fact, 36 percent of transcript fees are set to zero. Nonzero transcript fees have a negative impact on alumni giving rates, possibly reflecting myopic cost accounting over profit-maximization.

Thus, universities do not necessarily behave as profit-maximizing firms. I test for correlation between plausible objectives (i.e., maximization of applications, total revenue or prestige) and university characteristics. Some characteristics have a positive correlation with one objective and a negative correlation with another—indicating trade-offs between these objectives.

## 1. INTRODUCTION

Universities have no market power over applicants and significant power over meticulous. Students may complain about University policies, but most would never leave. Do they stay because switching costs are too high or because there’s no real reason to go? The university can dictate many aspects of student life, but it’s not clear that it uses its market power to screw students.<sup>1</sup> One way to sews with fees.

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*Date:* December 8, 2011. First Draft: 17 March, 2005. 3.800 words.

*Key words and phrases.* Higher education, user fees, market power, fundraising, alumni relations, university rankings.

Thanks to Henry An, Aslihan Arslan and Chris Knittel for helpful conversation.

I began this project after a disastrous encounter with ETS’ \$31 “express” charge for GRE scores. Realizing that I had no choice, I also realized that this expression of market power might exist on every university campus.

<sup>1</sup>It is conventional wisdom that internet bookstores are pressuring profit margins at monopolistic campus bookstores, but cheaper internet prices from more efficient buyer-seller matching (for used books) and lower inventory and restocking costs (for new books) may not lower campus bookstore prices; these are likely to be as low as possible, given their institutional characteristics (future research?).

The application fee is the first fee that a student pays her university; the transcript fee is often her last. Each is trivial compared to the total cost of a university education, leading one to wonder at their continued existence.<sup>2</sup> I use data from 248 “National Universities” to explore their roles. I find that they are not set in accordance with profit maximization principles.

## 2. HOW DO UNIVERSITIES BEHAVE?

What do universities maximize? What is their objective function?<sup>3</sup>

Economist sees the university as a business with objective, which it tries to maximize.<sup>4</sup> Since most universities are private or public nonprofits, the typical model of profit maximization cannot be blindly applied. My primary goal is to find the effect of the application fee in the transcript fee the secondary goal is to explain how these fees might result from the University objective function. The school may be irresponsible or impossible if universities, as “firms”, have several objectives. For convenience let us identify a few:

profit-maximization: even nonprofits can use more money for endowments, sellers, facilities, or programs. A profit-maximizing University will try to raise its prestige and maximize revenue from current and former students.

Bureaucratic: These universities serve the state and are supported by the state budget. They will charge fees set by cost-accountants and consideration with the division’s annual budget. Alternatively, universities are run as divisions of the state government to produce graduates who will help the state grow (site dill)

**2.1. Behavioral Implications.** *If everyone agrees that reputation is all that matters, social welfare is maximized by the prestige universities. As Spence (1973) found, university screening of students is sufficient to add value. The problem is that universities realize this and charge higher tuition to capture alumni rents. This transfer of surplus may be destructive, as it diverts resources from education as a*

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<sup>2</sup>Given their small share of total expenses for higher education, I assert that they are the result, not the cause of many university characteristics, and that RHS variables *do* induce causality to Application and/or transcript fee. One exception may be the effect of application fee on application volume. (See Section 2.)

<sup>3</sup>There is no reason to believe that all universities behave in the same way within a single country, but the history and prevalence of competition in American universities may have eliminated all strategies save profit-maximization. International universities now exposed to competition may be going away from social- (or state-) welfare maximization (Economist, 2005).

<sup>4</sup>Many bureaucrats decide policies, but I treat the university as an individual.

goal. Says Rojstaczer (2001): “If you’re simply concerned about prestige, go to the wealthy institutions. But if you’re mainly concerned about the quality of education, then you’re going to have to be your own judge.” Leading the world in per capita educational spending does not mean that you lead the world in per capita educational output (Dill, 2003, p. 152). On the other hand, the transfer is still small enough that students flock to the highest-ranked schools.

Since most schools are either public or non-profit, I interpret “profit” to be a function of enrollment demand, exclusivity, alumni giving, research funding and endowment. (See Table 6 for variables and definitions.)

