

Financial management as revenue growth slows

**Building budgets, sharing results,
educating key constituents**

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About this Research

Macalester College's Sustainable Operations Task Force was formed in the aftermath of the financial crisis. The task force was driven by one overarching theme: that the growth rate of the college's available revenue had to match the growth rate of required expenses over the next decade. Executing this seemingly straightforward axiom is a challenge given the underlying financial dynamic of private residential higher education. David Wheaton, Vice President of Administration and Finance at Macalester College and chair of the task force, describes the data gathered and scenarios developed in an effort to capture and quantify the effects of powerful external trends affecting higher education. The result is a dynamic budgeting exercise that models alternative paths to balancing revenue and expense growth rates.

The TIAA Institute commissioned this work because the external trends and budgetary issues it highlights are not unique to Macalester, but rather are widely applicable throughout higher education. Further, Wheaton offers valuable insights on how best to present budgets and outcomes modeling to the campus community and board. He also describes intentional efforts to educate faculty leaders, whose understanding of higher education's financial dynamics is critical to their constructive engagement in the hard work of ensuring institutional financial sustainability over the long term.

About the TIAA Institute

The TIAA Institute helps advance the ways individuals and institutions plan for financial security and organizational effectiveness. The Institute conducts in-depth research, provides access to a network of thought leaders, and enables those it serves to anticipate trends, plan future strategies and maximize opportunities for success. To learn more, visit www.tiaainstitute.org.

Executive Summary

The financial dynamic underlying private residential higher education is under dramatic pressure as revenue growth has slowed while costs continue to rise steadily. As difficult as it may seem in some circumstances, building multiyear plans that include contingency strategies is crucial to facing the realities of these dynamics. The factors driving this pressure are unlikely to abate anytime soon; thus, carefully thought out, realistic revenue strategies and disciplined cost control and resource allocations are necessary ingredients for future success. This paper describes how one institution has found success in addressing the issues and engaging the community in understanding the collective challenges that lie ahead.

The foundation for this work lies in understanding the financial dynamics of the operating model. Institutional leaders must focus on the trend lines of the major revenue and expense categories, and clearly understand the different effects of changes to the larger and smaller elements of revenues and expenses. Clear explanations of these relationships can help decision makers focus on changes that will actually address imbalances and help campus constituencies understand the reasoning behind proposed strategies. Ultimately, the trend lines will dictate the long-term success of the institution—the slopes of the revenue and expense trajectories must match, or favor the revenue side. This is not a profound observation, yet it is too often overlooked. Widespread understanding of this basic premise is an important starting point for all financial management strategies and tactics that follow.

Key takeaways

- Any institution—that is, the board, president, and administrative and faculty leadership—must understand the real dynamics of the higher education business model as reflected in financial results.
- Institutional leaders should look well past the next 12 months in order to inform intelligent near-term decisions.
- The decision-making process should be supported by careful modeling of possible or likely outcomes, including analysis of the sensitivity of the major assumptions to varying conditions and a description of how the institution will protect itself from the unexpected, along with at least an outline of possible contingency steps.
- Analyses must be realistic about the possibility of improved conditions flowing from changes in strategy or tactics. With this clarity in hand, information must be widely and routinely shared with relevant constituencies, especially the campus community.
- Faculty, staff and students are most directly affected by these analyses, and also are in a key position to offer suggestions for addressing issues. Their cooperation and support will be crucial as institutional responses to circumstances are proposed and carried out.

Introduction

U.S. higher education enjoyed a nearly 25-year tailwind since the recession of 1980-82 ended, and the inflation that accompanied that recession was largely tamed in the ensuing years. During this period, domestic and international economies mainly trended upward, and downturns were followed by recoveries that generally returned performance to previous levels relatively quickly. Financial markets also enjoyed a strong run throughout most of this period.

We—the senior administration at Macalester College—were concerned that the strength of this period and its positive effects for higher education were not likely to continue for a variety of reasons related to economic growth, financial market returns, savings and borrowing habits of families (and nations), and the inexorable upward climb in the spending patterns of the higher education industry. The financial and economic turmoil of 2007-09 that brought this favorable period to an abrupt end only served to accelerate the problematic trends that already had been underway.

Our concern at that time was that growth in the college's revenue streams—tuition, endowment and gifts—may have reached a point where sustaining a business-as-usual approach would not be possible without change in the growth rate of one or more of these revenue streams or the expense allocation, or both. In response to these concerns, Macalester's president, Brian Rosenberg, convened a Sustainable Operations Task Force in 2010 to evaluate the college's long-run financial circumstances, with a particular focus on the implications of the Great Recession of 2007-09.

The central problem the task force faced was that the college's expenses recently had grown at a rate near 3% per year, while some of its underlying assumptions for revenue growth did not consistently reach that level, leaving a gap that had to be closed.

While financial markets have risen steadily during the unusually-long bull market since the financial crisis, and record highs were reached during an unexpected run in 2017, the maturity of the market cycle and the strengthening of the economy may be a prelude to correction or rising inflation or both. Inflation has remained low due in part to slow improvements in wages, but signs of higher wages are emerging.

The circumstances Macalester addressed in 2010 are still very much in play today for most small colleges and, to some degree, for all higher education institutions. Primary revenue streams—net tuition, endowment returns and gifts, plus state support for public institutions—remain under pressure and likely will continue to be so for the foreseeable future.

Macalester College—Background

In the early 1960s, Macalester embarked on a historic metamorphosis, transforming from a regional, modestly-resourced, residential liberal arts college with a solid academic reputation to a nationally ranked, well-endowed, highly respected institution within reach of the top tier of liberal arts colleges in the country. The 1961 “Stillwater Report” laid the foundation for that shift, and a dramatic change in the college’s financial circumstances was made possible by the gift and later conversion of Reader’s Digest stock from privately held to publicly traded in 1990. At the time of the conversion, Macalester’s endowment ranked at the top of all liberal arts colleges in the nation. The college utilized its new-found wealth to embark on a 20-year cycle of program enhancements, capital additions, and renovations.

In an effort to improve the quality of the educational experience, Macalester increased the size of the faculty by approximately 20%, achieving a 10-to-1 student-faculty ratio in the mid-1990s. Commensurate with the increase in the number of faculty, the number of programs and departments grew as well: whereas only 20 or so programs existed in 1970, the college now offers majors in 37 programs. In an effort to attract better students, and thereby better faculty, efforts were strengthened in admissions, recruiting and financial aid. Using the imperfect measure of SAT scores of the incoming class, the quality of incoming students increased dramatically. As programs grew in number and access to information via technology became a higher priority, the college increased program support and administrative staff from approximately 250 full-time employees (FTEs) in the early 1990s to more than 390 FTEs in 2017-18. This expansion was related to programmatic growth both inside and outside the classroom; expanding expectations of students, parents and alumni; and rising competition for a limited pool of students.

In some sense, the most basic question is whether Macalester has constructed a value proposition for which people are willing and able to pay a steadily rising premium price, and whether that value proposition can be delivered with a slowly growing expense base.

Macalester Sustainable Operations Task Force

In Fall 2010, Macalester President Brian Rosenberg convened a Sustainable Operations Task Force comprised of faculty, staff, the provost and the vice president for finance, as well as two previous finance vice presidents. The task force's charge was to evaluate the college's long-run financial situation in the context of changing economic circumstances following two to three decades of growth, with a particular focus on the implications of the Great Recession of 2007-09. Specifically, the task force was to consider likely revenue scenarios for the next 5 to 10 years, and identify the choices that undergird an operating plan that maximizes the quality of the student experience within the context of the available resource base.

