

Understanding the Institutional Economics of Enrollment Trends

The Future of Arts & Sciences Part IV



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Academic Affairs Forum

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The screenshot shows a window titled "Audio" with a minus sign icon in the top-left corner. Inside, the "Audio Mode:" label is followed by two radio button options: "Use Telephone" (which is selected, indicated by a green dot) and "Use Mic & Speakers" (which is unselected, indicated by a grey dot). Below these options, the text "Dial: +1 800 555 1212" is displayed, followed by "Access Code: 141-607-114" and "(and [additional numbers](#) ..)". At the bottom, a green message states "You are connected to audio". A red diagonal line is drawn across the left side of the window.

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Managing your screen



Questions:

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Questions Panel

File View Help

Audio

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A Note on Our Data



Academic Performance Solutions is designed to empower leaders with department-specific performance and cost data –as well as contextualized peer benchmarks – needed to make more effective decisions. AAF members that currently participate can access their APS platform to drill into many of the metrics highlighted in this webinar. For more information, visit eab.com/aps.

The Key Drivers of Arts & Sciences Performance



Trends by Major



Disciplinary Trends
Institutional Variation
Demographic Preferences



Career Outcomes



Placement and Salary
Occupational Distribution
In-Demand Skills



Course Enrollments



Majors vs. Non-Majors
General Education
Transfer Credits



The Economics of Arts & Sciences



Instructional Costs
Research Costs
Cross-Subsidies

Trends by Major

Key Findings



Disciplinary Trends

- Majority of Baccalaureate completions growth in Health Professions
- Absolute declines in Education and Humanities
- Growth in Business and Social Sciences has slowed
- At sub-discipline level big gainers are Nursing, Communications, Criminal Justice



Institutional Variation

- Most institutions saw small declines in humanities – large declines at a small number of institutions drove national trend
- Masters Universities saw largest swings



Demographic Preferences

- Women make up more than half of completers in all major fields except physical sciences, engineering, and computer science/ mathematics
- Changing major preferences among women driving nearly all of the increases in health sciences and decreases in business and liberal arts
- Hispanics driving a larger share of growth than any other population

Key Findings



Placement and Salary

- Undergraduate major is strongly correlated with career outcomes such as job placement rate and early career salary
- Major/ career choice appears to depend on “meaningfulness” as much as expected salary (with nursing as the only discipline high on both measures)
- Career “engagement” depends more on high impact educational experiences than major



Occupational Distribution

- Pre-professional majors correlate with higher salaries because they track students into a small number of high paying occupations while liberal arts majors lead to a diversity of occupations with a much wider range of compensation
- An important contributor to career outcomes for pre-professional majors are the built-in supports for career exploration which are often lacking in liberal arts programs



In-Demand Skills

- Increasing evidence indicates that technical skills may be less valuable for long-term career outcomes than “soft skills”
- Liberal arts proponents often argue for an advantage for their disciplines in soft skills but little evidence exists to support this claim
- Many valuable technical skills (such as web design, basic data analytics) can be easily acquired during (or immediately after) a liberal arts education

Course Enrollments

Key Findings



Majors vs. Non-Majors

- Number of majors is not a useful metric for the health of many liberal arts departments
- Second majors, minors, and courses required for majors outside the College of Arts & Sciences are significant factors in demand for liberal arts courses



General Education

- Arts & Sciences departments have long depended on general education to maintain course enrollments but modifications to requirements and changing patterns of credit transfer have the potential to significantly impact their enrollments
- Attempts to align general education requirements with student success or more integrated learning outcomes often founder on their potential impact on student credit hour trends in specific departments



Transfer Credits

- State-wide and system initiatives as well as increasing competition for a shrinking 18-22 year population have led to a broad range of initiatives to facilitate credit transfer across institutions
- Anecdotal data indicates that the transfer of credits from community college, early college, and online courses is reducing demand for lower division liberal arts courses

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Course Enrollments



Majors vs. Non-Majors
General Education
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The Economics of Arts & Science