As a measure of profitability, I use the universities’ prestige, not only because it denotes power, but because reputation is strongly correlated (even caused) by money resources.<sup>5</sup>

State versus private? Ownership is not the key. Shleifer (1998) finds no reason for state-ownership of schools when private non-profits exist—except as a means of patronage. Dill (2003) notes that we cannot compare the tradeoffs between social and profit-maximization without a good measure of universities’ value-added, which we do not have.

My maintained hypothesis is that universities are profit maximizing.

### 3. DATA

I took data on fees, prestige and costs at US universities from three sources.

**Micro Data:** I copied the characteristics of 248 “National Universities” (162 public, 86 private) from U. S. News & World Report (2005) (hereafter USNWR) “America’s Best Colleges 2004-5.”<sup>6 7</sup>

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<sup>5</sup>Rojstaczer (2001): “[T]he media is saying that the quality of a university depends more upon its endowment than anything else.” His university ranking generator (<http://www.rankyourcollege.com/ddmethod.html>) will mimic USNWR ranking using endowment and some noise. I found that other factors are significant in determining prestige – at least according to my data.

<sup>6</sup>“There are 248 national universities in the country (162 public, 86 private), based on categories developed by the Carnegie Foundation for the Advancement of Teaching. The universities offer a full range of undergraduate majors, as well as master’s and doctoral degrees; many strongly emphasize research.” From <http://www.usnews.com/usnews/edu/college/rankings/about/cornkdfs.php>.

<sup>7</sup>I used USNWR between February 1–12, 2005. I also searched each university’s website for their transcript fee and some missing information. USNWR compiles its data from universities’ Common Data Set standard ([www.commondataset.org](http://www.commondataset.org)). The CDS is a fantastic resource.

**Fees:** I collected Application and Transcript Fees from the Internet. (Websites available at [http://www.kysq.org/here/fees\\_sources.pdf](http://www.kysq.org/here/fees_sources.pdf).)

**Macro Funding:** Endowment, research grants, and alumni giving data came from TheCenter (2004).

Summary statistics are in Table 1 on 4. Variable descriptions are in the Appendix (Table 6) 14.

TABLE 1. Summary statistics (Constructed in *italics*)

Variable	Mean	Std. Dev.	Min.	Max.	N
<i>afee</i>	39.431	14.455	0	75	248
<i>tfee</i>	3.426	2.942	0	10	248
<i>tfeez</i>	0.641	0.481	0	1	248
<i>pvt</i>	0.347	0.477	0	1	248
<i>urb</i>	0.677	0.468	0	1	248
<i>sub</i>	0.222	0.416	0	1	248
<i>age</i>	124.234	52.744	17	369	248
<i>app</i>	10,754	8,151	169	44,994	244
<i>out</i>	0.169	0.141	0	0.71	162
<i>ug</i>	13,298	8,638	419	38,627	247
<i>u20</i>	0.455	0.14	0.18	1	244
<i>o50</i>	0.111	0.064	0	0.33	244
<i>ratio</i>	15.343	4.316	3	26	245
<i>ftf</i>	842.028	540.299	58	2,970	246
<i>grate</i>	0.605	0.185	0.12	0.98	248
<i>lapp</i>	8.971	0.875	5.13	10.714	244
<i>lug</i>	9.233	0.806	6.038	10.562	247
<i>lftf</i>	6.528	0.681	4.060	7.996	246
<i>peer</i>	3.005	0.722	1.7	4.9	248
<i>top10</i>	0.38	0.262	0.05	0.99	227
<i>arate</i>	0.648	0.206	0.1	0.98	245
<i>reject</i>	0.352	0.206	0.02	0.9	245
<i>pres</i>	91.287	20.917	53.312	147.263	244
<i>room</i>	7,105	1,790	3,126	11,629	234
<i>agrate</i>	0.16	0.101	0.01	0.61	240
<i>wmax</i>	13,859	9,626	3,280	31,472	228
<i>net</i>	10,266	7,149	-124.66	24,855	225
<i>lwmax</i>	9.289	0.71	8.096	10.357	228
<i>lnet</i>	8.970	0.771	6.847	10.121	224
<i>lroom</i>	8.837	0.256	8.048	9.361	234
<i>lwu</i>	18.512	0.736	15.696	20.191	228
<i>lnu</i>	18.22	0.798	14.938	19.95	224
<i>trf</i>	125,770,408	166,044,698	152,000	1,140,235,000	240
<i>frf</i>	75,667,733	114,530,309	37,000	1,022,510,000	240
<i>end</i>	758,903,906	1,848,779,034	8,746,000	18,849,491,000	214
<i>tag</i>	67,796,605	90,717,845	271,000	555,639,000	213
<i>ltrf</i>	17.552	1.847	11.932	20.854	240
<i>lfrf</i>	16.93	1.946	10.519	20.746	240
<i>lend</i>	19.26	1.486	15.984	23.66	214
<i>ltag</i>	17.334	1.225	12.51	20.136	213



FIGURE 1. Inspection reveals weak correlation between application fees and transcript fees.

