



Donations and the Pursuit of Mission in Higher Education

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Abstract

Private donations—from individuals, corporations, and foundations—are a major revenue source for colleges and universities in the United States, but little is known about the sources of the great variation among schools. The research reported here estimates the influence of such variables as whether the school is public or private nonprofit, its solicitation efforts, size, and endowment wealth, and the publicity it receives for its achievements. Our research distinguishes between the effects of achievements in athletics and in academics, the effects of each of those on various donor groups, including the disaggregation of individuals into alumni, parents, and other individuals, and the effects not only on total donations but on giving to athletic and to academic programs.

Donations and the Pursuit of Mission in Higher Education

Higher education in the United States is a far more complex industry than is commonly recognized. It includes approximately 2,600 schools offering baccalaureate degrees, but the 119 large universities in NCAA Division IA, fewer than 5 percent of the schools, enroll 26 percent of all the 11.3 million undergraduates at all schools offering a bachelor's degree. In addition to the baccalaureate schools, there are some 1,700 2-year colleges, which enroll over half of all college students. And the industry is increasingly influenced by the small number but rapidly-growing for-profit colleges, 12 of which are publicly traded, listed on organized exchanges. The best-known of these is the University of Phoenix, its 365,000 students enrolled in nearly 200 campuses across the nation (U. S. Department of Education 2006).

This paper focuses on the financing of higher education, and in particular, the forces influencing one important source of revenue, private donations. We examine them within the framework of a two-good model of a university in which (a) its objective is to maximize output of a mission-good, M --a collective good that, in higher education, may be thought of as either teaching able but low-income students, or as undertaking basic research and disseminating it widely--and that collective-good mission is pursued subject to a financial break-even constraint. That constraint requires that the school covers all costs, and so it must engage in some profitable "revenue-good" activity, R , to finance its unprofitable collective "mission-good." Private donations are one form of R .

The M and R goods may or may not be separable. They are, for example, when a university builds profitable luxury "sky boxes" at its football stadium to generate

revenue to support any of its unprofitable mission activities-- “minor” sports or anything else. The sky-boxes are simply a source of revenue.

M and R goods are sometimes not separable, however. They are not when, for example, revenue can be generated through an activity that would undermine the mission, contributing negatively to it. This would occur if a prospective donation is large enough to distort the school’s programs from what the leadership regards as its mission. This was clear when Yale University was offered a \$20 million donation to greatly expand its Western Studies Program while the University wanted to include multicultural studies in a newly designed course to be supported by the gift. The donor demanded the right to approve new faculty hired for the course, and Yale refused. In the end, the donation, originally accepted by the school, was returned to the donor, Lee M. Bass, of the wealthy Texas Bass family, in 1995 (Mercer 1997).

The ability of a university to generate revenue from a specific activity is also not separable from its mission when the willingness of a potential revenue source to provide the revenue depends on the university’s mission—that is, on how the revenue is expected to be used. Donors, for example, may be influenced by whether they expect a donation to be used for an academic or an athletic program—a matter we will deal with below. Similarly, the availability of donations as a revenue-source presumably depends on whether prospective donors expect a donation to be used for neither of those activities but, rather, for an increased shareholder dividend—and this (in addition to the lack of income-tax deductibility) would help to explain the virtual absence of donations to for-profit schools.

Our empirical analysis finds that variance among universities in their receipt of current donations from private sources can be explained, in substantial degree, by a small number of identifiable variables. These include the school's quality rank (by *U.S. News & World Report Magazine*), the amount of press coverage it receives, the size of its endowment wealth, whether the school is public or private nonprofit, its size, and the extent of its solicitation efforts. We also find that the presumed effects of these variables on donations varies substantially among each of six private donor groups, including alumni, parents, corporations, and foundations. And we find that the explanatory variables have distinctive effects on donations to athletic and to academic programs.

A Two-Good Model of the University: How and Why Schools Are Alike and Different

The relationship between R-good and M-good activity can be portrayed by a simple two-good model in which public and nonprofit colleges and universities engage in profitable, R-good, activities in order to finance certain unprofitable but socially desirable M-good activity, while private profit-maximizing firms pursue only R-goods.

The university (or other nonprofit organization) objective function has the following general form:

(1) Max $Q(M)$, subject to a break-even constraint,

$$C * Q(M) - \Pi(R) \leq 0$$

where $\Pi(R)$ = profit from sale of R, $Q(M)$ = quantity of M, and C = average cost of producing good M. (For related models see, especially, James 1983, but also Steinberg 1986, Schiff and Weisbrod 1991, Lowry 1997, and Weisbrod 1998.)

Donations are a form of R-good. So, too, is the provision of undergraduate education to full-tuition paying students, even while the provision of the same education to low-income students at a net tuition of zero is a M-good activity. In short, a profitable revenue good and an unprofitable mission good can be the same output provided to distinct populations, as well as different outputs.¹

These two elements of each school's behavior—deciding how it can raise money and how it should spend it—provide a valuable starting point for examining how the various types of schools determine everything from tuition and financial aid policy, to how much to spend on fundraising, to how much legislative lobbying to do for governmental grants, to whether to engage in “big-time,” NCAA Division I intercollegiate athletics, to how to capitalize on a strong brand-name reputation, to how much to spend on recruiting students, whether to lease or buy classroom space, and what to look for in a new president. Both R and M activities are affected by the school's competitive position as it considers how to define its goals and how to finance them. Goals are not directly observable, but may differ in countless ways among schools. So does the ability to raise revenue—from specific sources such as donations, and in total.

Public, private nonprofit, and for-profit schools may differ in their M-good activities, as may doctoral/research universities, liberal arts colleges, and community colleges. The private firm is, in effect, a one-good producer—of whatever is profitable,

¹ This might seem to imply that if all undergraduates would pay for their education, a school would have no mission good. There are two distinct issues. One involves the possible provision of outputs other than undergraduate education—for example, basic research. The other involves the efficiency case for public subsidies to public and private nonprofit organizations. It is not clear what the case would be for such subsidies if a college or university provided outputs that did not differ from those expected from for-profit firms. Providing undergraduate education to students unable to pay what a profit-maximizing firm would charge, and regarding this as the collective-good justification for the subsidies, is analogous to “charity care” provided by public and nonprofit hospitals (Weisbrod 2008).

R. At public and nonprofit schools, however, the distinction between doing what is profitable and doing what advances the mission is central for finding differences as well as similarities with each other and with for-profits.

We do not have a structural model of the donation process. Rather, we estimate OLS equations that shed light on such questions as: (a) Does more solicitation effort bring more donations? (b) Controlling for those efforts, do public and private universities differ in the willingness of their alumni to give? (c) Does having a larger endowment, which largely reflects a school's saving behavior, stimulate greater donations, as it would if prospective donors rewarded such behavior, perhaps treating it as a signal of the school's conservative management, or depress donations, which it would if prospective donors judged that a larger endowment diminishes the school's financial "need"? (d) Is more press attention to the school's athletic achievements associated with more donations from alumni to athletics? to academics? to both? (e) Is having a higher ranking by *USNWR* magazine associated with more private donations to the school—from each donor group, and to academics and to athletics? (f) Are the various private donor groups—individuals (alumni, parents, others) and organizations (corporations, foundations, others)—affected similarly or differently by the various causal forces?

Our empirical focus is on public and nonprofit schools. For-profit, baccalaureate-degree granting, schools receive, in the aggregate, only tiny amounts of donations, they have no "endowments," and the number of these schools is small—12 are listed on organized security exchanges, although they own multiple schools—and, in any case, data on each for-profit school's donor solicitation activities and donations received are

not available for analysis.² For-profit schools are far more important in the “career-academy” (trade) schools offering less than a two-year certificate—indeed, the 1,300-plus, 81% of total, such schools dominate this segment of post-secondary education—but they are not studied in this paper.

Private donations, a trivial source of revenue at for-profit schools, are far more important at public and nonprofit schools, where they are the source of 17 percent of total expenditures. At nonprofit research and doctoral universities they are 15 percent, and over 23 percent at liberal arts colleges, as of 2004 (Source: Our computations from the Council for Aid to Education Voluntary Support for Education, VSE, survey, which does not include for-profit schools).

The Place of Donations in Funding the Higher Education Industry

The private enterprise segment of the economy in any industry is almost entirely dependent on revenue from sale of goods and services. Donations are of no consequence. Not only is there no tax incentive for people to give to Macy’s or General Electric—or, for that matter, to a for-profit school such as the University of Phoenix—but it is most difficult for a prospective donor to have reasonable assurance that a donation would be used to achieve more than the goal of shareholders—to maximize their private returns. This combination of lack of tax incentives to donate to for-profit organizations, and lack of motivation to give because of the high cost of monitoring the use of any donation, combine to discourage donations to for-profits in any industry.