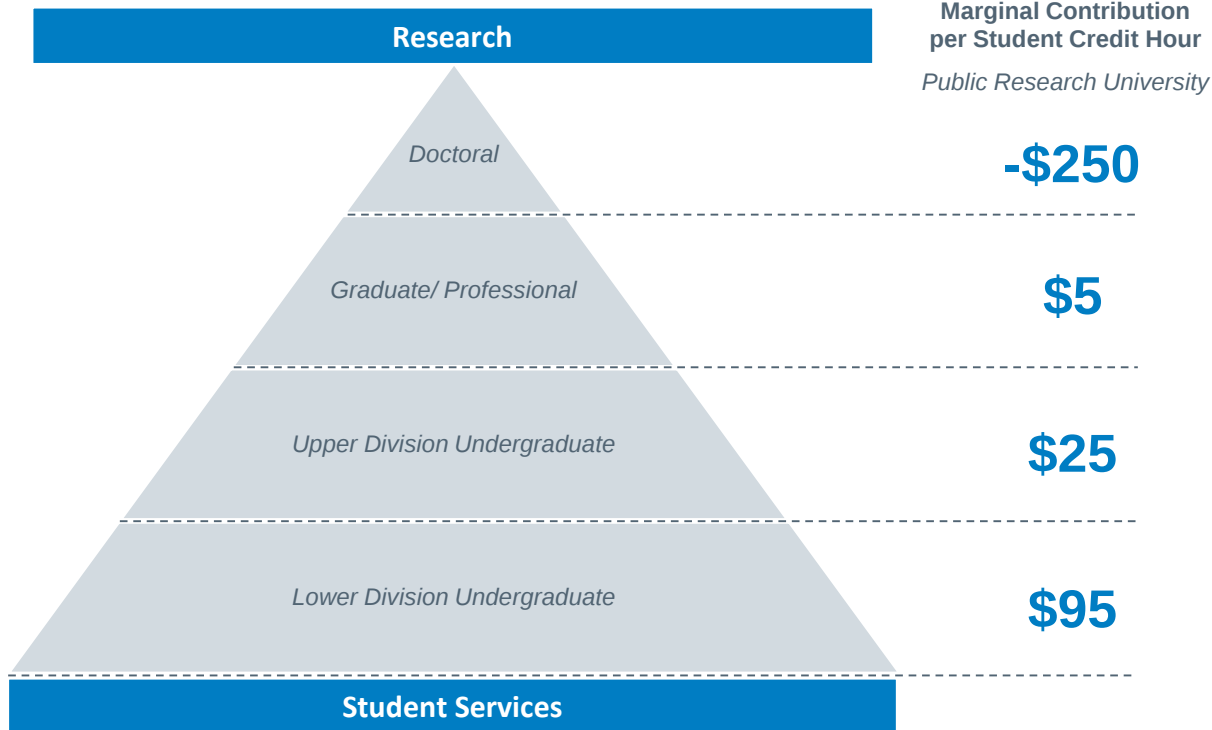


Instructional Costs
Research Costs
Cross-Subsidies

A Crumbling Foundation



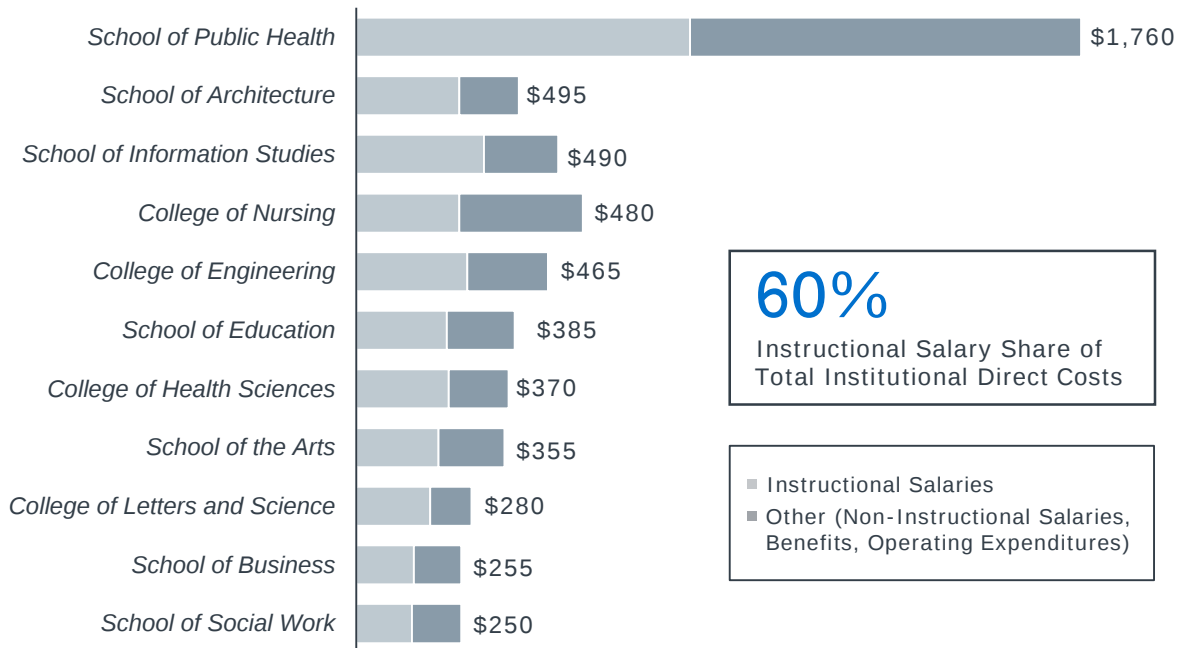
University Economics Built on Subsidies from Lower Division Courses



