



A SHELL GAME BY ANY OTHER NAME:
*The Economics and Rationale
behind Tuition Discounting*

P. JESSE RINE

jCENTER
FOR INNOVATIVE HIGHER EDUCATION
UNIVERSITY OF MINNESOTA

ABOUT THE jCENTER FOR INNOVATIVE HIGHER EDUCATION

The jCENTER for Innovative Higher Education at the University of Minnesota is a community of scholars and practitioners committed to solving the most complex problems facing higher education. Driven by the belief that the current system of higher education in the United States is not sustainable, the Center brings together people and groups—locally, nationally, and internationally—to disrupt current assumptions, engage interdisciplinary stakeholders, and inspire new generations of leaders to create high-quality, accessible, and affordable higher education.

WWW.CEHD.UMN.EDU/JCENTER/

EXECUTIVE SUMMARY

In recent years, concerns regarding runaway college tuition and student loan debt have served to undermine public confidence in the value of American higher education. Ironically, the very issue that is now causing such alarm—high tuition—has long been a signature feature of the financial model intentionally employed by the vast majority of smaller private colleges in the United States. This white paper provides a primer on the economics of private college finance and the rationale behind tuition discounting. After exploring the practical benefits and unintended consequences of the so-called “high-price/high-aid” model, an alternative approach to smaller private college finance is presented and its virtues are considered. The piece concludes with a series of clarifying questions for private colleges and the prospective students and families they seek to serve.

ABOUT THE AUTHOR

P. Jesse Rine earned his B.A. in Christian Thought from Grove City College (www.gcc.edu), where he currently serves as Assistant Provost. Previously, Dr. Rine directed the research programs of two national higher education associations, the Council of Independent Colleges (CIC) and the Council for Christian Colleges and Universities (CCCU). The recipient of the 2012 Outstanding Dissertation Award presented by the Religion and Education Special Interest Group of the American Educational Research Association (AERA), Dr. Rine’s previous work has appeared in the *Journal of College Student Development*, *Journal of College and Character*, *Religion & Education*, and *Christian Higher Education*. He holds a Ph.D. in Higher Education from the University of Virginia and an M.A.T. in Latin from Washington University in St. Louis.

SUGGESTED CITATION

Rine, P. J. (2016). *A Shell Game by Any Other Name: The Economics and Rationale behind Tuition Discounting*. Minneapolis, MN: jCENTER for Innovative Higher Education.

TABLE OF CONTENTS

DIRECTOR'S PREFACE	3
KEY TERMS.....	4
INTRODUCTION.....	5
THE FINANCIAL CHARACTER OF SMALLER PRIVATE COLLEGES	6
THE ECONOMICS OF PRIVATE COLLEGE FINANCE	7
THE RATIONALE BEHIND TUITION DISCOUNTING	10
TUITION DISCOUNTING IN PRACTICE	11
THE BENEFITS OF TUITION DISCOUNTING	12
THE UNINTENDED CONSEQUENCES OF TUITION DISCOUNTING	13
AN ALTERNATIVE APPROACH TO TUITION PRICING AND FINANCIAL AID	15
CONCLUSION	17
REFERENCES.....	18
FOR FURTHER READING	19

DIRECTOR'S PREFACE

Tuition discounting, the practice of charging most students less than the advertised rate of tuition, has become an enduring enrollment management strategy among private colleges and universities in the United States. However, concerns about the sustainability and long-term consequences of this practice continue to grow. Alarm bells are sounding, signaling that tuition discounting may be deceptive, spiraling out of control, and harming public confidence in American higher education.

Despite these warnings, many colleges are doubling down on the strategy; a recent report from the National Association of College and University Business Officers (NACUBO) indicated that private colleges' discount rate for first-time, full-time freshmen has reached another all-time high. Nevertheless, a few colleges have bucked this trend and are resetting their tuition to reflect the true cost of education. Such colleges go against the tide and promote an opposing narrative about financial aid and student recruitment practices. But on what basis?

In this jCENTER white paper, P. Jesse Rine explains the fundamentals of tuition discounting and the impetus behind its widespread use in higher education. He identifies the harms and hidden implications of this strategy and provides an alternative path forward, one which promotes transparency and sustainability within the sector. In describing the mission-centered approach to tuition pricing and financial aid adopted at Grove City College, Dr. Rine articulates how enrollment management practices may affirm college values, institutional identity, and brand position in a competitive higher education marketplace.

jCENTER supports the flow of innovative ideas that disrupt long-standing assumptions about purposes, policies, and practices within higher education. This white paper fits squarely within these objectives. It tackles the important and timely topic of tuition discounting, laying the groundwork for ongoing analysis and critique of this pervasive practice. Its informed and insightful discussion will challenge readers to chart a new way forward as they consider one of the most vexing dilemmas in the private college sector today.

David Weerts

Associate Professor and Faculty Director
jCENTER for Innovative Higher Education
University of Minnesota - Twin Cities
July 2016

Alarm bells are sounding, signaling that tuition discounting may be deceptive, spiraling out of control, and harming public confidence in American higher education.

KEY TERMS

Classmate Subsidy - The phenomenon that results when lower-rated applicants are required to pay a higher tuition rate so that higher-rated applicants can receive a tuition discount in the form of an unfunded institutional grant.

Consumer Surplus - The market demand existing above the market-clearing price. When colleges set their tuition rates at the market-clearing price, they fail to capture the consumer surplus and its corresponding additional tuition revenue.

Donative-Commercial Nonprofit Organization - A nonprofit organization supported by two primary revenue streams—charitable contributions and payments for goods and/or services.

Institutional Aid - Scholarship awards provided to prospective students according to financial need, personal characteristics, or academic merit. Also known as institutional grants.

Market-Clearing Price - The price at which supply and demand are in equilibrium. The market-clearing price is the tuition rate at which a college could expect to attract enough students to fill its desired incoming class.

Market Demand - The total number of students who would choose to enroll if an institution charged a specific amount of tuition. Generally speaking, market demand decreases as a college increases its tuition rate.

Paper Discount - The standard reduction in the published tuition rate that every student receives. Occurs only at colleges that award institutional grants to 100 percent of their incoming class of students.

Price Discrimination - The ability of an institution to charge different prices for the same good or service. Colleges exercise price discrimination when they charge different tuition rates to students enrolled in the same educational program.

Sticker Price - The publicly advertised retail or asking price for a good or service, often used as a starting point for negotiations. A college or university's published tuition rate is its sticker price.

Tuition Dependency - The proportion of an institution's total expenses funded by its tuition revenue. Smaller private colleges tend to exhibit a higher degree of tuition dependency than larger public institutions.

Tuition Discounting - The practice of setting a high tuition sticker price and then offering a large discount in the form of institutional aid.

Unfunded Grants - Simple discounts off the tuition sticker price, often presented to prospective students as merit- or need-based scholarships. Unlike funded grants, which are drawn from a college's endowment or annual fund, unfunded grants are not offset by revenue from other sources.



A SHELL GAME BY ANY OTHER NAME: *The Economics and Rationale behind Tuition Discounting*

P. JESSE RINE

INTRODUCTION

In recent years, concerns regarding runaway college tuition and student loan debt have risen to the forefront of the public consciousness. A week cannot pass, it seems, without a major media outlet drawing attention to the rising cost of obtaining a college degree (e.g., Berman, 2016; Carey, 2015; Selingo, 2016). Although the quality of reporting on this issue can vary widely—from empirical analysis of representative data to anecdotal outliers presented as the norm—the cumulative effect has been an undermining of public confidence in the value of American higher education. For smaller private colleges, tuition-dependent institutions whose very survival depends upon enough students first recognizing the economic premium afforded by a bachelor’s degree and then deciding to enroll each year, this turn of events represents an existential threat.

Ironically, the very issue that is now causing such alarm—high tuition—has been a signature feature of the financial model intentionally employed by the vast majority of smaller private colleges in the United States. In the so-called “high-price/high-aid” model, private colleges mark up their “sticker price” and then offset the tuition hike with sizable institutional grants that take the form of merit-based, need-based, or characteristic-based scholarships. Prospective students and their families are often relieved to learn that very few private college matriculants actually pay their institution’s full published tuition. Less known, however, is the unfunded nature of the majority of the financial aid awarded by private colleges; in fact, most institutional grants are nothing more than a simple discount off the college’s sticker price.