² 21 percent of all degree-granting schools, both 4 and 2-year, are for-profit, but their enrollment is only 6 percent of total students enrolled at degree-granting schools.

The higher education industry is not different. The 2,569 for-profit schools—most of which, however, are “career academies” that do not offer a four-year baccalaureate degree or even a two-year associate degree—are, like for-profit firms in other industries, overwhelmingly dependent on revenue from sales to their customers—i.e., user fees in the form of tuition. They receive scarcely any donations—0.3 percent of the total revenue of four-year for-profit schools and 0.9 percent at two-year for-profits in 2006.

How a college or university obtains its revenue is fundamental to understanding its behavior—its decisions on everything from its size and tuition policy to its educational and athletic programs. Whoever pays controls what any organization does, in the higher education industry or any other. A tuition-driven school—relying heavily on this source of revenue—must satisfy tuition-paying students to survive, let alone to flourish. A school funded largely by governmental grants, as typified public higher education in the United States for many decades, is inevitably influenced strongly by the political forces operating on state legislatures. At private nonprofit schools, the relative absence of governmental grants, particularly for financing classroom education, leaves these schools heavily dependent on tuition and private donations, thus requiring that the schools pay close attention to the satisfaction of students and their parents, on one hand, and the wants of donors, on the other.

Public universities depend less on private donations and more on government grants, but a dramatic process of change is in progress. At public universities the share of expenditures coming from state and local government appropriations has been dropping precipitously—from 44 percent in 1985 to only 28 percent in 2004. The state now covers 45 percent of the operating budget at the University of Wyoming (U.S. Dept. of

Education IPEDS), while at the University of Illinois the state provides 25 percent, and at the University of Virginia, just 8 percent (Dillon 2005).

The declining share of public support has led to concerns and what some call the “privatization” of public universities (Lyll and Sell 2006). Such a concern grows out of a view that with a declining share of revenues coming from the state, a school will change its behavior, and in ways that are socially troubling, such as providing less access to students who are “deserving” but “needy.”

If the only alternative to government grants was increased tuition for students, it is not difficult to see how such privatization could undermine access by low-income students. To the extent, however, that there is an alternative revenue source, in particular in the form of donations from private sources, it is by no means clear that this form of privatization—a shift of the school’s dependence from government grants to private donations—would undermine access.

Whether there is any untapped revenue source to which the university can turn, however, is an important question. The two-good model presented above implies that the answer is “no.” If the school is efficient in maximizing output of the M-good, it would already be pursuing every available source of profitable revenue. An exogenous cut in one source—say, government grants—would not alter the availability of revenue from other sources, and so the result would be a decrease in some element, quantitative or qualitative, of M-good activity.

It is possible, however, that the cut in government grants would increase the willingness of private donors to give—that is, government grants may have been crowding-out some private donations. If so, the optimal fundraising efforts prior to the

cut would no longer be optimal and some increased expenditures on fundraising could be profitable.

Table 1 shows the importance of donations from all private sources—alumni, parents, other individuals, corporations, foundations, and so on—for various kinds of schools.

Table 1: Private donations as a percentage of total expenditures, by year and school type, 1969-2004

Year	Public			Nonprofit	
	All Schools	Liberal Arts	Research and Doctoral	Liberal Arts	Research and Doctoral
1969	25.8 %	3.7%	4.8%	35.3%	25.1%
1974	21.3	2.4	4.4	33.5	19.1
1979	19.0	5.8	5.0	28.4	16.9
1984	18.2	5.5	5.9	27.3	17.6
1989	17.4	3.1	6.2	24.3	16.0
1994	15.0	3.3	6.9	21.7	15.5
1999	20.0	5.3	9.6	32.6	23.5
2004	17.0	3.9	11.8	23.1	15.1

Source: Our tabulations from Council for Aid to Education Voluntary Support for Education (VSE) survey data. The VSE survey does not include for-profit schools.

Private donations have come to account for a growing share of revenues, especially at public universities. Over the period 1969-2004, private donations to public universities rose from less than 5 percent to almost 12 percent of total expenditures. At nonprofit colleges and universities the fiscal dependence on private donations has fluctuated a great deal over time, but while it has been consistently greater than at public institutions, the gap has narrowed substantially. At the beginning of the period, private universities were some five times as dependent on private donations as were publics, but

this ratio fell to three in the 1980s and, recently, to below two (table 1). In this respect, public and private nonprofit schools are becoming more alike. The narrowing gap between publics and private liberal arts colleges appears to be due to a generally declining trend among the privates, with little change for the publics, but the narrowing gap between public and private universities reflects both an increasing relative role of private donations at public universities and a decreasing role at privates.

Even within school types there is great variation in schools' dependence on private donations. In 2004 the nearly 12 percent of public universities' total expenditures coming from private donations encompassed the University of Oklahoma, where it reached 25 percent, and the University of Southern Maine, 2 percent. At private, nonprofit liberal arts colleges, where private donations are far more important, constituting over 23 percent of total expenditures in 2004, there is also great variation among schools. At Utica College (Utica, NY) donations are 3 percent of total expenditures, but they are 73 percent at Wesleyan College (Macon, GA) (CAE 2004).

Apart from the wide range of shares of school revenues (or expenditures, as the data are sometimes shown) coming from private donations, the absolute amounts of private giving also vary enormously. Among the 983 colleges and universities that provided data in 2004, private donations ranged from \$602 million at Harvard, to less than \$100,000 at ten, mostly two-year, community, colleges. As table 2 shows, all ten of the top recipients of private donations are private.

It is by no means true, though, that being private guarantees that the school benefits from massive private donations. Even among private universities, apart from the public universities and the generally far smaller liberal arts colleges, the distribution of

private donations is enormous. At the lower end of the distribution of donations, contributions to the five schools receiving the least donations were under \$8.5 million, while at the upper end, the top five recipients of donations received forty times as much, \$337 million or more.

Table 2: Top twenty university recipients of private donations, 2004.

School	Donations (millions)
Harvard University	\$583
Stanford University	525
Cornell University	386
University of Southern California	354
University of Pennsylvania	337
Johns Hopkins University	316
Massachusetts Institute of Technology	295
Columbia University	293
Duke University	269
Yale University	268
University of Texas, Austin	265
University of California, Los Angeles	264
University of Wisconsin, Madison	263
Indiana University	251
University of Minnesota	250
Univ of California, San Francisco	218
New York University	216
University of Michigan	212
Ohio State University	206
University of Washington	198

Source: Our tabulations from VSE survey data.

“Private” donations, distinct from governmental grants or contributions, come from many sources: alumni, parents, other individuals, corporations, foundations, other organizations. Not only do private donations come *from* multiple donor groups, who may well respond to different forces and in different ways, but donations go *to* varied units within the recipient schools. We focus on the forces affecting donations from these specific donor groups, and the giving by each group in total and separately for academic and athletic purposes. We examine the ways donations are affected by identifiable potential influences such as the size of a school’s endowment, the extent of its solicitation efforts, and the success of its academic and athletic programs—and separately for public and private schools. In short, donations vary enormously among schools, but why?

Donations from private sources are not necessarily independent of governmental contributions nor of other sources of revenue or how the revenue is expected to be used. A full model of revenue interdependencies remains a subject for further research, although recent empirical research on the higher education industry finds that they are quantitatively important (Parman and Weisbrod 2007). In the present research, however, we assume that donations from each private source are largely independent of the giving from other sources of donations, private and governmental, as well as independent of revenue from non-donative sources such as tuition and patent licensing. We say “largely” independent because the model we estimate does account for the effects on donations of the school’s endowment wealth, which is another source of revenue.

Here are but some of the questions we will answer:

- Fundraising effort: How do donations respond to a school's increased solicitation efforts? How much, if at all, would donations increase if the school increased its spending on solicitations?

We find that donations do respond strongly to direct fundraising solicitations.

- Endowments: Does a larger endowment lead to increased private donations, as it might if endowment reflected unmeasured quality of the school in terms judged by donors as proxying value-added? Or does it lead donors to give less, perhaps because they believe that with a larger endowment the school's "need" for donations—that is, the marginal value added by a given donation is reduced by the larger endowment?

A school's wealth (endowment) has a powerful and positive association with the amount of new donations to it.

- Whatever the effect of endowment wealth on total private donations, do the effects differ among donor groups?

They do. Donations from alumni are very responsive, positively, to size of endowment, but for four of the other five donor groups there is no statistically significant relationship, and for the fifth, other organizations, the effect, while significant, is only a tenth of that for alumni. There is no evidence that greater wealth crowds-out donations.

- Ownership type: How are private donations to a school affected by whether it is public or private?

Donations *to* public and private universities differ markedly, but much of

the difference is captured by their differential reputations, as gauged by USNWR ranking, endowment wealth, and donor solicitation efforts.

- School achievement: Do a school's recent "successes," as measured by *NY Times* article coverage, affect private donations? Does success in athletics have different effects than success in academics?