**3.1. Application Fee and Transcript Fee.** My goal is to understand the role of application fees and transcript fees at the university. First, I need to see if they are related to *each other*, i.e., are they endogenously determined? Even if they are set in different departments (admissions and registrar), they may follow the same rule (local processing costs, percent of tuition, etc.) and have a strong correlation that will muddle the influence of other RHS variables. Their correlation is weak to nonexistent.<sup>8</sup> (See Figure 1.) The histograms for fees in Figure 2 show further

<sup>8</sup>Simple OLS (`regress afee tfee, robust`  $\Rightarrow p > |t| = 0.37$  and  $R^2 = 0.0028$ ) reveals little relation between the two. Regression with the “kitchen sink” (all RHS variables) weakens even this correlation.

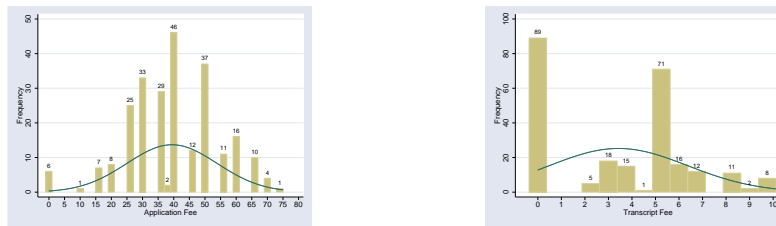


FIGURE 2. Application and transcript fees. Application fees look more “normal” than transcript fees. This is important in § 3.3.

differences. Application fees appear to be more normal; transcript fees are bimodal around zero and five dollars. Since the fees are not correlated with each other (See Figure 2), I look at them in turn.

**3.2. Application Fee—Theory.** Wang (1997) shows why universities can and must charge an application fee. They can charge something quite high for application fee and tuition because future benefits are pretty well predictable, but they cannot charge too much because there is uncertainty in that future benefit (including going to that school, which is an option). On the other hand, nonprofit universities need to charge a non-zero application fee so that applications do not drive profits below zero.<sup>9</sup>

Besides cost-recovery, universities can charge fees to affect demand. Some could never induce a student to apply by lowering their fee (to zero). Others would have a hard time keeping the student away with a higher fee. In the middle—at the margin—are a number of universities which can affect the application decision by

<sup>9</sup>This is clearly contradicted where application fee=0 for six universities; one might argue that the application fee is a small part of revenue, and that these universities are desperate for students, but that argument is not true: their acceptance rates were 67 percent with min/max of 42/98 percent.

changing their application fee. Rothschild and White (1995) find that costs should be lower when the buyer provides a benefit to the seller.<sup>10</sup> Low application fees attract more students, which increases the quality of the resulting student body and lowers the acceptance rate; the former benefits students, the latter increases the prestige of university.<sup>11</sup> On the other hand, universities want to discourage unqualified students by raising the application fee. At the optimal application fee, the marginal candidate is still worth the university's consideration and still considers the university worth going to.

We can operationalize this idea by checking the relationship between the number of applicants and application fee, *ceteris paribus*. If the coefficient on application fee is significant, then the university fee could change and have an effect. (This means that the university is trying to accomplish something else with the fee—perhaps social justice.) If the coefficient is *not* significant, then the universities have set their application fees at a level appropriate to their characteristics and those of the students they want to attract. *Note that the number of applications and other RHS variables (such as acceptance rate) may be endogenous. But, since these variables are in equilibrium, causality cannot be determined.* Application fees can affect the level of applications but not vice-versa.

In Table 2, the coefficient on application fee is both small and insignificant.<sup>12</sup> This result, *ceteris paribus*, indicates that universities are charging the “right” price for applications, i.e., that the market is efficient.