On its face, the high price/high aid model naturally solicits two related questions: (1) Why would a private college artificially raise its tuition, just to turn around and offer discounts to prospective students through institutional grants? and (2) Wouldn’t it be far easier to simply charge students the net tuition price (sticker

Ironically, the very issue that is now causing such alarm—high tuition—has been a signature feature of the financial model intentionally employed by the vast majority of smaller private colleges in the United States.

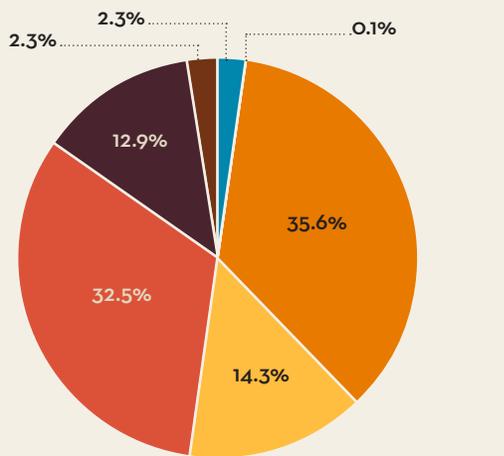
price minus institutional grants) and avoid all the bad press about skyrocketing college costs?

This white paper seeks to answer these questions by first exploring the financial character of smaller private colleges, the economics of private college finance, and the rationale behind tuition discounting. Attention will then turn to the practical benefits—and the unintended consequences—that result from the high-price/high-aid model. Next, an alternative approach to private college tuition pricing and financial aid—the Grove City College model—will be considered as a contrast to the dominant tuition discounting model. The piece concludes with a series of clarifying questions for private colleges and the prospective students and families they seek to serve.

THE FINANCIAL CHARACTER OF SMALLER PRIVATE COLLEGES

To understand the behavior of a certain institutional type, one must first know which characteristics make it unique. Smaller private colleges share many financial structures with their postsecondary peers, yet two related traits elucidate their particular economic behavior. Smaller private colleges are **donative-commercial nonprofit organizations** with a high degree of **tuition dependency**.

FIGURE 1: AVERAGE ANNUAL REVENUE SOURCES AT PRIVATE BACCALAUREATE COLLEGES, FY2014



- Tuition and Fees
- Sales and Services of Auxiliary Enterprises and Educational Activities
- Investment Return
- Private Gifts, Grants, Contracts, and Contributions from Affiliated Entities
- Federal, State, and Local Grants and Contracts
- Independent Operations, Hospital, and Other Revenue
- Federal, State, and Local Appropriations

SOURCE: Integrated Postsecondary Education Data System (IPEDS), National Center for Education Statistics, U.S. Department of Education. Sample includes all private not-for-profit 4-year baccalaureate liberal arts and comprehensive institutions in the U.S. (“Arts & Sciences” + “Diverse Fields” classifications; n = 473). Analysis by Author.

Donative-Commercial Nonprofit Organizations

Nearly every smaller private college in the United States is a nonprofit organization. As such, these colleges seek to pursue and fulfill a particular mission, and any excess revenue they generate is directed back into the operating budget rather than distributed to a group of shareholders. How, then, do smaller private colleges procure the revenue necessary to pursue their unique institutional missions?

Drawing upon Hansmann (1981), Gordon C. Winston (1999) describes the two major types of nonprofit organizations and their associated revenue streams. The “donative nonprofit” receives contributions from individuals who wish to support the organization’s particular ideological purpose, while the “commercial nonprofit” receives payment for the goods or services it provides to the public. Winston explains that colleges are able to draw upon both sources of revenue—through charitable contributions and tuition charged—and should therefore be understood as “donative-commercial nonprofits.” Although most smaller private colleges enjoy multiple sources of revenue, the largest streams are typically connected to the sale of educational services and the receipt of charitable donations.

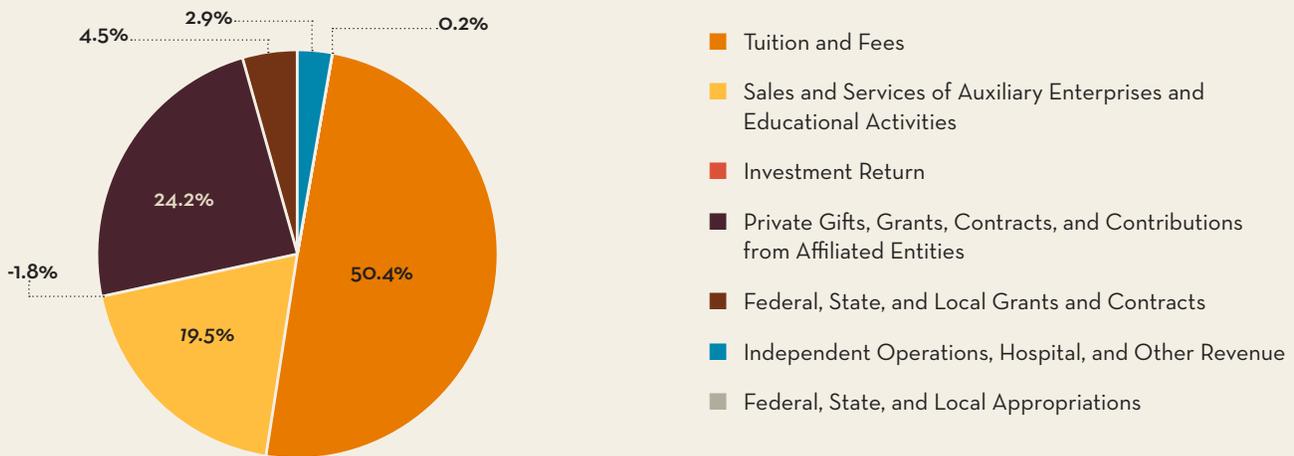
Tuition Dependency

Figure 1 presents the average annual revenue sources at smaller private colleges for fiscal year 2014 and illustrates that student tuition and fees constitute the largest and most stable revenue stream. Moreover, when tuition and fees are combined with sales and services of auxiliary enterprises (e.g., residence halls, food services, intercollegiate athletics, student health services, etc.), these two enrollment-related revenue streams account for half of the typical smaller private college’s annual operating budget.

This proportion grows in years when the investment return on an institution’s endowment is flat or even negative. Fiscal year 2008, which took place at the start of the Great Recession, illustrates well this phenomenon; that year, the average investment return at small private colleges was negative while the revenue from tuition and fees constituted just over half of the total operating budget (see Figure 2). In good times and in bad, smaller private colleges are tuition-dependent institutions.

Thus, for all but the very few elite institutions with healthy endowments, the tuition rate a private college selects is one of the most consequential decisions it will make each year. The amount of tuition an institution collects will determine in large part the volume of resources available to support its operations. If a college collects too little tuition one year, administrators may be forced to make programmatic adjustments to trim costs; if it does so multiple years in a row, drastic changes to the college’s structure and character may be required to ensure institutional solvency.

FIGURE 2: AVERAGE ANNUAL REVENUE SOURCES AT PRIVATE BACCALAUREATE COLLEGES, FY2008



SOURCE: Integrated Postsecondary Education Data System (IPEDS), National Center for Education Statistics, U.S. Department of Education. Sample includes all private not-for-profit 4-year baccalaureate liberal arts and comprehensive institutions in the U.S. (“Arts & Sciences” + “Diverse Fields” classifications; n = 473). Analysis by Author.

THE ECONOMICS OF PRIVATE COLLEGE FINANCE

In his seminal work *Liberal Arts Colleges: Thriving, Surviving, or Endangered?*, David W. Breneman outlines a microeconomic theory of smaller private college financial behavior. Building on the work of Hopkins and Massey (1981) and drawing upon results from a series of site visits and his own personal experience as the president of a liberal arts college, Breneman (1994) begins with the premise that private college administrators seek to maximize value across all aspects of the institution, and he posits that this “value optimization” occurs in two stages. In the first stage, administrators set the desired enrollment for the institution, which determines the extent of the academic program, the appropriate number of faculty and staff, and the facilities needed to serve the student body. In the second stage, administrators attempt to maximize institutional quality across the student body, the faculty, and the college facilities. Breneman notes that these efforts are made in the context of the desired enrollment size and the college’s operating budget.