Our new measure of success in athletics and in academics has considerable power to explain private donations from some donor groups and especially for giving to athletics.

- Donor groups: Does success in *athletics* have the same effects on donations from alumni, parents, corporations, and foundations? Does success in *academics* affect giving by each donor group similarly?

We find that publicity from a school's achievements affects donations differently for the various donor groups. Donations *from* alumni and from parents, for example, appear to respond quite differently.

- Donor groups: Does success in *academics* have the same effect on donations from each of the donor groups? Specifically, does a higher ranking by *U.S. News & World Report* (USNWR) affect donations equally from the various donor groups?

A school's "quality" ranking by the magazine has a positive effect on total private donations to the school, but that is primarily because of the effect on academic, not athletic, donations.

Overall, this small number of forces explains some 30-75 percent of all the variation among schools in the amounts of private donations they receive from each donor group and for each use, academic and athletic.

What is Known about the Forces Affecting Private Donations?

Donations from alumni have been studied the most. Less is known about what determines donations from other, non-alumni, sources, though, in 2004, they are over twice as large—73 percent (table 3) of all donations, 77 percent at public research universities, and 71 percent at private research universities (table 4). A number of systematic influences on alumni giving to a specific school can be identified. Nearly 20 years ago, a study of 73 research universities showed that donations from non-alumni, such as parents of current students and corporations, were significantly and positively related to the size of the school's endowment per alumnus, but giving by alumni was not. A 10 percent increase in endowment per alumnus was associated with a 2.6 percent increase in donations from non-alumni individuals and a 2.3 percent increase in donations from corporations, but had no effect on alumni giving (Leslie and Ramey 1988). More recently, a study of 60 "selective" schools—half research universities, half liberal arts colleges (Ehrenberg and Smith 2003), disclosed that increased endowment leads to greater giving from alumni, other individuals and foundations.

Over the past 35 years total donations to colleges and universities have nearly tripled in real terms, as table 3 shows. The shares coming from alumni and corporations have increased, while the share from individuals other than alumni and parents has decreased.

Table 3: Private donations as a percentage of total donations to higher education, by donation source and year, 1969-2004, in 2005 dollars

<u>Source of Donations, as Percent of Total</u>							
Source:	Total Donations (millions)	Alumni	Parents	Other Individuals	Corporations	Foundations	Other Organizations
1969	\$8.0	24.5	1.3	24.0	15.0	24.3	11.0
1974	7.0	22.9	1.0	23.8	15.7	23.9	12.7
1979	7.1	24.3	1.2	21.6	17.2	21.7	14.0
1984	8.5	22.7	1.1	22.0	23.3	19.8	11.2
1989	10.5	25.7	1.8	21.4	21.8	19.5	9.8
1994	14.9	27.2	1.5	20.7	21.0	20.7	9.0
1999	23.6	28.8	1.5	21.7	18.4	22.4	7.2
2004	23.8	27.4	2.0	20.4	17.6	24.8	7.7

Source: Our tabulations from VSE survey data.

It is natural to think that success breeds success—in the case of higher education finance, that success in athletics or in academics brings success in donations. The issue is important, but the evidence is scant. Some research has found that the mere presence of athletics has no effect on giving (Baade and Sundberg 1996). “Successful” athletics, however, do seem to matter—a greater winning percentage and more televised games for a school’s football team being associated with more alumni donations (Grimes and Chressanthis 1994; McCormick and Tinsley 1990).

Moreover, the increased alumni giving has been found in some research to go not only to athletics but also to academics (McCormick and Tinsley 1990; Grimes and Chressanthis 1994). If further study sustains this finding, the result would be critical, because it would make the case that a school’s expenditures on athletics—or, more specifically, on football or men’s basketball—can be viewed as an investment in generating donations to the university as a whole, not simply to athletics. But if further

research finds that athletic success does not generate increased donations for academics—only for athletics—or, even more extreme, if it increased athletic donations entirely at the expense of decreased donations for academic programs, then the argument that athletic success is a revenue-generating investment for the school would be, at best, dubious. Athletic success might simply shift giving—a conclusion for which we find some supporting evidence. Our new research paints a complex picture of what causes increased giving to athletics, to academics, and overall, by alumni and other individuals and organizations.

Donations from alumni are one issue; donations from other private sources are another. When we examine the forces affecting private donations from non-alumni groups, which, as tables 3 and 4 show, far exceed alumni giving, the picture is even more complex. Whatever the alumni responses to athletic success, and whatever their response to academic success—which we find are very different—the questions remain of how do other private donors respond—parents, other individuals, corporations, foundations, and other organizations?

Table 4. Distribution of private donations, by sources, for research universities and liberal arts colleges, public and private, 2004

Percent of private donations, by source							
School type	Alumni	Parents	Other Individuals	Corporations	Foundations	Other organizations	Total
Research universities							
Public	23.4%	0.8%	19.5%	26.7%	21.0%	8.6%	\$69,400,000
Private	28.6	2.3	20.4	14.9	26.6	7.2	99,600,000
Liberal Arts Colleges							
Public	15.3	0.5	40.1	20.8	18.9	4.5	3,337,600
Private	37.8	3.7	24.1	7.6	20.0	6.9	9,231,670

Source: Our tabulations from VSE survey data.

We turn now to our new evidence on how similar and how different the forces are that affect donations to a university by a number of its constituencies and for its academic and athletic purposes. The evidence is illuminating in its portrayal of diverse responses among donor groups, diverse responses for giving to athletics and academics, and diverse responses to the school's fundraising efforts, endowment wealth, and ownership form.

What Forces Affect Private Donations to a School?

The Ehrenberg and Smith (2003) study represents the only major prior attempt to explain variation in donations across schools rather than across alumni donors. Our new research complements and expands that work. We, too, utilize the data base on private giving, the nationwide survey conducted by the Council for Aid to Education, Voluntary Support for Education (VSE), although with more recent data, but we, first, deploy a more expansive set of variables to explain why there is so much variation among schools in their donations revenue; second, we expand greatly the types of schools analyzed, going beyond private schools and encompassing public colleges and universities. Third, we go beyond the "selective" private liberal arts colleges and private research universities that the previous research examined to include the enormously wider range of schools that, after all, enroll most college students, and so we are able to generalize our findings to a much more representative sample of the higher education industry as a whole. There remain data imperfections, though, because the VSE data are from a voluntary survey to which only some 33 percent of the 3,080 schools surveyed responded, and so the data are a large but not a truly random sample of the higher education industry. (We have examined the issue of response bias to the VSE survey, finding that the respondents are

disproportionately among the universities with the larger endowments. To illustrate: Among the 100 schools with the largest endowments in 2003, based on a report of the *Chronicle of Higher Education*, only 7 percent did not respond to the VSE survey, but among the next 400 endowments, 76 – 19 percent--did not respond to the VSE survey, and among the remaining 317 schools in the endowment survey, 81—26 percent--did not respond to the VSE survey. What effects this response bias, and others that may have occurred, may have on our regression estimates are not clear.)

Our work most significantly diverges from prior research on donative behavior in higher education by (1) introducing a new measure of a school’s current “successes”--the amount of its major press coverage--as proxied by the number of articles in the *New York Times*, although we also use the *U.S. News & World Report (USNWR)* ranking of the school; and (2) distinguishing between donations to a school’s athletic programs and its academic programs.

Data

Our “articles” data consist of the number of times a specific university, among our samples of 30 public and 30 private nonprofit research universities is dealt with in an article in the *New York Times* during the sample month of January 2004. Only substantive articles were counted, not wedding, alumni, job, death, and other announcements that mention an individual’s *alma mater*, nor listings of sports scores or passing references to a school. A single month was selected simply to conserve the substantial time cost of the search process. The year 2004 was the latest year for which data on some of our explanatory variables was available, and January was selected because it was around the

middle of the academic year. Tables 5 and 6 show the number of articles about each of the universities in our public and private nonprofit samples. The overall average number of articles was less than 6 per university, split fairly evenly between athletics and academics, but the public universities averaged more than the privates, and had considerably more articles on athletics than on academics, while for private universities it was the opposite. The differing averages of athletic and academic articles are noteworthy, as is the vast range among schools. Among public universities (table 6), Purdue had 11 articles, all on athletics, and Louisiana State had 20, of which 18 were on athletics, but all four of Florida International's articles were on academics. At private universities (table 5), none of New York University's 15 articles was on athletics, but Duke, Syracuse, and USC had far more articles covering athletics than academics.

Over time, the average number of articles per university increased substantially, from around three per year in the 1954-1979 period to 4-6 per year since 1984. About 40 percent of the articles have generally been about athletics.

