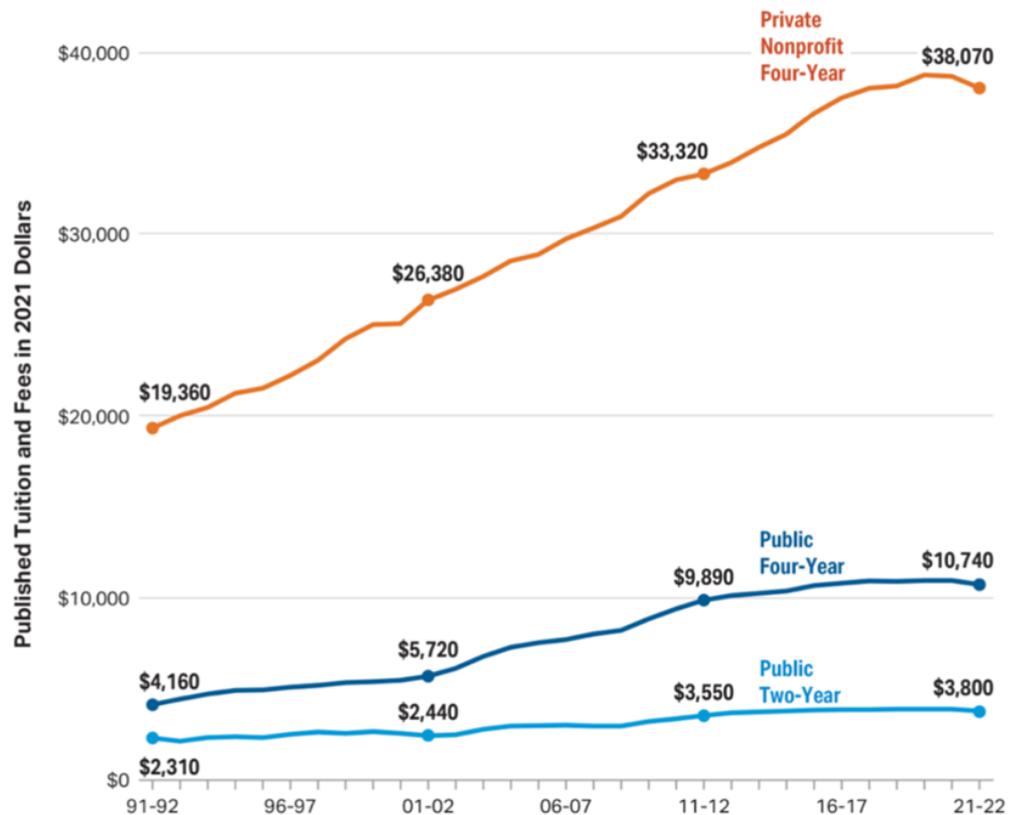


Can Anything Be Done About Rising College Costs?