Thus, for all but the very few elite institutions with healthy endowments, the tuition rate a private college selects is one of the most consequential decisions it will make each year.

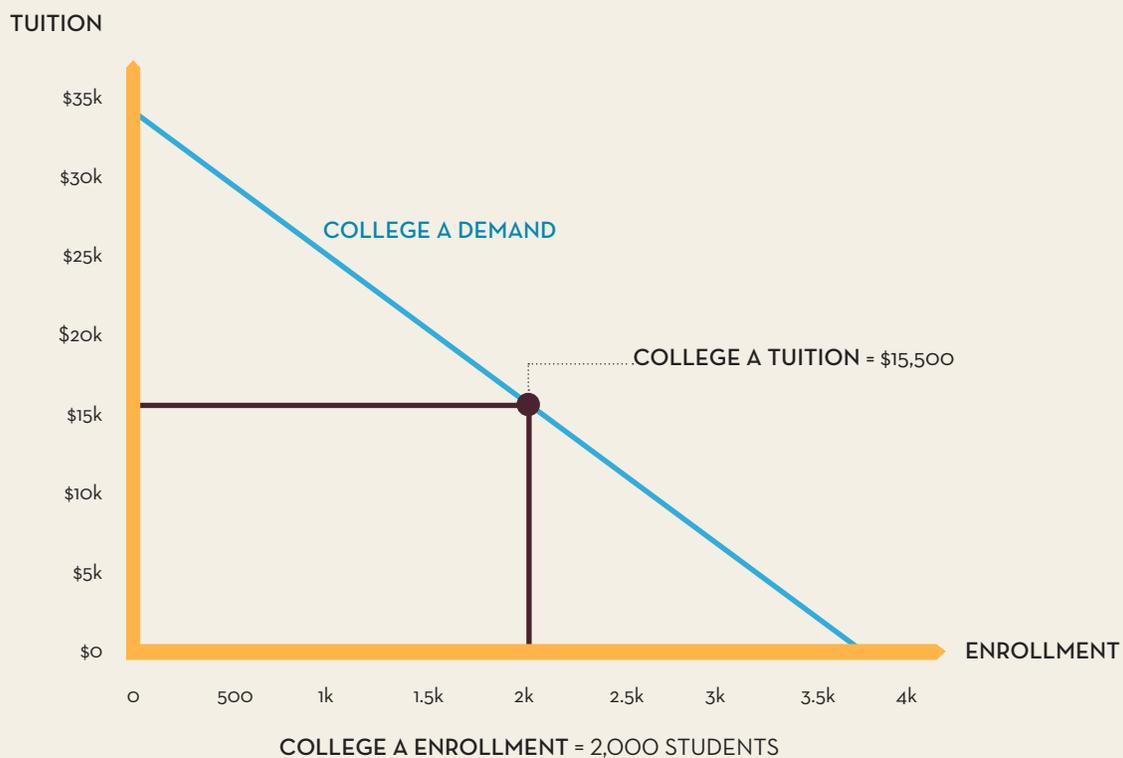
Market Demand

Breneman introduces two key economic concepts—**market demand** and **price discrimination**—which, taken together, demonstrate that meeting the basic requirement of collecting enough tuition to support institutional operations is, in practice, a complex endeavor. First, Breneman uses a downward-sloping demand curve to depict the inverse relationship between a particular college's tuition and the total number of prospective students who would be able and willing to enroll in the college at each price point. The demand curve illustrates that as a college increases its tuition rate, the college's prospective student pool decreases, and vice-versa. Figure 3 illustrates the relationship between tuition price and market demand. For instance, if College A were to charge a tuition rate of \$15,500, market demand would support an enrollment of 2,000 students.

It is important to note that market demand is not constant across the sector of private higher education, as colleges operate within a dynamic competitive market. If given the choice between two equally priced colleges, most students would select the higher prestige option. This reality requires colleges to be sensitive to their relative positioning within the higher education landscape.

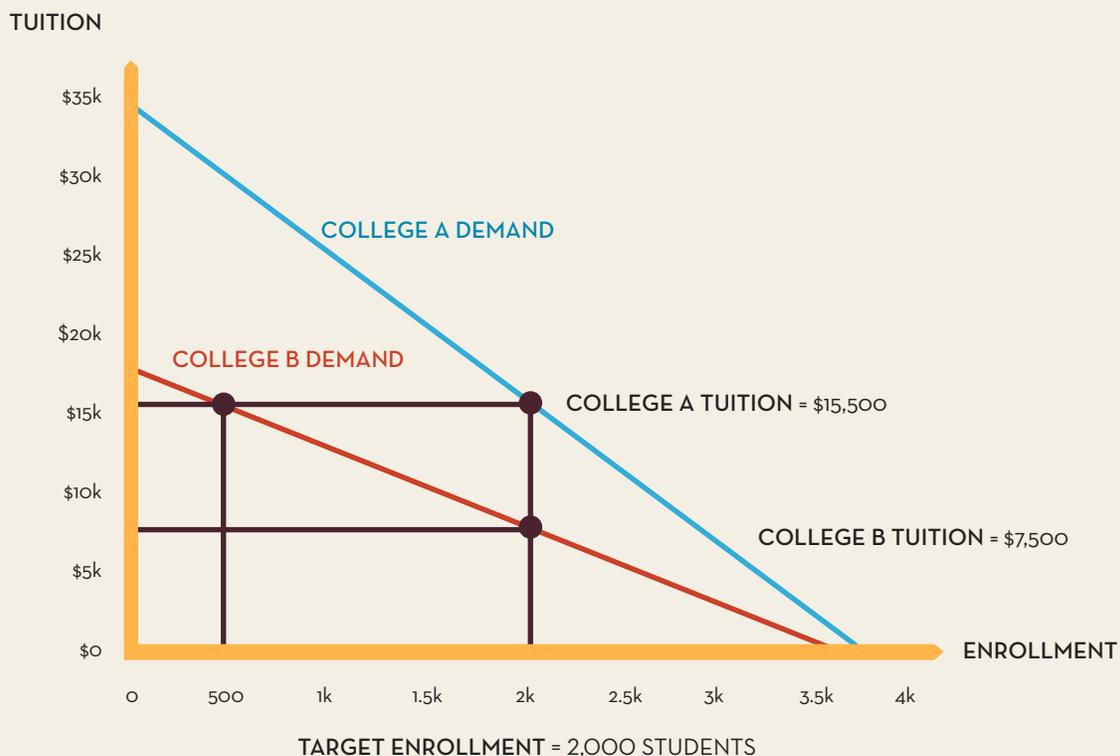
For example, the demand curve of a high prestige college located in a desirable part of the country and offering popular academic programs on an historic campus (see College A in Figure 4) will have a greater downward slope than a college that lacks these traits (College B in Figure 4). Consequently, if these two institutions seek to enroll the same number of students, the former will be able to charge a higher tuition rate than the latter. Because College A enjoys greater market demand, it can charge a tuition rate of \$15,500 and still attract 2,000 students to enroll. If College B were to charge \$15,500, it would only attract 500 students; to ensure a full class of 2,000 students, College B must lower its tuition rate to \$7,500.

FIGURE 3: THE RELATIONSHIP OF TUITION TO ENROLLMENT



Adapted from Figure 3-2 of Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, DC: Brookings Institution Press.