By counting all articles equally our articles-measure implies equal importance as influences on donations, and further research is needed about the validity of that assumption. A school's *USNWR* ranking is also imperfect in depending as a predictor of donor behavior, for it depends heavily, 25 percent, on college presidents' subjective assessments of schools, and it is designed to guide prospective undergraduate students in their choices of schools, not to guide prospective donors. Still, we want to see what effect, if any, a school's ranking has on the private donations it receives—in addition to the effects of the school's accomplishments as measured by articles.

Table 5. Number of articles in the New York Times, January 2004, for each private university in our sample

University	Total number of articles	Athletics articles	Academic articles ³
American University	3	0	3
Boston University	10	3	7
Brandeis University	1	0	1
Brigham Young University	1	0	1
Carnegie Mellon University	4	0	4
Case Western Reserve University	3	0	3
Cornell University	7	0	7
Duke University	18	14	4
Fordham University	4	3	1
George Washington University	8	1	7
Georgetown University	5	3	2
Johns Hopkins University	6	0	6
Lehigh University	0	0	0
Massachusetts Institute of Technology	5	0	5
New York University	15	0	15
Rice University	4	0	4
Saint Louis University	1	0	1
Southern Methodist University	0	0	0
Stanford University	8	0	8
Syracuse University	9	8	1
The Catholic University of America	0	0	0
Tufts University	1	0	1
University of Chicago	7	0	7
University of Denver	0	0	0
University of Miami	6	4	2
University of Rochester	5	0	5
University of Southern California	11	9	2
Vanderbilt University	1	0	1
Washington University	8	0	8
Yale University	10	0	10
Total for private universities:	161	45	116

Source: Our tabulations from data in Factiva and Lexis-Nexis.

³ Article categories we included in Academic are Arts, Campus, Science/Medical Research, and Student Life. An additional category, Other, is not included.

Table 6. Number of articles in the New York Times, January 2004, for each public university in our sample

University	Total number of articles	Athletics articles	Academic articles
Auburn University	4	4	0
Clemson University	3	3	0
Colorado State University	1	0	1
Florida International University	4	0	4
Southern Illinois University at Carbondale	1	1	0
Iowa State University	4	3	1
Louisiana State University	20	18	2
Old Dominion University	1	0	1
Oregon State University	1	0	1
Purdue University Main Campus	11	11	0
Rutgers University	30	9	21
State University of New York at Buffalo	3	0	3
Temple University	7	3	4
The University of Alabama	1	1	0
University of California -- Riverside	2	0	2
University of Connecticut	26	16	10
University of Hawaii at Manoa	0	0	0
University of Illinois at Chicago	2	0	2
University of Kansas Main Campus	4	2	2
University of Maine	2	2	0
University of Michigan -- Ann Arbor	17	12	5
University of Missouri -- Columbia	2	1	1
University of Nebraska -- Lincoln	5	5	0
University of Oregon	3	0	3
University of Rhode Island	6	3	3
University of Tennessee -- Knoxville	10	9	1
University of Vermont	5	2	3
Virginia Tech	8	5	3
Washington State University	2	1	1
Wayne State University	1	0	1
Total for public universities:	186	111	75

Source: Our tabulations from data in Factiva and Lexis-Nexis.

We are not alone in pursuing new and more effective measures of a school's "accomplishments" in terms that affect student or donor choices. Indeed, many colleges' dissatisfaction with the manifold uses of the *USNWR* rankings, and with schools' strategic-gaming activities as they seek to improve their ranking, has brought many criticisms. Most recently, a majority of the presidents of the 80 liberal arts colleges in the Annapolis Group stated "their intent not to participate in the annual U.S. News survey" (Finder 2007a).

We take our articles measure of a school's success further by tabulating and analyzing athletic and academic articles separately to determine their effects on donors. The conventional wisdom of academic administrators is that success in intercollegiate athletics, especially in the "major" sports of football and men's basketball, generate increased donations to the school's athletics department, but not to the rest of the school's activities. We test that view and reach some important, though tentative, conclusions about the quite different findings for distinct donor groups. Even the findings for total donations from all sources provide evidence that question at least part of the conventional wisdom.

Articles are by no means a perfect measure of a college's success for all purposes. No measure is. Even to the extent that it helps to explain why donations differ among schools, it leaves unanswered an important question: What are the separate effects on donations of a successful event and of the publicity for it? The effects of the two are entwined, being very highly correlated. Clearly, an article means publicity for the school, but whether donations increase, and how much, depends on the responses of potential donors to the underlying event, which a given donor may or may not know about

independently of the article. This is also true, of course, of other measures of a school's success, such as its *USNWR* ranking; that ranking conveys certain broad information, but what independent information potential donors have about schools to which they might give, and to what extent the knowledge of a school's *USNWR* ranking conveys information that affects donor behavior are other matters.

Our articles measure of a university's publicity treats all articles as though they are essentially equally favorable, but they may not be. Some may even be "unfavorable." Our examination of the actual individual articles, however, disclosed that only rarely, if ever, is an article a clearly negative influence on donations, even when it is unambiguously uncomplimentary to the school. Consider, for example, the case of Birmingham-Southern College which in 2006 learned that two of its undergraduates were arrested in connection with the arson of nine Alabama churches. Donations did not plummet; to the contrary. In the words of the college director of alumni affairs:

Through it all, as we knew would be the case, our alumni and friends have stood behind their college. After the student arrests, hundreds of calls, letters, and e-mails came in with offers of assistance to help rebuild the churches, from financial gifts to offers of donated materials, benefit concerts, and much more. Unsolicited gifts to the college's Alabama Churches Rebuilding and Restoration Fund came in from all over the world to push the total received to more than \$368,000. On top of that, when BSC Trustee Dr. Pete Bunting '66 issued an Annual Fund challenge offering \$50,000 if Birmingham-Southern alumni could match those funds in unrestricted giving, our alumni went way beyond and gave almost \$130,000. And all in less than one month's time. (Harrison 2006)

Overall, we see the articles measure, a flow of current newsworthy events, as having two significant advantages: Articles capture a broad range of school successes, including individual events such as a faculty member receiving a distinguished award or a new research building being constructed, and they incorporate an appealing notion of how collegiate successes are conveyed to potential donors—through publicity. This may occur not merely in the one newspaper, the *New York Times*, but in any of hundreds of other newspapers as well as through other communications mechanisms such as radio, television, internet blogs, direct mailings, etc. The total effects of all of these are indexed, though imperfectly, by recognition in the *Times*. The *Times*, a national newspaper, covers events nationwide, not simply in the New York area. Indeed, a school with one of the largest number of articles is the University of Southern California, in Los Angeles.⁴

Estimated Models and Findings

We estimate OLS equations for the amount of reported donations from each class of private donors in the year 2004 as a function of the variables indicated above, in the same year.⁵ (Time lags will be considered in future research.) Results are in tables 7 and 8, and descriptive statistics are in the Appendix table A1. The dependent variables encompass each of the following—donations from (a) alumni, (b) parents, (c) other individuals, (d) corporations, (e) foundations, and (f) other organizations, plus (g) the

⁴ There could be activities by a particular school that are of only local, not national, interest, and that might affect donations. If such local relative to national activities differ among schools, our analysis would suffer from a traditional omitted-variable problem. (I thank John Parman for this point.)

⁵ Some current donations may be added to endowment, in which case endowment would be a function of donations. The effect on endowment, however, of the small portion of donations that is added to endowment is tiny, if not miniscule. Thus, very little of the variability of schools' endowments is attributable to the inflow of current donations.

total from all these donor groups, and, for each, donations to (h) athletics and (i) academics.

The equations estimated are of the form:

$$Y = a + bX + e,$$

where the X are as listed in the stub of table 7, and e is an error term, assumed to be normally distributed with a mean of zero.

Table 7 shows the OLS regression estimates for the 26 universities, out of our initial sample of 60 research universities (30 public, 30 nonprofit), for which complete data were available. The major limitation is the availability of donations data from the limited responses to the VSE survey, but there are also schools not covered in the *USNWR* ranking. Column 1 shows the estimated effects of each variable on *total* donations to a school, while columns 2-7 show the estimated effects on each donor group.

How are donations influenced by a university's USNWR ranking and by the press coverage of its achievements?

When *USNWR* ranking of research universities is included in addition to the other control variables--the numbers of *Times* articles about the school's athletics and academics, the school's endowment size, ownership form, and solicitation efforts-- rank has a strong association with overall donor behavior. Interpreting the relationship as causal, which might be questioned, we estimate that a unit increase in rank is associated with some \$3.5 million in additional total annual donations to a research university. The model accounts for up to 82 %, depending on the specific model, of the variance among the universities in their revenue from private donations. Note that the "size" of a school

is controlled in the forms of the numbers of its alumni and students' parents, solicited and not-solicited.