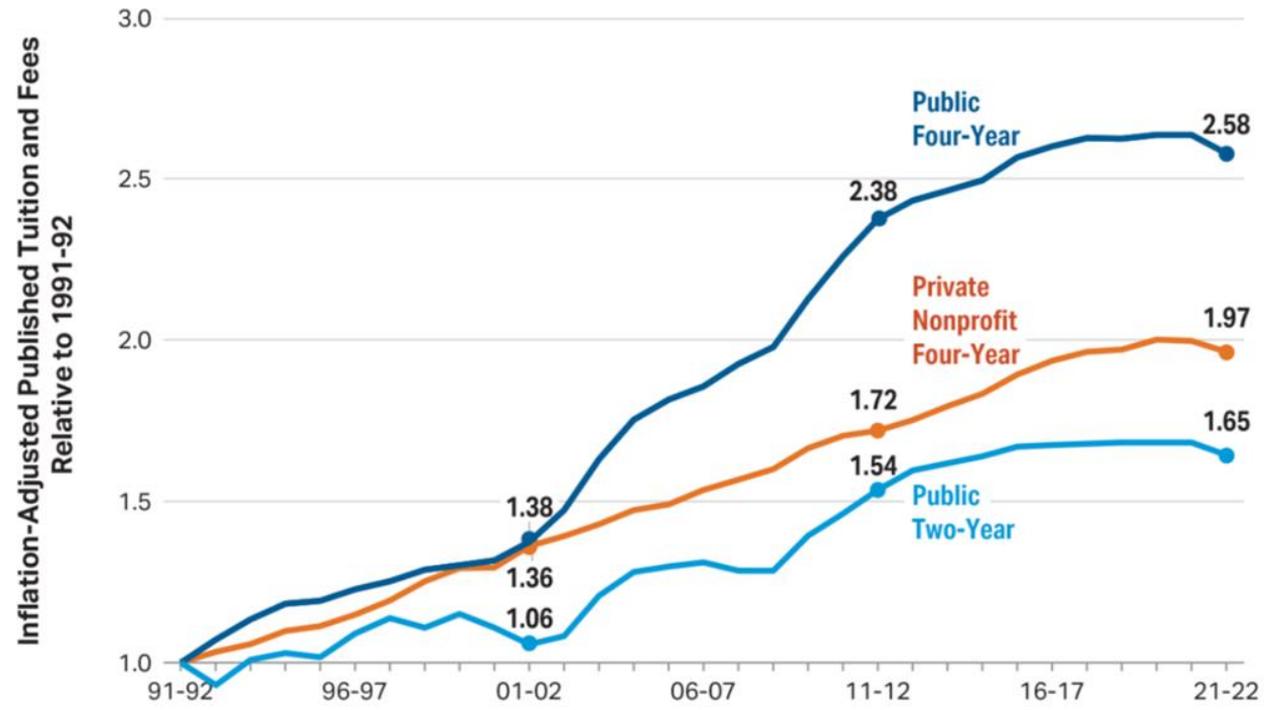
Jennifer A. Delaney
Will Doyle

Tuition and Fee Trends

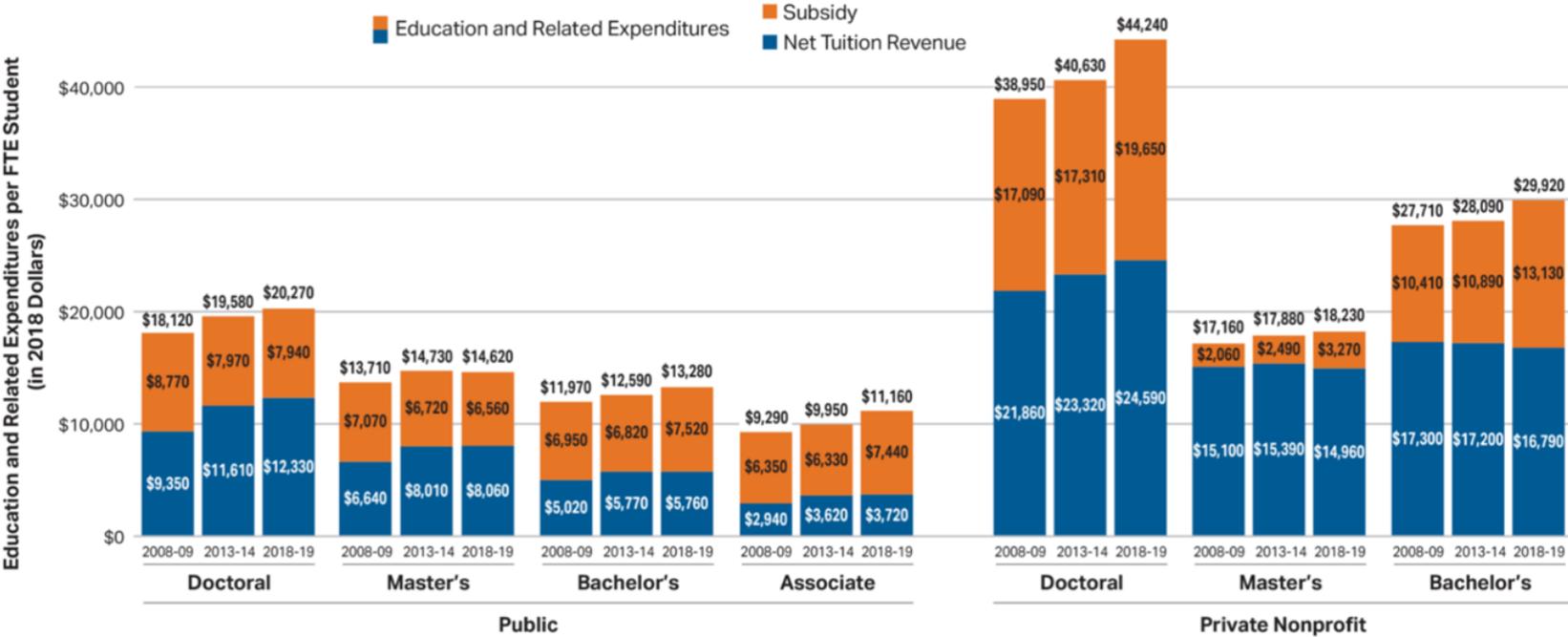
Average Published Tuition and Fees in 2021 Dollars by Sector, 1991-92 to 2021-22



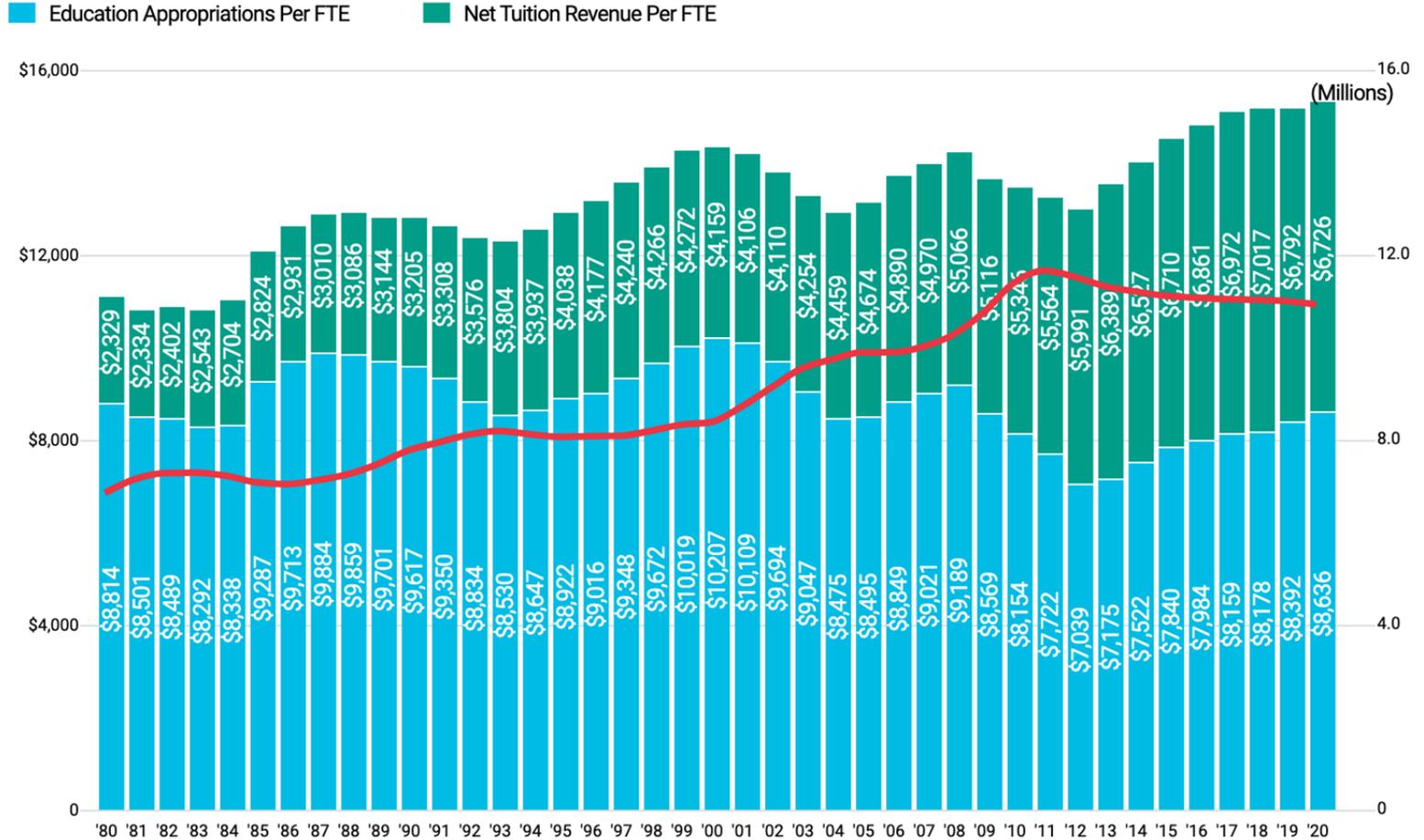
Inflation-Adjusted Published Tuition and Fees Relative to 1991-92, 1991-92 to 2021-22 (1991-92 = 1.0)



