

Community College Finance Research Project

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Community College Finance Research Project

- Our goal is to inform the Commission on Community College Finance through data-driven, evidence-based analysis and research regarding:
 - the differences in costs to educate student populations with certain characteristics
 - how economies of scale play into institutional fiscal need, and
 - what other factors explain the variation in the cost of education of students.

How Costs Differ from Expenditures

- Expenditures are what we observe in typical annual financial reporting, including expenditures on faculty salaries, staff salaries, benefits, heating and cooling of facilities and a variety of materials supplies and equipment.
- Costs are the amounts that, at a minimum, must be spent to achieve a specific set of outcomes.
 - Costs are not observable, because they require consideration of outcomes.
 - How much do we need to spend to get what we want?

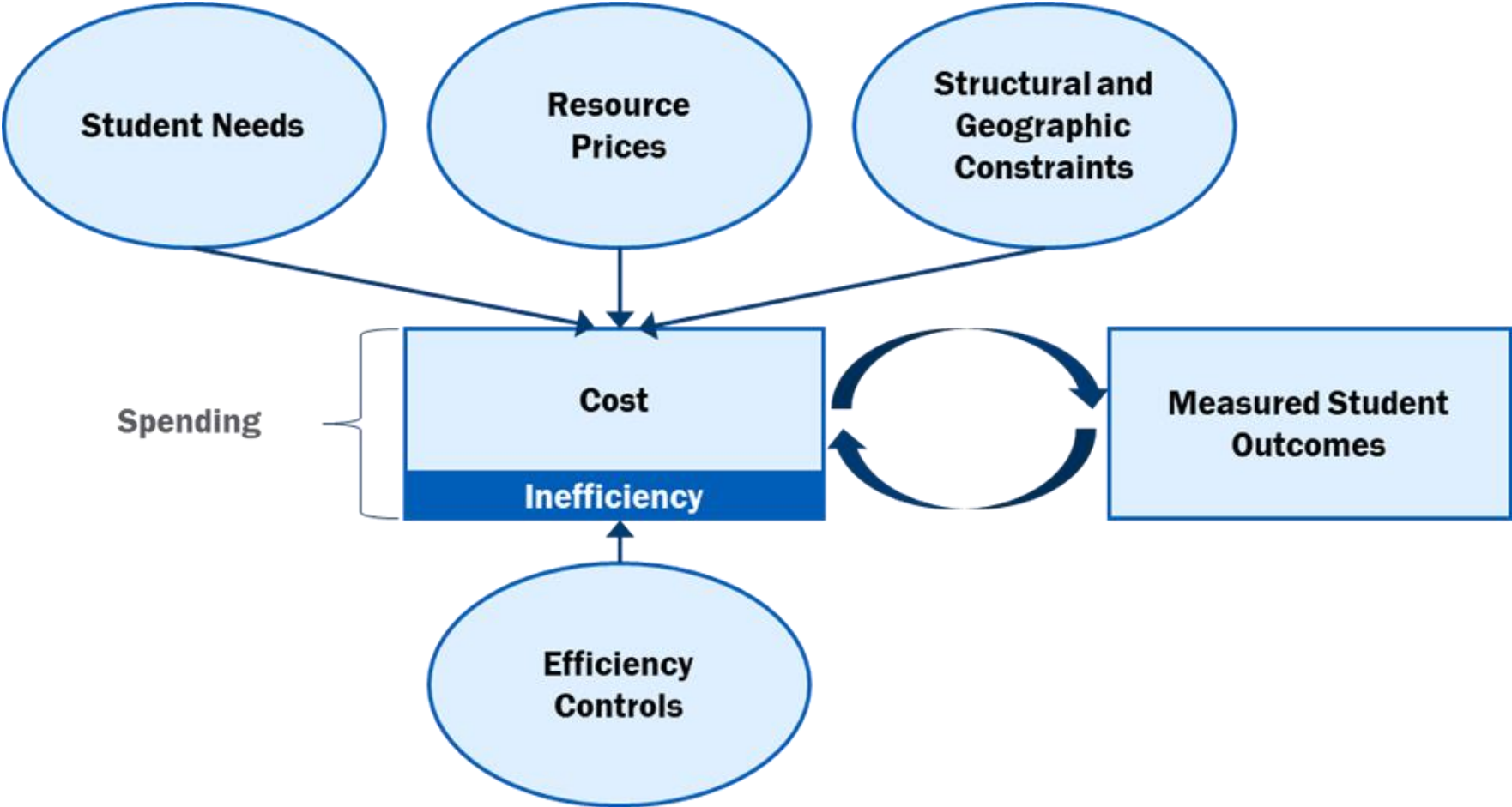
The Need for Cost Analysis

- If all community colleges in Texas were following best practices at all times, then there would be no gap between costs and expenditures.
 - It is more plausible to believe that expenditures exceed costs in at least some programs or settings.
- The Commission members may also find it useful to know the extent to which economies of scale or local labor market conditions affect the cost of operation for various community colleges, so that they can recommend funding adjustments.