Table 7: OLS Regression estimates. Dependent variable: Donations to the school, by donor source, 2004

Source:	Total	Alumni	Parents	Other individuals	Corporations	Foundations	Other organizations
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Athletic articles	-6,116,580 (4,403,096)	-670,264 (1,205,365)	223,551 (236,478)	-917,276 (712,451)	1,857,918*** (611,250)	407,187 (1,226,494)	-380,506 (299,078)
Academic articles	-6,814,554* (3,439,057)	-1,913,534 (1,413,276)	-197,898 (167,610)	628,023 (506,454)	-328,356 (522,630)	533,547 (1,048,675)	124,940 (255,717)
US News ranking	3,528,088*** (949,628)	651,837* (325,808)	101,193* (56,588)	350,326* (177,166)	324,788* (168,762)	705,459* (338,627)	146,125* (82,574)
Endowment	0.011** (0.005)	0.009*** (0.002)	-0.000 (0.000)	-0.000 (0.001)	0.001 (0.001)	0.002 (0.002)	0.001* (0.001)
Public (public=1)	159,037,528** (65,475,541)	20,806,562 (19,972,701)	992,241 (3,517,501)	13,221,865 (11,524,961)	9,481,565 (10,010,021)	13,336,050 (20,085,459)	5,320,304 (4,897,796)
Alumni solicited	560.98** (224.27)	179.48* (87.71)					
Alumni not solicited	-681.54 (795.14)	144.87 (313.63)					
Parents solicited	499.36 (761.55)		19.12 (47.44)				
Parents not solicited	-1,753.37 (1,591.27)		-63.86 (74.49)				
Other individuals solicited	547.50** (222.97)			112.34** (46.66)			
Other individuals not solicited	657.91* (312.23)			117.09** (48.54)			
Constant	285,105,079*** (86,623,051)	49,235,545* (27,924,435)	-4,887,597 (4,727,162)	-23,675,329 (15,471,500)	-14,607,068 (13,865,244)	-33,038,040 (27,821,101)	-7,587,251 (6,784,116)
Observations	26	26	26	26	26	26	26
R-squared	0.82	0.75	0.43	0.58	0.52	0.50	0.54

Total donations are equal to the sum of donations from all of the donor types included in this table. US News ranking is defined such that an increase in the variable implies a movement up in the rankings.

Standard errors in parentheses. * significant at 10%, ** significant at 5%, *** significant at 1%

While a school's *USNWR* rank has substantial explanatory power, a higher rank associated with increased *total* donations, table 7 shows a quite different pattern of effects on donations of a school's achievements in the form of published articles. Articles dealing with a university's *academics* (row 2) are significantly associated *negatively with total donations* (col. 1)--an estimated \$6.8 million *decrease* in donations for each article about academics -- although when specific donor groups are considered, there is a uniformly insignificant relationship. Articles about a university's *athletics* (row 1) also have a negative estimated association with total donations, \$6.1 million per article, but it is not statistically significant. Neither is there a significant relationship for individual donor groups, with but one exception, corporations, which appear to respond positively and substantially to athletic publicity, \$1.8 million per additional article. The reasons for such patterns of effects are not clear, but deserve further attention.

Donor groups display a consistent pattern of response to *USNWR* ranking—positive and statistically significant (table 7). The magnitudes vary, however, from \$101,000 per rank position for parents, to \$652,000 for alumni, although, of course, the numbers of parents is far smaller than of alumni, and so the effects per person are presumably more alike.

How are donations to a university influenced by its fundraising efforts?

Universities exercise discretion regarding the extent of their efforts to solicit donations. We examine the extent of their solicitation efforts for each of three donor groups—alumni, parents, and other individuals. In all three cases schools report the numbers of persons on their records—that is, with good mailing addresses—and the

numbers who were and were not solicited to donate. Why some persons are not solicited is not disclosed, nor is the extent of efforts to develop good mailing addresses.

People who are asked to donate are more likely to give than those who are not. Yet colleges and universities do not solicit all alumni, parents or others on their records. In some cases they do not have complete addresses or other contact information, while in other cases they either refrain from contacting people who asked not to be solicited, or they make judgments about the ineffectiveness of a solicitation. The numbers of persons not solicited is not trivial. While MIT solicited over 85 percent of their alumni “of record,” the University of Kentucky only solicited 15 percent of their alumni of record in 2004 (CAE 2004).

Schools have the incentive to put fundraising resources where they are most productive—acting just as any business would, for collegiate fundraising is a business. There are few, if any, college and university expenditure programs that are clearer than development offices in their function: they are a revenue-good activity, having the goal of raising money to advance the school mission.

Raising revenue requires incurring costs, of course. Nonprofit and public colleges and universities recognize that need, just as any private firm does, whether in higher education or any other industry. When Purdue University’s development office recently held a party for donors, at a cost of over a half-million dollars, it attracted public attention, but the Vice-President for University Relations defended the \$576,778 tab as “part of what you do to raise money....” (Wallheimer 2007). Whatever the school’s goal, the two-good framework implies that the school’s revenue-good activity will look

remarkably alike across ownership forms, whether public, nonprofit, or, for that matter, for-profit.

How are donations affected by university solicitation?

A school has the incentive to sort those persons who are likely to donate more if they are contacted, from those who are not likely to donate more, or even to donate less. The evidence in table 7, column 2, is that for the alumni who were actually contacted, each additional alumnus gave an additional, statistically significant, \$179 of donations in 2004. By contrast, for the alumni who were not solicited but some of whom donate nevertheless, a school that has more of them can expect additional donations not significantly different from zero. While the \$179 of donations expected from each additional alum solicited surely exceeded the cost to the school of making the contact, it is not necessarily true that the schools are doing too little solicitation. Clearly a sorting process was involved, and so we do not know whether or how reducing the number of unsolicited alumni and increasing the number solicited would alter donations. What is clear, however, is that if schools are successfully identifying persons who are more willing to give, the additional donation associated with soliciting an additional alum exceeds the marginal cost of solicitation.

Solicitation of current students' parents seems to be a waste of fundraising resources, yielding no statistically significant additional donations (table 7, column 3). Perhaps parents will give later, once their sons and daughters have graduated, but while the student is in school the family appears likely to feel under financial pressure, paying for tuition, room and board, books and supplies, etc., or just convinced that they are already paying "enough" to the school and, hence, unwilling to donate.

How are private donations affected by a school's endowment wealth?

A school's wealth in the form of its endowment is a major determinant of donations it receives from alumni, parents, other individuals, and all other private sources such as corporations and foundations. The causal relationship, though, between a school's endowment and the current donations to it is unclear, reflecting not one but a number of forces (Oster 2001). For example, size of endowment could reflect the wealth of the school's alumni and other patrons, and hence their financial ability to give donations. Endowment could also reflect the reputation of the school for spending donations wisely and with foresight, the fiscal conservatism of the school in its decisions regarding whether to spend the donations it receives or add them to endowment, spending only the average long-term yield. Endowment might also capture external judgments of how well the school is serving its students, community, and society. All of these might lead to a positive relationship between the size of endowment and the level of current donations.

Alternatively, endowment could be seen by donors as an indication of a school's "need," which could be a proxy for the marginal social product of a given donation. In this case a richer school might get fewer donations than a school with less wealth, at least from donors who prefer to give to needier institutions in higher education or elsewhere.

We find a powerful positive relationship between a school's endowment wealth and its total revenue from donations (table 7, column 1) and from alumni (column 2) and "other organizations" (col. 7). An added \$1 million of endowment is associated with \$11,000 of additional private donations in a single year, \$9,000 of it from alumni (columns 1 and 2). Donations from parents, other individuals, corporations, and foundations, however, are not significantly affected by endowment and what it reflects.

What is especially noteworthy is that we find no evidence that a school's endowment wealth *discourages* any group of donors from giving. There are no significant negative effects of endowment on donations for any class of private donors-- individuals or organizations.

How are private donations to a school affected by whether it is public or private?

Public and nonprofit colleges and universities differ in the private donations they receive. The average public university received \$99.8 million of private donations in 2004, compared with \$112 million by the average private nonprofit university, a difference of about 10 percent. (While we do not deal in this paper with liberal arts colleges, the relative difference in donations to the public and private colleges is much greater: The average nonprofit college received \$17.6 million in donations in 2004, over ten times the \$1.6 million received by the average public liberal arts college.)

The effects of controlling, however, for the other variables listed in table 7 are startling. Controlling for all of them we estimate that a public university is expected to receive very substantially and significantly more donations, \$159 million more than a comparable nonprofit. However, that estimate is extremely sensitive to the treatment of the USNWR ranking and the two articles-counts in the model. When the article-counts are omitted from the model (estimates are not shown but are available from the authors), the estimated coefficient on the "public" variable drops precipitously, by over half, to \$72 million, and is statistically insignificant. And when the article counts are retained in the model but the USNWR ranking variable is omitted, the estimated coefficient on "public" becomes negative, though again insignificant. The underlying forces are not clear, but it

does seem clear that there are elements of a university being public or private nonprofit that are not captured well by our control variables.