Disciplinary Differences Create Financial Differences

Direct Costs of Instruction Vary Widely by College

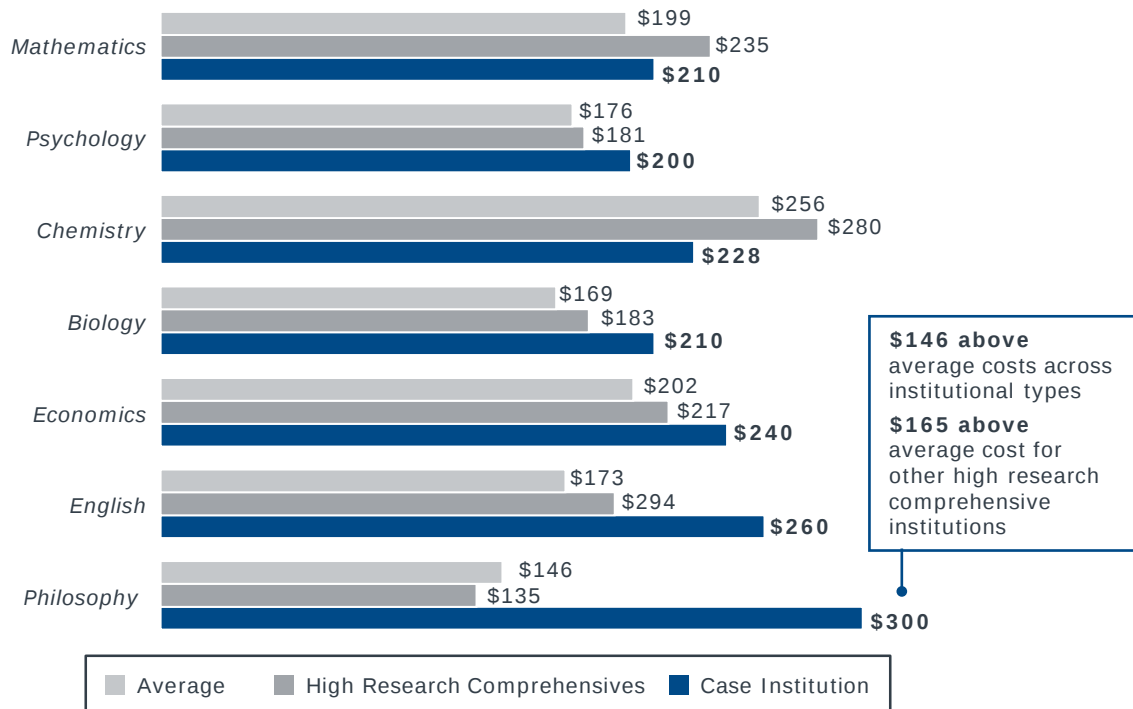
Total Direct Cost per Student Credit Hour by College, 2016