The work of the task force had *one overriding theme*: that the growth rate of the college's available revenue must match the growth rate of required expenses over the next decade, regardless of the size of the student body. For the college to sustain its operations, the slope of these two lines had to be parallel or diverge with the revenue line on top. While this isn't a particularly profound observation, its execution becomes noticeably more challenging when the underlying cost structure carries annual demands for additional resources that are hard to deliver from the existing business model.

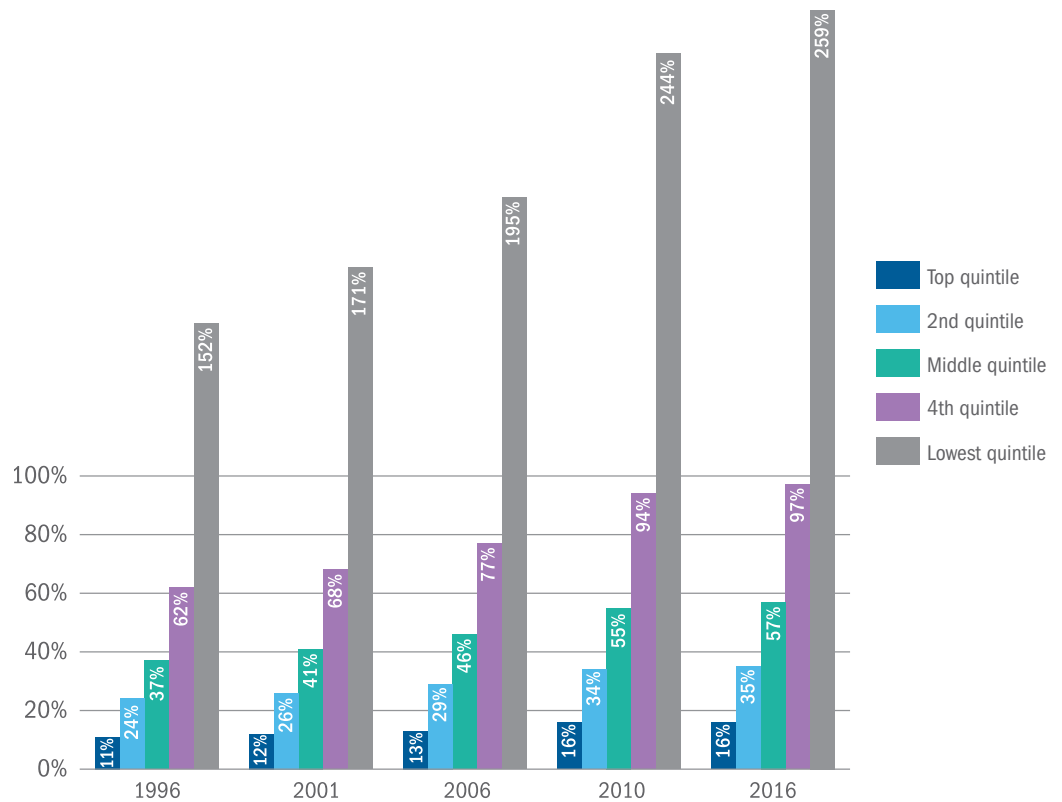
The task force constructed its final report with a heavy dose of observations and data related to circumstances external to the college, such as U.S. household income and home value trends. It did so in an attempt to confirm its hypothesis that American higher education may have entered a protracted period of slower revenue growth. The scenarios and choices that flow from that data set represent possible internal responses to these circumstances. In the end, all institutions face this same challenge: how to deploy available revenues to meet the needs of those they serve with an understanding that the constituencies being served are not static. Further, any decisions made in response to this situation will have consequences.

The task force was also mindful that all institutions are faced with external circumstances not of their own making but that must be addressed in the decisions that are central to their identity and future success. In short, the issues the task force reviewed affect all aspects of American higher education, and are powerful and cannot be ignored.

Higher Education industry patterns

Figure 1 shows changes in U.S. private college average tuition and fees as a percentage of median income and income distribution from 1996 to 2016.

Figure 1. U.S. private college average tuition and fees as a percentage of median income quintiles 1996-2016



Median income by quintile and average published tuition and fees:

	1996	2001	2006	2010	2016	Change (1996–2016)	
						Total	Annual
Median income							
Top quintile	\$176,093	\$197,882	\$200,192	\$186,473	\$213,941	21%	1.03%
4th quintile	83,725	90,609	90,863	86,831	95,178	14%	0.68%
Middle quintile	54,096	57,789	57,405	54,125	59,149	9%	0.47%
2nd quintile	32,161	34,525	34,256	31,409	34,504	7%	0.37%
Lowest quintile	13,102	13,741	13,514	12,103	12,943	-1%	-0.06%
Average published tuition and fees							
	\$19,920	\$23,560	\$26,380	\$29,550	\$33,480	68%	2.77%

Sources: *Income and Poverty in the United States: 2016* (United States Census Bureau; Report Number: P60-259; September 2017; Jessica L. Semega, Kayla R. Fontenot, and Melissa A. Kollar.) and *Trends in College Pricing: 2016* (College Board, trends.collegeboard.org.)

In the 20-year period from 1996 to 2016, total growth in median income adjusted for inflation ranged from a high of 21% in the highest U.S. income quintile to a low of -1% in the lowest quintile. Average private college tuition and fees rose by 68% on an inflation-adjusted basis during that same period. The portion of annual household income (adjusted to 2016 \$) needed to support a full-paying, full-time student has climbed steadily.

Given the steadily increasing share of household income needed to pay for college, the question becomes: Can historical rates of growth in posted tuition be sustained into the future and, if so, for how long? We believe that, over time, these rates of growth in tuition and fees must slow.

Table 1 shows changes in posted tuition, financial aid, net tuition, and the discount rate for private four-year institutions since 1996.

Table 1. U.S. Private four-year institutions pricing data—net price summary (constant 2016 \$)						
	1996	2001	2006	2010	2016	Compound Growth 1996-2016
Posted tuition and fees	\$19,920	\$23,560	\$26,380	\$29,550	\$33,480	2.6%
Less financial aid awarded	(8,120)	(9,650)	(11,480)	(16,630)	(19,290)	4.4%
Net tuition	11,800	13,910	14,900	12,920	14,190	0.9%
Discount rate	41%	41%	44%	56%	58%	
Annual growth rates:						
Posted tuition and fees		18%	12%	12%	13%	
Less financial aid awarded		19%	19%	45%	16%	
Net tuition		18%	7%	-13%	10%	

Source: *Trends in College Pricing: 2016* (College Board, trends.collegeboard.org.)