How are private donations to a school affected by the school's overall reputation and its current achievements and their publicity? The effects of media coverage of athletic and academic accomplishments, and of USNWR ranking

Schools sometimes have accomplishments in academic pursuits or in athletics that garner major publicity. Others do not. Whether or not undertaken with such publicity in mind, the achievements and their publicity could be investments—bringing added donations to the schools' athletic programs, academic programs, or both. We test to see whether there are financial benefits from achievements that generate media coverage—benefits in the form of additional donations. We focus on two largely-independent measures of attention to a university.

One measure is a stock, the other a flow. The stock measure is the USNWR ranking of the university. The flow measure is a gauge of current newsworthy activities of the university—the “free publicity” it receives in the form of newspaper articles in the *New York Times* about the university's activities, which we disaggregate by whether they involve athletic or academic activities. Conveying to prospective donors evidence that the school is succeeding in one realm or another, such articles could affect donations. So, too, may the school's ranking by USNWR.

Achievements and their publicity *could* generate increased donations, but do they? The underlying issue is how to model the donations process, and a subsidiary issue is whether the same model is appropriate for distinct groups of potential donors: Are the

forces influencing donations by a school's alumni, student parents, other individuals, corporations, and foundations the same, and are the parameter values the same? Are the answers the same for donations to a school's academic activities and its athletic activities? Our findings: there are systematic differences, but also similarities—across donor groups and the intended use of funds.

No simple measure can capture all of the many dimensions of a school's accomplishments that might influence donations from some donor group and destined for some programmatic area. When the effect of publicity is considered, sometimes an event is of only local or regional interest, not deemed worthy of coverage in a national medium such as the *Times*, but could nonetheless have an effect on donations. Moreover, not all articles are likely to be of equal influence on donations, but having no objective way to weight the articles we count them all equally, despite recognizing that a faculty member winning a Nobel Prize or a football team winning a conference championship are not likely to be equivalent in their effect on donations to announcement of a new dormitory being built or of a long and continuing losing streak for a “minor” sport.

An article in the *Times* should be thought of as not merely the conveying of information to its readers, or even to those readers who see the article, but as an indicator or index of the school's accomplishments. There are many mechanisms through which information about a school's accomplishments is communicated—for example, through other newspapers that are in the *Times* syndicate, with its 2,000 clients (New York Times 2007), through television and radio, Internet blogs, word-of-mouth, and direct communications between the school and its constituencies. As a result, an article in the *Times* represents an event that reaches the attention of far more potential donors—

perhaps hundreds or even thousands of times more—than the readers of this one paper with a paid daily circulation of over 1.1 million (Audit Bureau of Circulations 2007). Yet as an *index* of such aggregate attention and its influence on donors, the number of *Times* articles appears to be a useful measure of a school’s accomplishments on the playing fields and in the classrooms and research laboratories.

Regardless of subject matter, articles are not always favorable, expected to spur donations. But our examination of a sample of articles led to the conclusion that an “unfavorable” article was rare, and even when it was uncomplimentary, it was rarely, if ever, unambiguously negative in its likely effect on donations. Even a seemingly adverse event can stimulate giving—such as a story about an attack on a student that also highlighted the excellent campus police work and the camaraderie among students, or an article about a lost football game that also showed the team’s spirit and balanced view of the importance of winning. Such an article could depress donations by some, but stimulate giving by others. Our discussion earlier of adverse publicity for Birmingham-Southern College that appeared to have a positive effect on donations illustrates the complex relationships between a school’s publicity and donor responses.

Even if an article is clearly favorable, it need not generate additional donations. An article describing a major gift could be viewed by other potential donors as a signal of confidence in the school’s future, justifying greater giving, but it could also be viewed by donors as implying that the school now has less need—less important uses for still more money, in which case donations could fall. Indeed, not all donors need respond in the same way, nor need any class of donors respond to various kinds of announcements in the same way. We examine these relationships in a manner that does not assume that an

article about any type of achievement, athletic or academic, necessarily increases donations, decreases them, or has no effect—for any type of donors or for private donors as a whole.

Table 7 reports that neither athletic nor academic publicity in the form of *Times* articles exerts a positive effect on total donations. Indeed, articles about academic matters have an estimated substantial negative effect, although findings not shown but available upon request show that the effect is insignificantly different from a zero when USNWR ranking is omitted.

USNWR ranking is very strongly and significantly related to total private giving to a university. The \$3.5 million of added donations per unit improvement in rank, however, does drop by a third, to \$2.3 million, when the article-count variables are omitted, though that coefficient remains highly significant.⁶

Disaggregating donations into those for athletic and for academic programs

How different are the forces influencing donations to a university's athletic and academic activities? Our findings shed light on the question of whether the forces influencing donations to a university's athletic and academic programs differ systematically. We focus on the model in which all of the control variables are used (table 8) (although results for models in which, alternatively, the USNWR ranking or the article-counts are omitted are available upon request).⁷

⁶ The simple correlation between universities' USNWR rankings and their *athletics* article-count is -.091, and between rankings and *academic* article-count is +.373. In calculating these correlations the USNWR ranking was multiplied by -1, so that an improvement in rank would be associated positively with an increase of the number of articles.

⁷ An issue underlying the analysis of donor giving to programs in athletics and to academics is what donors believe about the marginal impact of their specifying how their donation should be used. When an

Private donations to athletics are minor relative to total university donations from private sources--only some one percent at private universities and 5 percent at public universities-- of all private donations (Appendix table A1). The disaggregation reveals some noteworthy differences. *USNWR* ranking, for example, while, as noted above, significantly and positively related to *total* donations for academics, \$3.5 million per added rank (table 7), is not significantly related to giving for athletics (table 8). The disaggregation also shows that the overall insignificant effect of athletic articles on donations from alumni masks the finding that these articles are associated with significantly increased donations from alumni to athletics, but not to academics.

Similarly, the number of alumni solicited, which has a significantly positive effect on total donations, \$561 per added alum solicited (table 7), has essentially all that effect, \$559, on donations for *academic* activities; the estimated effect on donations to athletics is a statistically insignificant \$2 per added article (table 8). And whereas published articles on athletics were estimated to have no statistically significant effect on *total* donations to a school by its alumni (table 7, column 2), the disaggregation of donations into academic and athletic programs shows that the overall lack of a significant effect of those articles masks the findings that the effect is significant and substantial for giving to athletics, \$184,000 per added article, but not for giving to academics (table 8, columns 3-4). Indeed, that same pattern is found for donations from parents and other individuals: The lack of a statistically significant effect of athletic articles on total private donations by each of those donor groups hides the finding that there is a significant effect on giving to athletics--\$37,000 per added article for parents and \$117,000 for other individuals.

individual donation is small relative to the total budget, the fungibility of money raises the question of the real effect of the donation, as well as of donors' beliefs about the effects of their donations and of how those beliefs influence donations.

Table 8: OLS Regression estimates. Dependent variable: Donations to the school, by donor source and purpose, 2004

Source:	Total		Alumni		Parents		Other individuals		Corporations		Foundations		Other Organizations	
	To academics	To athletics	To academics	To athletics	To academics	To athletics	To academics	To athletics	To academics	To athletics	To academics	To athletics	To academics	To athletics
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Athletic articles	-6,490,959 (4,379,906)	374,379 (225,838)	-854,298 (1,202,783)	184,035* (89,391)	186,648 (227,169)	36,903*** (12,344)	-917,276 (712,451)	116,915*** (40,294)	1,737,152** (631,029)	120,765** (46,323)	395,713 (1,220,651)	11,474 (24,102)	-379,169 (298,239)	-1,337 (6,476)
Academic articles	-6,608,657* (3,420,944)	-205,897 (176,392)	-1,724,515 (1,410,249)	-189,019* (104,809)	-191,531 (161,011)	-6,367 (8,749)	628,023 (506,454)	-26,728 (28,644)	-311,091 (539,541)	-17,264 (39,607)	547,216 (1,043,678)	-13,669 (20,608)	125,737 (254,999)	-797 (5,537)
US News ranking	3,522,417*** (944,627)	5,671 (48,707)	647,269* (325,111)	4,569 (24,162)	100,321* (54,360)	871 (2,954)	350,326* (177,166)	3,256 (10,020)	331,726* (174,223)	-6,938 (12,790)	710,254** (337,014)	-4,795 (6,654)	147,092* (82,342)	-968 (1,788)
Endowment	0.011* (0.005)	0.000 (0.000)	0.009*** (0.002)	0.000* (0.000)	-0.000 (0.000)	0.000 (0.000)	-0.000 (0.001)	0.000 (0.000)	0.001 (0.001)	0.000 (0.000)	0.002 (0.002)	0.000** (0.000)	0.001* (0.001)	0.000 (0.000)
Public (public=1)	154,933,691** (65,130,686)	4,103,841 (3,358,293)	18,989,529 (19,929,922)	1,817,033 (1,481,186)	1,116,167 (3,379,023)	-123,925 (183,617)	13,221,865 (11,524,961)	854,655 (651,821)	8,623,165 (10,333,923)	858,399 (758,607)	13,173,980 (19,989,761)	162,072 (394,706)	5,242,275 (4,884,049)	78,029 (106,047)
Alumni solicited	558.67** (223.09)	2.32 (11.50)	172.55* (87.52)	6.93 (6.50)										
Alumni not solicited	-637.54 (790.95)	-44.00 (40.78)	160.05 (312.96)	-15.18 (23.26)										
Parents solicited	552.53 (757.54)	-53.17 (39.06)			19.86 (45.58)	-0.74 (2.48)								
Parents not solicited	-1,702.48 (1,582.89)	-50.89 (81.62)			-64.58 (71.55)	0.72 (3.89)								
Other individuals solicited	537.13** (221.80)	10.37 (11.44)					112.34** (46.66)	2.51 (2.64)						
Other individuals not solicited	653.87* (310.58)	4.04 (16.01)					117.09** (48.54)	-0.05 (2.75)						
Constant	285,983,578*** (86,166,814)	878,495 (4,442,966)	48,818,323* (27,864,625)	-417,222 (2,070,891)	-4,866,498 (4,541,062)	-21,100 (246,763)	-23,675,329 (15,471,500)	-399,973 (875,026)	-15,125,439 (14,313,893)	518,371 (1,050,774)	-33,409,335 (27,688,546)	371,294 (546,721)	-7,670,815 (6,765,074)	83,563 (146,889)
Observations	26	26	26	26	26	26	26	26	26	26	26	26	26	26
R-squared	0.82	0.66	0.75	0.51	0.42	0.50	0.58	0.67	0.49	0.55	0.51	0.28	0.54	0.18

