

20TH
ANNIVERSARY

Colleges of the Fenway™ 1996-2016

Colleges of the Fenway
Institute on College Financials

April 8, 2016

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The Economics of Higher Education

Richard Doherty, President, ACIUM

An aerial photograph of a city skyline, likely Boston, with a semi-transparent text overlay. The skyline features several prominent skyscrapers, including the Prudential Center. The foreground shows a dense urban area with a mix of residential and commercial buildings. A large green park area is visible on the left side of the image.

The Economics of Higher Education

**AICUM Presentation to the Colleges of the Fenway
April 8, 2016**

We are comprised of 58 colleges and universities throughout Massachusetts
Representing 97% of the students at MA private colleges

- Amherst College
- Anna Maria College
- Assumption College
- Babson College
- Bay Path College
- Becker College
- Bentley University
- Berklee College of Music
- Boston Architectural College
- Boston Baptist College
- Boston College
- Boston University
- Brandeis University
- Cambridge College
- Clark University
- College of the Holy Cross
- Curry College
- Dean College
- Eastern Nazarene College
- Elms College
- Emerson College
- Emmanuel College
- Endicott College
- Fisher College
- Gordon College
- Hampshire College
- Harvard University
- Laboure College
- Lasell College
- Lesley University
- MCPHS University
- Massachusetts Institute of Technology
- Merrimack College
- MGH Institute of Health Professions
- Mount Holyoke College
- Mount Ida College
- Newbury College
- New England College of Optometry
- Nichols College
- Northeastern University
- Olin College of Engineering
- Pine Manor College
- Regis College
- Simmons College
- Smith College
- Springfield College
- Stonehill College
- Suffolk University
- Tufts University
- Urban College
- Wellesley College
- Wentworth Institute of Technology
- Western New England University
- Wheaton College
- Wheelock College
- William James College
- Williams College
- Worcester Polytechnic Institute

Higher Education is key industry and driver of the economy; both nationally and in Massachusetts

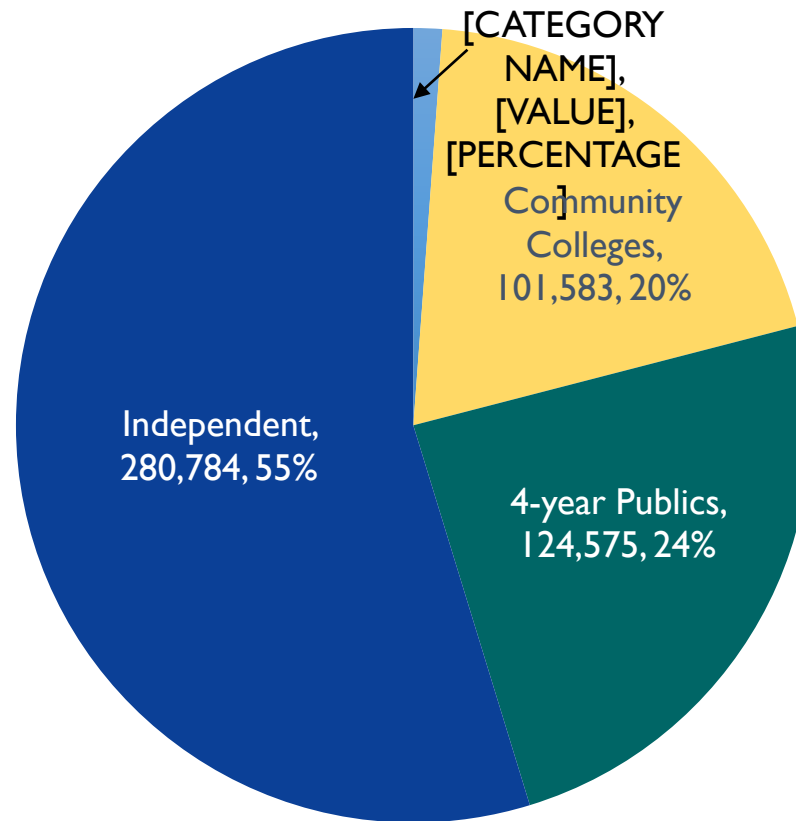
United States:

- 20.6 million students enrolled
- 3.7 million employees
- 5,458 institutions
 - 32.3 percent public institutions; educating 71.7 percent of students
 - 34.1 percent private institutions, educating 20.2 percent of students
 - 33.5 percent for-profit institutions, educating 8.1 percent of students

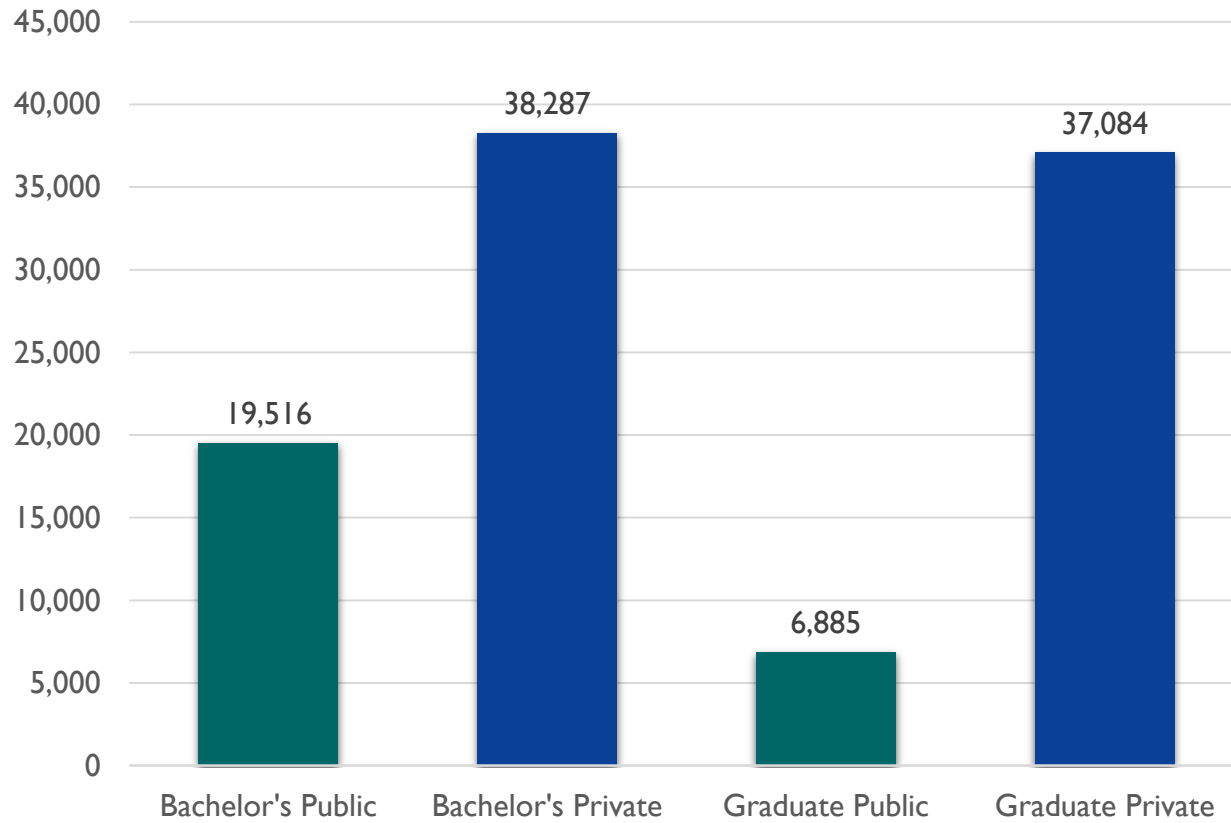
Massachusetts:

- 512,943 students enrolled
- 132,824 employees
- 132 institutions
 - 22.7 percent public institutions; educating 44.1 percent of students
 - 66.7 percent private institutions, educating 54.7 percent of students
 - 10.6 percent for-profit institutions, educating 1.1 percent of students

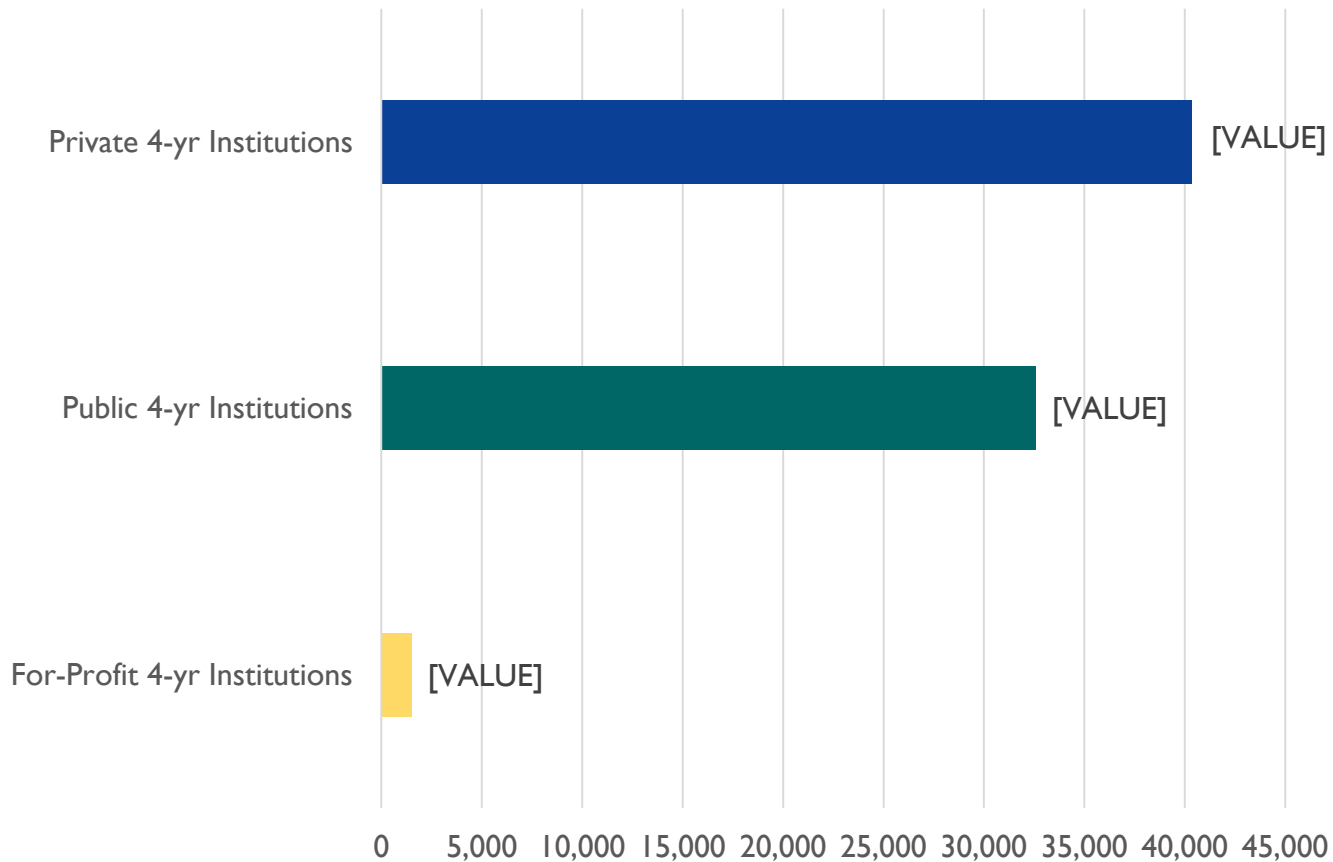
Massachusetts is the only state which educates more students in independent colleges than public colleges