Net Tuition Revenues, Subsidies, and Education and Related Expenditures per Full-Time Equivalent (FTE) Student in 2018 Dollars, 2008-09, 2013-14, and 2018-19

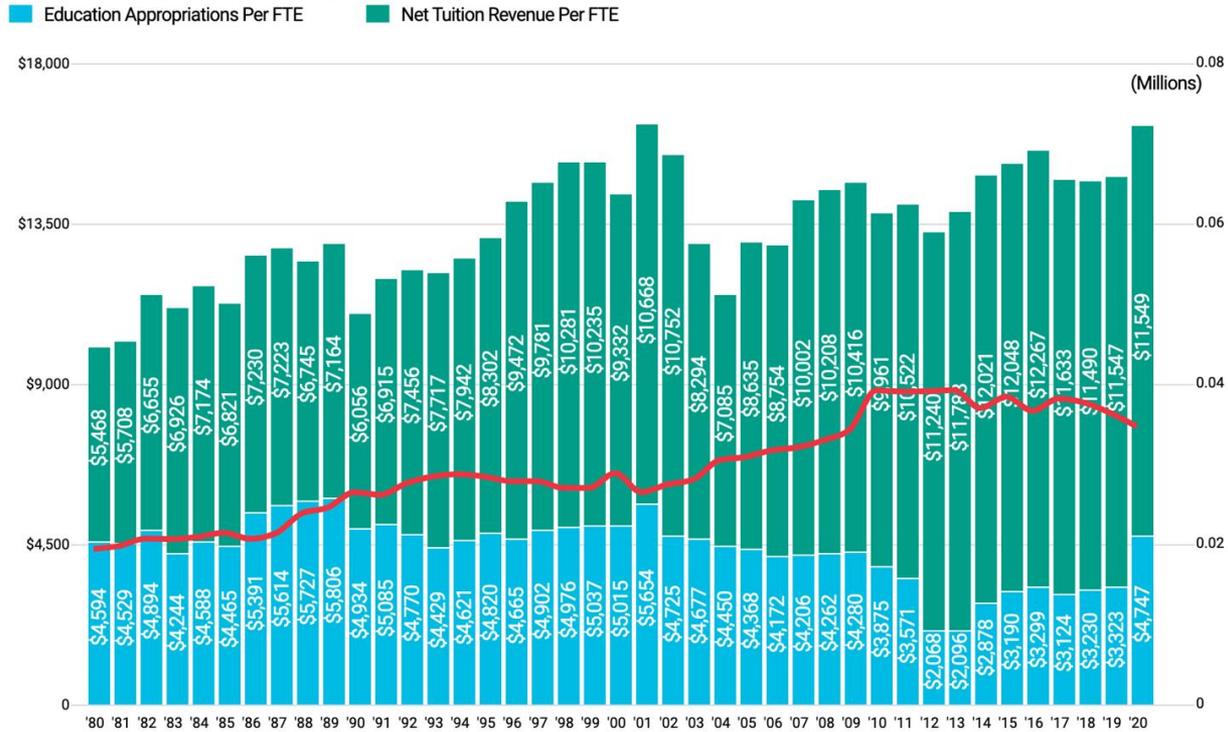


Public FTE Enrollment, Education Appropriations Per FTE, and Net Tuition Revenue Per FTE, U.S., FY 1980-2020 (Constant Dollars)



Source: SHEEO SHEF Report, 2021

Public FTE Enrollment, Education Appropriations Per FTE, and Net Tuition Revenue Per FTE, New Hampshire, FY 1980-2020 (Constant Dollars)



Notes:

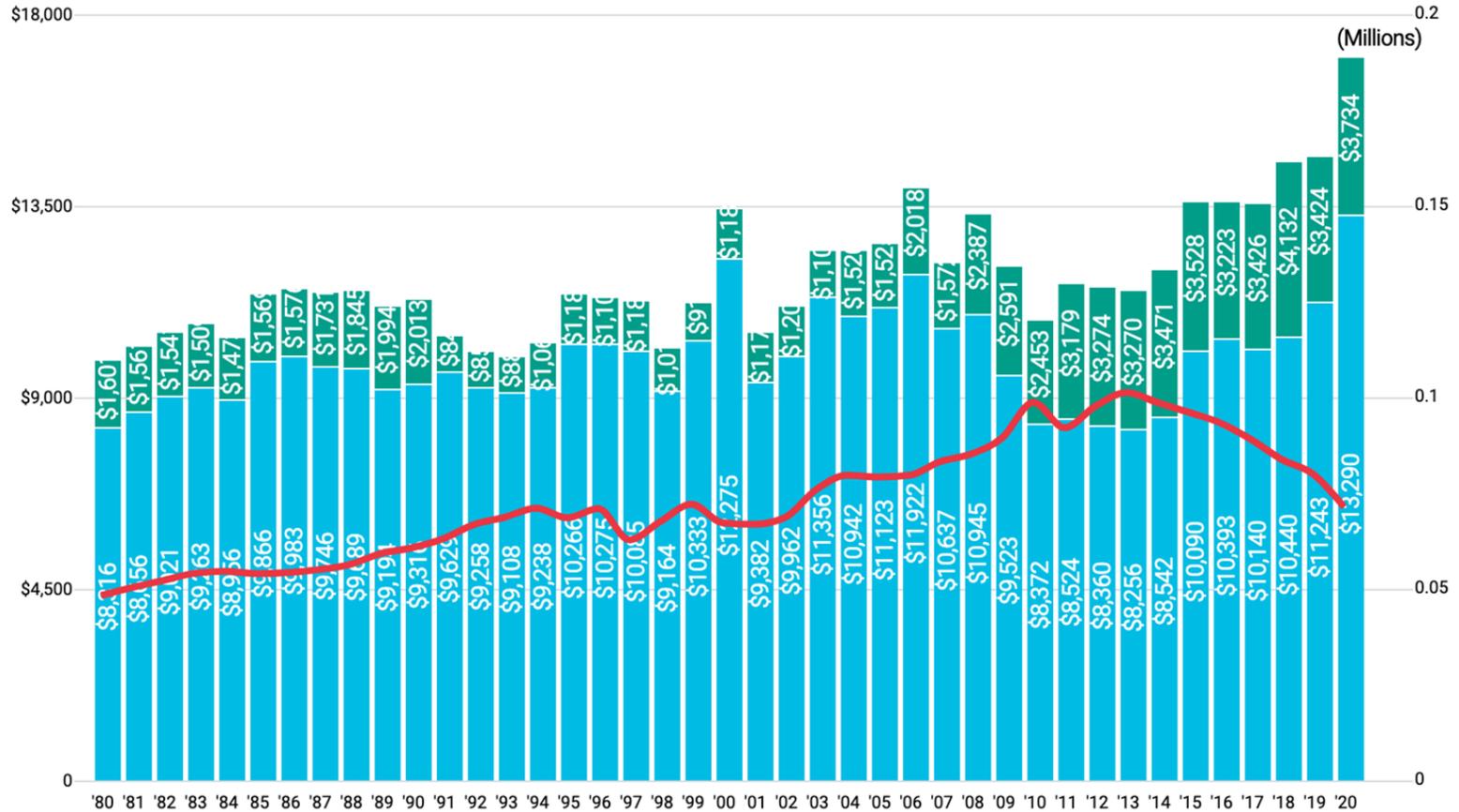
1. Education appropriations are a measure of state and local support available for public higher education operating expenses and student financial aid, excluding appropriations for research, hospitals, and medical education. Education appropriations include federal stimulus funding.
2. Net tuition revenue is calculated by taking the gross amount of tuition and fees, less state and institutional financial aid, tuition waivers or discounts, and medical student tuition and fees.
3. Full-time equivalent enrollment converts student credit hours to full-time, academic year students, but excludes medical students.
4. Constant dollars adjusted by the Consumer Price Index (CPI).