Total donations are equal to the sum of donations from all of the donor types included in this table. US News ranking is defined such that an increase in the variable implies a movement up in the rankings.

Standard errors in parentheses. * significant at 10%, ** significant at 5%, *** significant at 1%

The disaggregation reveals still more. The additional \$1.9 million of corporate giving that table 7 (column 5) shows is associated with an article about athletics, goes overwhelmingly not to athletics but to academic programs (table 8, columns 9-10). Only \$121,000, about 6 percent, of the added corporate giving that is associated with an athletics article goes to its athletic programs.

An additional article about *athletics* has no statistically significant association with total donations, but it is associated with a significantly higher level of donations to *athletics* by every group of individual donors and by corporations--\$184,000 from alumni, \$37,000 from parents, \$117,000 from other individuals, and \$121,000 from corporations, and the aggregate effect, \$374,000, while not significant, is close to meeting that test (table 8).

While athletic accomplishments and publicity appear to lead most donor groups to give more to athletics, these positive effects of athletic accomplishments and publicity do not carry over to giving for non-athletic, “academic,” programs. This is consistent with conventional wisdom among university officials—that athletic achievements do not benefit the rest of the university financially, at least not directly through donations.

Our findings shed light on this view. Indeed, there are two versions of it: One is that success in athletics has essentially no effect on donations for non-athletic, academic, purposes. The second is that athletic success has no effect on *total* donations to the university, the increased donations for athletics representing simply a shift from other uses.

Our findings, while derived from a limited sample of 26 universities, show that there is some validity to both positions. On one hand, increased athletic achievement (number of athletic articles) is associated with an (almost significant) increase in giving to athletics, \$374,000 per added article (table 8, column 2, row 1), suggesting that there are financial returns to athletic success. But, on the other hand, the same publicity is not associated with an increase in giving to academic programs (column 1), nor to an increase in aggregate donations to a school (table 7, row 1, column 1).

Athletic success increases giving to athletics but not to the rest of the university. This suggests the conclusion that athletic success generates largely a shift of donations to athletics and away from academic programs. The net effect of is not significantly different from zero. The point estimate of the overall effect, however, is negative. There is no evidence that athletic achievements, as measured by *Times* articles, bring increased donations to non-athletic programs.

Just as athletic successes do not spill over to donations for academic programs, so, reciprocally, there is no spillover effect of academic achievements (articles) on donations to athletics (table 8, column 2, row 2). Not only is there no positive effect on *total* giving to athletics, but that is also the case for every donor group (For alumni there is an estimated negative effect).

Effects of U.S. News& World Report ranking on donations. Does a higher rank translate into greater donations—in total and for each donor group?

The *USNWR* rank of a school is an index of many factors. For the national universities in our sample, "... the *U.S. News* ranking formula gives the most weight (25

percent) to peer assessment scores, because a diploma from a distinguished college helps graduates get good jobs or gain admission to top-notch graduate programs. ... [T]he faculty resources and the graduation and retention measures are also weighted relatively highly (20 percent)” (America’s Best Colleges 2007). Other elements include student selectivity, class size, and percentage of alumni who donate.

The ranking was not developed, nor the weights selected, for the purpose of explaining the level of donations to a school—in total, by donor group, or by the purpose, athletic or academic, of the donation. Still, to explain why there is such variation among schools in their revenue from donations and in the origins of the donations and the restrictions on their use, we also analyze what a school’s *USNWR* ranking, as an indicator of its reputation, adds to the ability of our ability to explain a school’s revenue from private donations.

Even though a school’s *USNWR* ranking is designed to guide prospective students, not donors, donor activity may, nonetheless, be influenced by the ranking. That would be the case if, for example, rank was interpreted as a guide to how productive a donation would be, or if some donors wished to donate to a more prestigious school.

Tables 7 and 8 show that when both *USNWR* ranking and our articles-counts, athletic and academic, are taken into account, a school’s ranking has significant power to explain total private donations and, especially, giving to *academics*. But it has no explanatory power for giving to *athletics*. Being one rank higher is associated with an additional \$3.5 million of total donations, virtually all of which is to non-athletic programs. (Recall that our findings reflect an adjustment of multiplying the *USNWR* rank by -1, so that a one-rank improvement, which otherwise imply a unit *decrease* in the

number, is associated with a larger number and a *positive* effect of rank on donations means that an improvement in rank is associated with greater donations.)

Corporate and foundation contributions: What influences them?

Little is known about the forces affecting corporate giving to universities (or, for that matter, to any other public or nonprofit organization). Currying public favor is a possible motivator. Another is the potential for bringing private benefits to the firm through the research that the grant (“donation”) to a research university supports. Yet another reason for corporate giving could be the CEO’s personal desire to be recognized by the local philanthropic community.

We examined the effects on corporate giving of the characteristics used to explain individuals’ donations. To what extent are corporations influenced to give to a particular university by those same forces? Table 7, column 5, and table 8, columns 9-10 show our findings, most of which were noted earlier: (1) Corporate giving is positively associated with a school’s athletic achievements as measured by the number of *NY Times* articles, each athletics article being associated with \$1.9 million of added donations to the school. (2) All but \$121,000 of that additional corporate contribution goes to academic programs. (3) Both the added contributions to academic and to athletic programs are statistically significant. (4) Corporate giving is influenced positively by a university’s USNWR ranking. (5) Other explanatory variables—academic articles, endowment, and whether the school is public or private—have no significant effects on corporate donations to either academic or athletic programs.

Foundation giving is also positively associated with a school's *USNWR* ranking--\$705,000 for each higher rank (table 7). It appears that foundation policies are supportive of highly-ranked schools and their faculties. Publicity involving athletics or academics, however, have no statistically significant estimated effects on foundations' donations to a university, nor does endowment or ownership form. When we examine the disaggregation, however, we find that the positive overall effect of *USNWR* ranking does not carry over to athletics, and a school's endowment, which has no significant effect on total foundation giving to a university, does have small but significant effect on their giving to athletics (table 8).

Other forces affect donations

Of course there are still other variables influencing individuals' or organizations' willingness to contribute to a particular university. Schools use many increasingly creative approaches to solidify links with potential donors. Systematic data are not available on the following mechanisms designed to generate contributions, but they are interesting to note.

One approach is for colleges to beef up their services to alumni, establishing programs that appeal to alumni years after they graduate. For example, Barnard College in New York, offers "Sweet Mother," a service that helps alumni deal with motherhood issues; "alma mater" means "nourishing mother" in Latin. The ultimate purpose, as the schools freely admit, is to maintain and strengthen alumni ties that may result in additional giving. As the director of alumni relations at the University of Denver noted in 2005, alumni—not faculty and staff—are "the permanent constituency" of the school (Sanoff 2005). Colleges and universities are also investing in expensive reworkings of

their alumni magazines in order to entice larger readerships and therefore larger donations (Daly 2004).