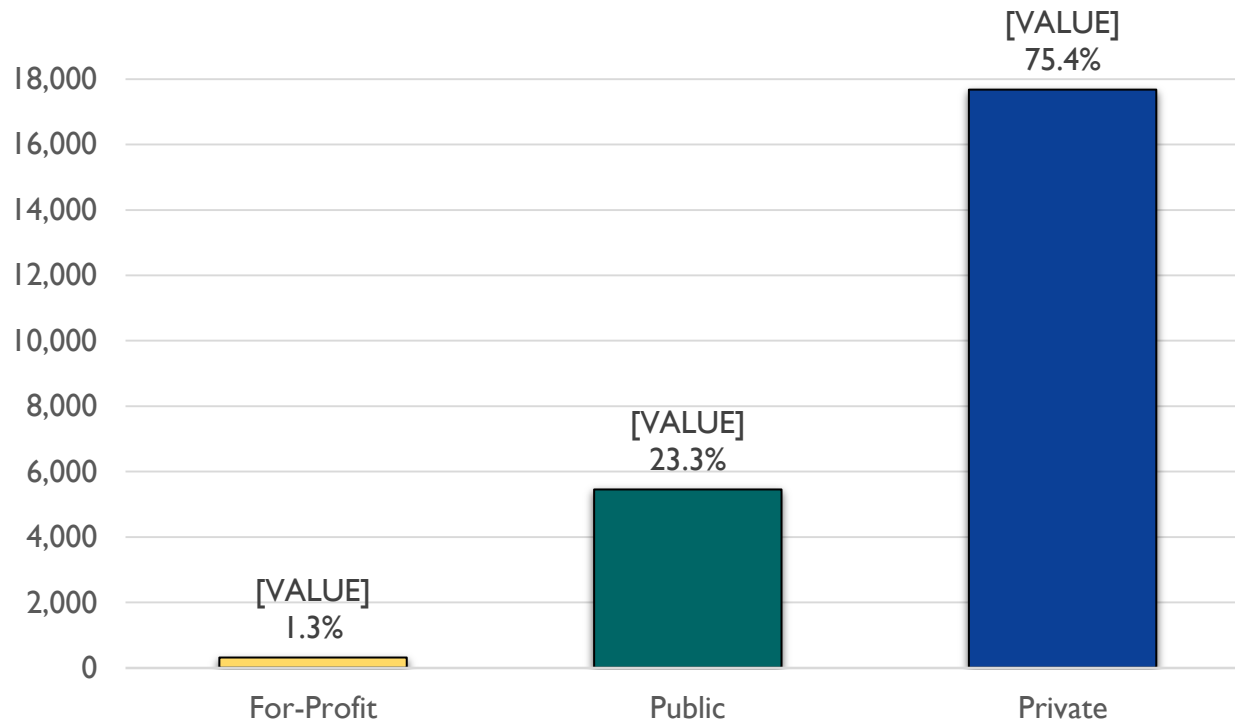
Twice as many bachelor degrees and five times as many graduate degrees are awarded at private colleges than public colleges



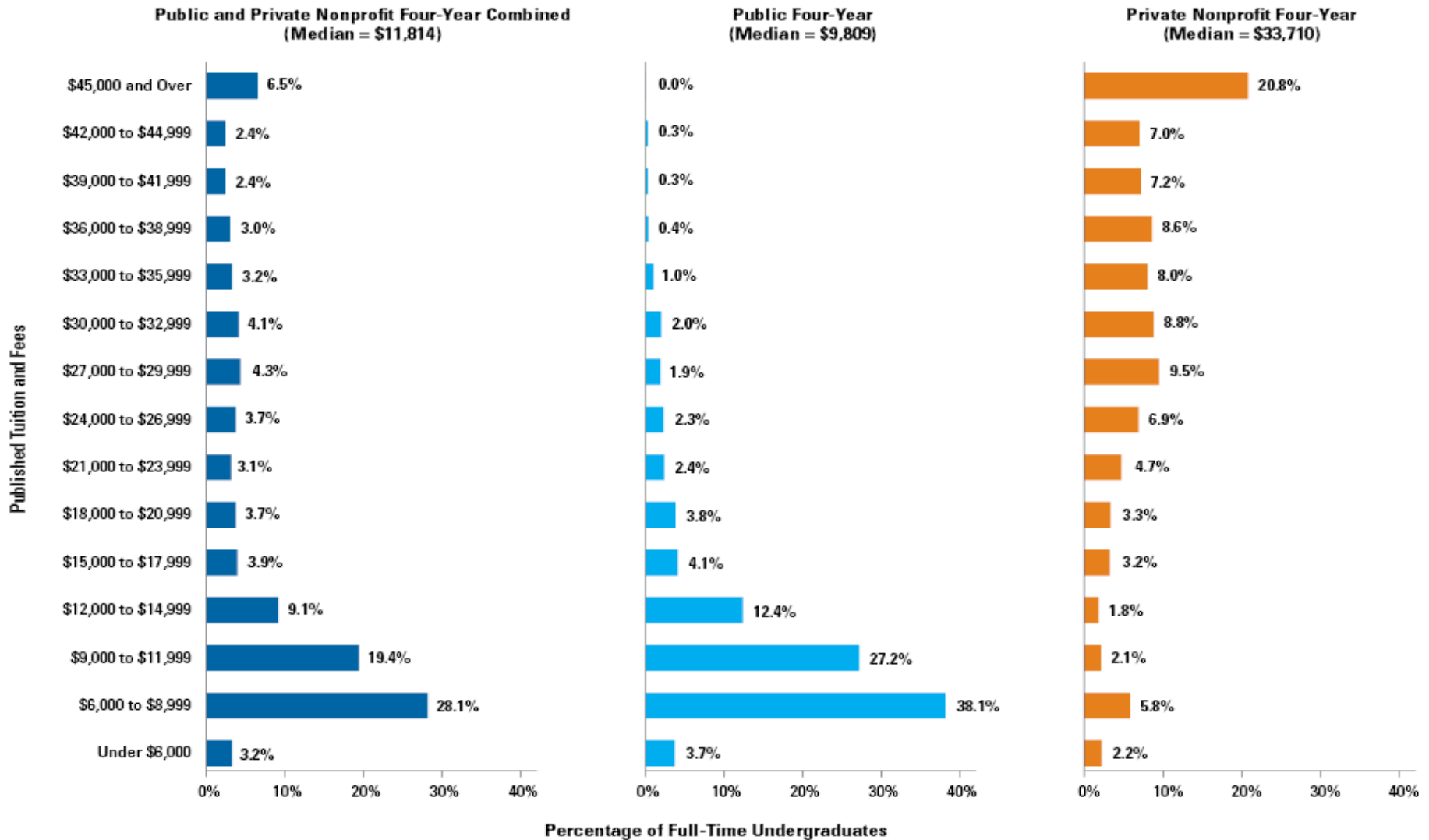
More Pell Grant recipients attend 4-year independent colleges than 4-year public institutions in the Commonwealth



Massachusetts 4-year independent colleges graduate a significantly higher percentage of minority students than any other 4-year sector



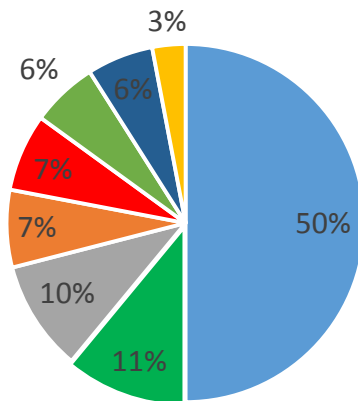
Distribution of Full-Time Undergraduates at Four-Year Institutions by Tuition and Fees, 2015-16



Calculating the Cost of College

College A

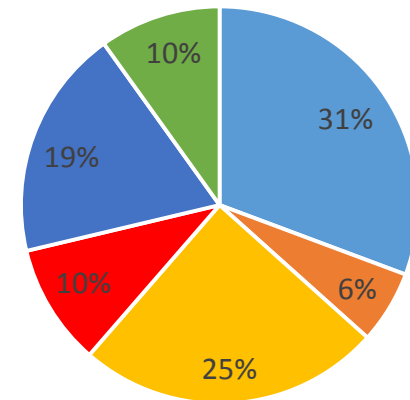
Fiscal 2015 Operating Expenses



- Salaries, Wages & employee benefits
- Services Purchased
- Other Expenses
- Space and Occupancy
- Depreciation
- Interest
- Supplies and Equipment
- Scholarships and Other Student Awards

College B

Fiscal 2015 Operating Expenses

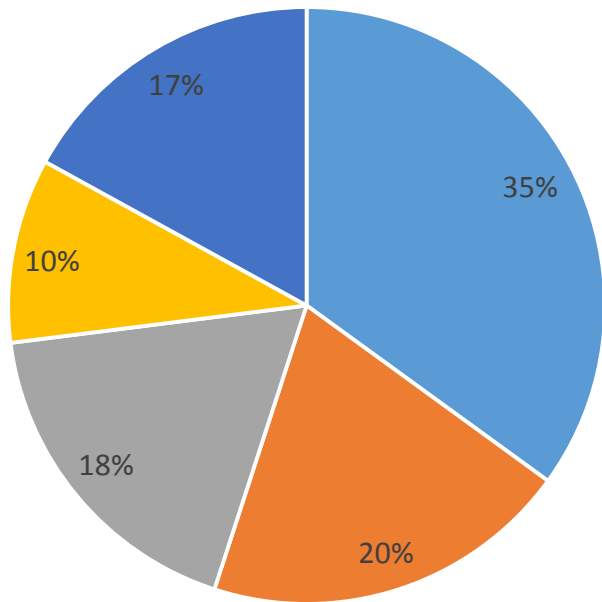


- Salaries and Wages
- Occupancy
- Grants to Domestic Individuals
- Depreciations, Depletion and Amortization
- Other
- Other Expenses