High Costs Aren't Necessarily Bad

Colleges Need to Understand the Reasons for and Implications of Cost Variance

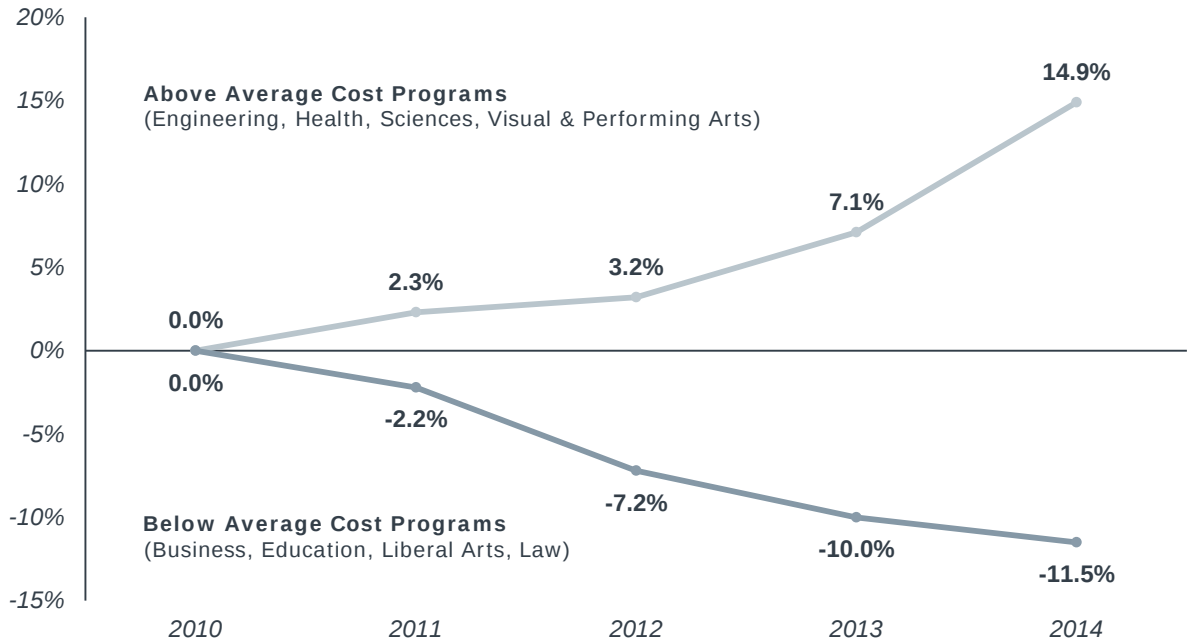
Total Direct Cost per Student Credit Hour by Department, 2015-2016