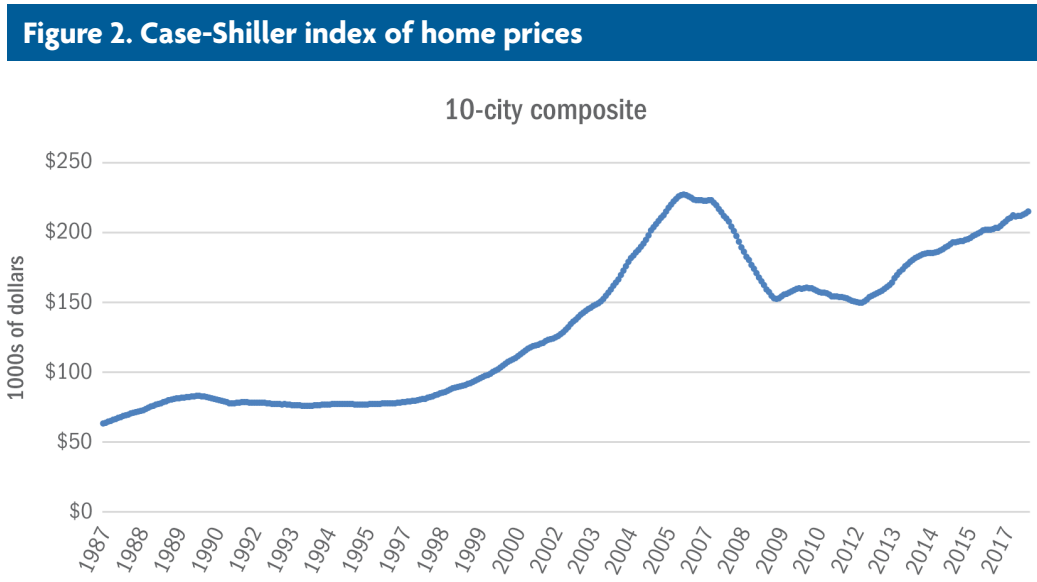
Net tuition rose 18% in the five-year period ending in academic year 2001-02. In the following five years (ending in 2006-07), net tuition rose considerably less at 7%, and in the next five-year period (ending in 2011-12), which includes the financial crisis, net tuition decreased 13%, reflecting the diminished abilities of families and students to pay for college. Since then, net tuition has rebounded somewhat, rising 10% in the five-year period ending in 2016-17.

The “New World” after the Great Recession

Significant recessions of the post-World War II era tended to hit some regions of the country more severely than others, and their effects also tended to concentrate in one or two subsectors of the economy (e.g., manufacturing, housing, etc.) with varying intensity. Because Macalester draws students from many regions of the world and its revenue stream is more closely divided between net tuition and its endowment draw, recessions have not tended to affect all of its major revenue streams simultaneously. For example, while the market collapse of 2000-03 significantly reduced the endowment draw, it did not affect the college’s ability to increase tuition because household balance sheets—based on appreciation in home values—were still (mostly) in positive territory. That situation changed after the 2007-08 financial crisis: As shown in Table 1 above, posted tuition increases have now dropped mainly into the 3% range, well below the 4 and 5% ranges of the previous 20 years.

The Great Recession of 2007-09 was vastly different than previous recessions. While the central cause of the recession was the collapse in the housing bubble, its repercussions went far beyond the housing sector, threatening the entire global financial system. The recession hit all regions of the country (and the world) and all sectors of the economy, even the once unassailable health care sector.

Figure 2 shows home pricing data from 1987 to 2017.



Source: S&P Dow Jones Indices LLC

As Figure 2 implies, trillions of dollars in accumulated wealth in home equity were wiped out in a matter of months following the burst of the housing bubble in mid-2007.

While equity prices have recovered well beyond their pre-crash levels and home prices also have recovered their losses, consumer confidence has been slower to rebound. It appears that consumers haven't been as quick to embrace the financial indicators of recovery following the 2007-08 financial crisis, perhaps due to the swiftness and severity of the crisis.

Changes in families' sources of funds to pay for college:

Families pay for college in several ways:

- *Current income.* This source has become more problematic for many due either to slow growth in wages or a reduction in pay of some kind. Not all are affected, but it appears that families are applying for financial aid from income brackets not seen before.

- *Savings.* Baby boomers have been famously unable to set aside funds in a disciplined manner, and those who have done so have faced uncertainty as they attempt to invest their funds to keep up with rising costs for future college students.
- *Leveraging assets.* By far, the most common manifestation of this method has been borrowing against the rising value of the primary residence (with the federal government paying part of the bill by allowing deduction of the interest). When the value of that asset fell and the screening of borrowers tightened, home equity was restricted as a funding source. Further, some families had already tapped out this source by borrowing for other purposes before their children reached college age. As housing prices have recovered, borrowing on home equity seems more muted than in the years preceding the financial crash. Moreover, one of the provisions of the new tax law passed in late 2017 prohibits the interest deduction on home equity lines if the funds are not used to improve the underlying residence.

The consequences of changes in these primary sources of family funds for the college's finances are far reaching. To the extent that during the past three decades households paid for increases in tuition out of perceived increases in wealth (i.e., by tapping home equity lines), the college has been effectively cut off from its most significant source of increased revenue over the post-financial crash period, specifically, growth in tuition. While we expect that the college's investments will continue to outperform market index averages, we do not anticipate returns much above 6-7% on a *nominal* basis. Past expectations of real returns in the 6-7% range are no longer used by endowment managers. Hence, we do not expect significant revenue growth from increases in the endowment.

In short, for the foreseeable future, Macalester anticipates growth in its operating income to be approximately one-half the rates attained in the previous two decades.

Cyclical or structural?

The central questions regarding the college's future finances relate to the degree to which the changes induced by the 2007-09 recession are more or less permanent, or if they are cyclical and therefore can be resolved with short- and medium-term remedies. While it is quite conceivable that the decline in the endowment, and hence the endowment draw, is indeed a cyclical phenomenon, it is harder to make the case that declines in net tuition are short-lived.

Financial markets have historically moved in cycles, some fairly rapid and some quite long. Yet, the challenge that flows from the suppression of net tuition growth that colleges are experiencing now is related to a basic business model with limited opportunities for ongoing productivity growth. This condition flows from the heavy labor component of the enterprise, which requires compensation increases above consumer price index (CPI) growth; thus, net prices also must rise at levels above CPI since the opportunity to incrementally add students is severely limited. Small residential colleges are essentially built to serve about the same number of students over time, meaning that each student cohort must carry much of the cost of delivering the current student experience, plus any changes or improvements made to that experience.

One unanswered question in this analysis is how families were able to continue to pay for significant increases in college tuition over the past 20 or more years. A related question is why families were willing to pay an increasing amount to cover the rising costs in excess of growth in their personal income. Households can sustain expense increases in excess of personal income only by borrowing, selling off accumulated wealth, or reallocating other household expenses.

It is most likely that part of the answer is that households were willing to either take out loans or sell appreciating assets due to significant increases in the value of stocks in the 1990s. Home equity increased substantially during this period as well. Despite the financial market downturn in 2000-03, which would be expected to induce households to cut back on borrowing, home prices continued to increase following the dot-com collapse, allowing families (and colleges) to sustain increases in costs in excess of the growth in personal income. And as shown earlier in this paper, there is significant variation in income increases among different families, with those with higher incomes having access to faster-growing nominal incomes and better access to appreciating financial assets and homes.

For U.S. households, paying for private education is more difficult if annual income, financial assets, and physical assets (mainly homes) are not appreciating. Three possible approaches to this dilemma focus on factors that may work in Macalester's favor, and for other institutions facing the downward trend in revenue growth:

First, over the past three decades, Macalester has dramatically improved the quality of the academic experience it offers through investments in the size and compensation of its faculty. Monetizing that investment requires that potential students know about the quality and are willing to pay for it. This, in turn, requires that the college's messaging about quality reaches students who offer a favorable net tuition profile that translates into applications and deposits. Further, this must be done in a way that preserves the uniqueness of the Macalester experience so as to maintain a strategic point of differentiation.