Calculating the Cost of College

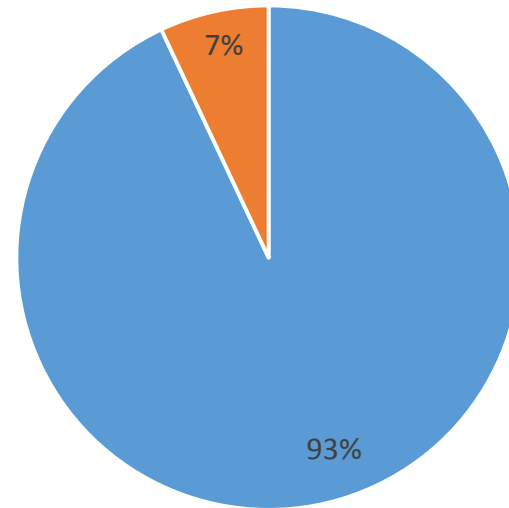
College A

Fiscal 2015 Operating Revenue



College B

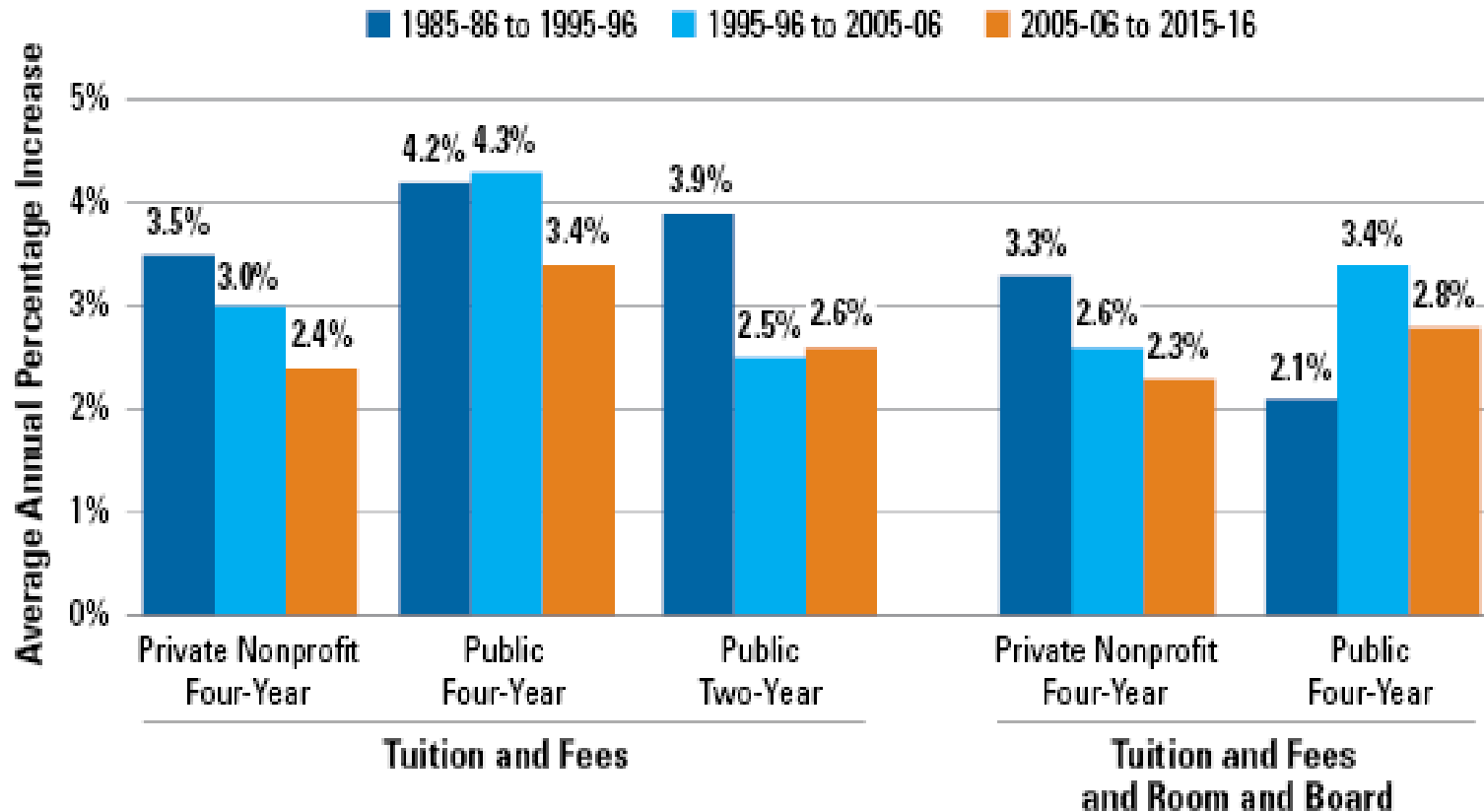
Fiscal 2015 Operating Revenue



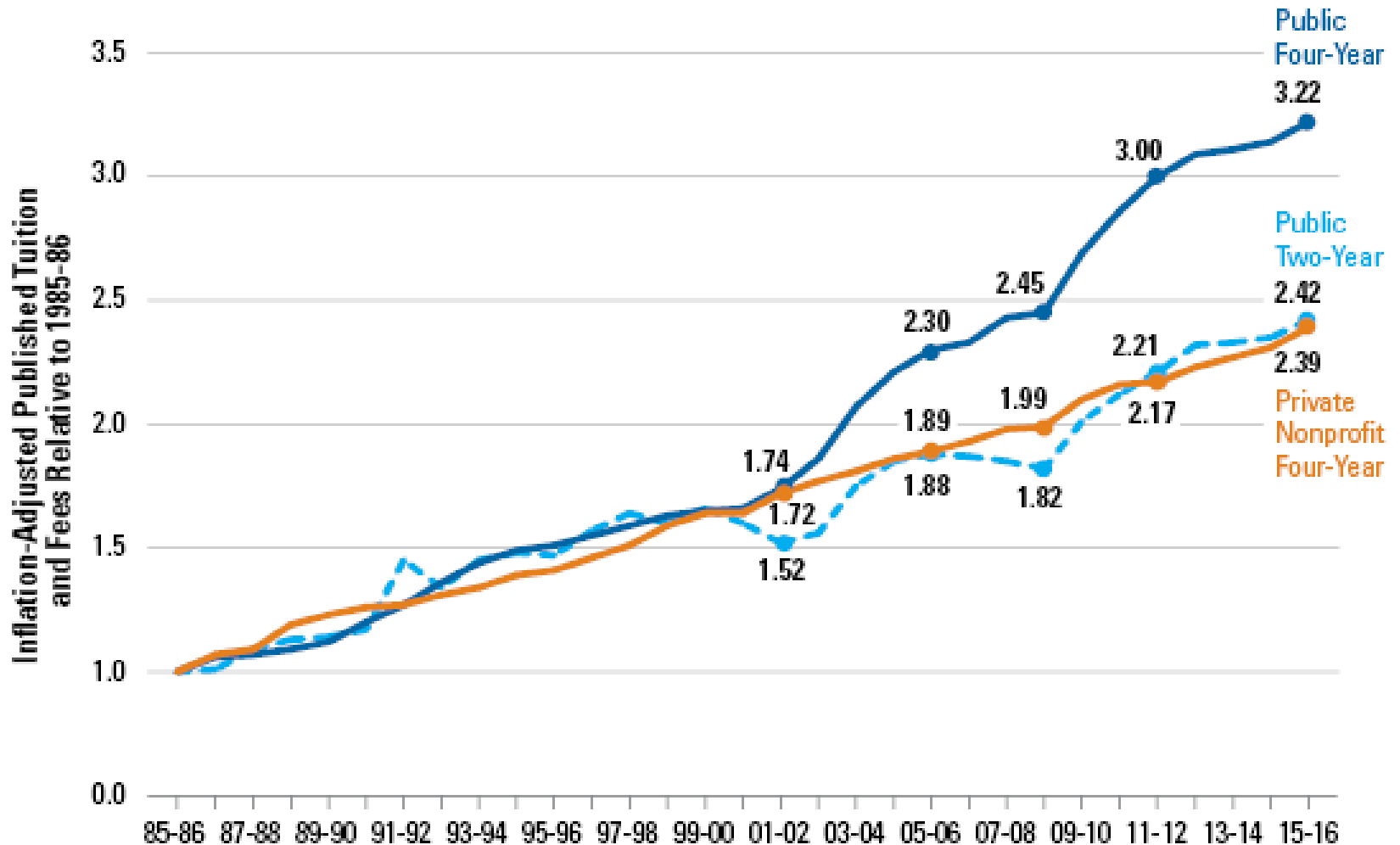
- Endowment Income
- Student Income
- Sponsored Support
- Gifts for Current Use
- Other