FIGURE 4: THE EFFECT OF DEMAND ON TUITION PRICE



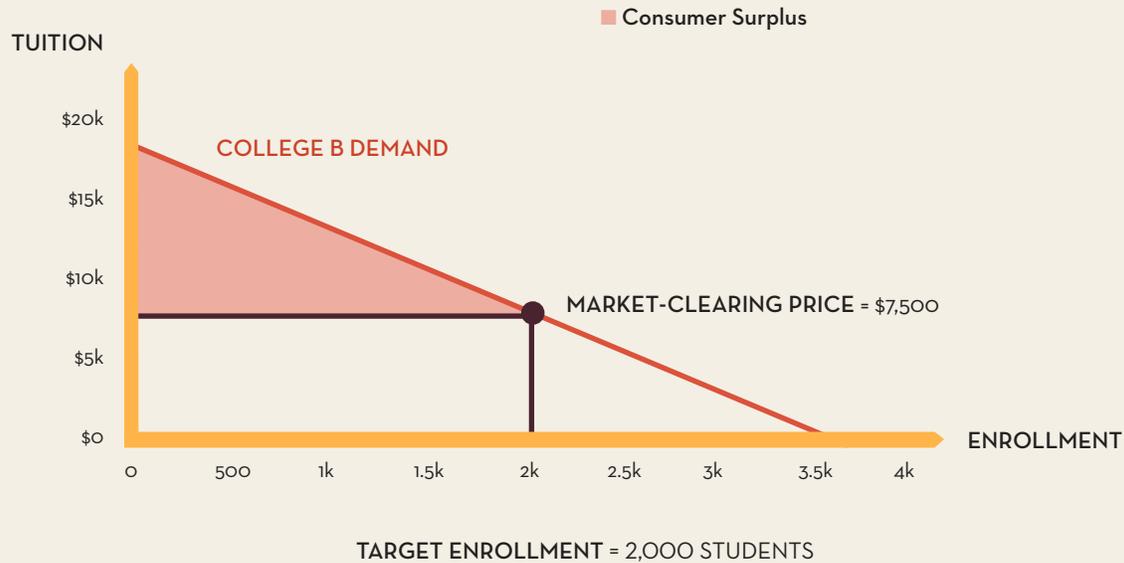
Adapted from Figure 3-2 of Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, D.C.: Brookings Institution Press.

Consumer Surplus

The downward-sloping demand curve indicates that as a private college decreases its tuition rate, the number of prospective students willing to enroll in the college will increase. Thus, if a college chose to set its tuition rate at the **market-clearing price**, or the price at which supply and demand come into equilibrium, it would be able to attract a full class of incoming students. In our earlier example, this price would be \$7,500 for College B (see Figure 4). However, Breneman notes that this strategy would fail to capture the **consumer surplus** of some students who would be willing to pay more to attend the college (represented by the pink shaded region in Figure 5). How, then, do private colleges set their tuition rates in such a way that they can attract a full incoming class of students without “leaving money on the table”? A consideration of the relationship between institutional distinctiveness and economic behavior brings the answer to this question into focus.

If given the choice between two equally priced colleges, most students would select the higher prestige option. This reality requires colleges to be sensitive to their relative positioning within the higher education landscape.

FIGURE 5: THE MARKET-CLEARING PRICE AND THE CONSUMER SURPLUS



Adapted from Figure 3-2 of Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, D.C.: Brookings Institution Press.

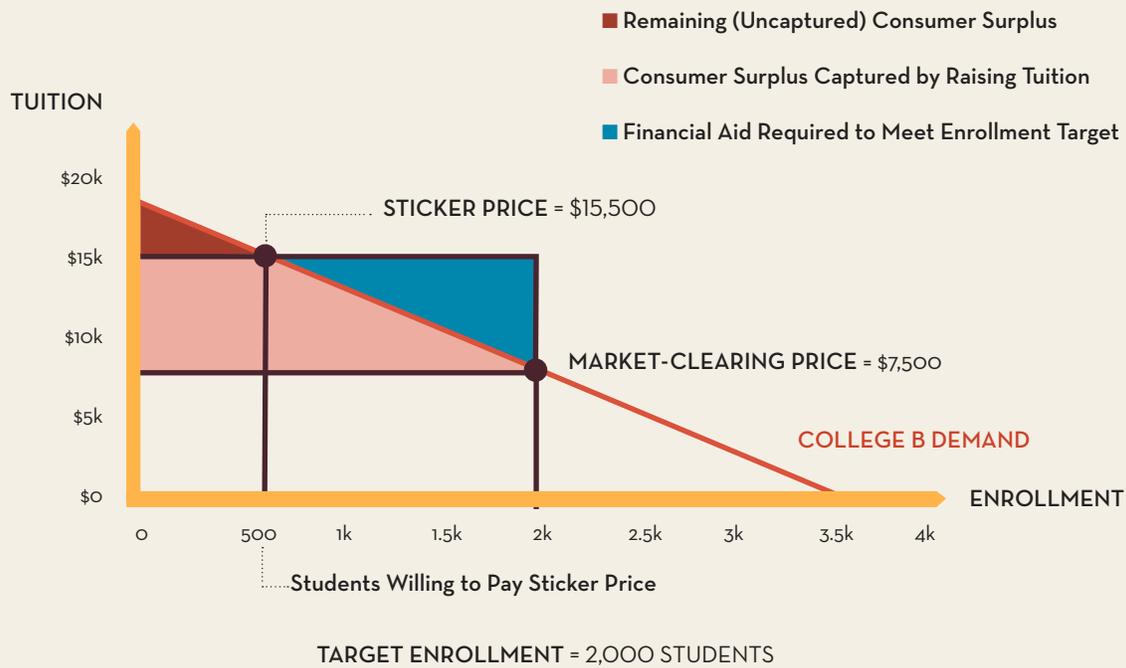
Price Discrimination

Because each private college is defined by a unique set of traits (e.g., location, history, curriculum, tradition, etc.), Breneman argues that private colleges essentially behave as price-discriminating monopolists, a second key economic concept. As the sole provider of a particular combination of institutional characteristics that compose a signature student experience, each private college is able to exercise power over both supply and price. Supply, or how many students the colleges will serve, is determined in the first stage of value optimization (explained above), and price discrimination, or charging a different price for the same service, is used to build the most desirable incoming class of students possible. This is where financial aid comes into play.

THE RATIONALE BEHIND TUITION DISCOUNTING

In an attempt to capture as much of the consumer surplus as possible, private colleges typically publish a **sticker price** well above the market-clearing price (see Figure 6). Then, in order to meet their enrollment targets, these colleges use **institutional aid** to provide **tuition discounts** in the form of merit-based, need-based, and characteristic-based scholarships. For example, Figure 6 illustrates that if College B charged a sticker price of \$15,500, it would be able to capture most of the consumer surplus (the pink-shaded region) it would have lost if it had charged only the market-clearing price. However, its demand curve suggests that only 500 students would be willing to pay this higher tuition rate. To hit its full enrollment target of 2,000 students, College B must offer financial aid to students who fall lower on its demand curve, that is, to those who fall between the sticker price and the market-clearing price. The blue-shaded region in Figure 6 represents the total amount of financial aid College B would need to provide to enroll a full class of students.

FIGURE 6: RELATIONSHIP BETWEEN DEMAND, STICKER PRICE, AND FINANCIAL AID



Adapted from Figure 3-2 of Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, D.C.: Brookings Institution Press.

It is important to note that the size of each individual tuition discount will vary according to the point at which a particular student falls on the demand curve. For example, the educational demand of a student with multiple desirable traits—one who was the high school valedictorian, earned an SAT score in the 95th percentile, participated in multiple extracurricular or athletic activities, etc.—will fall closer to the market-clearing price. Because this highly qualified student will be recruited by a number of colleges, College B will have to offer a large amount of financial aid to incentivize this student to enroll. In contrast, the educational demand of a less academically remarkable student will fall closer to the sticker price, as this student likely will have fewer high-quality educational options and will therefore be willing to pay a higher tuition rate if offered admission to the institution.

TUITION DISCOUNTING IN PRACTICE

Lucie Lapovsky (2004) has provided a useful illustration of how a typical private college admissions team seeks to build an incoming class of students using tuition discounting. According to Lapovsky, admissions officers review each application, consider the particular student’s attributes, and assign a rating that signals the overall desirability of the applicant. How particular student attributes are weighted in the final rating varies by institution, but most consider a mix of academic aptitude (e.g., test scores, grade point average, etc.), college preparation (e.g., strength of high school curriculum, writing sample, etc.), and personal characteristics (e.g., race/ethnicity, socioeconomic status, first-generation status, hometown, athletic ability, etc.). The admissions team uses the results of the ratings exercise to maximize the quality of its incoming class of students by offering admission to the strongest applicants in the pool.