Second, since selective colleges generally draw their students disproportionately from higher income quintiles, whose income growth is more robust than the national average, there may be some additional pricing opportunity above the overall average household income growth. Macalester's students don't come from those upper quintiles as often as the very highest rated colleges in the country, but an institution of Macalester's quality is certainly represented in those quintiles.

Third, the broad diversification of the college's endowment portfolio, including a worldwide investing presence, suggests the possibility of outperforming the domestic economy and financial markets. This begs the question of whether outperforming domestic markets will be sufficient; actual returns will be tied to what the markets will give us.

Budget basics

The data and scenarios that follow are based on the financial structure of most small private colleges. The budgets of such colleges consist of four major revenue sources and three expense groupings. While the relative proportions on the revenue side can vary widely, expense distributions tend to be relatively similar.

The four major revenue sources include:

- net tuition (all tuition less applicable financial aid)
- room and board
- endowment income
- gifts, grants and other

The three major expense groupings include:

- compensation (salaries and wages, all taxes and benefits)
- program expenses
- debt and capital expenditures

The relative size of each category for Macalester College is shown in figures 3 and 4 below:

Figure 3. Macalester relative revenue distribution

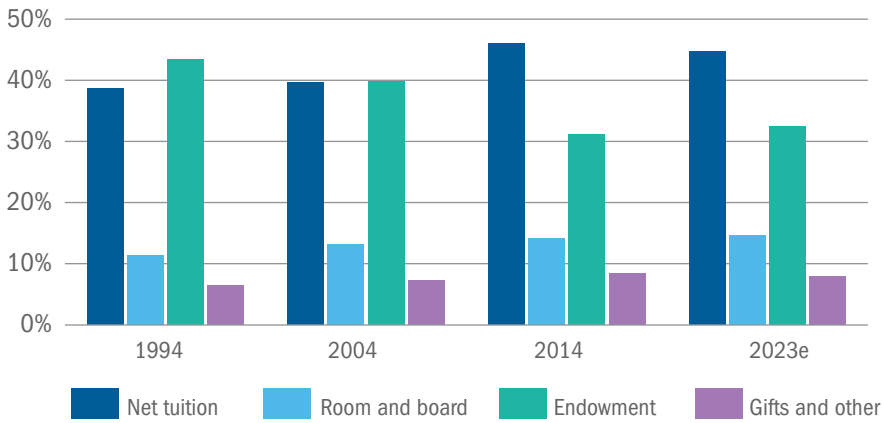
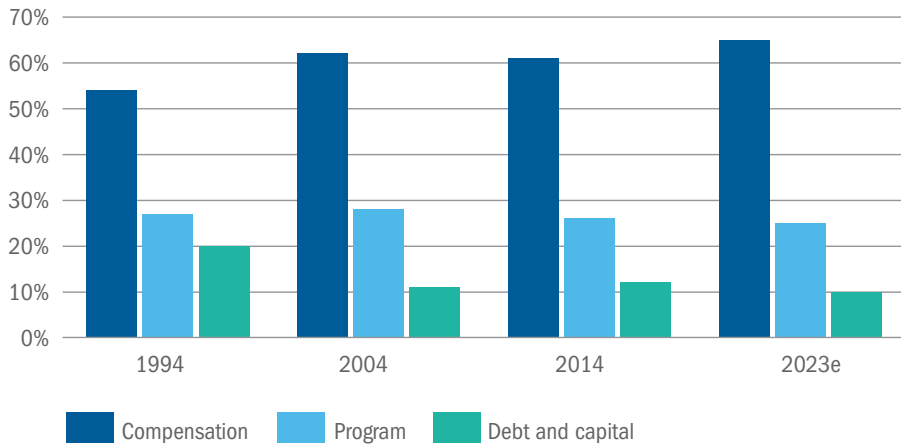


Figure 4. Macalester relative expense distribution



The annual compounded growth of total revenues and expenses over the selected periods in Table 2 below show how growth in revenues outpaced growth in expenses prior to the recession, followed by a correction, and is now projected to show a balanced position going forward.

Table 2: Macalester College annual compounded growth in revenues and expenses (calculated from previous period)

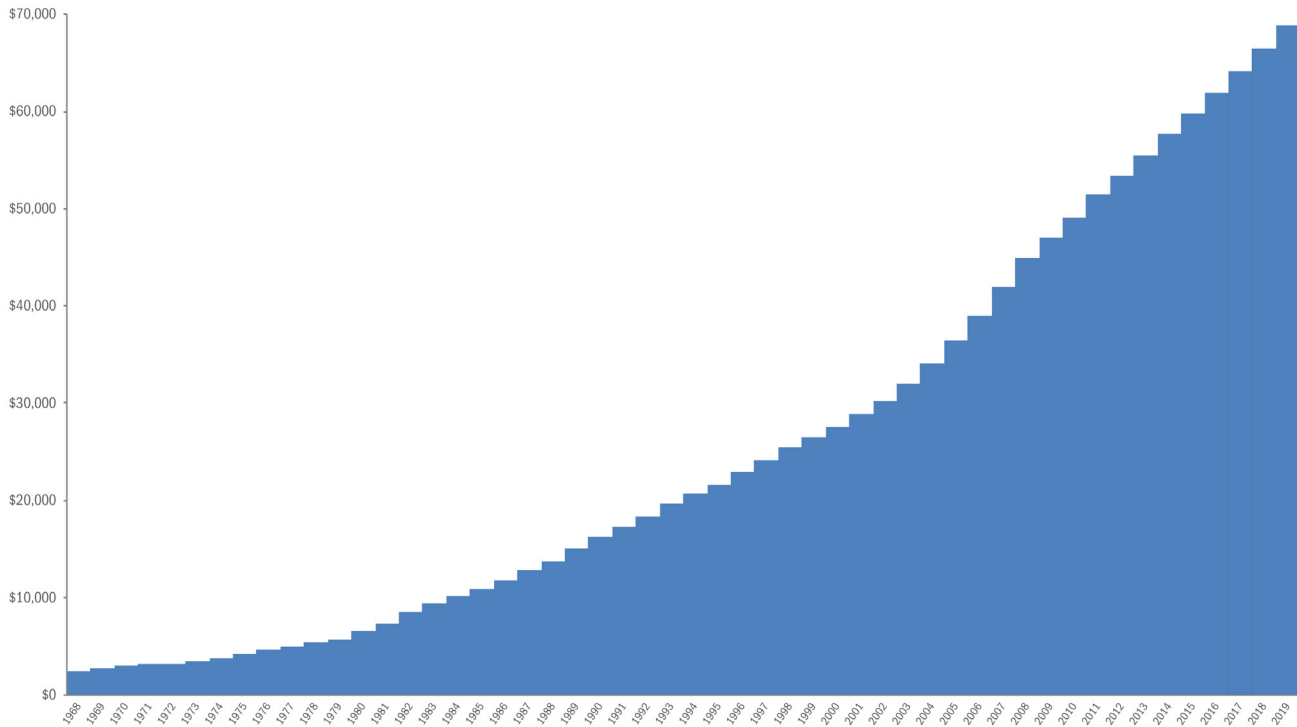
	Revenues	Expenses
1994-2002	4.3%	4.3%
2003-2011	5.2%	4.9%
2012-2018	2.7%	3.2%
2019-2023e	2.2%	2.2%

Some of the revenue growth over these periods was driven by higher student counts as the college increased enrollment from approximately 1,750 to 2,035 students from 2002 to 2017. In addition to normal growth patterns, the revenue data also is affected by a repositioning of the college’s posted price during fiscal years 2004-08 (to more closely match its peer median). The expense data reflects reductions in program expenses in 2002-04 and in 2008-09 following economic downturns, and a salary freeze in 2009-10. The large allocation for capital and debt in 1994 was related to an extra flow of funds from a donor at that time; that flow ended in 1998.