Significant variables correlated with the number of applications are the undergraduate population, the graduate rate, the weighted maximum fee, and the cost of room and board. These last two variables are in the opposite direction of expectation but are characteristic of exclusive schools. Net tuition does push down the application rate, so perhaps there is a positive response to the retail price but a negative response to the price paid. Other negative variables are private, acceptance rate, endowment and total alumni giving. These are all within expectations.

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<sup>10</sup>Scholarships for prestigious students or athletes are a perfect example.

<sup>11</sup>A more nuanced view is that good students do get a lower application fee, since applicants with the lowest SAT scores can be rejected immediately—effectively overpaying for their application—while students with higher scores proceed.

<sup>12</sup>After including all variables, I removed those with t-stats under one and reran the regression. The number of observations,  $R^2$  and significance of `afee` did not move; the F-stat rose from 75 to 107.

TABLE 2. Robust OLS on dependent variable `lapp`

Variable	Coefficient	p-value
afee	-0.001	0.599
pvt	-0.196*	0.092
urb	-0.041	0.533
sub	0.104	0.111
lug	0.874***	0.000
ratio	0.014	0.247
lftf	0.167	0.148
grate	0.989***	0.006
top10	0.189	0.272
arate	-0.766***	0.001
lwmax	0.948***	0.000
lnet	-0.466***	0.000
lroom	0.430***	0.008
agrate	0.659	0.107
lend	-0.038	0.257
ltag	-0.064*	0.083
Intercept	-7.176***	0.000
<hr/>		
N	173	
R <sup>2</sup>	0.899	
F <sub>(16,156)</sub>	107.122	
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Significance levels	* : 10%	** : 5%   *** : 1%

Let's look at the variables correlated with application fee in Table 3. To generalize, older, bigger, overcrowded, well-regarded, expensive, alumni-supported schools have higher application fees. Higher graduation rates, acceptance rates, wealth and annual donations are associated with lower application fees. These coefficients sometimes contradict each other and are relative to the mean, so your mileage may vary. Wang's hypothesis that the application fee can be greater than zero if there is some value to the service is not rejected. If we assume that alumni who credit their universities for their success contribute more, then the positive coefficient for `agrate`—alumni giving rate—indicates value delivered.

For the hypotheses in Section ??,  $H_0^{AA}$  is partially rejected (application fee is not correlated with both reputation and costs);  $H_0^{AE1}$  is rejected; and  $H_0^{AP}$ ,  $H_0^{AE2}$ , and  $H_0^{AE3}$  are not rejected. We have a mix of all three views.

**3.3. transcript fee.** Let us turn to transcript fees. Consider how and when students pay them. First, not all students want a transcript; graduates who go onto



TABLE 3. Tobit on dependent variable *afee*

Variable	Coefficient	p-value
age	0.037**	0.025
lug	5.000**	0.011
u20	8.377	0.355
o50	50.880***	0.006
ratio	-0.718**	0.025
grate	-24.545***	0.007
peer	5.459**	0.046
arate	-12.049**	0.021
lwmax	7.195***	0.001
lroom	18.499***	0.000
agrate	33.275***	0.007
lend	-2.274**	0.038
ltag	-2.030	0.144
Intercept	-160.043***	0.000
_se	8.988***	0.000
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N	182	
Log-likelihood	-654.255	
F (13,169)	161.76	
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Significance levels	* : 10%	** : 5%   *** : 1%

further education need many.<sup>13</sup> Second, transcripts are ordered towards the end of one's university career, if not after graduation. If the university wants to extract the most money from its students, the price might be very high, because demand is inelastic and the university faces no competition. We saw in Figure 2, however, that universities do not charge more than ten dollars. Why is this?

Klemperer (1987) discusses switching costs. In the case of tuition, the high cost of switching universities can lead to tuition hold-ups, but most increases within an "appropriate" range are expected.<sup>14</sup> The same cannot be said for transcript fees, which can clearly be higher before they begin to affect demand. They may be constrained by another factor such as bureaucratic price-setting or optimization of some other variable. With a nod to Spiegel and Templeman (1996), universities

<sup>13</sup>One interesting question is whether students with advanced degrees will be more successful financially, academically, or something else; if higher education is not a profitable use of a student's time, *ceteris paribus*, then perhaps universities will discourage them with high transcript fees. This seems unlikely, however.

<sup>14</sup>Compare this situation to the dramatic increases in University of California tuition—which has brought protesters to Sacramento.

may bundle the transcript fee into general revenue to cross-subsidize students.<sup>15</sup> By lowering the costs to students who order many transcripts, universities increase postgraduate success and bask in their reflected glow (Rothschild and White, 1995).