In another approach, colleges and universities are offering alumni and faculty an opportunity to leave their ashes at the school. The University of Virginia built a memorial wall—a *columbarium*—in 1991, with the expectation that it would bring substantial money to the university. It did not, but other schools have followed the lead. The University of Richmond created a campus *columbarium* in 2001, with 3,000 niches, of which 100—3 percent—were sold in the six succeeding years. Sweet Briar College, a liberal arts college for women, built a *columbarium* in the early 1990s, but by 2007 only some half of the 64 spaces were sold, at prices of \$1,800 - \$2,800. At Centre College, a liberal arts college in Danville, Kentucky, only 7 of the 84 spaces were sold after seven years. Hendrix College, the Citadel, and Notre Dame are now building *columbaria*. The managing director of Lipman Hearne, a marketing firm that works with nonprofits, highlights the underlying motivation of the schools: “What schools are looking to do is to get people to include them in their wills, in their estates, and this is a natural adjunct to that” (Finder 2007).

Concluding remarks

Focusing attention on one revenue source at a time—in this paper, on private donations--masks the potentially critical issue of revenue interdependency: Does a change in revenue from one source affect other sources, and if so, in what direction? Does an increase in private donations crowd-out revenue from, for example, government grants? Does increased tuition crowd-*in* donations as potential donors interpret higher

tuition as an indicator of the school's quality and so see the school as more deserving of donations? Or does higher tuition crowd-*out* private donations, as prospective donors resent the higher tuition?

If a school increased its donations revenue by, for example, gaining more publicity for its accomplishments, or increasing its return on its endowment by hiring a better money-manager, might the revenue gain be offset, even in part, by revenue losses from some other source such as tuition? Greater financial success could bring pressure—but if so, from whom?—to reduce tuition or student financial aid, for example. This may be at the root of Princeton's decision in 2007 to hold tuition constant and for the first time in forty years not raise tuition for the following academic year because, allegedly, of its great and unexpectedly high return on its investments (Arenson 2007).

Little is known about such revenue interdependencies, although a number of them have been studied for a number of industries including education, health care, and the arts (see Brooks 2000, Young 1998 and Kingma 1989). Evidence of interdependencies has been found, but the issues are complex and remain unsettled. Among the open issues is the differential importance of the source of increased income: Do the effects of increased return on endowment, increased donations, and increased revenue from rental of football “sky-boxes” have differing effects on other revenue sources? Neither the directions nor magnitudes of interdependencies are clear.

Donations are not a single, homogeneous, revenue source. Donor behavior reflects the combined effects of a school's success in reaching various potential donor groups and providing each with information relevant to it. We examined a number of types of information that might be relevant to one donor group or another:

- The school’s fundraising effort.
- The size of the school’s endowment, as an indicator of its wealth.
- The school’s ranking by *U.S. News & World Report* magazine.
- The school’s successes in athletics and in other, academic, realms, as measured by the number of articles of each type about the school in a *New York Times* article.
- The school’s ownership “type”—public or private.

As expected, these variables have rather different effects on donations from various groups. All donor groups respond positively to *USNWR* ranking, but the magnitudes of response vary considerably. Corporate giving responds positively to athletic accomplishments, but no other donor group does. Alumni respond positively to a school’s greater endowment wealth, as do organizations other than corporations and foundations, but no other group does. Increased solicitation of alumni and of individuals other than alumni and parents generates added donations from those groups, but solicitation of more parents does not. Whether a school is a public or a private nonprofit has an ambiguous effect on donations, depending on whether *USNWR* ranking and publicity about the school are controlled, publics receiving vastly more donations than nonprofits in one formulation of the model, when articles are included, more modestly but insignificantly more when the articles variables are dropped from the model, and modestly but insignificantly *less* donations when articles are included but *USNWR* ranking is excluded. Publicity about a school’s achievements in athletics bring positive and significant donor responses from alumni, parents, other individuals, and corporations,

in their giving to the school's athletic program, but, with the exception of corporations, not in their giving to the school's academic programs.

For all our findings there remains the question of whether there are also longer-term effects of some variables, beyond the current year. Examining a single cross-section of data does not capture, for example, the possible effects of athletic successes in one year on future years' alumni giving. Some of the explanatory variables studied, however—such as USNWR ranking and endowment—are stocks, capturing accumulated long-run differences among schools. In addition there remains the question of whether interactions of private donor behavior with variables reflecting other revenue sources, including governmental contributions and user fees (especially tuition) have interactive effects with private donor behavior. There is much more to learn about the multiple processes determining donations to individual schools, by each donor group, and for various programmatic uses.

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Appendix

Table A1: Means and standard deviations of regression variables by school type, 2004

	Schools in regression samples			
	Public universities	Private universities	Private liberal arts colleges	Public liberal arts colleges
Donations by donor type:				
All donors	99,800,000 (81,000,000)	112,000,000 (121,000,000)	17,600,000 (17,300,000)	1,621,369 (1,548,271)
Alumni	26,500,000 (28,800,000)	34,300,000 (39,700,000)	10,100,000 (15,900,000)	164,836 (226,454)
Parents	1,402,626 (2,184,053)	3,570,256 (6,868,394)	864,042 (1,020,598)	7,872 (13,126)
Other individuals	14,400,000 (13,600,000)	21,300,000 (28,000,000)	2,066,475 (1,964,200)	617,903 (1,027,747)
Corporations	21,800,000 (16,600,000)	13,900,000 (14,400,000)	775,583 (660,630)	401,700 (432,294)
Foundations	28,000,000 (29,700,000)	33,300,000 (39,100,000)	3,497,565 (2,386,232)	383,185 (494,181)
Other organizations	7,741,979 (9,907,700)	5,959,031 (8,170,877)	345,414 (451,382)	45,873 (58,748)
Donations by donor type and purpose:				
All donors, academic	95,200,000 (78,900,000)	111,000,000 (121,000,000)	17,500,000 (17,300,000)	1,593,842 (1,531,133)
All donors, athletic	4,536,958 (4,921,088)	1,094,513 (1,862,978)	122,665 (226,998)	27,527 (57,987)
Alumni, academic	23,500,000 (26,600,000)	33,600,000 (39,300,000)	10,000,000 (15,900,000)	157,232 (224,989)
Alumni, athletic	2,981,065 (3,777,709)	709,802 (1,232,846)	75,547 (168,585)	7,605 (13,437)
Parents, academic	1,289,787 (2,080,905)	3,462,857 (6,787,157)	843,539 (1,006,741)	7,301 (12,727)
Parents, athletic	112,838 (179,053)	107,399 (218,304)	20,503 (32,851)	571 (1,806)
Other individuals, academic	14,400,000 (13,600,000)	21,300,000 (28,000,000)	2,066,447 (1,964,203)	617,800 (1,027,776)
Other individuals, athletic	1,091,984 (1,312,050)	172,347 (444,673)	7,488 (11,736)	7,553 (16,458)
Corporations, academic	20,800,000 (16,400,000)	13,800,000 (14,400,000)	763,902 (655,378)	389,711 (406,478)
Corporations, athletic	988,549 (1,280,215)	137,679 (252,011)	11,681 (19,287)	11,989 (30,984)
Foundations, academic	27,600,000 (29,500,000)	33,200,000 (39,000,000)	3,485,197 (2,382,384)	382,751 (493,204)
Foundations, athletic	383,739 (1,088,051)	122,182 (257,497)	12,368 (29,365)	434 (1,371)
Other organizations, academic	7,671,213 (9,909,966)	5,941,580 (8,169,182)	342,848 (447,519)	38,944 (46,951)
Other organizations, athletic	70,766 (124,010)	17,451 (27,565)	2,566 (9,514)	6,928 (19,669)
Number of observations	33	35	66	10

Table A1, continued: Means and standard deviations of regression variables by school type, 2004

	Schools in regression samples			
	Public universities	Private universities	Private liberal arts colleges	Public liberal arts colleges
Athletic articles	6 (6)	1 (4)	-- --	-- --
Academic articles	5 (7)	5 (4)	-- --	-- --
US News ranking	63 (26)	44 (36)	50 (31)	-- --
Endowment	789,000,000 (793,000,000)	1,980,000,000 (2,840,000,000)	311,000,000 (299,000,000)	9,065,741 (10,200,000)
Alumni solicited	159,032 (101,247)	90,649 (64,842)	17,413 (5,980)	11,964 (11,259)
Alumni not solicited	36,395 (44,491)	8,018 (8,884)	2,204 (2,215)	2,908 (5,275)
Parents solicited	18,618 (17,072)	14,965 (16,146)	5,373 (3,981)	1,156 (1,865)
Parents not solicited	14,232 (21,543)	10,116 (11,787)	3,627 (4,844)	141 (297)
Other individuals solicited	31,779 (42,575)	47,653 (76,244)	2,491 (4,678)	2,773 (4,738)
Other individuals not solicited	53,628 (74,509)	23,652 (49,926)	4,215 (6,338)	1,659 (2,469)
Number of observations	33	35	66	10