To encourage enrollment, the college will then provide varying degrees of financial aid to admitted students. Lapovsky notes that colleges use their admissions quality ratings to determine

TABLE 1: HYPOTHETICAL DISTRIBUTION OF FRESHMAN CLASS BY QUALITY AND TUITION RATE

Tuition Rate	QUALITY RATING			TOTAL	
	A	B	C	Number	Percent
\$25,000 (full pay)	0	0	33	33	8%
\$20,000 - 24,999	0	40	81	121	30%
\$15,000 - 19,999	0	62	24	86	22%
\$10,000 - 14,999	29	10	4	43	11%
\$5,000 - 9,999	78	6	2	86	22%
\$1 - 4,999	25	2	0	27	7%
\$0 (full scholarship)	4	0	0	4	1%
Total Students	136	120	144	400	100%
Total Net Tuition	\$1,010,000	\$2,160,000	\$3,132,500	\$6,302,500	
Average Tuition Rate	\$7,426	\$18,000	\$21,753	\$15,756	

Adapted from Page 13 of Lapovsky, L. (2004). "Tuition Discounting and Prudent Enrollment Management," *AGB Priorities* (Number 24, Fall 2004). Washington, D.C.: Association of Governing Boards.

differential tuition rates for admitted students. Highly rated students receive more financial aid (i.e., a deeper discount on the sticker price), while applicants with a lower rating pay a much higher tuition rate. Table 1 illustrates how an incoming class of 400 students might be distributed across various tuition rates.

This example highlights two signature features of the high-price/high-aid model. First, the overwhelming majority of admitted students receive a discount off the published sticker price of \$25,000, such that the average tuition rate students pay is only \$15,756. Second, applicants who are rated most highly receive the greatest discount, up to a full tuition scholarship, while those judged least qualified are charged more, up to the full published tuition rate.

THE BENEFITS OF TUITION DISCOUNTING

In addition to the financial benefit of capturing a significant portion of the consumer surplus, a number of motivations lead smaller private colleges to utilize tuition discounting as part of their pricing strategy.

Tuition discounting enables colleges to send positive signals to prospective students regarding educational quality, their appreciation for students, and educational value.

Price is a key signifier of product quality (Dawar & Parker, 1994). By setting a high sticker price, a private college can signal educa-

tional quality to prospective students who often conclude, "This must be a good college, look how much it costs!" When those students receive a large tuition discount in the form of a scholarship, they then draw two additional positive conclusions. First, the scholarship signals that the college values the prospective student: "This college appreciates my personal accomplishments and really wants me to enroll because it gave me a scholarship." Second, the scholarship enables the prospective student to realize a significant educational value: "If I accept this scholarship, I am getting an excellent education at a fraction of the total cost." This high price/high aid model is a win-win-win for the college's recruiting efforts.

Tuition discounting enables colleges to improve the academic profile of their incoming classes of students.

By offering tuition discounts in the form of merit scholarships, smaller private colleges can compete for academically gifted students who might typically enroll elsewhere. The higher sticker price achieves two important goals. First, it signals the educational quality that academically capable students seek, and second, it narrows any prestige gaps perceived to exist between the institution and its more highly esteemed competitors. Once the competitive disadvantages in educational quality have been reduced, the merit scholarship itself provides a strong financial incentive for matriculation.

Tuition discounting enables colleges to increase the diversity of their student bodies.

The positive educational outcomes resulting from structural diversity are so well documented in the research literature that a diverse student body has become a key indicator of educational quality (Chang, Denson, Saenz, & Misa, 2006; Hu & Kuh, 2003). A differential pricing approach enables smaller private colleges to more aggressively recruit students from diverse backgrounds (e.g., racial, socioeconomic, regional, etc.) by offering institutional grants in the form of merit-based, need-based, and characteristic-based financial aid.

By offering tuition discounts in the form of merit scholarships, smaller private colleges can compete for academically gifted students who might typically enroll elsewhere.

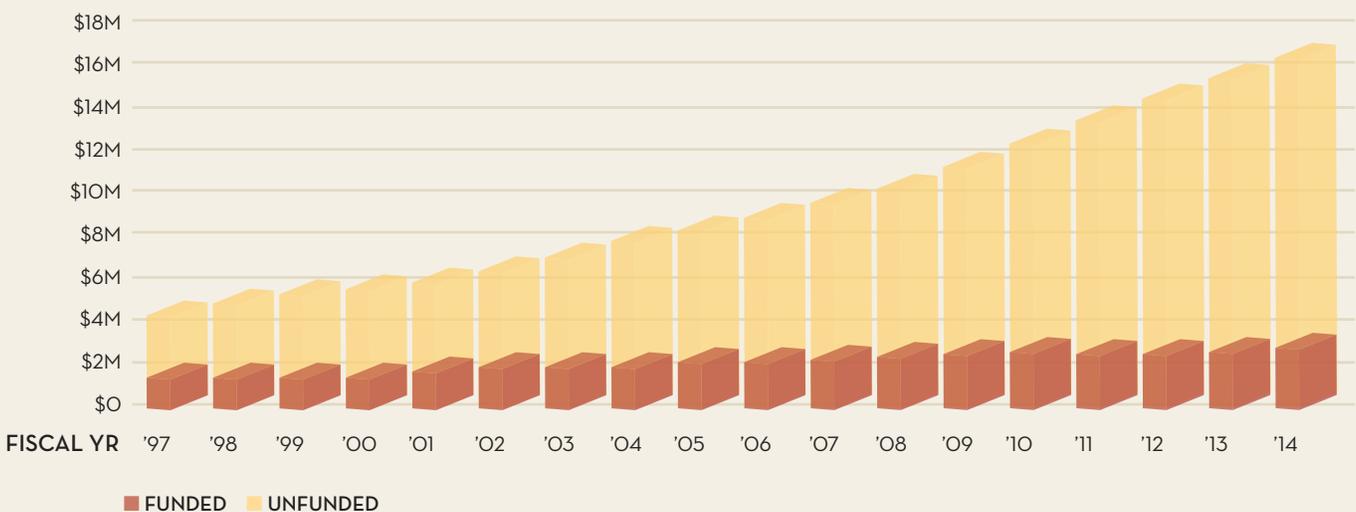
THE UNINTENDED CONSEQUENCES OF TUITION DISCOUNTING

Although tuition discounting affords a number of practical benefits, it also engenders a number of unintended consequences for prospective students and their families.

Tuition Discounting Promotes Artificial College Pricing

The high-price/high-aid model encourages smaller private colleges to mark up their sticker prices far beyond what is necessary to cover their actual operational expenses—the higher the sticker price, the stronger the public perception of educational quality, and the larger the average tuition discount for students. Although smaller private colleges routinely offer scholarships (often named in honor of someone) that were established by a financial contribution to the institution’s endowment, few prospective students understand that most of the institutional grant aid provided by smaller private colleges is unfunded. In other words, the majority of merit- and need-based scholarship awards are nothing more than simple discounts off an arbitrary sticker price. Moreover, Figure 7 illustrates that the use of **unfunded grants** has absolutely exploded since the late 1990s, while funded grant levels have grown at a much more gradual pace. In FY1997, the ratio of unfunded to funded institutional aid awarded per private baccalaureate college was just over 2:1. In FY2014, that ratio had climbed to nearly 5:1.

FIGURE 7: AVERAGE TOTAL INSTITUTIONAL GRANT AID AWARDED PER PRIVATE BACCALAUREATE COLLEGE, FY1997 TO FY2014



SOURCE: Integrated Postsecondary Education Data System (IPEDS), National Center for Education Statistics, U.S. Department of Education. Sample includes all private not-for-profit 4-year baccalaureate liberal arts and comprehensive institutions in the U.S. (“Arts & Sciences” + “Diverse Fields” classifications; n = 473). Analysis by Author.

The proliferation of unfunded aid has rendered published tuition rates virtually meaningless, as nearly nine out of ten incoming freshmen now receive institutional grants at private colleges and the average discount rate at these institutions is almost 50 percent (NACUBO, 2015). A significant number of private baccalaureate colleges (24 percent in 2013-14) offer institutional grants to 100 percent of their incoming class, effectively giving a **paper discount**, or standard reduction in the published tuition rate, to every student. No longer an accurate reflection of cost per student enrolled, the tuition sticker price has become little more than an opening value for price negotiation between colleges and the students they seek to recruit.

Tuition Discounting Diverts Attention from True Measures of Academic Quality

The artificial pricing practiced as part of the high-price/high-aid approach to smaller private college finance encourages people to make judgments about an institution’s educational quality based on its published tuition rate, as if a college education were a commodity like an automobile or a pair of shoes. This approach limits considerations of academic quality to cost alone and tends to ignore more relevant questions regarding student success after matriculation. What are the outcomes students experience after they enroll in the institution? Do they receive the personal attention they need to succeed academically? How many students typically persist to graduation? Are they able to find employ-

ment or gain acceptance to graduate school within six months of graduation? These measures of academic quality are pushed aside when the sole focus is on cost.