From Borenstein et al. (2000), we see how universities may charge a small fee for transcripts (the aftermarket), since they, as monopolists, extract surplus from tuition (the primary market). They also find that “the exercise of market power in the service market will be greater the higher is a discount rate” [p. 18]. Since universities have low discount rates, they apply little market power to transcript fees—assuming profit-maximization.

TABLE 4. Robust OLS on dependent variable `agrate`

Variable	Coefficient	p-value
tfee	−0.005***	0.002
pvt	0.045*	0.063
urb	−0.030**	0.015
sub	−0.026*	0.050
age	0.000**	0.020
lapp	0.021	0.144
lug	−0.031	0.132
o50	0.110	0.187
lftf	−0.060***	0.000
peer	0.043***	0.007
arate	−0.084**	0.012
lwmax	−0.077**	0.014
lnet	0.055***	0.003
lroom	−0.114***	0.000
ltrf	0.024*	0.096
lfrf	−0.023*	0.059
lend	0.030***	0.000
ltag	0.010	0.125
Intercept	1.027***	0.000
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N	179	
R <sup>2</sup>	0.789	
F <sub>(18,160)</sub>	36.791	
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Significance levels	* : 10%	** : 5%   *** : 1%

Besides these theories, consider the long-term goal of a university. If it is profit-maximization, it will consider the impact of transcript fee on revenue—now and

<sup>15</sup>Georgetown University: “Official transcripts are issued free of charge. Each new student is charged a lifetime fee at matriculation.”

in the future. A high transcript fee would upset current students, but it might be symbolic of worse things to come and scare off applicants. Bad for business.

transcript fees can also be significant with respect to alumni giving because transcript fee “turns you on” (or off) the university.<sup>16</sup> A student who faces eight-ten dollar fees when applying to graduate school is unlikely to think that his university cares. This will affect the participation rate of alumni. On the other hand, total alumni giving will not change; big donors are not diverted by transcript fees.<sup>17</sup> Thus, transcript fee can affect the breadth, not the depth of alumni support. This is a problem for the alumni relations/development departments of universities, since they prefer to have a broad base when it comes to lobbying that the university serves “the people.” These notions are supported (not accidentally) by the results in Table 4. The relationship appears to be causal, since an individual decision to give may be a function of transcript fee, but transcript fees will not change for certain giving decisions.

The fact that the coefficient on `tf` is negative suggests that transcript fee could be lowered and broaden the base of support. The distribution of transcript fees in Figure 2 suggests that cost-accountants set them at five dollars (second highest mode). This is an example of inefficient strategic thinking at the university level.<sup>18</sup>

Table 5 has more trivia on the variables which correlate with transcript fee. The amazing thing is that the significant RHS variables for application fee are in the opposite direction or not significant for transcript fee (and vice-versa).<sup>19</sup> To generalize, transcript fee rises with applicants, endowments and total alumni giving and falls with the number of undergraduates (vs. applicants), peer rating, net tuition, room and board cost and *especially* with the alumni giving rate. As Borenstein et al. (2000) would predict, `tf` is lower for higher `lnet`—the monopolist has extracted the rent up-front.

<sup>16</sup>This result is robust to inclusion/exclusion of other variables.

<sup>17</sup>An unreported kitchen sink regression (`regress ltag tf`  $X'\beta$ , `robust`) gave a p-stat of 0.20 for `tf`.

<sup>18</sup>This finding echoes Rothschild and White (1995), who looked for uniform tuition across programs (e.g., art, economics, mathematics) within universities. They concluded that “much of universities’ behavior is at odds with our predictions of a competitive equilibrium by profit-seeking institutions” [p. 583].

<sup>19</sup>I do not have any good explanation for this result, but it seems pretty amazing. I guess that “the social planner” uses the fees as complements, (We charge you a lot to get in, but then take care of you; big schools are cheap to apply to, but their transcripts cost a lot, etc.)