Cost Function Analysis

- We use statistical modeling to identify the minimum spending levels—i.e., the costs—associated with specific outcomes in specific contexts.
 - This approach is known in the literature as cost function analysis and has been used in educational settings for nearly 50 years.
- Our statistical modeling is framed around an underlying educational cost model, which links community college outcomes—such as certificate and degree completions or credits generated—to observed spending levels, holding constant a variety of factors influencing the cost of achieving those outcomes.

Education Cost Model Components



Keys to the Analysis

- Do the best possible job measuring the spending, outcomes and cost factors
- Link those pieces together in a reliable and robust statistical model.

Measuring Expenditures

- Existing reports on community college spending tend to focus on institutional spending by function, such as expenditures on faculty salaries, or supplies.
- For cost analysis, we need to focus on spending per program or course of study.

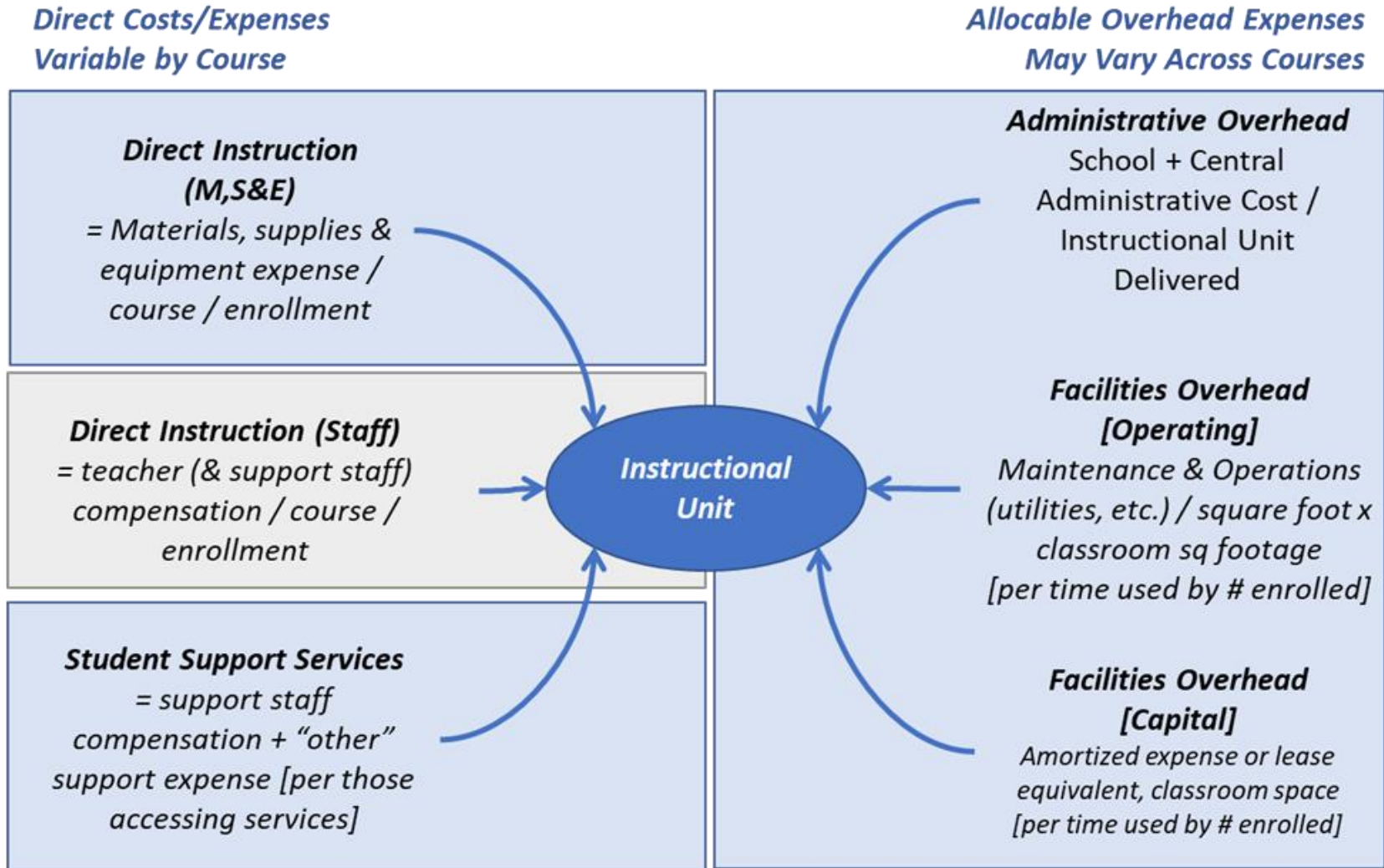
Expense Per Contact Hour: Austin CC

Selected Disciplines	Expense per Contact Hour
Agriculture	\$15.62
Architecture and Precision Production Trades	\$25.47
Biology, Physical Sciences, and Science Technology	\$19.37
Business Management, Marketing, and Administrative Services	\$18.08
Computer and Information Sciences	\$25.90
Construction Trades	\$37.15
Engineering	\$26.62
English Language, Lit, Philosophy, Humanities, & Interdisciplinary	\$18.01
Health Occupations - Dental Assistants, Medical Lab, and Assoc. Degree Nursing	\$29.36
Health Occupations - Dental Hygiene	\$52.79
Health Occupations - Vocational Nursing	\$37.56
Mathematics	\$17.78
Visual and Performing Arts	\$24.66
Developmental Education - Reading/Writing	\$21.99

Vocational Nursing at Austin CC

Courses	CR	Expense per Contact hour	Total Expense
BIOL-2404 Introduction to Anatomy and Physiology	4	\$19.37	\$77
VNSG-1126 Gerontology	1	\$37.56	\$38
VNSG-1204 Foundations of Nursing	2	\$37.56	\$75
VNSG-1116 Nutrition	1	\$37.56	\$38
PSYC-2314 Human Growth and Development	2	\$16.08	\$32
VNSG-1423 Basic Nursing Skills	4	\$37.56	\$150
VNSG-1460 Clinical - Licensed Vocational Nurse (LVN) Training: Intro.	4	\$37.56	\$150
VNSG-1429 Medical-Surgical Nursing I	4	\$37.56	\$150
VNSG-1461 Clinical - LVN Training: Intermediate	4	\$37.56	\$150
VNSG-1201 Mental Health and Mental Illness	2	\$37.56	\$75