A Weighted Average That Continues to Sink

Enrollments Shifting to Higher Cost Programs

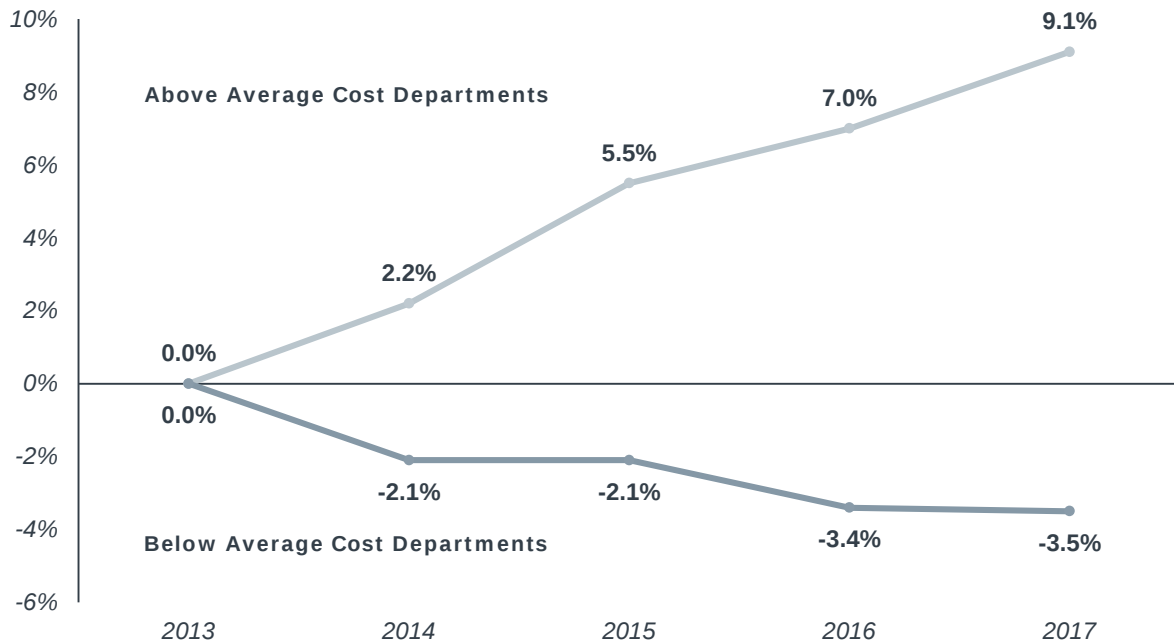
Change in Enrollment from Fall 2010 by Cost Group, University of Colorado Boulder



A Weighted Average That Continues To Sink

Enrollments Shifting to Higher Cost Programs

Change in SCH by Cost Group, Very Large Research Universities



1) Calculated change from 2013 for each subsequent year.

Understanding the Cost of Education

Student Credit Hours per Faculty FTE Is the Key Metric

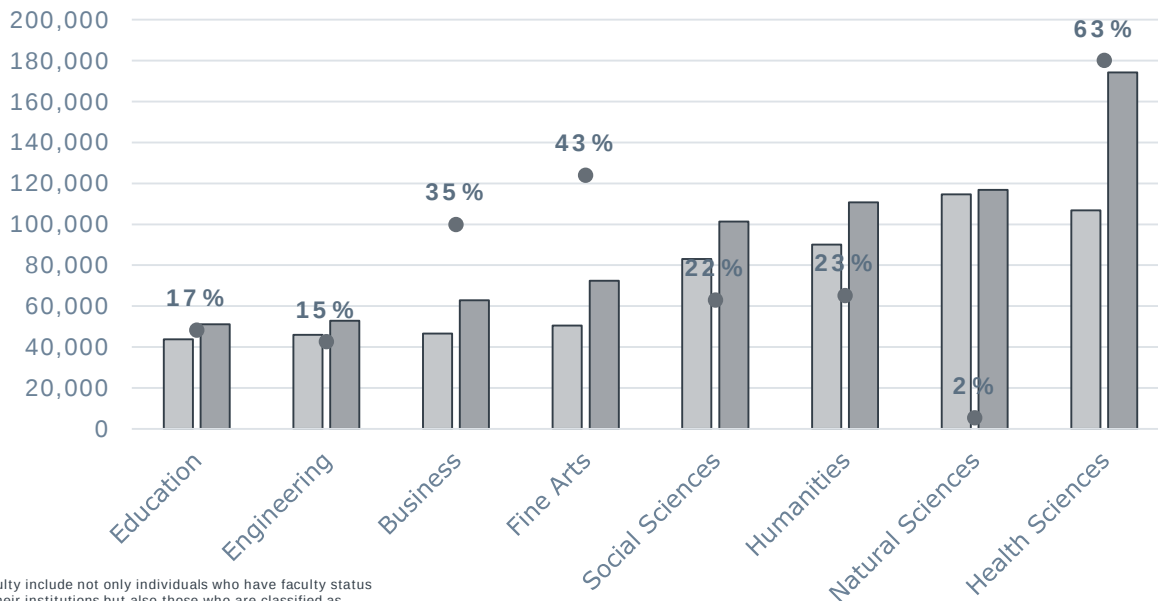
Direct Instructional Costs		Departmental Non-Instructional Costs	University Overhead Costs
Direct Instructional Costs	=	Cost per Instructor	× Student Credit Hours per Instructor
		- Instructor Mix (% Tenure/ TT) - Disciplinary Salary Standards - Faculty Seniority - Overload/ Additional Comp - Benefits	- Sections per Instructor - Standard Course Load - Course Releases - Overload - Students per Section (Class Size) - Number of Course Offerings - Section Fill Rate - Course Completion Rate