Finally, the mismatch in revenue and expense growth in 2012-18 was made possible by the favorable revenue trend from 2003-11. The higher revenue growth in those years led to operating surpluses that were large enough to withstand the higher expense growth in the succeeding years.

Increases in Macalester’s tuition and fees, as shown below in Figure 5, have tracked those of its peer group, particularly given a multiyear adjustment between 2004 and 2008 that moved the college’s posted price closer to its peers’ median.

Figure 5. Macalester tuition and fee trends: An unsustainable path?



The pattern shown here for Macalester’s pricing is very similar to that of its peer institutions over the same period. The general pricing pattern for these institutions is the subject of much discussion inside and outside the industry. Given the largely fixed cost of higher education’s delivery structure, mitigating the upward trend in pricing poses significant difficulties.

Revenue-enhancing scenarios

A number of choices can be made to enhance the slope of a college’s revenue line and manage the growth of its expense line. Through the four scenarios that follow, we offer a comprehensive list of choices and flag items that do not appear to offer real opportunities for progress.

Without question, creative approaches to solving these challenges in their early stages could have strategic advantages later on.

Key assumptions and observations

- The issues highlighted in the scenarios are not unique to Macalester.
- These issues have been floating just under the surface for higher education for a couple of decades; unusually strong economic growth and financial market returns have obscured the fundamental dynamics.
- Domestic GDP and family income growth have been subdued for the past several years.
- Net tuition growth in a steady state could mimic a combination of the growth in domestic GDP and family incomes, absent changes in the applicant pool and/or financial aid policies and practices.
- The shape and size of the applicant pool is crucial; across the industry, student count has become an existential challenge.
- It is not clear that the dramatic improvement in the quality of the academic experience at Macalester (or any other small private college) during the last 25 years is widely understood and/or that sufficient numbers of families are able and willing to pay a premium price for the experience.
- Macalester, and the U.S. higher education industry in general, may have reached a point where revenue growth is facing a significant resistance point.
- Operating a college with annual nominal revenue increases of 2% is dramatically different than operating with, say, 4% annual increases.
- Increases in Macalester's posted tuition rate are likely to be modest for the foreseeable future, and some steps can be taken to manage growth in net tuition by both the admissions and financial aid offices.
- Endowment returns have been relatively robust for several years, but these lofty asset values could lead to below long-term trend line growth in the near future. There are no obvious ways to affect the trend line in the endowment draw without cutting the draw formula from the current 5% level or increasing the flow of new money into the corpus.

- Expanding the student body size is not a solution to the fundamental problem because it doesn't change the slope of the net tuition line.
- Adding new programs is not a solution because even a program with an attractive growth profile is not likely to offer enough incremental revenue to alter the fundamental revenue slope, which is dictated by the sheer size of the income flows from net tuition and the endowment draw; i.e., a new program that provides 10% more income still leaves about 90% of the institution's revenue growth anchored to the legacy revenue streams.
- Any movement toward a sustainable financial structure will require action on both the revenue and expense sides.

Scenario one—Base case

A simplified operating statement shown over time offers a valuable foundation for review and discussion of possible directions going forward. Separating revenues and expenses from actual values has proven to be a good technique for explaining the underlying dynamics of growth (or shrinkage) patterns. That is, in the scenarios that follow, revenues and expenses are shown in relative proportions, with the base Year 1 expenses equal to 100. Once this conceptual foundation is built, discussions about moving forward are relieved of myths or distractions, including suggestions that offer little potential relative to the size of the problem. All scenarios flow from the base case below. Revenue sources are a kind of composite of actual institutions; expense distributions are relatively similar across the industry. For simplicity, no expense assumptions are altered in any scenarios.

Scenario one—Base case

Sample College—pro forma standard size income statement (Year 1 expenses = 100)

Base case

	Base	Growth	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Tuition	113.9	3.5%	117.9	122.0	126.3	130.7	135.3	140.0	144.9
Less financial aid awarded	(54.0)	5.0%	(56.7)	(59.5)	(62.5)	(65.6)	(68.9)	(72.4)	(76.0)
Net tuition	59.9		61.2	62.5	63.8	65.1	66.4	67.6	68.9
Room and board	13.2	3.5%	13.7	14.1	14.6	15.1	15.7	16.2	16.8
Endowment draw	19.5	1.0%	19.7	19.9	20.1	20.3	20.5	20.7	20.9
New program (net)	-	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts and other	8.4	3.0%	8.7	8.9	9.2	9.5	9.7	10.0	10.3
Revenues	101.0		103.2	105.4	107.7	110.0	112.3	114.6	117.0
Revenue growth rate from previous year			2.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
Compensation	60.0	3.5%	62.1	64.3	66.5	68.9	71.3	73.8	76.3
Program	30.0	2.0%	30.6	31.2	31.8	32.5	33.1	33.8	34.5
Debt/capital	10.0	4.0%	10.4	10.8	11.2	11.7	12.2	12.7	13.2
Expenses	100.0		103.1	106.3	109.6	113.0	116.6	120.2	124.0
Expense growth rate from previous year			3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
Difference between revenue and expense growth rates			(0.9%)	(0.9%)	(1.0%)	(1.0%)	(1.0%)	(1.0%)	(1.1%)
Net	1.0		0.1	(0.9)	(1.9)	(3.1)	(4.3)	(5.6)	(7.0)
Tuition discount rate	47.4%		48.1%	48.8%	49.5%	50.2%	50.9%	51.7%	52.4%
Net tuition/FTE growth			2.1%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%

Note: Some totals may differ slightly from the sum of the individual items due to rounding.

The aim is to focus on the factors that drive growth rates. While the current revenue and cost structure isn't carved in stone, it cannot be ignored, and it represents a reasonable starting point. Any restructuring must flow from an attempt to manage future trend lines.

The three scenarios shown in the following tables lead to the conclusion that three common responses to the issues at hand are not helpful in reaching long-term goals, specifically: adding to the size of the student body; creating new standalone programming with a positive net revenue stream; and assuming a sudden increase in annual fundraising.

Scenario two—Expanding the student body

Additional students could provide a temporary boost to the revenue stream, but they do not add to the *growth rate* of the revenue stream on a per student basis. And because the college has physical constraints on the size of its campus, any expansion of the student body would need to end fairly quickly. This means that an increase in net tuition from additional students will offer some net revenue to the college, but eventually the revenue from the students will be overtaken by the average costs. Further, note that incremental students will add some additional costs; this scenario doesn't attempt to capture those. Therefore, real net income likely would be worse than what is shown here.