Tuition Discounting Encourages Prospective Students to Adopt a Consumerist Mentality toward Higher Education

Not only does the high-price/high-aid model encourage prospective students to view higher education as a commodity, but it also incentivizes admitted students to negotiate for the highest tuition discount. This mindset shifts the goal of students and families from finding the best possible institutional fit given the student’s unique background, needs, and interests, to securing the lowest possible price or the greatest educational value. Although cost is certainly an important factor in any student’s college decision, it need not—and arguably should not—be the only (or even primary) consideration. Institutional fit has long been understood as a driver of student retention, persistence, and graduation (Bean, 1983; Tinto, 1987)—all of which are prerequisites to fully realizing the educational value of a lower tuition rate. A singular focus on “getting the best deal” obscures the most critical consideration in the college choice process—the likelihood of student success.

Tuition Discounting Employs a Redistributionist Pricing Scheme

Tuition discounting provides a mechanism for incentivizing particular student populations to enroll. However, this pricing flexibility comes at a cost, but not one that the institution bears. Because

TABLE 2: HYPOTHETICAL DISTRIBUTION OF FRESHMAN CLASS BY QUALITY AND TUITION RATE, WITH HIGHLIGHTS OF STUDENTS PAYING MORE OR LESS THAN AVERAGE TUITION RATE

Tuition Rate	QUALITY RATING			TOTAL	
	A	B	C	Number	Percent
\$25,000 (full pay)	0	0	33	33	8%
\$20,000 - 24,999	0	40	81	121	30%
\$15,000 - 19,999	0	62	24	86	22%
\$10,000 - 14,999	29	10	4	43	11%
\$5,000 - 9,999	78	6	2	86	22%
\$1 - 4,999	25	2	0	27	7%
\$0 (full scholarship)	4	0	0	4	1%
Total Students	136	120	144	400	100%
Total Net Tuition	\$1,010,000	\$2,160,000	\$3,132,500	\$6,302,500	
Average Tuition Rate	\$7,426	\$18,000	\$21,753	\$15,756	

Adapted from Page 13 of Lapovsky, L. (2004), “Tuition Discounting and Prudent Enrollment Management,” *AGB Priorities* (Number 24, Fall 2004). Washington, D.C.: Association of Governing Boards.

all students do not receive the same discount—and some receive no discount at all—a redistributionist system results in which one group of students pays the full sticker price so that another group of students can enjoy sizable tuition discounts.

Recall the differential pricing framework presented earlier, which demonstrated that the most highly rated applicants paid the least amount of tuition (see Table 2). In this example, although the tuition sticker price was \$25,000, the average tuition rate that students actually paid was only \$15,756. However, this average tuition rate was not equally distributed across all students.

For example, the average tuition rate for the “A” rated applicant group (shaded in gray) was less than the half the average tuition rate for all students (shaded in blue). Moreover, although students within the “A” rated applicant group (shaded in orange) paid different tuition rates, every student in this group paid less than the average tuition rate for all students. As a result, the “A” rated applicants contribute only a sixth of the total net tuition collected by the institution (\$1,010,000/\$6,302,500) even though they represent a third of the incoming class (136/400).

In contrast, a third of the “B” rated applicants and most of the “C” rated applicants (both shaded in gold) paid more than the average tuition rate. If one assumes that the overwhelming majority of the institutional aid received by “A” applicants is unfunded (see Figure 7), then the college has essentially offered a substantial discount to its most desirable applicants and made up for the lost revenue by charging a higher tuition rate to almost everyone else. Although no one student directly pays the tuition bill of another, excess tuition collected from one group of students allows the college to offer deeper discounts to another group of students.

Consequently, the “A” rated applicants (shaded in orange) are receiving a tuition subsidy made available by their peers who have paid more than the average tuition rate. Not only do the lower-rated applicants pay more for the same educational experience, but most have no idea that they are subsidizing their more highly rated classmates, and many must finance the additional tuition costs through federal student loans. Although use of this **classmate subsidy** is widespread throughout private higher education, it is even more pronounced at less resourced institutions. In fact, “[a]t private schools without large endowments, more than half of the tuition may be set aside for financial-aid scholarships” (Belkin, 2014).

Taken together, the artificial nature of most sticker prices, the unfunded status of most institutional aid, the intentional lack of pricing transparency, and the use of classmate subsidies call the legitimacy of the high-price/high-aid model into question. To many, the mechanics of the financial aid model employed by most smaller private colleges may appear more like a shell game than an equitable approach to pricing a college education.

Tuition Discounting Is Susceptible to Unsustainable Escalation

As troubling as the high-price/high-aid system may be for individual students who wonder whether they are paying for a classmate subsidy, its long-term effects may prove to be even more problematic for the smaller private college sector as a whole. Private colleges operate within a dynamic competitive landscape, such that one institution’s tuition pricing and financial aid decisions will necessarily affect its closest competitors and will likely elicit a related strategic response. For more than a decade, economists of education have warned that increases in tuition discounting could escalate in response to heightened consumer awareness and the strategic pricing of competing colleges (Breneman, Doti, & Lapovsky, 2001). Recent trends suggest that this escalation has in fact become a reality, as many smaller private colleges have been forced to increase their financial aid faster than their published tuition rates, resulting in flat or even negative net tuition growth (Lapovsky, 2005; NACUBO, 2015).

In short, most smaller private colleges are now committed to a tuition pricing and financial aid model in which they must offer ever higher and mostly unfunded tuition discounts to incoming students in order to meet the same enrollment targets each year. And the efficacy of the entire system depends upon the continued enrollment of lower-rated applicants who unknowingly subsidize their higher-rated classmates.

AN ALTERNATIVE APPROACH TO TUITION PRICING AND FINANCIAL AID

Grove City College, an undenominational Christian college in Western Pennsylvania, is known by many as the small private college that has chosen, on principle, not to accept federal student aid (Edwards, 2000). All of its student loans are serviced by a private lender and the college’s faculty do not participate in any federally funded research initiatives. Grove City College graduates typically pay off their private student loans much faster than the national average, and in the extremely rare case when a Grove City College graduate defaults on his or her student loan, the American taxpayer is not on the hook for the loss.

Less known is the unique approach Grove City College takes to tuition pricing and financial aid. This approach is grounded in the college’s historic mission, which seeks to provide an academically excellent education in a thoroughly Christian environment at an affordable price. Grove City College’s approach to tuition pricing and financial aid is guided by several of its core institutional values.

Fiscal Responsibility

Grove City College exercises wise stewardship of private resources by utilizing a lean administrative structure and offering an excellent—but not extravagant—educational experience. At its founding, the college’s first board chair, Joseph Newton Pew, instructed the college’s first president, Isaac C. Ketler, to “Make the college healthful, for that is essential. Make it beautiful, for that is an education.” Today, Grove City College students enjoy a Collegiate Gothic campus designed by the sons of Frederick Law Olmsted, the father of American landscape architecture. Noticeably absent, however, are the expensive amenities that have typified the so-called “arms race” among American colleges and universities (Newlon, 2014).

According to the National Center for Education Statistics (n.d.), in fiscal year 2014 there were 94 private nonprofit baccalaureate colleges operating in the United States with a 12-month unduplicated undergraduate headcount between 2,000 and 3,000 students. Those institutions had an average operating budget of \$82.4 million. In contrast, Grove City College supported its 2,502 undergraduate students that same year with an operating budget of only \$69.9 million.

Throughout its history, the leadership of Grove City College has believed in the management principle of operating debt free. As a general rule, all necessary capital is secured for new buildings prior to construction, and annual maintenance costs are fully funded. Student tuition does support the upkeep of the college campus, but no student has to contribute to the debt service for a new building that she may never have the opportunity to use during her college career.

Transparent Pricing

Grove City College sets its tuition rate according to the requirements of its operating budget, not an artificial sticker price designed to capture excess consumer demand. Over the years, the college’s tuition rate has regularly been among the lowest in the country. For example, Grove City College’s published tuition and fees for 2012-13 was only \$14,212—far lower than the average rates for the private nondoctoral sector (\$26,405) and the evangelical segment (\$23,343) of American higher education (Rine & Guthrie, 2016). This straightforward approach to tuition pricing not only models the college’s core values of honesty and fairness, but it also cultivates a sense among prospective students and their families that the institution is trustworthy.