A Lagging Indicator



Faculty Headcount Continues to Increase Even in Declining Fields

Numbers of Postsecondary Faculty in Four-Year Colleges and Universities Employed in Selected Academic Fields and Percentage Change, 2007–2015



■ 2007 ■ 2015 ● % Change

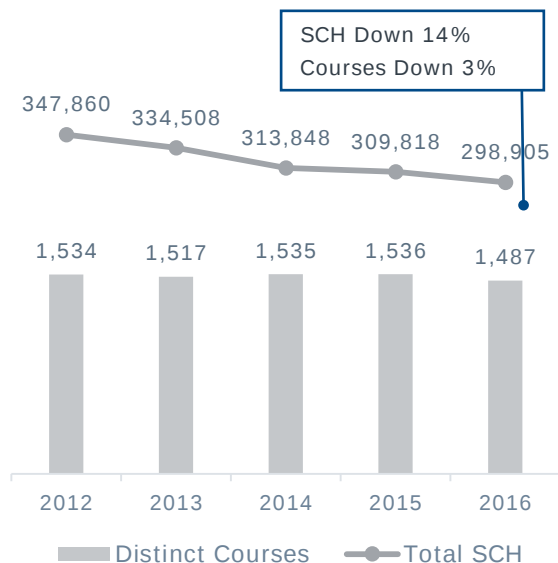
1) Faculty include not only individuals who have faculty status in their institutions but also those who are classified as instructional staff by their employers. Faculty exclude those individuals whose duties are purely research-oriented (even though such individuals may be classified as faculty by their institutions).

Source: Humanities Indicators Project analysis of U.S. Bureau of Labor Statistics Data.