Scenario two—Expanding the student body (effect of adding 100 students)

Sample College—pro forma standard size income statement (Year 1 expenses = 100)

Effect of 5% more students starting in Year 2

	Base	Growth	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Tuition	113.9	3.5%	123.8	128.1	132.6	137.2	142.0	147.0	152.2
Less financial aid awarded	(54.0)	5.0%	(59.5)	(62.5)	(65.6)	(68.9)	(72.4)	(76.0)	(79.8)
Net tuition	59.9		64.2	65.6	67.0	68.3	69.7	71.0	72.4
Room and board	13.2	3.5%	13.7	14.1	14.6	15.1	15.7	16.2	16.8
Endowment draw	19.5	1.0%	19.7	19.9	20.1	20.3	20.5	20.7	20.9
New program (net)	-	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts and other	8.4	3.0%	8.7	8.9	9.2	9.5	9.7	10.0	10.3
Revenues	101.0		106.3	108.5	110.9	113.2	115.6	118.0	120.4
Revenue growth rate from previous year			5.2%	2.2%	2.1%	2.1%	2.1%	2.1%	2.1%
Compensation	60.0	3.5%	62.1	64.3	66.5	68.9	71.3	73.8	76.3
Program	30.0	2.0%	30.6	31.2	31.8	32.5	33.1	33.8	34.5
Debt/capital	10.0	4.0%	10.4	10.8	11.2	11.7	12.2	12.7	13.2
Expenses	100.0		103.1	106.3	109.6	113.0	116.6	120.2	124.0
Expense growth rate from previous year			3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
Difference between revenue and expense growth rates			2.1%	(0.9%)	(1.0%)	(1.0%)	(1.0%)	(1.1%)	(1.1%)
Net	1.0		3.2	2.2	1.3	0.2	(1.0)	(2.2)	(3.5)
Tuition discount rate	47.4%		48.1%	48.8%	49.5%	50.2%	50.9%	51.7%	52.4%
Net tuition/FTE growth			7.3%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%

Note: Some totals may differ slightly from the sum of the individual items due to rounding.

Scenario Two shows that while there is some incremental revenue compared to the base case, because the incremental students bring a net revenue *growth profile* that mimics that of the existing student body, the basic problem remains unsolved. Instead, expanding the student body only postpones the day when the revenue and expense lines will cross.

Scenario three—Adding new programming

New programming also can add incremental net income, but this approach suffers from two weaknesses: at least for a while, the revenue growth rate is unlikely to exceed the rate of increase in costs, and the ultimate additional revenue amount is unlikely to be significant compared to net tuition from students and the endowment draw. As shown in Scenario Three below, a new program with \$2.0 in revenue and \$1.0 in costs will be swamped by the core budget—even with an attractive growth rate in net revenue of 10% per year. Additionally, it will not contribute significantly to the trend line of the overall income stream. Ultimately, the problem must be solved by larger items.

Scenario three—Adding new programming

Sample College—pro forma standard size income statement (Year 1 expenses = 100)

Addition of new program (\$1.0 net), net revenue grows at 10%

	Base	Growth	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Tuition	113.9	3.5%	117.9	122.0	126.3	130.7	135.3	140.0	144.9
Less financial aid awarded	(54.0)	5.0%	(56.7)	(59.5)	(62.5)	(65.6)	(68.9)	(72.4)	(76.0)
Net tuition	59.9		61.2	62.5	63.8	65.1	66.4	67.6	68.9
Room and board	13.2	3.5%	13.7	14.1	14.6	15.1	15.7	16.2	16.8
Endowment draw	19.5	1.0%	19.7	19.9	20.1	20.3	20.5	20.7	20.9
New program (net)	1.0	10.0%	1.1	1.2	1.3	1.5	1.6	1.8	1.9
Gifts and other	8.4	3.0%	8.7	8.9	9.2	9.5	9.7	10.0	10.3
Revenues	102.0		104.3	106.6	109.0	111.4	113.9	116.4	118.9
Revenue growth rate from previous year			2.3%	2.2%	2.2%	2.2%	2.2%	2.2%	2.2%
Compensation	60.0	3.5%	62.1	64.3	66.5	68.9	71.3	73.8	76.3
Program	30.0	2.0%	30.6	31.2	31.8	32.5	33.1	33.8	34.5
Debt/capital	10.0	4.0%	10.4	10.8	11.2	11.7	12.2	12.7	13.2
Expenses	100.0		103.1	106.3	109.6	113.0	116.6	120.2	124.0
Expense growth rate from previous year			3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
Difference between revenue and expense growth rates			(0.8%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(1.0%)
Net	2.0		1.2	0.3	(0.6)	(1.6)	(2.7)	(3.8)	(5.0)
Tuition discount rate	47.4%		48.1%	48.8%	49.5%	50.2%	50.9%	51.7%	52.4%
Net tuition/FTE growth			2.1%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%

Note: Some totals may differ slightly from the sum of the individual items due to rounding.

Note that the incremental expenses to run this new program (\$1.0) are captured in the revenue line, which reflects revenue of \$2.0 minus the \$1.0 in expenses, for a net of \$1.0. The additional \$1.9 of revenue by the terminal year certainly helps, but it is swamped by the negative characteristics of the main revenue streams.

Scenario four—Annual fund increases

Raising more money through annual giving also can seem attractive. In most cases, this will require a significant investment in staffing and/or technology. Most institutions already have devoted significant effort to this work, so dramatic increases in annual fund giving are difficult and not likely.

Scenario four—Annual fund increases

Sample College—pro forma standard size income statement (Year 1 expenses = 100)

Dramatically improve annual giving

	Base	Growth	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Tuition	113.9	3.5%	117.9	122.0	126.3	130.7	135.3	140.0	144.9
Less financial aid awarded	(54.0)	5.0%	(56.7)	(59.5)	(62.5)	(65.6)	(68.9)	(72.4)	(76.0)
Net tuition	59.9		61.2	62.5	63.8	65.1	66.4	67.6	68.9
Room and board	13.2	3.5%	13.7	14.1	14.6	15.1	15.7	16.2	16.8
Endowment draw	19.5	1.0%	19.7	19.9	20.1	20.3	20.5	20.7	20.9
New program (net)	-	0.0%	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Gifts and other	8.4	7.0%	9.0	9.6	10.3	11.0	11.8	12.6	13.5
Revenues	101.0		103.5	106.1	108.8	111.5	114.3	117.2	120.1
Revenue growth rate from previous year			2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Compensation	60.0	3.5%	62.1	64.3	66.5	68.9	71.3	73.8	76.3
Program	30.0	2.0%	30.6	31.2	31.8	32.5	33.1	33.8	34.5
Debt/capital	10.0	4.0%	10.4	10.8	11.2	11.7	12.2	12.7	13.2
Expenses	100.0		103.1	106.3	109.6	113.0	116.6	120.2	124.0
Expense growth rate from previous year			3.1%	3.1%	3.1%	3.1%	3.1%	3.1%	3.1%
Difference between revenue and expense growth rates			(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)	(0.6%)
Net	1.0		0.4	(0.2)	(0.8)	(1.5)	(2.2)	(3.0)	(3.8)
Tuition discount rate	47.4%		48.1%	48.8%	49.5%	50.2%	50.9%	51.7%	52.4%
Net tuition/FTE growth			2.1%	2.1%	2.1%	2.0%	2.0%	1.9%	1.9%

Note: Some totals may differ slightly from the sum of the individual items due to rounding.

Note that an annual increase in giving of 7% every year is unrealistic—and even with this optimistic scenario, the trend lines are not favorable.