- Program Service Revenue
- Other

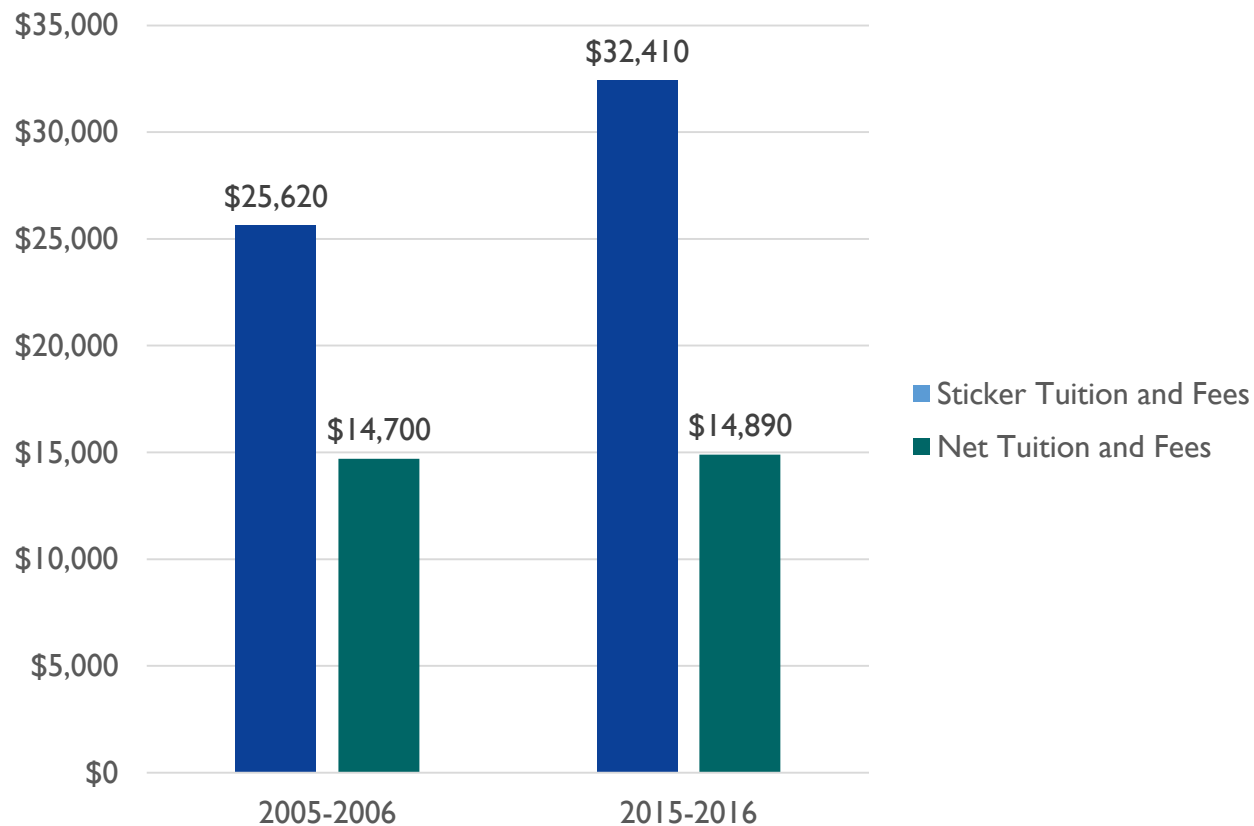
Average Annual Percentage Increase in Inflation-Adjusted Published Prices by Decade, 1985-86 to 2015-16



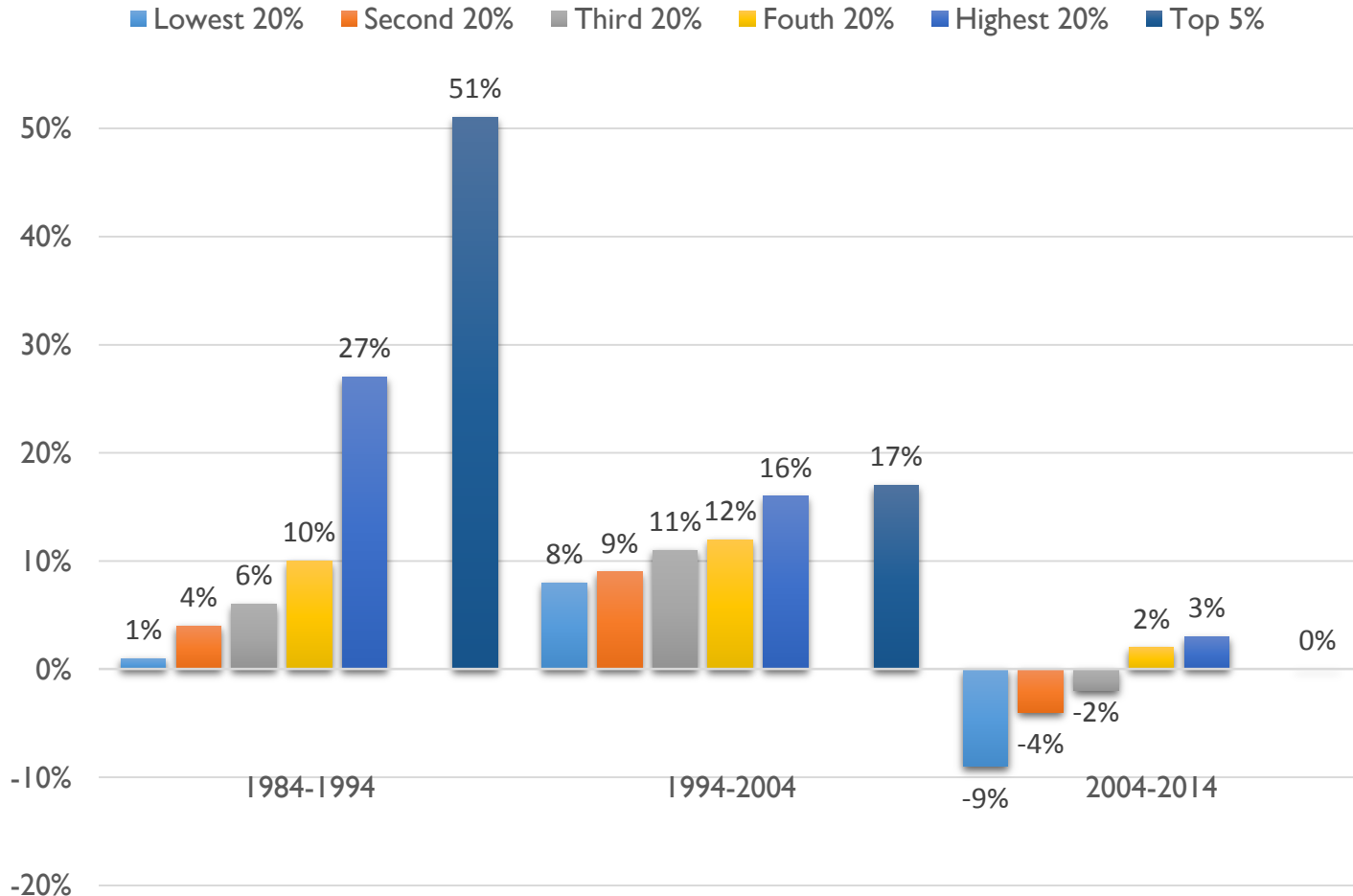
Inflation-Adjusted Published Tuition and Fees Relative to 1985-86, 1985-86 to 2015/16 (1985-86 = 1.0)



Despite an increase in published costs, the average net tuition and fees, adjusted for inflation, at independent colleges have remained consistent over the past decade



Inflation-adjusted income has declined for all income groups over the past decade



Independent colleges save the Commonwealth billions in annual appropriations

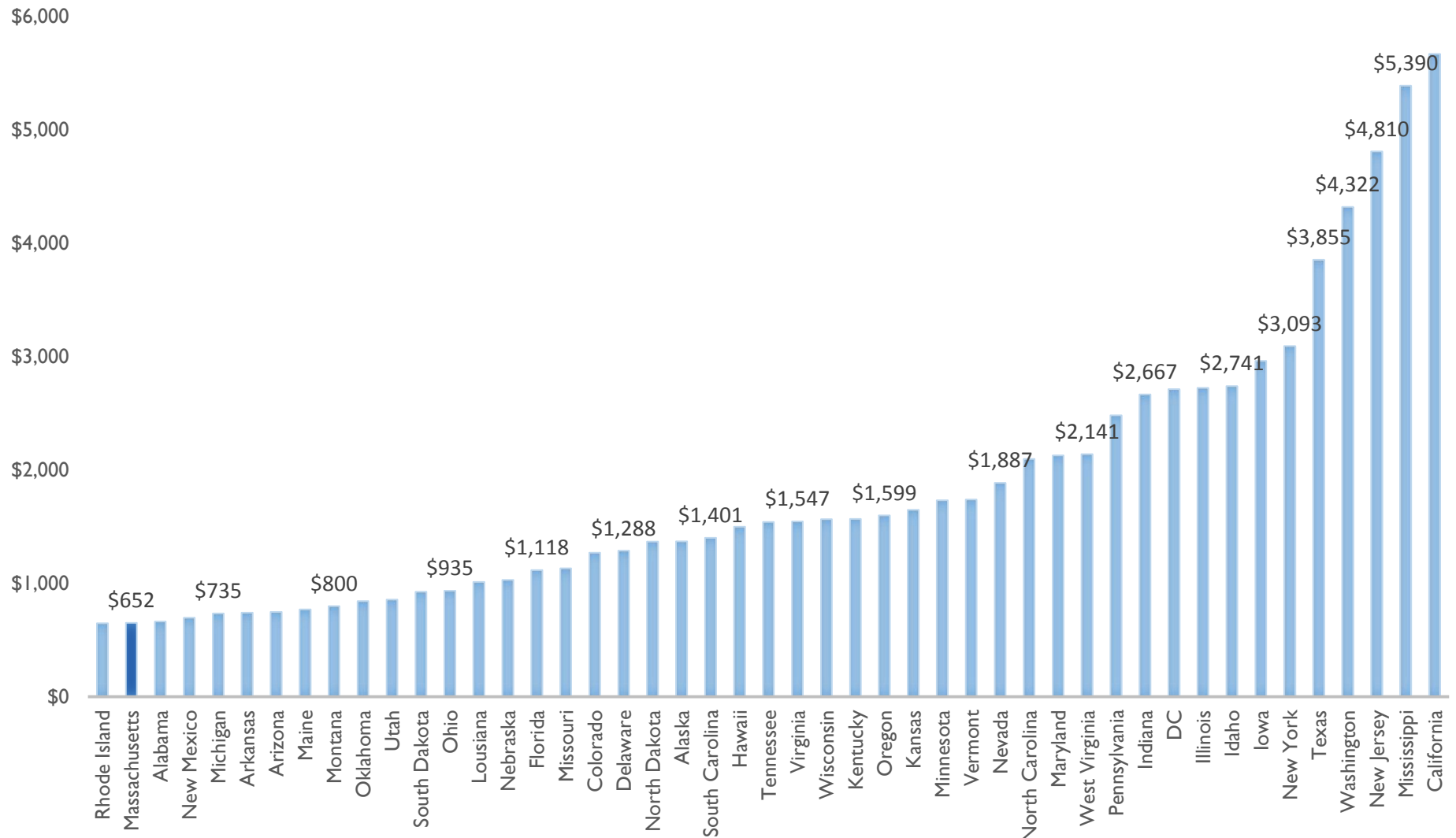
	Public Enrollment	Private Enrollment	Total Enrollment	Higher Education Expenses
North Carolina	455,308	96,642	551,950	\$3,726,028,884
Georgia	413,812	73,276	487,088	\$2,897,661,906
Massachusetts	226,158	280,784	506,942	\$1,462,827,301