TABLE 5. Tobit on dependent variable `tfee`

Variable	Coefficient	p-value
urb	1.779	0.101
sub	-0.191	0.874
lapp	2.045**	0.032
lug	-3.130***	0.002
grate	4.144	0.285
peer	-1.464	0.198
lnet	-1.500**	0.025
lroom	-5.890***	0.003
agrate	-22.876***	0.000
lend	0.980**	0.035
ltag	1.059*	0.073
Intercept	46.024**	0.012
_se	3.688***	0.000
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N	181	
Log-likelihood	-371.578	
F (11,170)	44.801	
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Significance levels	* : 10%	** : 5%   *** : 1%

#### 4. CONCLUSION

Fehr and Schmidt (1999) support the “fairness” of relative status and prices, i.e., that a transcript fee of three dollars might be unfair if other relative prices are lower. The positive correlation of (weighted max) tuition and room & board with application fee supports this result. The negative correlation of (weighted max) tuition and room& board with transcript fee contradicts it. This latter contradiction indicates that transcript fees are set with another metric that trumps fairness—profit maximization in the short term, through cost accounting, or long term, through alumni giving. The theoretical model in Fehr and Schmidt (1999) shows how a “culture of altruism” can exist, persist and justify fees which are not profit maximizing, but I have found no evidence to support altruism. Despite this, fees are not so far out of line that they attract punishment through application boycotts or lower alumni giving (Fehr and Schmidt, 1999, p. 840).

The results with respect to my hypotheses is mixed. I prefer to concentrate on the smaller, perhaps more significant results with respect to applications and alumni giving.

Consistent with profit maximization and efficient markets, application fees are set at an optimal level for the number of applicants, *ceteris paribus*. Transcript fees, in contrast, are not set for optimal profitability. This imbalance is more likely with the monopolistic provision of a service (Hayek, 1945). Ironically, it's not set at the altruistic level, but closer to a level the paranoid view would predict, i.e., of exploitation (or cost-accounting—what view is that? Un-economic?). A reduction in the transcript fee would benefit students, universities and society.

## REFERENCES

- Borenstein, S., MacKie-Mason, J., and Netz, J. (2000). Exercising Market Power in Proprietary Aftermarkets. *Journal of Economics & Management Strategy*, 9(2):157–188.
- Dill, D. D. (2003). Allowing the Market to Rule: The Case of the United States. *Higher Education Quarterly*, 57(2):136–157.
- Economist (2005). Free Degrees to Fly. *The Economist*, 26 Feb:67–69.
- Fehr, E. and Schmidt, K. M. (1999). A Theory of Fairness, Competition, and Cooperation. *Quarterly Journal of Economics*, 114(3):817–868.
- Hayek, F. A. (1945). On the Use of Knowledge in Society. *American Economic Review*, 35(4):519–530.
- Klemperer, P. (1987). The Competitiveness of Markets with Switching Costs. *RAND Journal of Economics*, 18(1):138–150.
- Rojstaczer, S. (2001). College Rankings are Mostly About Money. *San Francisco Chronicle*, 3 Sept.
- Rothschild, M. and White, L. J. (1995). The Analytics of the Pricing of Higher Education and Other Services in Which the Customers Are Inputs. *Journal of Political Economy*, 103(3):573–586.
- Shleifer, A. (1998). State versus Private Ownership. *Journal of Economic Perspectives*, 12(4):133–150.
- Spence, M. (1973). Job Market Signaling. *Quarterly Journal of Economics*, 87:355–79.
- Spiegel, U. and Templeman, J. (1996). Bundling in Learning. *Education Economics*, 4(1):65–82.
- TheCenter (2004). American Research University Data. [http://thecenter.ufl.edu/research\\_data.html](http://thecenter.ufl.edu/research_data.html).
- U. S. News & World Report (2005). America's best colleges—national universities. <http://www.usnews.com/usnews/edu/college/rankings/rankindex.php>.
- Wang, R. (1997). Competition, Wage Commitments, and Application Fees. *Journal of Labor Economics*, 15(1):124–142.

TABLE 6. Appendix: Variables and Descriptions (Constructed in *italics>*)