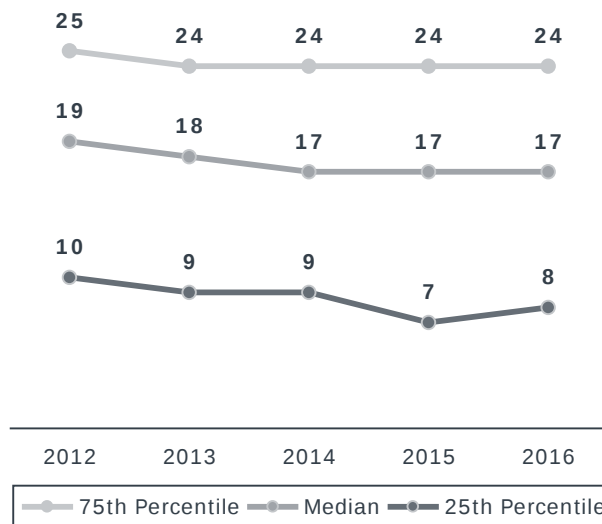
Unable to Adjust to a Demand Shock

Number of Courses Stays Flat and Class Sizes Fall as Demand Declines

College of Arts & Sciences Total SCH vs Distinct Courses, 2012-2016



College of Arts & Sciences Class Size Trends, 2012-2016¹

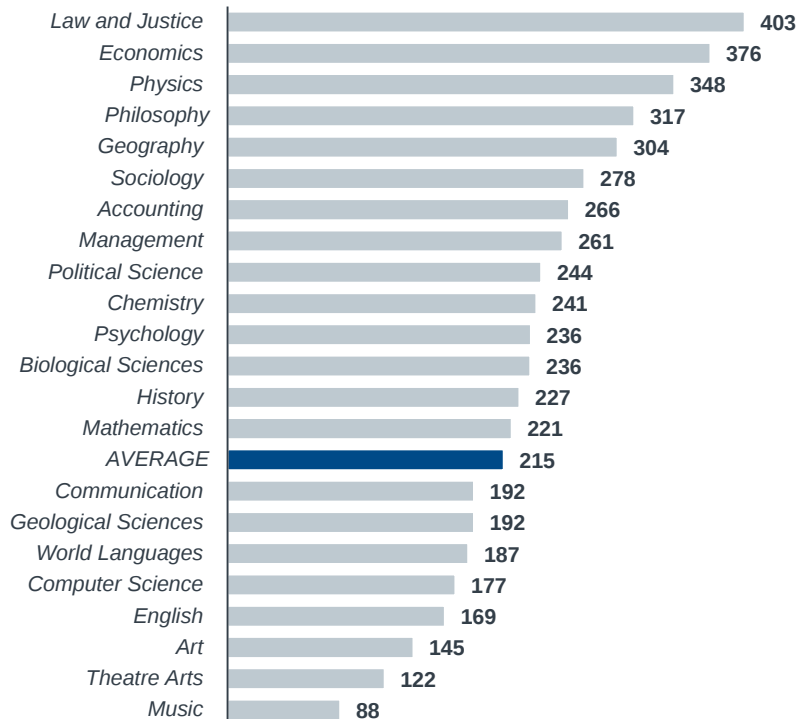


1) Excludes independent study

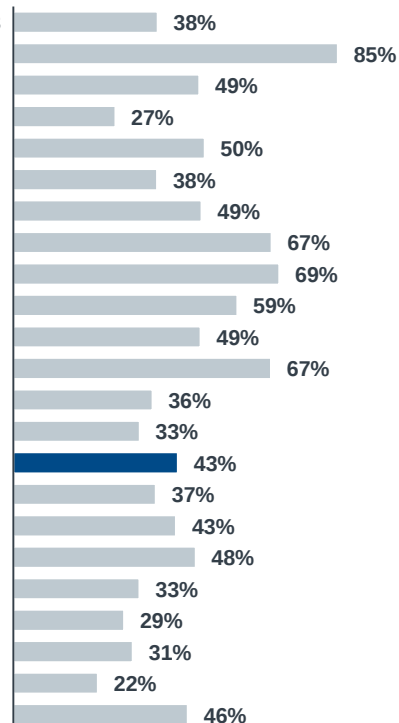
The Single Most Important Cost Indicator

Variation in Teaching Loads and Faculty Mix Define Cost Structure

SCH per Tenure / Tenure Track Professor, 2016



% of SCH Taught by T/TT, 2016



Source: EAB Academic Performance Solutions data and analysis

Another Reason That Costs Are Rising

Subsidizing the High Cost of Research

“

Dispelling Myths About Costs

“We’ve done a lot of work over the past decade on understanding what things really cost and dispelling common misconceptions. The biggest myth was that research pays for itself.”

Director of Research Accounting

Large, Private Research University

”

?

Have You Calculated the Costs?

Faculty Costs

- Globally Competitive Faculty Salaries
- Faculty Startup Packages
- Increased Facilities and Equipment Costs
- Seed funds

PhD Program Costs

- Generous PhD Stipends
- Doctoral Program Subsidies

Overhead Costs

- Increased Research Administration Costs
- Unrecovered F&A Costs

Instructional Costs

- Lighter Teaching Loads
- Smaller Upper Division and Graduate Classes

Cracks in the Foundation

Long-Term Threats to Doctoral Education



Who will pay the high cost of doctoral programs?

- **Federal Funding:** Cuts to R&D impact doctoral opportunities
- **State Funding:** Increased prioritization of undergraduate education
- **Competing on Support:** Competitive graduate student support packages more important than ever
- **Perverse Labor Market Incentives:** Less expensive to hire postdocs/adjuncts than RAs or TAs
- **Less Tolerance for Subsidies:** Critics charge that research increases cost of education



Why are doctoral outcomes still so poor?