Controlling the cost of college through Federal, State, and institutional aid

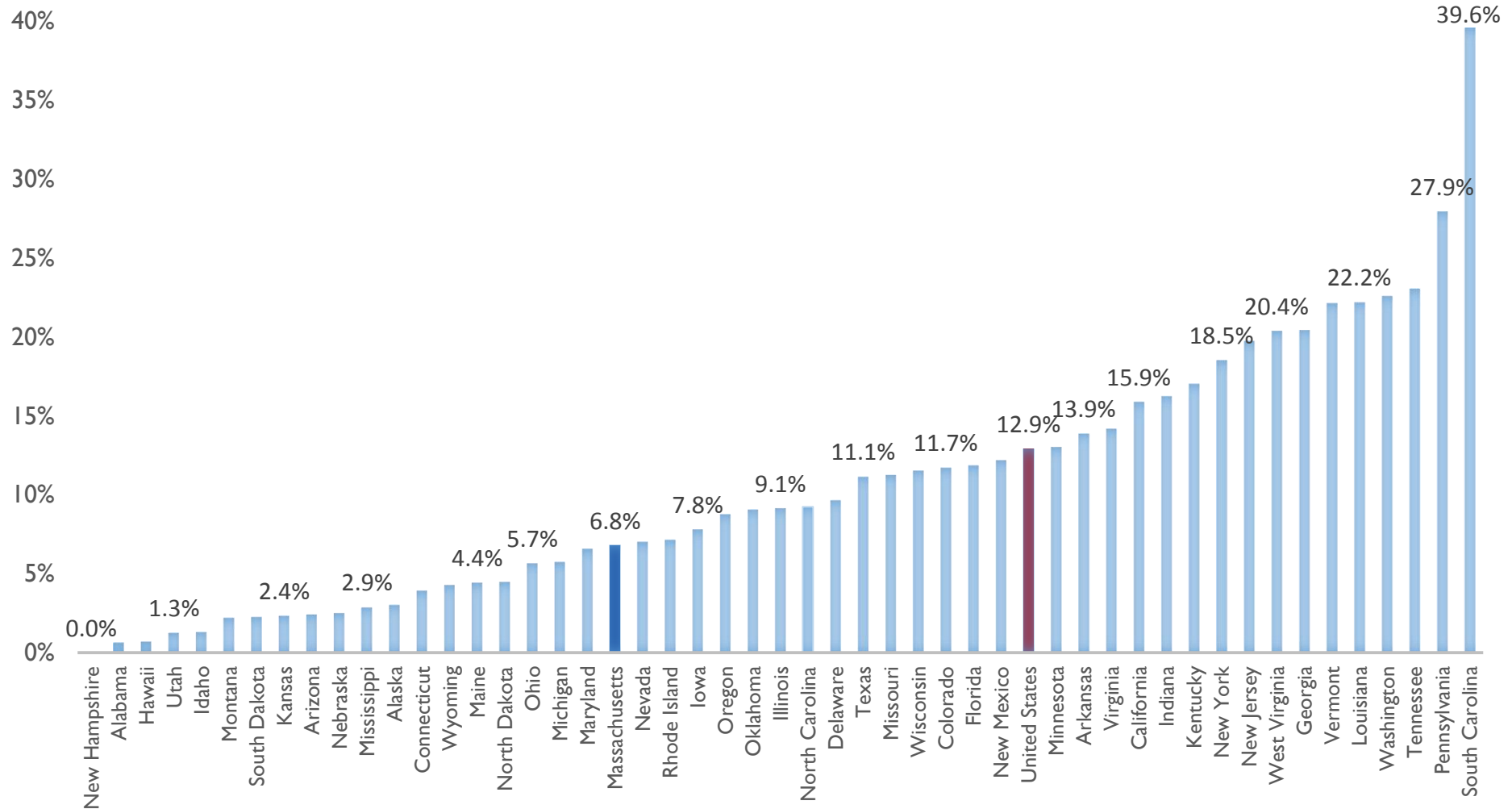
	Massachusetts - Private Colleges	
Pell Grant	\$161,098,590	20.1%
Federal Work Study	\$32,054,472	4.0%
Federal FSEOG	\$19,764,137	2.5%
MassGrant*	\$14,286,706	1.8%
Gilbert Grant*	\$15,808,423	2.0%
Institutional Aid*	\$560,000,000	69.7%
TOTAL	\$803,012,328	

*MassGrant, Gilbert Grant, and Institutional Aid totals represent aid given the Massachusetts residents only

Massachusetts ranks 2nd to last in the average state need-based grant award



Massachusetts trails in the percentage of total state support for higher education that is spent on need-based grants

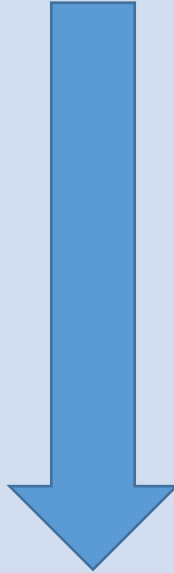


Key Factors in Driving Up the Cost of College

- Faculty (very high percentage of workforce highly educated = high salaries)
- Technology Capital Costs
- Health Care Costs
- 24/7 Utility Costs + Technology Infrastructure Costs
- Newer Facilities to Stay Competitive
 - Science Facilities
 - Wellness Student Services
 - Housing

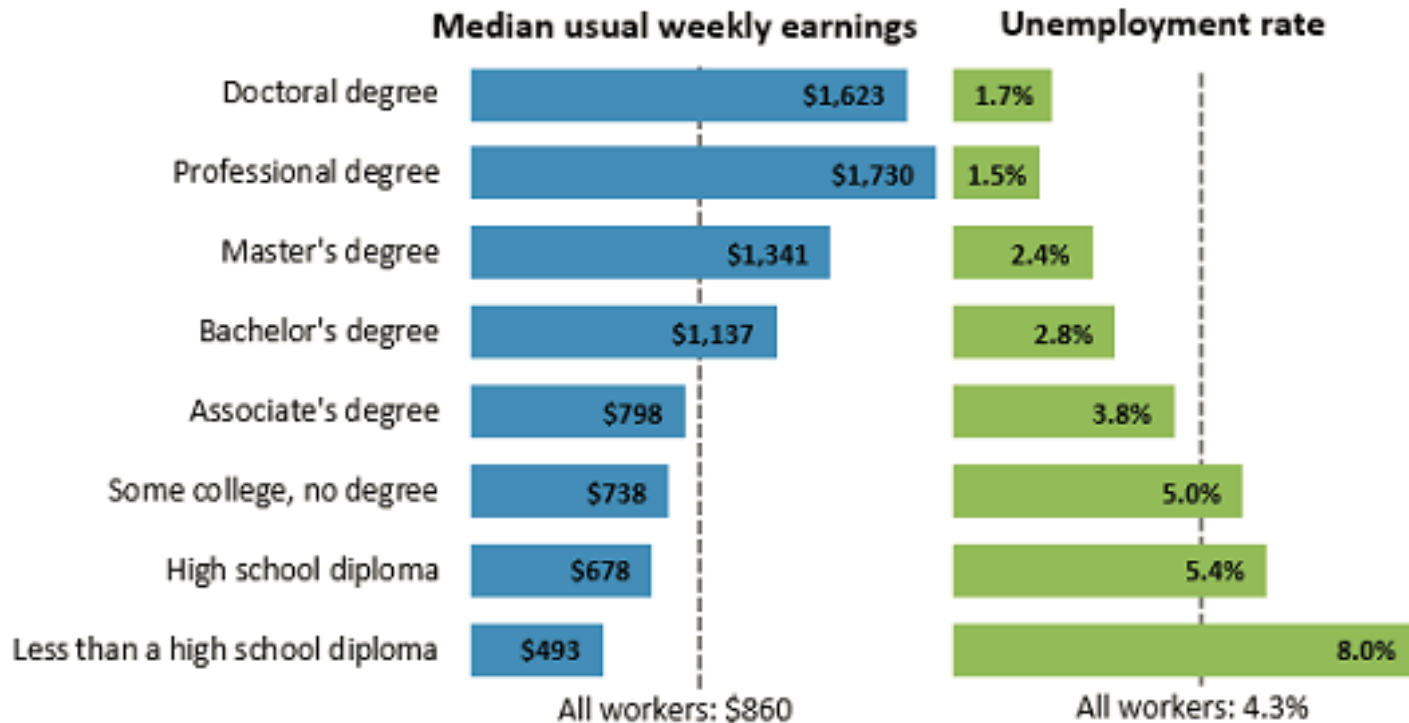
All this even as organizations like Colleges of the Fenway work to drive down costs through academic collaboration and consortia savings

Graduating On Time Saves Both Time and Money

	4 Years to Degree	6 Years to Degree
Years 1 – 4	Average Net Price: $\$23,550 \times 4$ years = \$94,200 Student earns degree and enters the workforce	Average Net Price: $\$23,550 \times 4$ years = \$94,200 Student Continues Back to School
Year 5		5 th Year Net Price: \$23,550 Average Lost Income in 5 th Year: \$44,455 Students Continues Back to School
Year 6		6 th Year Net Price: \$23,550 Average Lost Income in 6 th Year: \$44,455 Student earns degree and enters the workforce
Total Cost of Bachelors Degree	Tuition: \$94,200 Lost Income: \$0 Total Cost: \$94,200	Tuition: \$141,300 Lost Income: \$88,910 Total Cost: \$230,210

Unemployment Rate and Weekly Earnings, by Education

Earnings and unemployment rates by educational attainment, 2015



Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: U.S. Bureau of Labor Statistics, Current Population Survey

Williams College Takes on the College Affordability Argument

<https://www.youtube.com/watch?v=bTIFDNoTZSQ>

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The Tuition Driven Schools' Dilemma

Katie Conboy, Provost and Senior VP

Donna Ng, Senior VP of Finance and Administration

Simmons College



The Tuition Driven Schools' Dilemma

Katie Conboy, Provost and SVP, Simmons College

Donna Ng, SVP of Finance and Administration, Simmons College

April 8, 2016

How do you know if you are tuition dependent?