Options for addressing the issues

So what might a college do to manage its revenues and expenses so that the slope of those lines run parallel (at worst) for some time to come? The most promising options for Macalester are outlined below, broken down by actions the college should take now, and possible actions pending further analyses and/or changing conditions:

On the revenue side:

- Begin to implement regardless of economic trends:
 - Improve messaging regarding the Macalester experience among prospective students and their parents, with an objective to broaden the admissions pool to more consistently include students with the ability to pay more of the posted price; improve the yield on such students
 - Consider steps in financial aid packaging for domestic and international students that might help offset the slowing of the net tuition growth rate
 - Reevaluate international student need analysis to ensure appropriate alignment between financial aid and ability to pay
 - Consider moving operating surpluses (all or an assumed amount) to endowment to serve as an ongoing flow for the corpus, thus raising the growth rate on the endowment draw
- Perform further analyses or implement only if conditions deteriorate:
 - Test pricing limits for the posted tuition rates; the quality of the student experience and very high retention rates may suggest some room for growth
 - Increase gift flow to the endowment as a support for existing operations
 - Evaluate a three-year student residency requirement, including cost of capital

On the expense side:

- Begin to implement regardless of economic trends:
 - Consider different compensation models, including a split between ongoing and one-time payments; the ongoing portion could reflect the sustainable pace of increases and the one-time payments could be a function of a particular year's results
 - Have a serious discussion about the college's standards for managing the physical plant and other campus services, being careful to avoid steps that would be felt by students

- Perform further analyses or implement only if conditions deteriorate:
 - Articulate goals for faculty size and compensation based on current student-to-faculty ratio and median salary, and determine if these are still desirable and achievable
 - Restrict staff salary growth by freezing the staff FTE count and looking for ways to reallocate funds if new activities are needed
 - Modify the compensation mix to limit growth in total compensation, perhaps by offering employees the opportunity to shift a portion of their compensation dollars to their preferred area, e.g., cash, retirement, health; this would need to be positioned in a way that meets employees’ needs and expectations
 - Defer new construction and focus all capital consumption amounts on existing facilities, thereby reducing the growth rate
 - Evaluate the debt/gift mix on new construction to limit the amount of debt service funding required from the operating budget to add or improve campus spaces

All of these options have potential consequences that must be addressed in any discussions about how best to move forward. Indeed, it is these possible effects that make the choices challenging.

Furthermore, it is possible that some may prefer to avoid going in directions that differ from the current state, either because the changes will make some people uneasy or because it will feel as if the college is tinkering with a successful model. *Yet one could argue that this latter point in favor of the status quo isn’t relevant if the “successful” model isn’t sustainable.*

Alternative paths to balancing revenue and expense growth rates

Table 3 below shows the challenges associated with alternative approaches to balancing revenue and expense growth rates.

The table is intended to assess some of the scenarios and options described above. The first two columns list the base case assumptions; the remaining columns show the effects of alternative cases. The first three of those alternative case columns show the ongoing annual changes that would be necessary if the growth rate were reduced *in a single expense category* so as to match the revenue growth rate. For example, if the expense growth rate were reduced to 2.2% annually by changing only the growth of the compensation line item while leaving the program and debt/capital line items untouched, there would be only enough unclaimed revenue to support an increase of 2.0% in compensation every year. The two right-most columns of the table postulate slightly better revenue scenarios and, likewise, better outcomes.

Table 3. Sample college–alternative revenue and income scenarios

	Base case		Alternative cases				
	Base	Base case growth rates for all future periods	Balance by changing the growth rate on only the expense item listed at the top of the column:*			Better net tuition and endowment draw	Better net tuition and draw; cut expense growth rates by 0.5%
			Comp	Program	Debt/Capital		
Tuition	113.9	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Less financial aid awarded	(54.0)	5.0%	5.0%	5.0%	5.0%	4.5%	4.5%
Net tuition	59.9	2.1%	2.1%	2.1%	2.1%	2.6%	2.6%
Room and board	13.2	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Endowment	19.5	1.0%	1.0%	1.0%	1.0%	2.0%	2.0%
Gifts and other	8.4	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Revenues	101.0	2.2%	2.2%	2.2%	2.2%	2.6%	2.6%
Compensation	60.0	3.5%	2.0%	3.5%	3.5%	3.5%	3.0%
Program	30.0	2.0%	2.0%	(1.0%)	2.0%	2.0%	1.5%
Debt/capital	10.0	4.0%	4.0%	4.0%	(4.8%)	4.0%	3.5%
Expenses	100.0	3.1%	2.2%	2.2%	2.2%	3.1%	2.6%
Net	1.0	(0.9%)	0.0%	0.0%	0.0%	(0.5%)	0.0%

*Note: the growth rate in this column is not a one time event; this would be the rate of change every year to keep the revenue and expense amounts in balance

Note that in the better revenue scenario where just net tuition and endowment draw improve, but the rates of growth of all the expense categories remain the same, the trend lines do not balance; rather, the net result is that the growth rate of expenses (3.1%) exceeds the revenue growth rate (2.6%).

Expense-reducing scenarios

Approaches to reducing expenses are shown in Table 4 below, which presents numerous scenarios for balancing expenses within a 2.2% annual growth rate environment. Some community members may advocate for a more focused approach than indicated here; for example, cutting back on capital spending and maintenance is an attractive target. That approach is ultimately self-defeating, however, as those

needs cannot be ignored over the long term. Instead, developing an integrated, shared approach is likely to offer the most sustainable path forward.

Clearly, these scenarios present broad strokes; suballocations within each of the three main expense categories—compensation, program and debt/capital—also need to be addressed. For example, compensation amounts can be distributed across faculty salaries, staff salaries, and benefits/taxes, and via different means, such as cash compensation, health benefits, and retirement contributions.

Table 4: Expense scenarios in 2.2% revenue growth environment

	Compensation	Program	Debt/Capital	Other considerations/effects
Scenario A	3.0% total pool, likely 2.5% after health care increase, essentially inflation increase in pool, not likely to exceed market shifts, no new positions	No increase in nominal amounts, all future increases including inflation come from redeployment of existing activities	2% increase causes deferred maintenance backlog to grow, no new debt for any purpose	Allocation among faculty and staff salaries—are they the same or different?
Scenario B	2.5% total pool, likely 2.0% after health care, probably losing some ground over time vs. market	1.0% increase, still below inflation so some redeployment is necessary	2% increase causes deferred maintenance backlog to grow, no new debt for any purpose	More severe effect on compensation, faculty/staff allocation becomes more critical
Scenario C	2.5% total pool, likely 2.0% after health care, probably losing some ground over time vs. market	No increase in nominal amounts, all future increases including inflation come from redeployment of existing activities	5% increase allows for either adequate growth to approach necessary capital consumption (keeping deferred maintenance from growing) OR additional debt	Approaches deferred maintenance funding but investment in program and people is very limited or done by substitution
Scenario D	4.0% total pool, 3.5% after health care, this could be competitive with outside markets with some small opportunity for faculty/staff expansion	2.0% annual reduction every year, this will require very thoughtful use of these \$, rising energy prices could further squeeze other program costs to lower annual reductions	1% annual increase, deferred maintenance grows, no new debt	Hard to tell if this will keep compensation competitive, but it leans in that direction

Building the annual budget

Macalester has found that the linchpin for planning revolves around a dynamic five- to six-year operating budget model, with data simplified for broad sharing with the campus community each year. Individuals and teams responsible for key line items are deeply involved in setting assumptions and testing outcomes. These data suppliers and reviewers include the leaders of the following functions: Admissions, Financial Aid, Endowment, Fundraising, Human Resources, Facilities (Utilities), Study Away, and Finance. The internal budget committee offers advice on appropriate assumptions and tests the interactions of the various line items, as it is crucial to understand the growth dynamics of the major expense categories.