Source(s): State Higher Education Executive Officers Association

Public FTE Enrollment, Education Appropriations Per FTE, and Net Tuition Revenue Per FTE, New Mexico, FY 1980-2020 (Constant Dollars)

Education Appropriations Per FTE

Net Tuition Revenue Per FTE



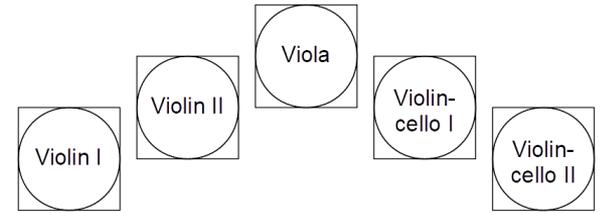
Five Possible Explanations

1. Baumol' Disease
2. Bowen's Revenue Theory of Costs
3. Arms Race
4. The Lattice and the Ratchet
5. (Bennett Hypothesis) – lacking evidence



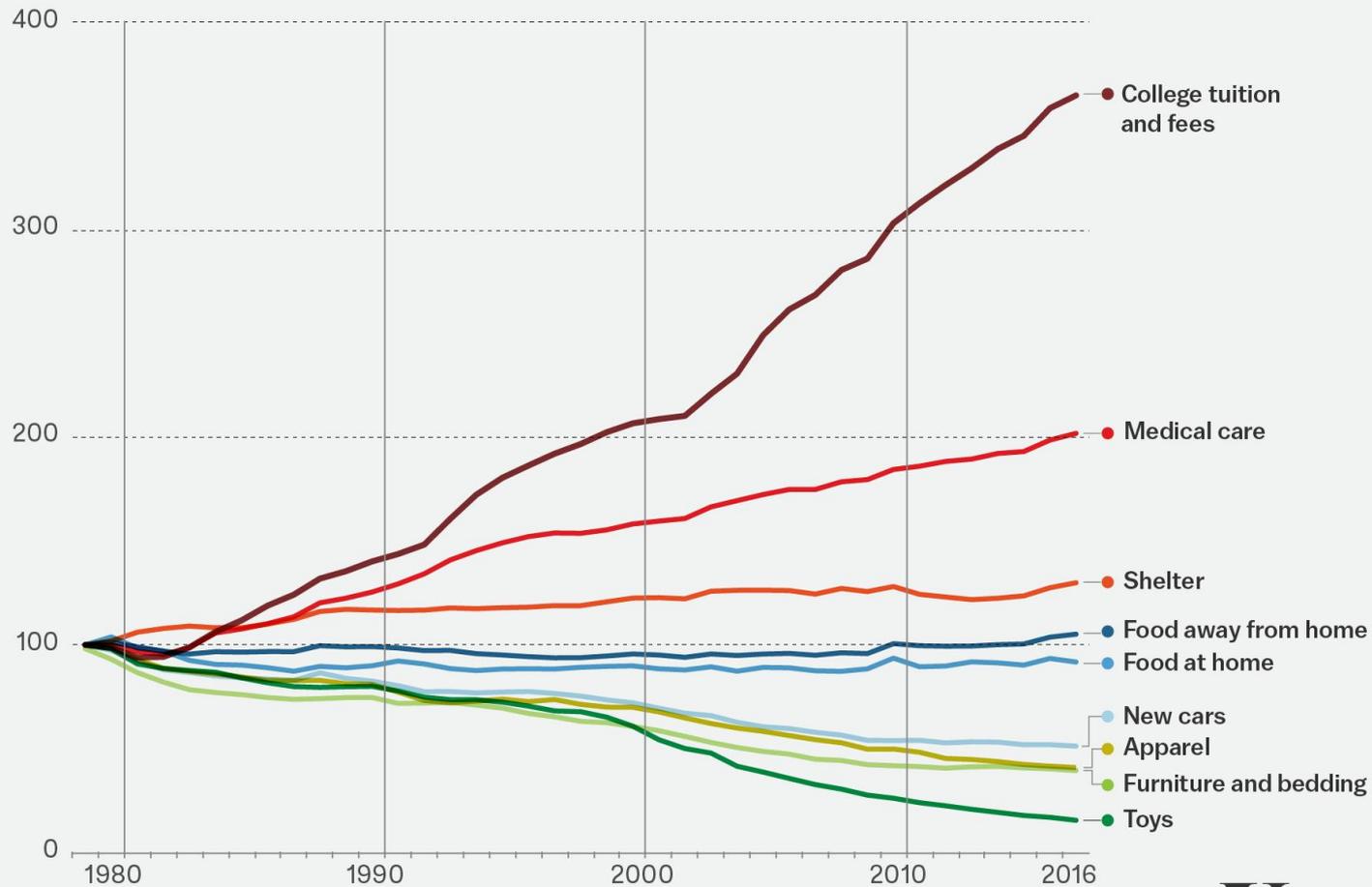
Baumol's Disease

Baumol's Disease



- There are productive and non-productive sectors of the economy.
- Workers require living wages in both sectors.
- In the non-productive sector, where productivity is stable, there are no productivity improvements in output per hour worked so increases in wages become increases in labor costs.
- A famous example is of a string quintet where it took five players to play a Mozart concerto the year it was released (say the string quintet No. 2 in C minor from 1787). Today to perform that same concerto, five musicians are still required and it will take the same length of time to perform, yet the wages for professional musicians have risen in the last 235 years.
 - These increases in wages are reflected in increases in ticket prices.
- Higher education shares many similarities with a non-productive sector and is a very people-heavy sector.
 - The increases in wages is reflected in increases in tuition prices.