HPRS-2300 Pharmacology for Health Professions	3	\$27.70	\$83
VNSG-1332 Medical-Surgical Nursing II	3	\$37.56	
VNSG-1230 Maternal-Neonatal Nursing	2	\$37.56	\$75
VNSG-1234 Pediatrics	2	\$37.56	\$75
VNSG-1219 Leadership and Professional Development	2	\$37.56	\$75
VNSG-2463 Clinical - LVN Training: Maternal-Child and Leadership	4	\$37.56	\$150
PHIL-2306 Ethics	3	\$18.01	\$54
ENGL-1301 English Composition I	3	\$18.01	\$54
BIOL-2401 Anatomy and Physiology I	4	\$19.37	\$77
BIOL-2420 Microbiology for the Health Sciences	4	\$19.37	\$77
PSYC-2301 Introduction to Psychology	3	\$16.08	\$48
TOTAL			\$1,658
Total if All "Vocational Nursing"			\$2,254

Estimating Course Delivery Expenses



Measuring Outcomes

- A variety of researchers on this project will be focused on measuring community college outcomes.
- For many public two-year colleges (especially those with large dual-credit programs) the dominant outcome is the successful transfer of credits to four-year institutions.
- One particular point of analysis will be trying to determine the fraction of credits from each community college that are successfully transferred to bachelor's degree programs.

Measuring Student Needs

- The research here will focus primarily on the differing characteristics of the students who attend community colleges in Texas.
- Taking advantage of the individual, student-level data, researchers will examine the intersection of income, location and race to identify factors that lead some students to be more likely to attend community colleges while other students enter the workforce and yet other students go directly to bachelor's degree institutions.
 - One piece of the project will explore the extent to which access and uptake for dual credit programs varies by student demographics.
 - Another piece of the project will explore student sensitivity to tuition costs.

Full Scope of Work

- What determines the characteristics of students in Texas community colleges?
- What are the outcomes experienced by Texas community college students?
- What does it cost to provide those outcomes through Texas community colleges, and how do those costs differ for various programs and for different student populations and course-taking pathways?
- What is the current state of workforce demand and skills gaps in Texas?
- How are dual credit programs funded, what are the costs to provide dual credit, and what are the challenges associated with dual credit?

Questions?