Student Equality

Grove City College does not employ the high-price/high-aid model as a recruiting strategy, nor does it offer paper discounts or unfunded institutional aid to prospective students. Instead, the college raises private scholarship dollars to help offset the cost of attendance, so that all of its institutional grants are fully funded. Students who receive an institutional grant do pay a lower tuition rate, but no one student pays for another’s college education. In the Grove City College model, the only people who pay for someone else’s education are donors who knowingly and willingly make a financial contribution to the college’s annual fund or endowment (Allan, 2005). The overwhelming majority of the college’s \$111.6 million endowment is restricted to supporting student scholarships.

Academic Quality

Grove City College does not raise its published tuition rate to signal educational quality to prospective students. Instead, it seeks to maximize its performance on three key indicators of

TABLE 3: RETENTION AND GRADUATION RATES BY INSTITUTION, SECTOR, AND SEGMENT, FALL 2013

	RETENTION RATE	4-YEAR GRADUATION RATE	6-YEAR GRADUATION RATE
Grove City College	88%	77%	82%
Private Nondoctoral Sector (Average)	73%	42%	54%
Evangelical Segment (Average)	73%	41%	53%

SOURCE: Integrated Postsecondary Education Data System (IPEDS), National Center for Education Statistics, U.S. Department of Education. Analysis by Author; Rine, P. J., & Guthrie, D. S. (2016). “Steering the Ship through Uncertain Waters: Empirical Analysis and the Future of Evangelical Higher Education.” *Christian Higher Education* (Volume 15, Issue 1-2), pp. 4-23.

academic quality: student retention, student graduation, and student job placement. Table 3 compares Grove City College's student retention and graduation rates with the averages for the private nondoctoral sector and evangelical segment of American higher education.

Not only does Grove City College achieve better student retention and graduation outcomes than the vast majority of its private nondoctoral and evangelical institutional peers, but 97 percent of its graduates secure employment or admission to graduate school within six months of graduation. In practical terms, this means that students who enroll at Grove City College are far more likely than their peers at comparable institutions to both persist to graduation and find gainful employment in a timely manner. The economic impact of this success rate is significant, because students who drop out of college, who take longer to graduate, or who fail to find jobs after graduation risk not only paying additional tuition over time but also suffering the impact of lost wages for the years during which a college graduate would be earning a full income. In sum, rather than signaling apparent quality to prospective students through its tuition price, Grove City College endeavors to achieve actual quality by ensuring student success from matriculation to graduation, and beyond.

CONCLUSION

For the foreseeable future, public concern regarding rising college tuition rates and student loan debt is unlikely to abate. As smaller private colleges seek to recruit students in the context of increased public scrutiny, answers to the following clarifying questions may guide prudent institutional policy:

- Although the high-price/high-aid model enables colleges to maximize the academic profile and diversity of their incoming classes, it also promotes a consumerist mentality that focuses students on price rather than institutional fit. Is there a better way to balance pursuit of desirable class characteristics with promotion of student/institution fit?
- A high tuition rate signals educational quality to prospective students, but is there a point of diminishing returns for tuition increases? At what point do increases signal irresponsible institutional financial management and risk cultivation of a negative perception of private colleges and universities among the general public?
- Is the classmate subsidy a morally justifiable feature of the smaller private college financial model? If so, how can admissions officers defend this practice to prospective students and families? If not, how can smaller private colleges best build their incoming classes without using unfunded aid as a recruiting strategy?

Although the high-price/high-aid model enables colleges to maximize the academic profile and diversity of their incoming classes, it also promotes a consumerist mentality that focuses students on price rather than institutional fit.

As prospective students and their families seek to navigate the college search process, they would be wise to look past an institution's sticker price and ask some key questions about financial aid, academic quality, and post-graduation outcomes:

- What percentage of admitted students receive institutional grants? What is the average award made to each recipient? What percentage of the average award is unfunded? What conditions do students have to meet to retain their institutional aid for all four years?
- What percentage of students return for their sophomore year? What percentage of students graduate in four years? In six? Do financial aid awards extend past year four?
- What percentage of students are employed or enter graduate school within six months of graduation? How long does it take students to repay their student loans, on average? What percentage of borrowers default on their student loans?

In the meantime, the Grove City College model will remain as a straightforward contrast to the largely unfunded high-price/high-aid model employed by the vast majority of smaller private colleges. As institutions continue to experiment with variations on the dominant approach—such as tuition resets, four-year tuition rate guarantees, and publicly posted scholarship schedules for academic credentials—prospective students, their families, and the American taxpayer can expect to find an independent and transparent approach to college tuition pricing and student financial aid at Grove City College, one informed by enduring institutional identity rather than transient financial expediency.

REFERENCES

- Allan, R. (2005). "Financial Aid: Does It Matter Whether It's Funded? Yes." *Business Officer* (July). Retrieved from http://www.nacubo.org/Business_Officer_Magazine/Magazine_Archives/July_2005/Financial_Aid_Does_It_Matter_Whether_Its_Funded.html
- Bean, J. P. (1983). "The Application of a Model of Turnover in Work Organizations to the Student Attrition Process." *The Review of Higher Education* (Volume 6, Number 2), pp. 129-148.
- Belkin, D. (2014, January 13). "More Students Subsidize Classmates' Tuition." *Wall Street Journal*. Retrieved from <http://www.wsj.com/articles/SB10001424127887324049504578545884011480020>
- Berman, J. (2016, January 19). "America's Growing Student-Loan Debt Crisis." *MarketWatch*. Retrieved from <http://www.marketwatch.com/story/americas-growing-student-loan-debt-crisis-2016-01-15>
- Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, D.C.: Brookings Institution Press.
- Breneman, D. W., Doti, J. L., & Lapovsky, L. (2001). "Financing Private Colleges and Universities: The Role of Tuition Discounting." In M. B. Paulsen & J. C. Smart (Eds.), *The Finance of Higher Education: Theory, Research, Policy & Practice*, pp. 461-479. New York, NY: Agathon Press.
- Carey, K. (2015, October 7). "Student Debt Is Worse than You Think." *New York Times*. Retrieved from <http://www.nytimes.com/2015/10/08/upshot/student-debt-is-worse-than-you-think.html>
- Chang, M. J., Denson, N., Saenz, V., & Misa, K. (2006). "The Educational Benefits of Sustaining Cross-Racial Interaction among Undergraduates." *Journal of Higher Education* (Volume 77, Number 3), pp. 430-455.
- Dawar, N. & Parker, P. (1994). "Marketing Universals: Consumers' Use of Brand Name, Price, Physical Appearance, and Retailer Reputation as Signals of Product Quality." *Journal of Marketing* (Volume 58, April), pp. 81-95.
- Edwards, L. (2000). *Freedom's College: The History of Grove City College*. Washington, D.C.: Regnery Publishing.
- Hansmann, H. (1981). "The Rationale for Exempting Nonprofit Organizations from Corporate Income Taxation." *Yale Law Journal* (Volume 91, Number 1), pp. 54-100.
- Hopkins, D. S. P. & Massey, W. F. (1981). *Planning Models for Colleges and Universities*. Stanford, CA: Stanford University Press.
- Hu, S., & Kuh, G. D. (2003). "Diversity Experiences and College Student Learning and Personal Development." *Journal of College Student Development* (Volume 44, Number 3), pp. 320-334.
- Lapovsky, L. (2004). "Tuition Discounting and Prudent Enrollment Management," *AGB Priorities* (Number 24, Fall 2004). Washington, D.C.: Association of Governing Boards.
- Lapovsky, L. (2005). "The Economic Challenges of Liberal Arts Colleges." In *Liberal Arts Colleges in American Higher Education: Challenges and Opportunities*. American Council of Learned Societies, Occasional Paper, No. 59, 50-69. Retrieved from https://www.mtholyoke.edu/sites/default/files/iplanning/docs/59_liberal_arts_colleges.pdf
- National Association of College and University Business Officers. (2015). *The 2014 NACUBO Tuition Discounting Study*. Washington, D.C.: National Association of College and University Business Officers.
- National Center for Education Statistics. (n.d.). *Integrated Postsecondary Education Data System*. Washington, D.C.: U.S. Department of Education.
- Newlon, C. (2014, July 31). "The College Amenities Arms Race." *Forbes*. Retrieved from www.forbes.com/sites/caranewlon/2014/07/31/the-college-amenities-arms-race/
- Rine, P. J., & Guthrie, D. S. (2016). "Steering the Ship through Uncertain Waters: Empirical Analysis and the Future of Evangelical Higher Education." *Christian Higher Education* (Volume 15, Issue 1-2), pp. 4-23.
- Selingo, J. J. (2016, March 8). "The Biggest Problem Facing Higher Education, in One Chart." *The Washington Post*. Retrieved from <https://www.washingtonpost.com/news/grade-point/wp/2016/03/08/the-biggest-problem-facing-higher-education-in-one-chart/>
- Tinto, V. (1987). *Leaving College: Rethinking the Causes and Cures of Student Attrition*. Chicago, IL: University of Chicago Press.
- Winston, G. C. (1999). "Subsidies, Hierarchy, and Peers: The Awkward Economics of Higher Education." *The Journal of Economic Perspectives* (Volume 13, Number 1), pp. 13-36.