- The most important question on campus every spring is: “Have we made our class?”
- Your acceptance rate is high.
- Your financial aid is largely driven by tuition “discounting” rather than by endowed scholarship aid.
- You rely on “merit” aid to attract students.
- Those students seem less prepared for your curriculum than in the past.
- Sometime before the end of each fiscal year, you run out of tuition \$\$ for basic operations.

Recruitment vs. Admissions



- In admissions, you look at the students who want to come to you, review their applications and deal with the difficulty of saying yes to some and no to others.
- In recruitment, you need to help students find you (buying names, advertising, athletic recruiting, creating a “funnel”).
- Once you get those students to notice you, you must convince them of your specific value proposition--“convert” inquiries to apps, creating dynamic yield events, offer merit aid.



We love to hate the rankings, where as much as 25% of the rank is based on reputation. But . . .

- Reputation drives “good” applications
- Reputation creates “willingness to pay”
- Reputation creates competition, and merit awards are part of the arms race
- Online education can have impact on reputation
- Reputation is largely local
- Reputational change is mostly for the long view

Factors that impact enrollment

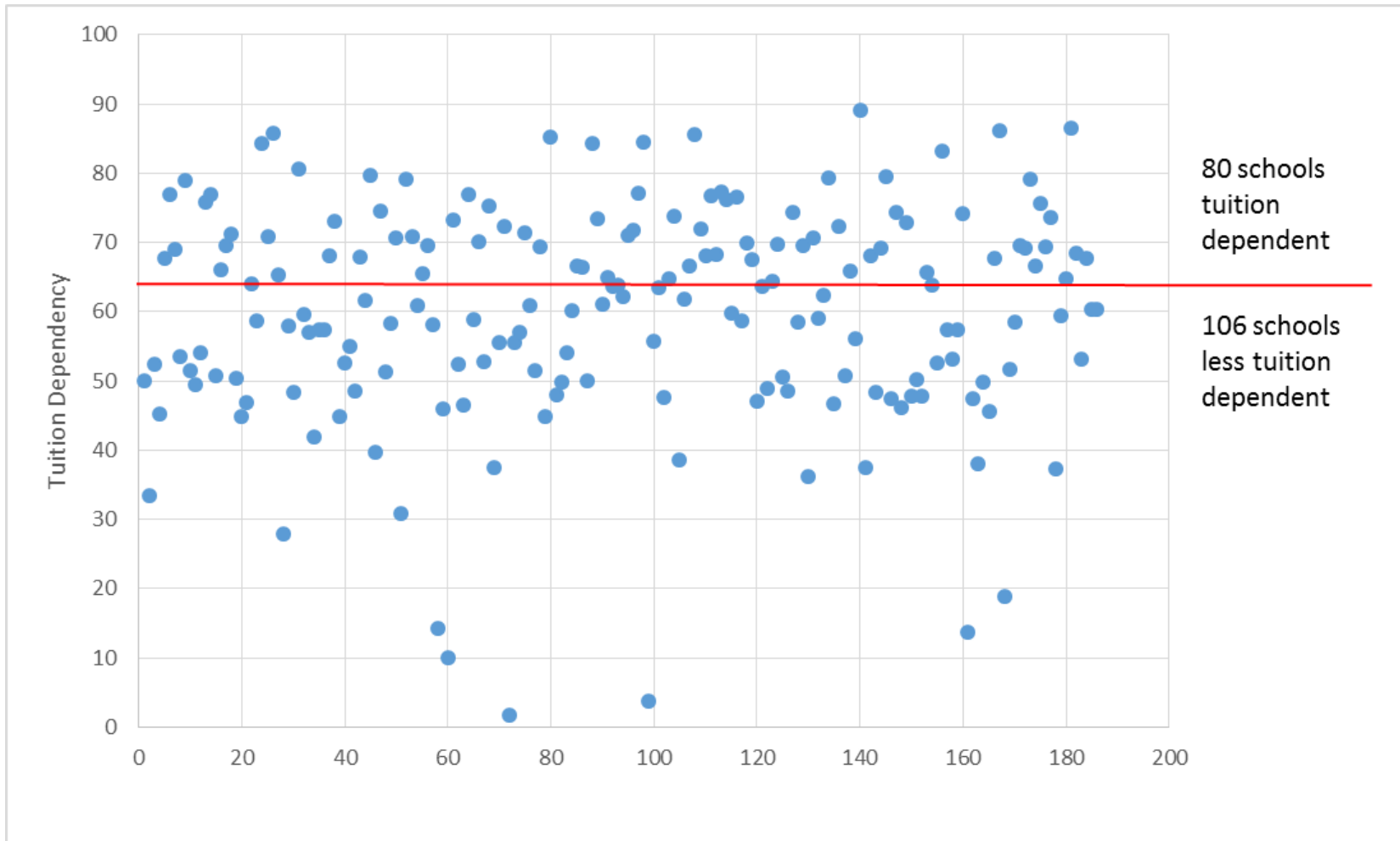


- Compelling program—including differentiators or special programs that are of interest to the kind of student you wish to attract.
- The numbers: How many students are possible for your applicant pool? (i.e. women's college)
- School goals; quality, diversity, size of class, tuition discount rate, gender balance, religious affiliation



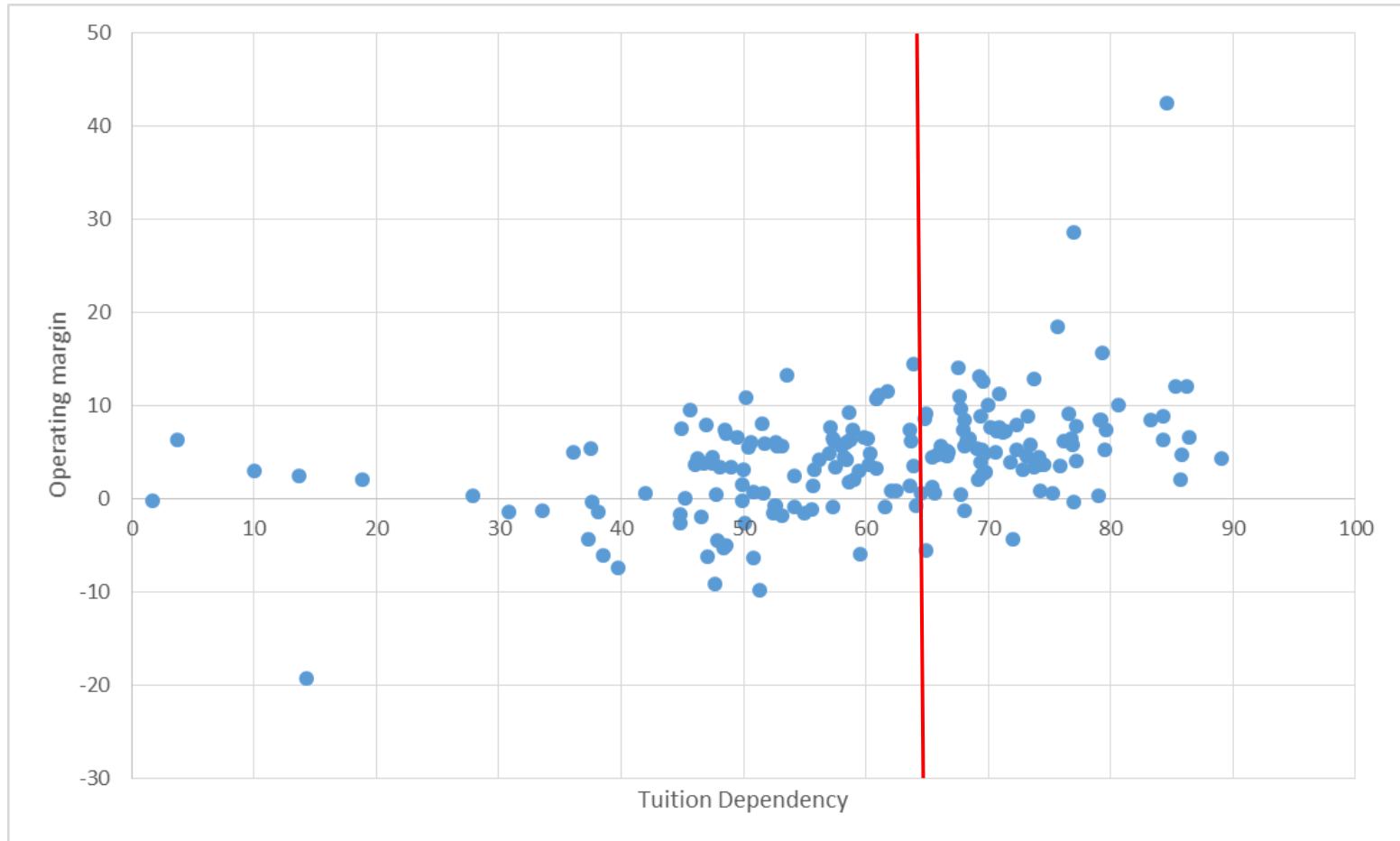
- Understand metrics for students who eventually graduate
- Measure these metrics to applicant pool
- Financial aid/merit package

Moodys rated A and lower schools: Net Tuition Revenue as a percent of Total Revenue



Moodys rated A and lower schools:

Net Tuition Revenue as a percent of Total Revenue and Operating Margin



Why do so many tuition dependent schools have surpluses?



- No other choice
- Without a surplus, rating agencies would downgrade and question sustainability

What can a school do when enrollments are below budget?



- Need cash
- How flexible and nimble is the cost structure?
 - More than 50% are in salaries and benefits
- Cancel classes with low enrollments
 - Only if faculty compensation expenses can be avoided
- Delay, delay, delay...

Budgeting principles for a tuition dependent school



- Be conservative on enrollment projections
- Fund areas that will drive enrollment
 - Marketing
 - Consultants
- Avoid major expenditure commitments until enrollment is known



Questions?

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Financial Models for Higher Education

Robert Totino, VP of Finance

Anne Marie Martorana, VP and CFO

Wentworth Institute of Technology

COF Institute on College Financials

Financial Models for Higher Education Institutions

Presented by Bob Totino and Anne Marie Martorana

April 8, 2016

Goals for Session

- The basic financial/operating model
- Revenues and expenses
- Projecting growth and declines
- The dynamics of a college financial model

What we're not going to cover

- Types of budget (operating, capital, restricted)
- Different approaches to budgeting (incremental, zero-based, RCM, formula-based, etc.)
- Fund accounting
- Financial statements (balance sheet, income statement, or the cash flow statement)
- Ratio analysis (CFI, Primary reserve, viability ratio, etc.)