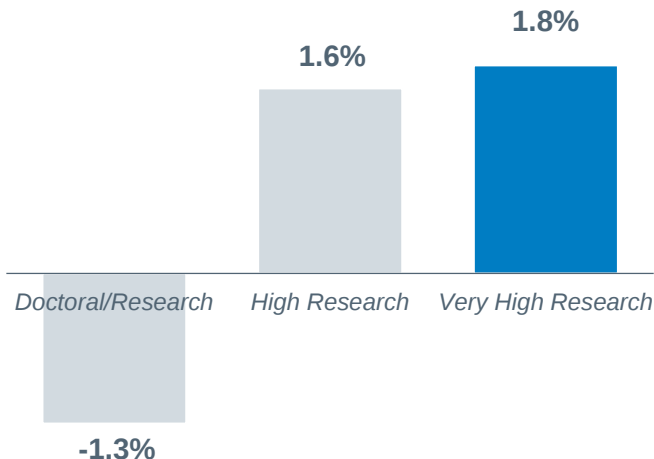
- **Completion Still Problematic:** Limited improvement to completion and time-to-degree from large-scale outcomes initiatives
- **Employment Prospects Worsening:** Placement rates fall to 20-year lows, esp. for tenure-track jobs
- **Endless “Apprenticeships”:** Postdocs stints become standard across multiple disciplines
- **Difficult to Establish Research:** Funding competition hardest for early career researchers
- **Weak Support Services:** Lack of career preparation and advising for PhDs

Those Who Can Afford It Continue to Grow

Less Vulnerable to Sharp Funding Cuts, R1s Grow Enrollment

Most Research-Intensive Institutions Driving Enrollment Increases

Avg. Annual Increase in Total Graduate Enrollment, 2005-2015



Even As Overall Enrollments Rise, AAU Institutions Quietly Prune Programs



Once-renowned English program shrinks to 20 graduate students in 2012 from 60 in the early 1990s



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

History department cuts admissions in half (~20 students) in 2012 alone



EMORY
UNIVERSITY

Announces closure of three departments and suspension of four graduate programs in 2012

PURDUE
UNIVERSITY

Cuts size of a number of doctoral programs while increasing stipends for students in 2016

Who's Subsidizing Whom?

Confusion About What Drive Revenues (and Costs)

”

“So, we have this core problem: Who is going to pay the salary of the English department? We have to have it. Who's going to pay it in sociology, in the humanities? And that's where we're running into trouble.”

*Mark Yudof,
President University of California*

”

“ “[T]he humanities [at UCLA] generate over \$59-million in student fees, while spending only \$53.5-million (unlike the physical sciences, which came up several million dollars short in that category). The entire staff of Writing Programs... has been sent firing notices, even though the spreadsheet shows that program generating \$4.3-million dollars in fee revenue, at a cost of only \$2.4-million.”

*Robert Watson,
Professor of English UCLA*

How Humanities and Social Sciences Students End Up Subsidizing Pre-Professional Students

Students pay the same tuition
But their programs cost less:

- Lower paid faculty
- Fewer research releases
- Lower equipment/start up costs
- Large lower division courses

The Economics of Arts & Science

Key Findings



Instructional Costs

- In many Arts & Sciences disciplines student credit hours are falling faster than departments can respond. Faculty numbers and numbers of courses are flat or increasing, leading to fewer SCH per faculty member and therefore higher costs per SCH
- Enrollments are typically growing fastest in the highest cost disciplines (health professions, engineering) shifting the cost structure of the entire university



Research Costs

- As most colleges and universities strive to increase faculty scholarship and externally funded research, the costs of faculty salaries, facilities and equipment, and lighter teaching loads drives up instructional costs
- Doctoral programs continue to expand despite deteriorating placement rates, requiring further institutional subsidies



Cross-Subsidies

- On average Colleges of Arts & Sciences have lower costs per credit hour than most other pre-professional schools, implying that liberal arts students are subsidizing students in other colleges
- The shift to more transparent budget models (such as RCM) has forced some Colleges of Arts & Science to make cuts in order to sustain their traditional subsidy



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Future of Arts & Sciences Webinar Series

Avoiding the Most Common Mistakes in New Program Planning
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