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The challenging economics of higher education

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The Challenging Economics of Higher Education



This is the time of year in which college presidents get to have one of their most difficult communications with parents: the tuition letter. After budgets are constructed on campus and then passed by boards, presidents send a letter to parents of continuing students informing them of the tuition (and typically room and board too) increase for the next academic year. As has been true for **several decades** tuition increases are rising faster than inflation. While there are understandable reasons that tuition outpaces inflation, students and families must find the additional money to pay these higher costs, which can be especially challenging in times of slow income growth.

There was a recent story that passed with too little notice that offers some insight into the economics of higher education. Five years ago, Middlebury College, one of the nation's best small liberal arts colleges, announced that it was committing to limiting its comprehensive fee (tuition + room and board + fees) increases to the consumer price index (CPI) plus 1%. While this is still above the rate of inflation, "in the 18 years before it announced the CPI+1 plan, Middlebury's price rose an average of 2.36 percentage points above inflation per year." So the expectation was that this plan would moderate comprehensive fee growth—and it did.

But in February of this year, Middlebury announced that it would be **abandoning CPI + 1%**. "President Ronald D. Liebowitz, who was there when the arrangement was announced five years ago and plans to step down this year, said the college simply had to move away from its plan....A college spokesman said Middlebury remains committed to meeting the financial needs of students who are admitted but suggested the college's expenses were rising faster than the basket of consumer goods that dictate the Consumer Price Index." The **comprehensive fee** at Middlebury for the 2015-16 academic year will be \$61,456, an increase of 3.83% from the current academic year.

Why is it that a school with an **endowment of more than \$1.0 billion** and a student body that is among the most selective in the nation believes it must continue to increase its tuition at even more than 1 percentage point above inflation? The answer has to do with the economics behind the "production" of education, and has nothing to do with Middlebury in particular.

Take a simple hypothetical example. Assume there is a school of 1500



students and a faculty of 100. Further assume, for simplicity, that the only source of revenue is tuition (more true at tuition driven institutions like Saint John's University and the College of Saint Benedict—but still a plausible assumption for well-endowed places like Middlebury), and that the only costs are financial aid (which discounts the comprehensive fee

for some students) and faculty compensation. Finally assume that the faculty, like most employees, expects to see a small increase in their real compensation each year—meaning an increase above the rate of inflation.

Assume the comprehensive fee (CF) increases by $CPI + 1$, that is approximately 3% in the low inflation environment of recent years. Consider three cases:

1. All students are full pay, meaning there is no financial aid given to anyone. A 3% CF increase equates to a 3% increase in revenue, which can be used to increase faculty compensation by 3% and still balance the budget. So the faculty receive a real increase of 1 percentage point above inflation.
2. All students get some financial aid that is means tested and, for simplicity, students' families see no increase in their incomes from one year to the next, so their ability to pay does not change. A 3% increase in the CF leads to a 3% increase in revenue, but all students' financial aid packages go up by 3% to cover the 3% CF increase. There is no revenue left over to increase faculty compensation in this case and the faculty see a drop in their real compensation of 2%, equal to the rise in the CPI.
3. Or consider the case in which 50% of the students are full pay and 50% receive means tested financial aid. Assume, as in #2, that the students receiving financial aid see no increase in their families' incomes. The 3% increase in the CF leads to a 3% increase in revenue. Half of that revenue is used to cover the increase in financial aid for the 50% of students receiving aid. The other half of the revenue increase is used to increase faculty compensation by 1.5%. The faculty see compensation rise but by less than the CPI and, therefore, their real compensation drops by .5% ($2\% - 1.5\%$).

Reality for colleges and universities is much more like case #3. An increase in the comprehensive fee of $X\%$ nets the institution less than an $X\%$ increase in revenue because some of that increase must immediately be put back into the financial aid pool (and this example does not consider the complexities of merit based aid that is often increasing because of competition for students between institutions). The revenue increase left over to cover compensation, by far the largest part of educational costs, is often not sufficient to provide real increases in compensation.

The options available to institutions all have drawbacks:

1. **Modest tuition increases, modest to low compensation increases.** This is case #3 where new revenues are small (or non-existent) and costs, particularly compensation, need to be kept in line with those revenues.
2. **Higher tuition increases, more revenue for costs.** In this case, which Middlebury is opting for, tuition increases are greater than $CPI + 1\%$ and there is enough new revenue to cover cost increases, including real compensation increases for faculty and staff.
3. **Modest tuition increases, change the educational model.** In this case, new revenues are small but to increase real compensation for faculty and staff, their numbers are cut. In the example above, faculty size goes from 100 to, say 80.

The savings on faculty (and staff) costs can be passed on to those who remain, but the experience of students is different as classes get bigger and there are fewer staff to assist with student needs. The Middlebury experience goes from being a small, liberal arts college to an experience more like a Research I (RI) university with larger classes or even a lecture hall-based education.

Though the choices are difficult and the economics almost impossible to get around (save manna from heaven or generous alums who help grow the endowment), none of this is new or surprising for economists. This problem was identified by William Baumol and William Bowen in the 1960s and even has a name:

***Baumol's Cost Disease:** The original study was conducted for the performing arts sector. William Baumol and William Bowen pointed out that the same number of musicians is needed to play a Beethoven string quartet today as was needed in the 19th century; that is, the productivity of classical music performance has not increased. On the other hand, real wages of musicians (as well as in all other professions) have increased greatly since the 19th century.*

The problem applies to a variety of industries, including education, health care and the performing arts, which are labor intensive and where productivity increases are small over time. Baumol and Bowen's string quartet example offers clear intuition into the problem, but a Shakespeare lecture or a hernia repair (though here technology has changed some) also still take the same labor inputs now that they did years ago.

The reality is that as a society we are likely to see a growing share of GDP devoted to sectors affected by the cost disease, as has been true in recent decades. In a review of a recent book, *The Cost Disease: Why Computers Get Cheaper and Health Care Doesn't*, by Baumol, *The Economist* writes:

[Baumol's] theory is that a "cost disease" caused by low productivity growth in health care means that costs will continue to rise in real terms. The same applies to education and the performing arts. The theory means that higher costs are not down to distortions, inefficiencies or market failures, but something fundamental and unavoidable. It also means that cutting costs without reductions in quality may not be possible.

But the review ends with an optimistic note on the overall affordability of sectors affected by the Cost Disease:

But most striking is his conclusion that even as health care costs go up and up, they will always remain affordable because progress in other sectors offsets the slow crawl in those hit by the cost disease.... The addition of this conclusion to his longstanding work on the cost disease makes it even more important.

A reminder of the importance of overall economic growth and in particular, the importance of increases in productivity in those sectors that see these changes: technology, agriculture, manufacturing, etc. And where do those productivity increases come from? Human capital that comes from investments in education.

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Michael Hemesath is the 13th president of Saint John's University. A 1981 SJU graduate, Hemesath is the first layperson appointed to a full presidential term at SJU. You can find him on Twitter [at] [PrezHemesath](#).