College Finances 101

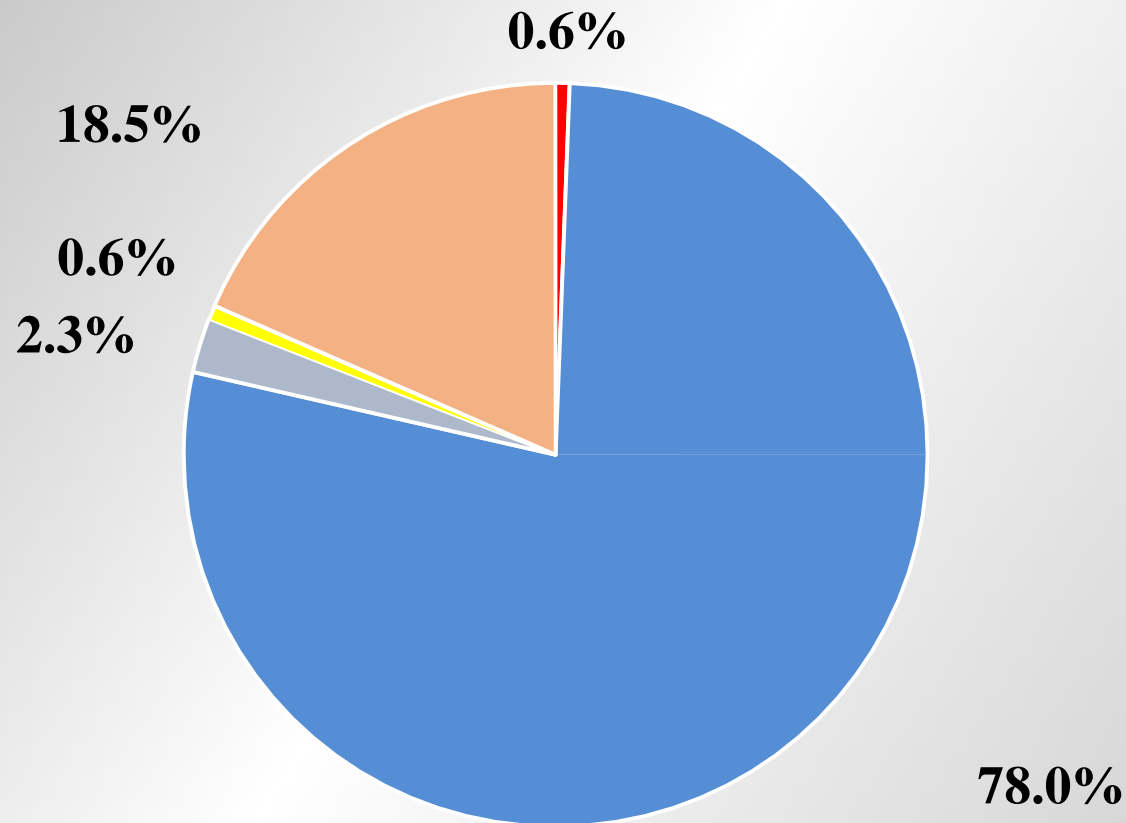
Topics for Discussion

- Overview of revenues and expenses
- Tuition revenue and the discount rate
- Endowment fundamentals
- Financial equilibrium

Variations within the COF

- Student FTE
- Endowment
- Auxiliary revenue
- Annual fund gifts
- Capital investment and debt load

Revenues for a tuition dependent college



■ Gifts ■ Tuition ■ Endowment ■ Other ■ Auxiliaries

Student Revenue

- Tuition, room and board fees
- Impacted by
 - Number of students
 - Type of students
 - Undergraduate degree seeking (F/T & P/T)
 - Graduate (F/T & P/T)
 - Non-degree seeking (Special status, P/T certificate)
 - Price of tuition, room & board (“sticker price”)
 - Financial aid (aka “the discount rate”)

Some Key Definitions

- **Gross Tuition**
 - The tuition “sticker” price charged to attend the institution
- **Discount**
 - The amount that the “sticker” price is reduced by the institution due to the awarding of aid/scholarships
- **Net Tuition**
 - The actual dollars received as revenue

Institutional Aid

- Two principal forms:
 - Merit scholarships (No athletic scholarships in Div III)
 - Need-based grants (FAFSA; COA and EFC)
- Institutions typically fund institutional aid from two sources:
 - Revenue that the institution forgoes as an unfunded discount.
 - Endowment distribution and gifts (designated student scholarships)

Financial Aid & the Discount Rate

Impacts Discount Rate

- Funded Scholarships (Endowment & Gift income)
- Unfunded Institutional Scholarships & Grants

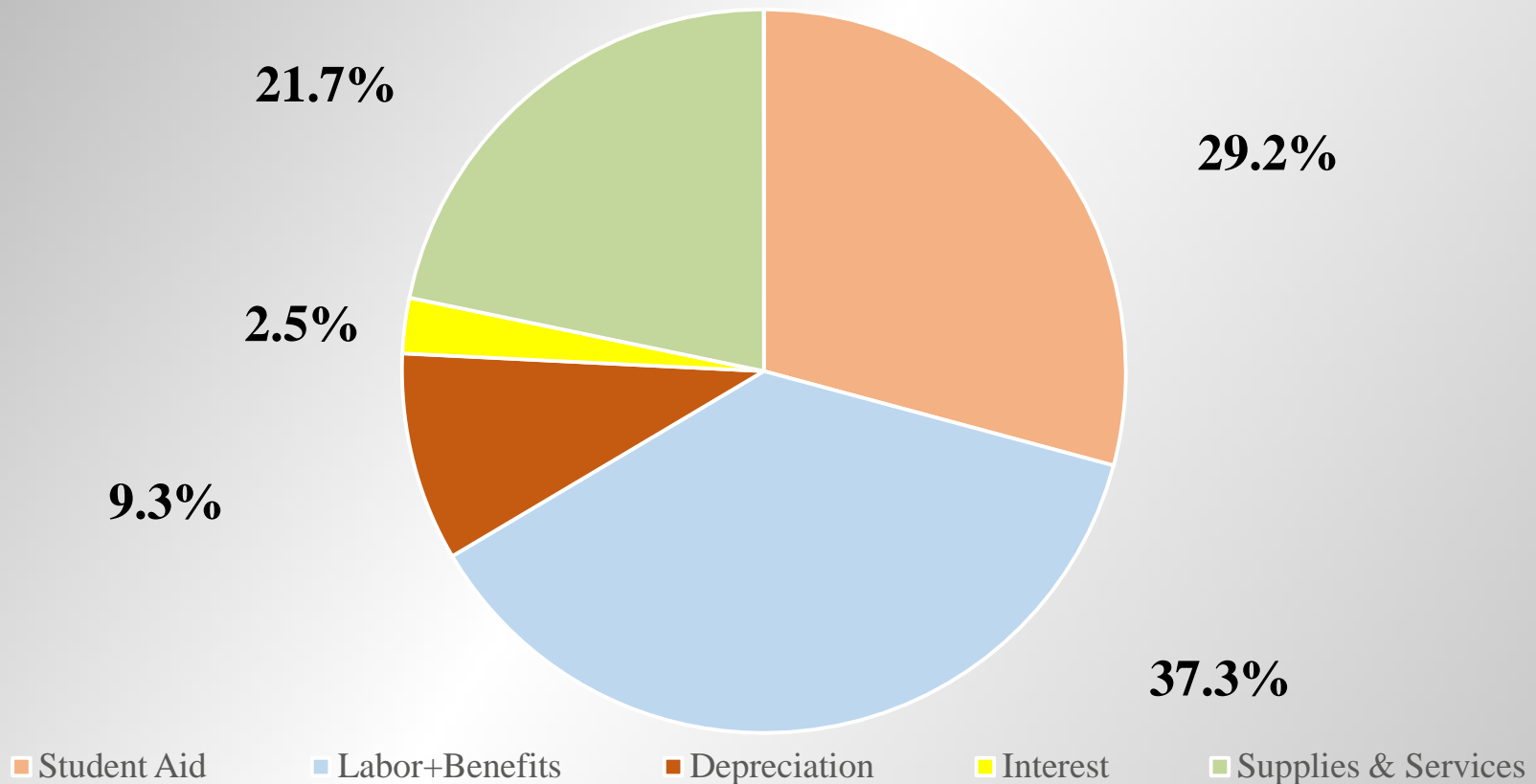
Does not Impact Discount Rate

- Federal, State, and Private Grants & Scholarships
- Student Loans (Perkins, Stafford, Parent PLUS, & Private)
- Student Employment, FWS, etc.

Enrollment Management: A Balancing Act

- Enroll a class of students that meets institutional aspirations such as:
 - Academic profile
 - Diversity
 - Athletics, music programs, academic programs
 - Overall size of student body
- Manage the overall discount rate to generate sufficient net tuition revenue to cover operating expenses
- Enhancing one side of the equation will likely have a negative impact on the other

Expenses for a tuition dependent college



Expenses: Labor and Benefits

- Employee Compensation
 - Faculty and staff salaries
 - Student wages
 - Benefits (pension, medical, dental, etc.)
 - Taxes
- Number of faculty & staff
- Full-time/part-time

Expenses: Supplies and Services

Department budgets

- Academic
- Student services
- Administration

Utilities

Institutional expenses

- Insurance
- Food service

Off-campus programs

Expenses: Debt & Depreciation

Debt Service

- Long term debt
- Interest

Capital

- Maintenance and repairs to physical plant
(expense in year incurred)
- Capital improvements
- Equipment and technology

Endowment Fundamentals

- Preserve the corpus
 - Assets held in perpetuity (intergenerational equity)
 - Quasi endowments
- Comply with donors' wishes
 - Restricted funds vs. unrestricted funds
- Safeguard endowment purchasing power

Endowment Revenue

- Ensure distribution respects intergenerational equity and donor restrictions
 - Fiduciary responsibility of the Trustees
 - Maintain the purchasing power of the endowment over the long term (i.e., perpetuity)
 - Provide a stable flow of funds to the operating budget to provide resources to the current generation

Endowment Revenue

- Annual distribution impacted by
 - Rate of return on investments in endowment
 - New gifts to the endowment
 - Distribution formula
 - ❖ Moving average (e.g. 5% of the trailing 3 years)
 - ❖ Alternative approaches: Inflation-based or hybrid
 - Spending policy (outlined in Inv't Policy Statement)