Change in prices of goods and services relative to overall price level



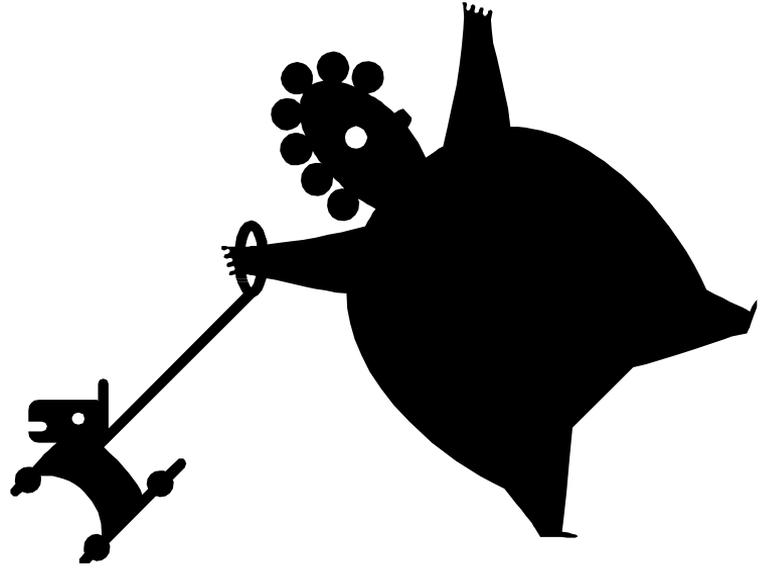
Source: Bureau of Labor Statistics consumer price index

Source: <https://www.vox.com/ne-w-money/2017/5/4/15547364/baumol-cost-disease-explained>



Bowen's Revenue Theory of Costs

- Universities raise all the money they can and spend all the money they raise.



Bowen's Five Rules

1. "The dominant goals of institutions are educational excellence, prestige, and influence."
2. "There is virtually no limit to the amount of money an institution could spend for seemingly fruitful educational ends."
3. "Each institution raises all the money it can."
4. "Each institution spends all it raises."
5. "The cumulative effect of the preceding four laws is toward ever increasing expenditure."

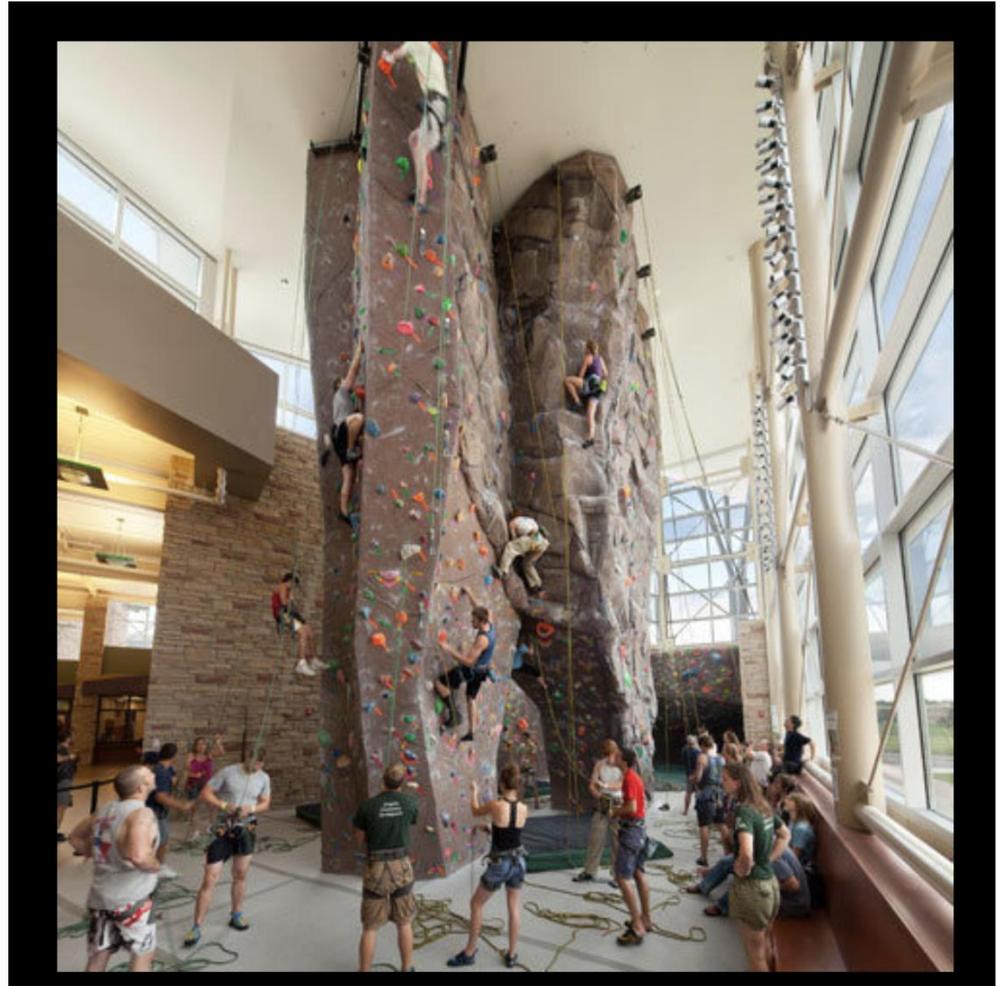
Arms Race

Arms Race Characteristics

“The characteristics of an arms race appear to be these:

- Each competitor has incentives to behave in ways that, collectively, may damage them all.
- Nothing internal to the arms race tends to bring it to an end except, perhaps, the exhaustion of the competitors' resources.
- The race itself has no finish line that indicates success. It's a continuing process that can only be ended by ending the process.
- The end of an arms race can come through an agreement to stop the competition, an agreement reached for the common good or imposed externally,
- But any agreement to stop the process is inherently fragile as long as individual advantage accrues to its violation.