FOR FURTHER READING

- Allan, R. G. (1999). "Taxonomy of Tuition Discounting." *Journal of Student Financial Aid* (Volume 29, Issue 2). Retrieved from <http://publications.nasfaa.org/jsfa/vol29/iss2/1/>
- Baum, S. (2011). *Tuition and Financial Aid: Nine Points for Boards to Consider in Keeping College Affordable*. Washington, D.C.: AGB Press.
- Baum, S., & Lapovsky, L. (2006). *Tuition Discounting: Not Just a Private College Practice*. New York, NY: The College Board.
- Baum, S., Lapovsky, L., & Ma, J. (2010). *Tuition Discounting: Institutional Aid Patterns at Public and Private Colleges and Universities, 2000-2001 to 2008-2009*. New York, NY: The College Board.
- Breneman, D. W. (1994). *Liberal Arts Colleges: Thriving, Surviving, or Endangered?* Washington, D.C.: Brookings Institution Press.
- Breneman, D. W., Doti, J. L., & Lapovsky, L. (2001). "Financing Private Colleges and Universities: The Role of Tuition Discounting." In M. B. Paulsen & J. C. Smart (Eds.), *The Finance of Higher Education: Theory, Research, Policy & Practice*, pp. 461-479. New York, NY: Agathon Press.
- Browning, J. (2013). "Determining a Relationship between Higher Education Financial Position and Tuition Discounting Rates." *Research in Higher Education Journal* (Volume 20), pp. 87-116.
- College Board. (2015a). *Trends in College Pricing 2015*. New York, NY: The College Board.
- College Board. (2015b). *Trends in Student Aid 2015*. New York, NY: The College Board.
- Davis, J. S. (2003). "Unintended Consequences of Tuition Discounting." *New Agenda Series* (Volume 5, Number 1). Indianapolis, IN: Lumina Foundation for Education. Retrieved from <https://folio.iupui.edu/bitstream/handle/10244/273/Tuition-discounting.pdf>
- Doti, J. L. (2004). "Is Higher Education Becoming a Commodity?" *Journal of Higher Education Policy and Management* (Volume 26, Issue 3), pp. 363-369.
- Heller, D. E. (2008). *Financial Aid and Admission: Tuition Discounting, Merit Aid and Need-aware Admission*. 2008 NACAC White Paper. Arlington, VA: National Association of College Admission Counseling. Retrieved from http://edwp.educ.msu.edu/dean/wp-content/uploads/2012/03/NACAC_2008.pdf
- Hillman, N. W. (2010). "Who Benefits from Tuition Discounts at Public Universities?" *Journal of Student Financial Aid* (Volume 40, Issue 1).
- Hillman, N. W. (2011). "Tuition Discounting for Revenue Management." *Research in Higher Education* (Volume 53, Issue 3), pp. 263-281.
- Hossler, D. (2000). "The Role of Financial Aid in Enrollment Management." *New Directions for Student Services* (Issue 89), pp. 77-90.
- Johnstone, D. B. (1996). The "High Tuition-High Aid" Model of Public Higher Education Finance: The Case against. Retrieved from <http://www.gse.buffalo.edu/FAS/Johnston/HIGHAID.htm>
- Johnstone, D. B. (2003). The Economics and Finance of Higher Education: Introductory Concepts. Retrieved from <http://www.gse.buffalo.edu/FAS/Johnston/ECFINH.HTM>
- Kirshstein, R. J., & Hurlburt, S. (2012). *Revenues: Where Does the Money Come from? A Delta Data Update, 2000-2010*. Washington, D.C.: Delta Cost Project at American Institutes for Research. Retrieved from <http://files.eric.ed.gov/fulltext/ED536132.pdf>
- Lapovsky, L. (2004). "Tuition Discounting and Prudent Enrollment Management," *AGB Priorities* (Number 24, Fall 2004). Washington, D.C.: Association of Governing Boards.
- Lapovsky, L. (2005). "The Economic Challenges of Liberal Arts Colleges." In *Liberal Arts Colleges in American Higher Education: Challenges and Opportunities*. American Council of Learned Societies, Occasional Paper, No. 59, 50-69. Retrieved from https://www.mtholyoke.edu/sites/default/files/iplanning/docs/59_liberal_arts_colleges.pdf
- Lassila, N. E. (2010). "The Relationship of Institutional Tuition Discounts with Enrollment at Private, Not-for-Profit Institutions." *Journal of Student Financial Aid* (Volume 40, Issue 3). Retrieved from <http://publications.nasfaa.org/jsfa/vol40/iss3/2/>
- Lawson, R. A., & Zerkle, A. (2006). "Price Discrimination in College Tuition: An Empirical Case Study." *Journal of Economics and Finance Education* (Volume 5, Number 1), pp. 1-7.
- Martin, R. E. (2002). "Tuition Discounting: Theory and Evidence." *Economics of Education Review* (Volume 21, Issue 2), pp. 125-136.
- Martin, R. E. (2003). "Tuition Discounting without Tears." *Economics of Education Review* (Volume 23, Issue 2), pp. 177-189.
- McPherson, M. S., & Schapiro, M. O. (1998). *The Student Aid Game: Meeting Need and Rewarding Talent in American Higher Education*. Princeton, NJ: Princeton University Press.

National Association of College and University Business Officers. (2015). *The 2014 NACUBO Tuition Discounting Study*. Washington, D.C.: National Association of College and University Business Officers.

Parrott, S. A. (2008). "Tuition Discounting to Optimize Enrollment and Revenue." *Tertiary Education and Management* (Volume 14, Issue 3), pp. 261-268.

Ortiz, E. V., & Fitzgerald, S. I. (2015). *Subdued Net Tuition Revenue Growth Is New Normal for U.S. Universities*. New York, NY: Moody's Investors Service.

Redd, K. E. (2000). "Discounting toward Disaster: Tuition Discounting, College Finances, and Enrollments of Low-Income Undergraduates." *New Agenda Series* (Volume 3, Number 2). Indianapolis, IN: USA Group Foundation. Retrieved from <http://files.eric.ed.gov/fulltext/ED447775.pdf>

U.S. Department of Education (2001). *Study of College Costs and Prices, 1988-89 to 1997-98, Volume 2: Commissioned Papers*, NCES 2002-158, by A. F. Cunningham, J. V. Wellman, M. E. Clinedinst, and J. P. Merisotis. Project Officer: C. D. Carroll. Washington, D.C.: National Center for Education Statistics. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.400.3154&rep=rep1&type=pdf>

Wilkinson, R. (2005). *Aiding Students, Buying Students: Financial Aid in America*. Nashville, TN: Vanderbilt University Press.

Winston, G. C. (1999). "Subsidies, Hierarchy, and Peers: The Awkward Economics of Higher Education." *The Journal of Economic Perspectives* (Volume 13, Number 1), pp. 13-36.

Winston, G. C. (2000). "The Positional Arms Race in Higher Education." WPEHE Discussion Paper Series/Williams College, Williams Project on the Economics of Higher Education, No. 54. Retrieved from <http://www.econstor.eu/bitstream/10419/23501/1/DP-54.pdf>

***j*CENTER**

FOR INNOVATIVE HIGHER EDUCATION

UNIVERSITY OF MINNESOTA

WWW.CEHD.UMN.EDU/JCENTER/