Key Financial Drivers

- Net tuition revenue per student
- Rate of increase of compensation
- Endowment market returns
- Annual fund gifts
- Capital investment and debt load

Financial Equilibrium

- Balanced budget
- Ongoing investment in human capital
- Preservation of physical assets
- Maintenance of endowment purchasing power

USING MODELS TO PLAN: A FEW EXAMPLES

Sample Income Statements

- In the base case, total revenues are expressed as \$100 to eliminate debates about specific dollar amounts and to make the math on all easier to follow
- The examples aren't forecasts, just exhibits showing the dynamics of the math
- Expenses are generally not adjusted in the scenarios
- Growth rates are assigned to the major revenue and expense lines based upon likely trends or past patterns

Base Case

We used the most likely trend lines

Financial aid grows faster than tuition

Endowment earns 6% annually, only 1%
above the draw formula

SAMPLE COLLEGE Pro Forma Income Statement								
BASE CASE								
	2016		2017	2018	2019	2020	2021	
	Base	Change	Year 2	Year 3	Year 4	Year 5	Year 6	
tuition	111.32	3.0%	114.66	118.10	121.64	125.29	129.05	
fin aid	(52.32)	4.0%	(54.41)	(56.59)	(58.85)	(61.21)	(63.66)	
net tuition	59.00		59.00	59.00	59.00	59.00	59.00	
room and board	20.00	3.5%	20.70	21.42	22.17	22.95	23.75	
endowment	11.00	1.0%	11.11	11.22	11.33	11.45	11.56	
gifts and other	10.00	3.0%	10.30	10.61	10.93	11.26	11.59	
total revenues	100.00		101.11	102.25	103.43	104.65	105.91	
growth rate, prior yr			1.1%	1.1%	1.2%	1.2%	1.2%	
compensation	60.00	3.0%	61.80	63.65	65.56	67.53	69.56	
program and other	30.00	3.0%	30.90	31.83	32.78	33.77	34.78	
debt/capital	10.00	2.0%	10.20	10.40	10.61	10.82	11.04	
total expenses	100.00		102.90	105.89	108.96	112.12	115.38	
growth rate, prior yr			2.9%	2.9%	2.9%	2.9%	2.9%	
difference between rev and exp growth			-1.8%	-1.8%	-1.7%	-1.7%	-1.7%	
net operating results			(1.79)	(3.63)	(5.52)	(7.47)	(9.47)	

Optimistic Case

Financial aid grows at the same rate as tuition

Endowment earns 3% more than the draw formula

SAMPLE COLLEGE Pro Forma Income Statement								
OPTIMISTIC CASE								
	2016		2017	2018	2019	2020	2021	
	Base	Change	Year 2	Year 3	Year 4	Year 5	Year 6	
tuition	111.32	3.0%	114.66	118.10	121.64	125.29	129.05	
fin aid	(52.32)	3.0%	(53.89)	(55.51)	(57.17)	(58.89)	(60.65)	
net tuition	59.00		59.00	59.00	59.00	59.00	59.00	
room and board	20.00	3.5%	20.70	21.42	22.17	22.95	23.75	
endowment	11.00	3.0%	11.33	11.67	12.02	12.38	12.75	
gifts and other	10.00	3.0%	10.30	10.61	10.93	11.26	11.59	
total revenues	100.00		101.33	102.70	104.12	105.59	107.10	
growth rate, prior yr			1.3%	1.4%	1.3%	1.4%	1.3%	
compensation	60.00	3.0%	61.80	63.65	65.56	67.53	69.56	
program and other	30.00	3.0%	30.90	31.83	32.78	33.77	34.78	
debt/capital	10.00	2.0%	10.20	10.40	10.61	10.82	11.04	
total expenses	100.00		102.90	105.89	108.96	112.12	115.38	
growth rate, prior yr			2.9%	2.9%	2.9%	2.9%	2.9%	
difference between rev and exp growth			-1.6%	-1.5%	-1.6%	-1.5%	-1.6%	
net operating results			(1.57)	(3.18)	(4.84)	(6.53)	(8.28)	
net operating results--base case			(1.79)	(3.63)	(5.52)	(7.47)	(9.47)	

Pessimistic Case

Net tuition growth slows due to higher financial growth

-The same effect could be generated by slowing tuition increases and keeping fin aid growth unchanged

Endowment now earns 1% less than the draw

SAMPLE COLLEGE Pro Forma Income Statement								
PESSIMISTIC CASE								
	2016		2017	2018	2019	2020	2021	
	Base	Change	Year 2	Year 3	Year 4	Year 5	Year 6	
tuition	111.32	3.0%	114.66	118.10	121.64	125.29	129.05	
fin aid	(52.32)	5.0%	(54.94)	(57.68)	(60.57)	(63.60)	(66.78)	
net tuition	59.00		59.00	59.00	59.00	59.00	59.00	
room and board	20.00	3.5%	20.70	21.42	22.17	22.95	23.75	
endowment	11.00	-1.0%	10.89	10.78	10.67	10.57	10.46	
gifts and other	10.00	3.0%	10.30	10.61	10.93	11.26	11.59	
total revenues	100.00		100.89	101.81	102.77	103.77	104.81	
growth rate, prior yr			0.9%	0.9%	0.9%	0.9%	0.9%	
compensation	60.00	3.0%	61.80	63.65	65.56	67.53	69.56	
program and other	30.00	3.0%	30.90	31.83	32.78	33.77	34.78	
debt/capital	10.00	2.0%	10.20	10.40	10.61	10.82	11.04	
total expenses	100.00		102.90	105.89	108.96	112.12	115.38	
growth rate, prior yr			2.9%	2.9%	2.9%	2.9%	2.9%	
difference between rev and exp growth			-2.0%	-2.0%	-2.0%	-2.0%	-2.0%	
net operating results			(2.01)	(4.07)	(6.18)	(8.35)	(10.57)	
net operating results--base case			(1.79)	(3.63)	(5.52)	(7.47)	(9.47)	

So what are we to do?

- Increase enrollment
- Increase annual giving
- Reduce expenses
- Spend less on debt/capital

SAMPLE COLLEGE Pro Forma Income Statement								
ADD 5% MORE STUDENTS								
	2016		2017	2018	2019	2020	2021	
	Base	Change	Year 2	Year 3	Year 4	Year 5	Year 6	
tuition	111.32	3.0%	120.23	123.83	127.55	131.37	135.31	
fin aid	(52.32)	4.0%	(56.51)	(58.77)	(61.12)	(63.56)	(66.10)	
net tuition	59.00		63.72	65.07	66.43	67.81	69.21	
room and board	20.00	3.5%	20.70	21.42	22.17	22.95	23.75	
endowment	11.00	1.0%	11.11	11.22	11.33	11.45	11.56	
gifts and other	10.00	3.0%	10.30	10.61	10.93	11.26	11.59	
total revenues	100.00		105.83	108.32	110.87	113.46	116.12	
growth rate, prior yr			5.8%	2.4%	2.3%	2.3%	2.3%	
compensation	60.00	3.0%	61.80	63.65	65.56	67.53	69.56	
program and other	30.00	3.0%	30.90	31.83	32.78	33.77	34.78	
debt/capital	10.00	2.0%	10.20	10.40	10.61	10.82	11.04	
total expenses	100.00		102.90	105.89	108.96	112.12	115.38	
growth rate, prior yr			2.9%	2.9%	2.9%	2.9%	2.9%	
difference between rev and exp growth			2.9%	-0.5%	-0.6%	-0.6%	-0.6%	
net operating results			2.93	2.44	1.91	1.34	0.74	
net operating results--base case			(1.79)	(3.63)	(5.52)	(7.47)	(9.47)	

SAMPLE COLLEGE Pro Forma Income Statement							
INCREASE ANNUAL GIVING							
	2016		2017	2018	2019	2020	2021
	Base	Change	Year 2	Year 3	Year 4	Year 5	Year 6
tuition	111.32	3.0%	114.66	118.10	121.64	125.29	129.05
fin aid	(52.32)	4.0%	(54.41)	(56.59)	(58.85)	(61.21)	(63.66)
net tuition	59.00		59.00	59.00	59.00	59.00	59.00
room and board	20.00	3.5%	20.70	21.42	22.17	22.95	23.75
endowment	11.00	1.0%	11.11	11.22	11.33	11.45	11.56
gifts and other	10.00	10.0%	11.00	12.10	13.31	14.64	16.11
total revenues	100.00		101.81	103.75	105.82	108.04	110.42
growth rate, prior yr			1.8%	1.9%	2.0%	2.1%	2.2%
compensation	60.00	3.0%	61.80	63.65	65.56	67.53	69.56
program and other	30.00	3.0%	30.90	31.83	32.78	33.77	34.78
debt/capital	10.00	2.0%	10.20	10.40	10.61	10.82	11.04
total expenses	100.00		102.90	105.89	108.96	112.12	115.38
growth rate, prior yr			2.9%	2.9%	2.9%	2.9%	2.9%
difference between rev and exp growth			-1.1%	-1.0%	-0.9%	-0.8%	-0.7%
net operating results			(1.09)	(2.14)	(3.14)	(4.08)	(4.96)
net operating results--base case			(1.79)	(3.63)	(5.52)	(7.47)	(9.47)

SAMPLE COLLEGE Pro Forma Income Statement						
	2016	Change for				
	Base	all future	Comp	Program	Debt/Capital	
		periods				
tuition	111.32	3.0%	3.0%	3.1%	3.2%	
fin aid	(52.32)	4.0%	4.0%	4.2%	4.3%	
net tuition	59.00			-	-	
room and board	20.00	3.5%	3.5%	3.6%	3.7%	
endowment	11.00	1.0%	1.0%	1.0%	1.0%	
gifts and other	10.00	3.0%	3.0%	3.1%	3.2%	
total revenues	100.00	1.1%	1.1%	1.1%	1.1%	
compensation	60.00	3.0%	0.0%	3.0%	3.0%	
program and other	30.00	3.0%	3.0%	-3.0%	3.0%	
debt/capital	10.00	2.0%	2.0%	2.0%	-16.0%	
total expenses	100.00	2.9%	1.1%	1.1%	1.1%	
net operating results		-1.8%	0.0%	0.0%	0.0%	

20TH ANNIVERSARY



Colleges of the Fenway
Institute on College Financials
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