Arms Race



Climbing Wall, Colorado State University, Fort Collins

Arms Race



The University of Colorado in Boulder

Arms Race



Colorado State University in Fort Collins

Arms Race in Knowledge Production Too

- Universities produce new knowledge
 - Pressure to hire faculty in emerging areas, increased technology needs in new fields, new courses, new disciplines and departments are developed.
- “Old” knowledge and disciplines still matter and need to be maintained.
- The layers of new knowledge on top of old knowledge results in pressure to add courses, faculty, technology, buildings to keep up with the expanding knowledge.
 - Massey & Wilger (1992).

Lattice and Ratchet

The Lattice and the Ratchet

The Lattice:

- Work that faculty used to do goes to administrators, who naturally seek to expand the scope of their operations.

The Ratchet:

- Faculty drift away from institutional goals like teaching and toward disciplinary goals like research.

The Administrative Lattice

- “The pervasiveness of an administrative entrepreneurism has also increased institutional costs. As administrative staffs have increased in size, they have tended to become more professional. One consequence of employing more highly trained individuals has been better management. Institutions have become more technologically sophisticated and better able to serve their clientele. An unintended consequence has been that academic and administrative support staffs have come to "own" their jobs in much the same way that faculty do. They have created their own set of goals and priorities for the institution. Inevitably, one of their goals is to expand their own area (Pew Higher Education Research Program, 1990, p. 3).”
 - Massey & Wilger (1992).

The Lattice

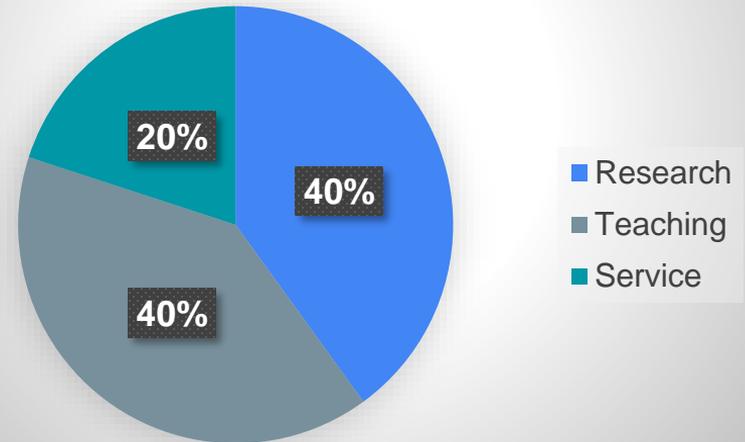
- Shifting what was once faculty work to administrators

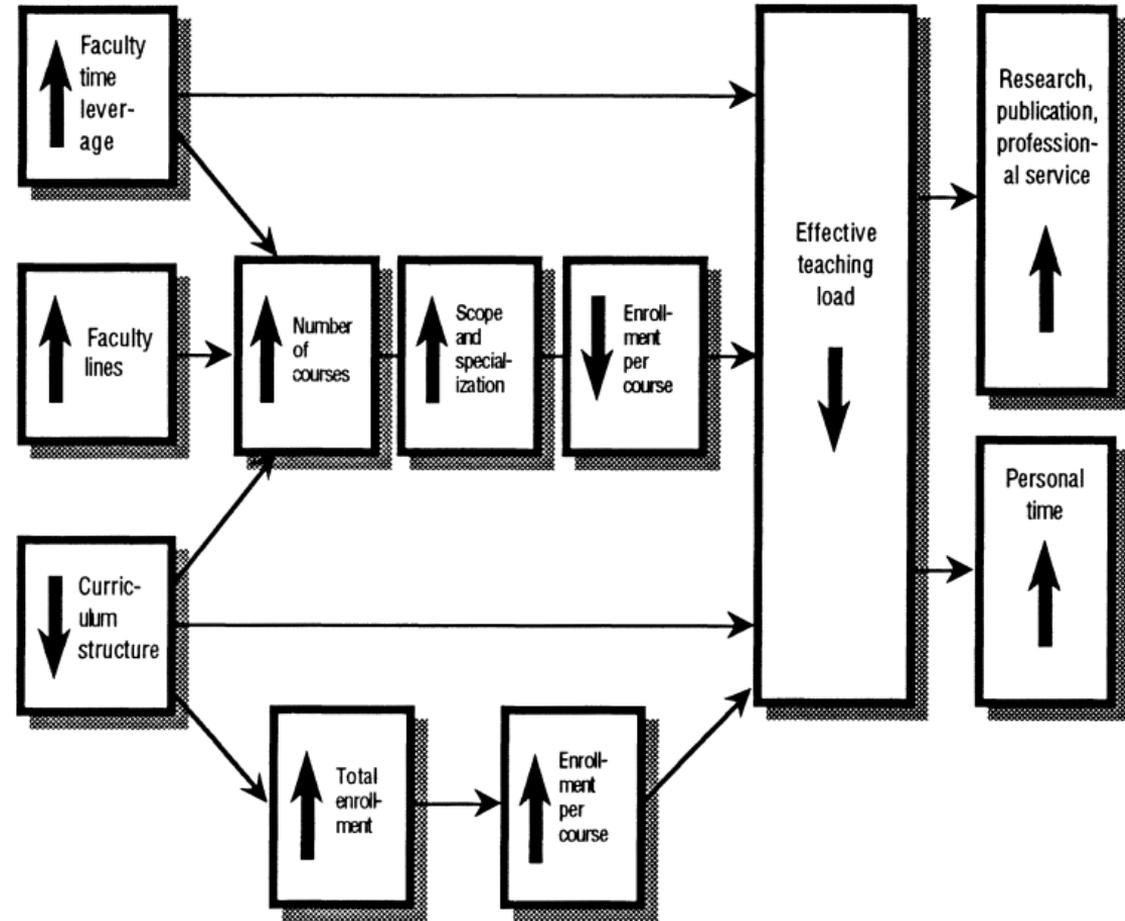


The Ratchet “Output Creep”

- Faculty time shifting from teaching to research, publication, and professional service .
- Most pronounced at elite research institutions.
- Faculty time use is typically self-selected. Building reputations outside of their home institution increases a faculty member’s market power.

Percent of Tenure Track Faculty Time at Research Institutions





Faculty "Output Creep" and Increased Costs

FIGURE 1. Effect of Faculty, Faculty Lines, and Curriculum Structure on the Departmental Activity Mix

Bennett Hypothesis

The Bennett Hypothesis

Our Greedy Colleges

By William J. Bennett

WASHINGTON — Many of our colleges are at it again. As they have done annually for the past six years, they have begun to unveil tuition increases that far outstrip the inflation rate. Next year, tuition is expected to rise 6 percent to 8 percent — even though inflation during 1986 was about 1.8 percent.