First, all major assumptions are reviewed for bias that favorable outlier events will continue (e.g., enrollment or financial market spikes). This review was particularly important just prior to the dot-com and 2007-08 downturns. Unusually large classes also present illusory growth—the model should look far enough into the future to allow that type of class to graduate, replaced by a normal-sized incoming class.

Next, a primary base case scenario is modeled using what would be considered the “most likely” assumptions. It is important, too, to consider the effects of downside events, including a test in which more than one such event occurs in the same year. While it can be problematic to assume that all possible negative events will occur in the same year, it also is risky if the institution fails to recognize that external events such as economic downturns can cause multiple challenges simultaneously. Finally, future scenarios are regularly reviewed and adjusted based upon the most current information available.

Once this process has been iterated, the budget for the next year drops out of the model. The budget is finalized and a slide deck flows from it.

Sharing information with the campus community and the board

The budget is presented to campus constituencies in a readily understandable format, designed for multiple audiences. Accessibility of the format is crucial; in this way we can show the board what we told the community, and we can tell the community what we will be showing the board.

Several features of this process have guided Macalester's communications on the budget:

- A crisis point should not precipitate the first annual budget presentation; this presentation should be a routine annual event. (Many institutions talked openly about budgets for the first time in 2009.)
- Campus budget presentation and board committee materials are virtually identical.
- Internal campus audiences include:
 - Faculty leadership
 - Student government
 - Individual departments upon request
 - Middle and upper management committee
 - Full faculty meeting
 - Open forum for full campus

Triggers: Variables to watch

Of course, the only correct forecast is that all forecasts will be wrong. It is possible that we have painted an excessively gloomy picture and that Macalester will be able to attain revenue growth at or near its long-term trends.

Our discussions regarding future financial models for the college often encounter uncertainty regarding the size, strength and duration of the revenue limitations that we have assumed. For example, for the past 30 years, the higher education industry has been grappling with the notion that posted tuition rates are “too high” or “rising too rapidly.” This debate usually accelerates when posted tuition passes the next multiple of \$10,000. It does seem that many institutions have reached a point where this is actually true: their financial aid demand reflects the most direct way that this reality manifests itself. That is, net tuition per student is the clearest marker of an institution's circumstances with regard to hitting a posted tuition ceiling.

One approach to managing this dichotomous situation is to track key data points that allow us to understand where the college is on this spectrum, so that we have an objective means to recalibrate as necessary. Among the markers we suggest be tracked are the following:

External:

- Industry and peer tuition/comprehensive fee pricing trends
- Industry and peer financial aid trends
- High school graduation rates
- GDP growth
- U.S. household income trends, aggregate and by quintile
- U.S. home value data
- U.S. and international financial market data
- U.S. consumer debt trends and levels: mortgage/credit card/other

Internal:

- Financial aid trends
- Application/admit/yield data
- Yield information in the aggregate and by level of need
- Endowment growth
- Endowment returns
- Gifts to annual fund, capital and endowment

Relationships:

- Industry pricing compared to household incomes/inflation/GDP growth
- Enrollment changes across institution types

Applying the concepts: Educating faculty leaders

Macalester is a member of the Associated Colleges of the Midwest (ACM), a consortium of 14 private liberal arts colleges located in Colorado, Illinois, Iowa, Minnesota and Wisconsin. In 2012, the consortium's presidents decided to develop a program that would educate faculty leaders on the dynamics of the small college financial model. The organization applied for and received a four-year grant (from 2013 to 2016) from the Andrew W. Mellon Foundation that underwrote the costs of developing and delivering what became known as the Institute for College Futures, or ICF. Program costs were carefully managed, which allowed for a fifth ICF session in 2017.

Each ACM member institution was asked to identify four mid-career faculty leaders to attend a 1½ day program in the ACM's headquarters city of Chicago. The program targeted faculty who were well into their careers and were seen as current or potential leaders, experienced with administrative and budgeting work, or likely to take on such roles in the future.

The institute featured four primary speakers, all of whom came from ACM member institutions. The program was designed to offer general context and more granular financial details, combined with case studies that allowed participants to apply what they had learned. The readings, speakers and exercises led participants to a clearer understanding of the dynamics of the small college business model.

Each of the five ICF programs followed this same sequence of presentations and presenters:

- The higher education landscape (Colorado College president)
- The dynamics of the small college revenue model (Beloit College president)
- Financial structure and terminology (Lake Forest College provost)
- Modeling possible financial outcomes (Macalester College chief financial officer)

After working on case studies and problem sets, the crucial final step in the ICF program called for the development of a plan to share the information learned back on the attendees' home campus. This sharing took a variety of forms over the years: at some institutions, the information was shared with the president's cabinet, faculty senate, or a group of division or department chairs. In a few cases, the information was shared with non-faculty audiences as well.

Over the five summers the program was held, approximately 250 faculty members attended the sessions in Chicago. One of the strengths of the program was the retention of the original presenters for all five sessions, from 2013 through 2017. Although specific measurements of outcomes were difficult to develop, consistent participation by all 14 ACM member institutions and the increased demand from each campus for the limited spots in the program were strong indicators of the value that it brought to deepening understanding of the dynamics of the small college financial model among faculty and other constituencies.

Conclusion

This paper describes a challenging problem that has been decades in the making. Preserving and improving a college's mission will be very difficult if expenses can grow only at roughly 2% per year, as modeled here. Institutions will have to consider all reasonable options to maintain the revenue growth rate and exercise discipline to manage expenses, which likely will need to grow more slowly than in the past (even if the growth rate needn't be as modest as proposed here).

It is important to emphasize that the scenarios presented describe a set of circumstances that might occur. However, we believe that the scenarios have a sufficiently high probability of occurring, such that they should not be ignored.

Finding a way to look beyond the next one or two years is a crucial step toward considering all solutions, including those that take time to execute. Higher education leaders need to understand that the external forces at play are powerful. They affect all aspects of American higher education; likewise, the direction we choose should be considered in that context. Staying focused on these larger forces and the potential challenges they bring—no matter how well an institution positions itself—is crucial.

These external trends and issues may be more pressing for some institutions than others, and some may be comfortable with proceeding slowly or not giving these issues a thorough airing. For all institutions, however, developing realistic scenarios and sharing information widely can offer a favorable path to addressing future trends in a realistic and timely way, and help ensure financial sustainability over the long term.

About the author

David Wheaton is Vice President of Administration and Finance at Macalester College, a position he has held since 2002. Wheaton joined Macalester from the William Mitchell College of Law where he also served as Vice President for Administration and Finance. Prior to that, he held the same position at the United Way of the Greater Minneapolis Area, after having served in various roles at what is now Wells Fargo. Wheaton is responsible for all of Macalester's financial functions (other than the endowment), facilities management, human resources, business services, information technology, sustainability initiatives, and neighborhood and community relations including off-campus properties. He chairs the college's standing task force on the budget and serves as an ex officio member of the faculty Strategic Planning and Analysis Committee, as well as liaison to the trustee committees on Finance, Infrastructure, and Audit & Risk Management. He also is a member of the trustee's Investment Committee. Wheaton earned a B.B.A at the University of Notre Dame and an M.M. (M.B.A.) at Northwestern University.



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