Variable Name	Description
Dependent Variables	
<i>afee</i>	application fee
<i>tfee</i>	transcript fee (Normal service) <sup>††</sup>
<i>tfeez</i>	dummy $\in \{0, 1\}$ set to 1 if <i>tfee</i> > 0
Fixed Characteristics	
<i>pvt</i>	Private Dummy
<i>urb</i>	Urban location Dummy
<i>sub</i>	Suburban location Dummy
<i>age</i>	Years since founded (v. 2005)
Variable Characteristics	
<i>app</i>	Number of applicants
<i>out</i>	Percent of students from out of state (public schools only)
<i>ug</i>	Number of undergraduates
<i>u20</i>	Percent of classes with less than 20 students (0 to 1 best)
<i>o50</i>	Percent of classes with more than 50 students (1 to 0 best)
<i>ratio</i>	Student-to-faculty ratio (Lower is better)
<i>ftf</i>	Number of full-time faculty
<i>grate</i>	Graduation rate (0 to 1 best)
<i>lapp</i>	ln( <i>app</i> )
<i>lug</i>	ln( <i>ug</i> )
<i>lftf</i>	ln( <i>ftf</i> )
Prestige Characteristics	
<i>peer</i>	Peer rating (0 to 5 best)
<i>top10</i>	Number of freshman in top 10 percent of HS class (0 to 1 best)
<i>arate</i>	Acceptance rate of applicants (1 to 0 best)
<i>reject</i>	1- <i>arate</i>
<i>pres</i>	Prestige index. USNWR <b>score</b> not available for all schools. Used top 50 schools to find weights for an index ( <b>reg score peer grate u20</b> , $R^2 = 0.95$ ).
Student Financial	
<i>room</i>	Cost of room/board
<i>agrate</i>	Alumni giving rate (0 to 1 best)
<i>wmax</i>	Weighted maximum tuition. Out-of-state students (at public) pay more than in-state. $wmax = OUT(Tuition_{OutState}) + (1-OUT)Tuition_{InState} PVT=0$ or $Tuition PVT=1$ .
<i>net</i>	Net fee ( <i>wmax</i> - (average grant x percent who receive grants))
<i>lwmax</i>	ln( <i>wmax</i> )
<i>lnet</i>	ln( <i>net</i> )
<i>lroom</i>	ln( <i>room</i> )
<i>luw</i>	ln( <i>wmax</i> * <i>ug</i> ). Gross revenue before financial aid.
<i>lnu</i>	ln( <i>net</i> * <i>ug</i> ). Net revenue—more reliable
Aggregate Financial	
<i>trf</i>	Total research funding (2002) <sup>†</sup>
<i>frf</i>	Federal research funding (2002) <sup>†</sup>
<i>end</i>	Endowment (2003) <sup>†</sup>
<i>tag</i>	Total alumni giving (2003) <sup>†</sup>
<i>ltrf</i>	ln( <i>trf</i> )
<i>lfrf</i>	ln( <i>frf</i> )
<i>lend</i>	ln( <i>end</i> )
<i>ltag</i>	ln( <i>tag</i> )

From U. S. News & World Report (2005) except: †—(TheCenter, 2004) and ††—See [http://www.kysq.org/here/fees\\_sources.pdf](http://www.kysq.org/here/fees_sources.pdf)

## 5. NOTES

[http://www.marginalrevolution.com/marginalrevolution/2005/05/direct\\_appropri.html](http://www.marginalrevolution.com/marginalrevolution/2005/05/direct_appropri.html)

In a plaintive letter to the OFT, Jonathan Shephard, general secretary of the Independent Schools Council, says that, as they are charities, there is no possibility of personal gain or profiteering even if there has been a breach of competition law, and that any fine would eat into their charitable assets or force them to raise charges, damaging the very people the OFT is supposed to protect.

In a league of their own Nov 10th 2005 From The Economist print edition

From Sotiros: Imagine you are a 21 yr old unemployed recent grad. You want a transcript and get a \$5 fee charged - bad feeling! 9vs. typical grads/dnors who have jobs, etc).

separate with private dummy and re-analyze for donations. Private also have better alumni giving programs (omitted variable)

write as one-page press release and send to Sotiros and chron. philoanthropy staff of non-profits (unis) do not get the marginal \$ of fee. Don;t care. Donors send to many non-profits. uni must compete with them...

James Sotiros

Dear David,

Hi. I was just reading an article about charity rating where they listed the "three main charity watchdogs": American Institute of Philanthropy; Charity Navigator; Council of Better Business Bureau's Wise Giving Alliance.

Thought you might find this helpful.

brenn06 discusses student displeasure at high fees at UCD.

why fees matter: "In particular, the two most consistent correlates with private equity performance were the SAT scores of the student body and the rate of the alumni giving. Why might alternative investments perform better for some schools than others?" p 218 JEP 22(3) Pages 207222 Secrets of the Academy: The Drivers of University Endowment Success Josh Lerner, Antoinette Schoar, and Jialan Wang