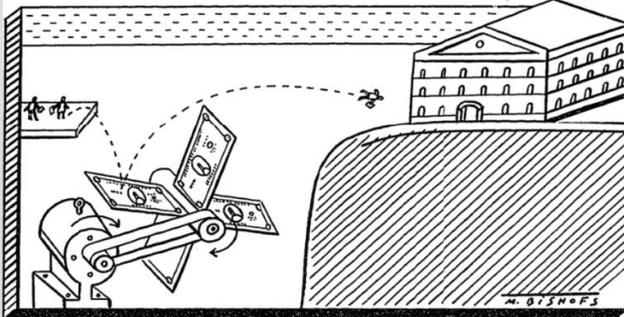
Yale's president, Benno C. Schmidt Jr., attributes his university's tuition hike in part to "continuing cutbacks of governmental support for student aid." This assertion flies in the face of the facts. Since 1981, money available through Federal student aid programs has increased every single year. Overall, Federal outlays for student aid are up 57 percent since 1980. Since 1980, inflation has been just 26 percent. That is why the former chairman of the Senate Budget Committee, Pete V. Domenici, Republican of New Mexico, recently dismissed the claim of huge cuts in student aid programs as a "myth."

If anything, increases in financial aid in recent years have enabled colleges and universities blithely to raise their tuitions, confident that Federal loan subsidies would help cushion the increase. In 1978, subsidies became available to a greatly expanded number of students. In 1980, college tuitions began rising year after year at a rate that exceeded inflation. Federal student aid policies do not cause college price inflation, but there is little doubt that they help make it possible.

At the same time that higher education has been cutting a bigger piece of the Federal pie, it has also received huge infusions of cash from state governments, from corporations, from foundations and from loyal alumni. The total increase in higher education spending from all these non-Federal sources is staggering. Spending for higher education now consumes about 40 percent of all money spent in America for education.

It is by no means clear that the performance of many of our colleges and universities justifies this level of expenditure. As I said on the occasion of

William J. Bennett is Secretary of Education.



Washington is wrongly accused of cutting student aid.

Harvard's 350th anniversary, too many students fail to receive the education they deserve at our nation's universities. The real problem is not lack of money but failure of vision.

Unfortunately, when it comes to higher education, this distinction is frequently lost. Stanford University's vague justifications for increased charges — "new knowledge is inherently more expensive" — only underscores the lack of focus and purpose at some of our nation's most prestigious universities.

Higher education is not underfunded. It is under-accountable and under-productive. Our students deserve better than this. They deserve an education commensurate with the large sums paid by parents and taxpayers and donors.

That our universities are places where students can receive a good education, or at least learn a lot, I

have no doubt. But too often our universities leave education to chance — a good professor here and a great course there. There is too little real and sustained attention to education in the broader sense, to making sure that when our students leave after four years they leave as educated men and women.

It is also false to assert, as some have, that the Reagan Administration's student aid policies deprive disadvantaged students of the opportunity to attend college. In fact, the Administration has consistently sought to redirect aid to the neediest students.

Under the Administration's fiscal 1988 budget proposal, all students presently receiving aid would continue to be eligible for the same dollar amount of aid. One in six of all college students would still be eligible to receive Federal grants. Those less needy would still have access to aid in the form of loans.

One particular Administration proposal, Income Contingent Loans, represents the most serious attempt to improve student aid in 15 years. The loans would permit repayment schedules to be tailored to a student's income. A graduate's payments would never have to exceed 15 percent of his adjusted gross income, and he could have as long as necessary to repay.

An advantage of the Administration's proposals is that they would help make colleges and universities accountable to the prime beneficiaries of their services — the students.

Because students would pay a market-based interest rate, they would bear the true cost of borrowing the additional capital needed to finance

Again, tuition increases far outstrip inflation.

tuition increases. Instead of insulating colleges and universities from such market forces, the Administration's policies would make colleges and universities more readily accountable to them.

Higher education clearly provides benefits to society in general. Recognizing this, the American people have generously provided the tax dollars, grants and highly subsidized loans necessary to support higher education. But the chief beneficiaries of a college education are the students. On average, college graduates earn \$60,000 more over their lifetimes than nongraduates do. It is simply not fair to ask taxpayers, many of whom do not go to college, to pay more than their fair share of the tuition burden.

The Administration's proposals seek to balance the benefit of loan subsidies to students with their cost to taxpayers. Our colleges and universities should be more willing to shoulder their responsibilities to students, their families and taxpayers. Too often, these responsibilities have been evaded. This we can no longer afford.

- "If anything, increases in financial aid in recent years have enabled colleges and universities blithely to raise their tuitions, confident that Federal loan subsidies would help cushion the increase."
- Bill Bennett was the US Secretary of Education 1985-1988 under President Reagan.
- New York Times Op-Ed appeared Feb. 18, 1987

What Can Be Done?

It depends which theory is likely to be true . . .

Cost Disease: Seek out as much administrative and back office efficiency as possible, but understand that core faculty will just get more expensive over time.

Revenue Theory of Costs: set limits on tuition and appropriations increase; make increases in both steady, dependable and *limited*

Arms Race: Use policy to ensure that institutions are directing entrepreneurial activity toward societal goals

These are not mutually exclusive!

Questions?

Additional Rationales for Price Increases

- Salary increases
 - Not true across fields
 - Not true for adjunct and contingent workforce
- Increased government regulation and reporting burdens
 - While there are burdens and they have increased over time with accountability movements, this work is typically a small share of institutional resources.
- Waste and abuse “organizational slack”

Other concerns

- Access-Quality-Efficiency zero sum game (Johnstone).
- Reduced subsidy values even with increased prices.

another where productivity is stable. As an illustration, let us suppose that where technological improvements are possible they lead to an increase in output per man-hour of 4 percent per annum, but that output per man-hour remains absolutely constant in the stable productivity sector. If these sectors are assigned equal weights in the construction of an economy-wide productivity index, the aggregate rate of increase in output per man-hour will be 2 percent per annum. For the moment let us assume that there is only one grade of labor, that labor is free to move back and forth between sectors, and that the real wage rate rises *pari passu* with the aggregate rate of change of productivity, at 2 percent per annum. Finally, let us suppose that the money supply and the level of aggregate demand are controlled in such a way that the price level is kept stable. Assuming that there are no changes in the shares of capital and labor, this means that money wages will also increase at the rate of 2 percent a year.

per unit must therefore decline. However, in the sector where productivity is stable, there is no offsetting improvement in output per man-hour, and so every increase in money wages is translated automatically into an equivalent increase in unit labor costs—2 percent per annum in our example. It should be noted that the extent of the increase in costs

It is apparent that the live performing arts belong to the stable productivity sector of our economy. The legitimate theater, the symphony orchestra, the chamber group, the opera, the dance—all can serve as textbook illustrations of activities offering little opportunity for major technological change. The output per man-hour of the violinist playing a Schubert quartet in a standard concert hall is relatively fixed, and it is fairly difficult to reduce the number of actors necessary for a performance of *Henry IV*, Part II.

Grand Statements

TUESDAY 1/24/23 • 7:30 PM

SCHUBERT *Quartettsatz* in C minor for Strings, D. 703 (1820)

SCHUBERT Sonata in B-flat major for Piano, D. 960 (1828)

SCHUBERT Quartet in G major for Strings, D. 887, Op. 161 (1826)

Gilbert Kalish, PIANO • Escher String Quartet
(Adam Barnett-Hart, Brendan Speltz, VIOLIN
Pierre Lapointe, VIOLA • Brook Speltz, CELLO)

An Evening with Escher

🎵 CONCERT

Sunday, April 3, 2022, 5:00 PM at Alice Tully Hall

SUBSCRIPTIONS

Tickets start at \$34.00

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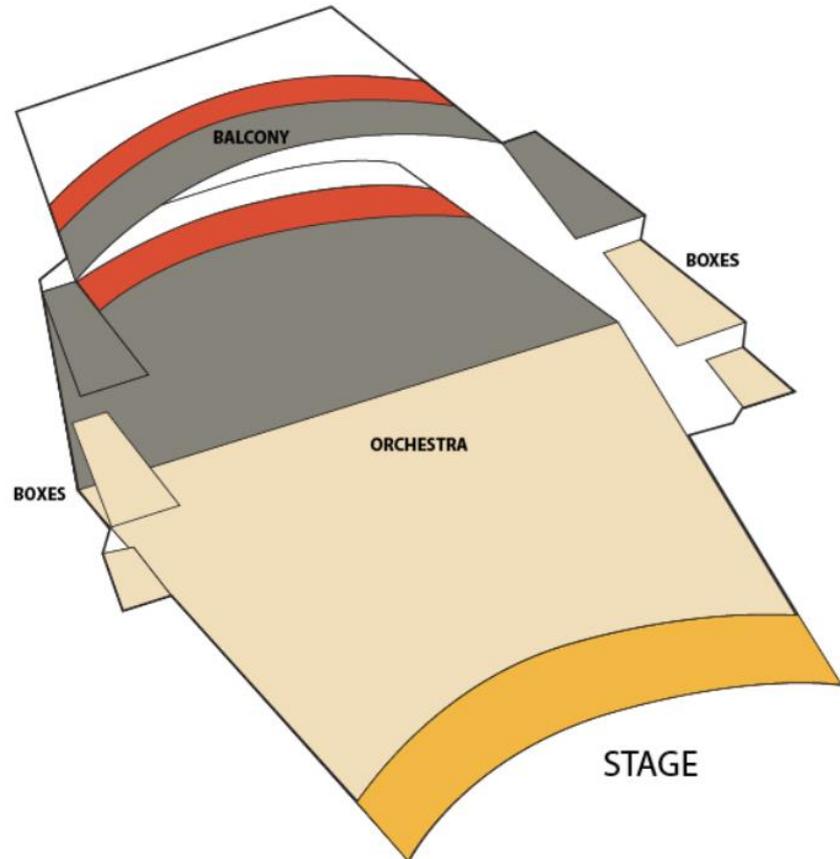
\$34.00 - \$74.00

BALCONY

\$34.00 - \$58.00

BOX

\$58.00 - \$74.00



Other Explanations: The “Lattice and the Ratchet”

Educational Evaluation and Policy Analysis
Winter 1992, Vol. 14, No. 4, pp. 361–376

Productivity in Postsecondary Education: A New Approach

William F. Massy
Andrea K. Wilger
Stanford University

The pervasiveness of an administrative entrepreneurship has also increased institutional costs. As administrative staffs have increased in size, they have tended to become more professional. One consequence of employing more highly trained individuals has been better management. Institutions have become more technologically sophisticated and better able to serve their clientele. An unintended consequence has been that academic and administrative support staffs have come to “own” their jobs in much the same way that faculty do. They have created their own set of goals and priorities for the institution. Inevitably, one of their goals is to expand their own area (Pew Higher Education Research Program, 1990, p. 3).

- Massy, W. F., & Wilger, A. K. (1992). Productivity in Postsecondary Education: A New Approach. *Educational Evaluation and Policy Analysis*, 14(4), 361–376. <https://doi.org/10.3102/01623737014004361>

The Lattice

As Nashville reopens, Vanderbilt's Office of Active Citizenship and Service is coordinating with local organizations to evaluate potential service opportunities for the coming semester.



Gordon Winston – Why College is Not Like a Firm

- Non-distribution constraint
- Asymmetric information
- Idealistic goals
- Prestige maximization
- Donative nonprofits
- Commercial nonprofits
- Donative-commercial nonprofits
- Customer-input technology
- Peer effects
- Trust market
- Cross-subsidization

The Arms Race

The characteristics of an arms race appear to be these:

- Each competitor has incentives to behave in ways that, collectively, may damage them all.
- Nothing internal to the arms race tends to bring it to an end except, perhaps, the exhaustion of the competitors' resources.
- The race itself has no finish line that indicates success. It's a continuing process that can only be ended by ending the process.
- The end of an arms race can come through an agreement to stop the competition, an agreement reached for the common good or imposed externally,

The Arms Race

- A school's position is important in determining the quality of its students, which is important, in turn, in determining the quality of the education it offers.
- Position depends on the size of a school's student subsidies and they have to be supported by non-tuition revenues or wealth.
- If other schools raise their prices, a school can raise its own with positional impunity, but
- If schools down the line increase their spending – especially in ways that are obvious to students – a school risks having its own position, hence its access to student quality, changed through inaction
- Pressure from a school below, through increased spending or reduced price, is more effective in inducing an arms race response than is a growing gap with a school above: a school can choose not to follow subsidy increases of the ones above but it ignores those overtaking its subsidy from below at considerable peril.
- Strategies that hope to reposition through more spending or lower price can be supported by increased non-tuition revenues, by reducing saving, or by drawing down net wealth (borrowing or reducing assets). If these are strategies that can't be sustained, their long-run success depends on a subsequent improvement of fortunes to 'repay' a temporary reduction in wealth. Many such strategies are predicated on the hope for a feedback of student quality