

# Innovation and the Business Model of Higher Education

*Prepared for the University of North Carolina System*

*December 1, 2016*

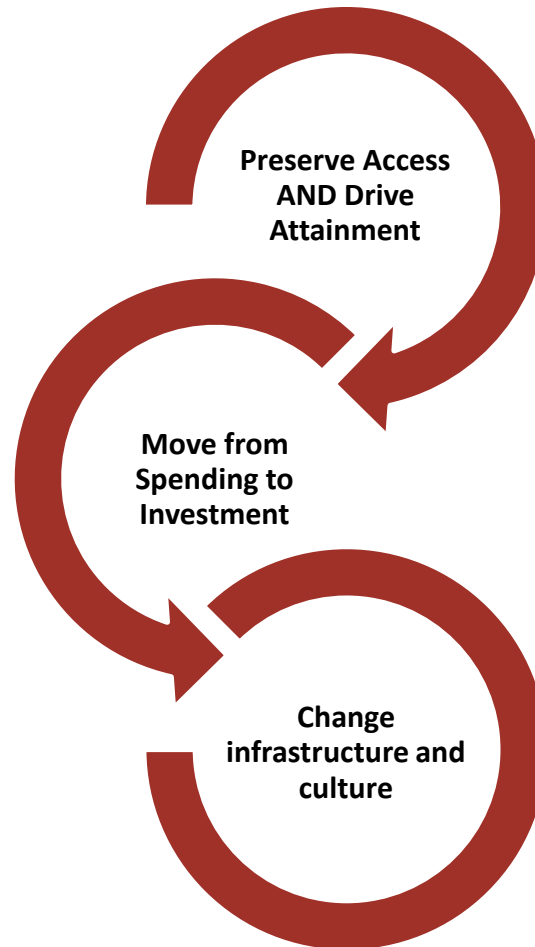
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from mission to market

# Why Talk About the Business Model in Higher Education?

## Need to Shift the Frame:

from Cost Cutting to **Maximizing** Return on Investment

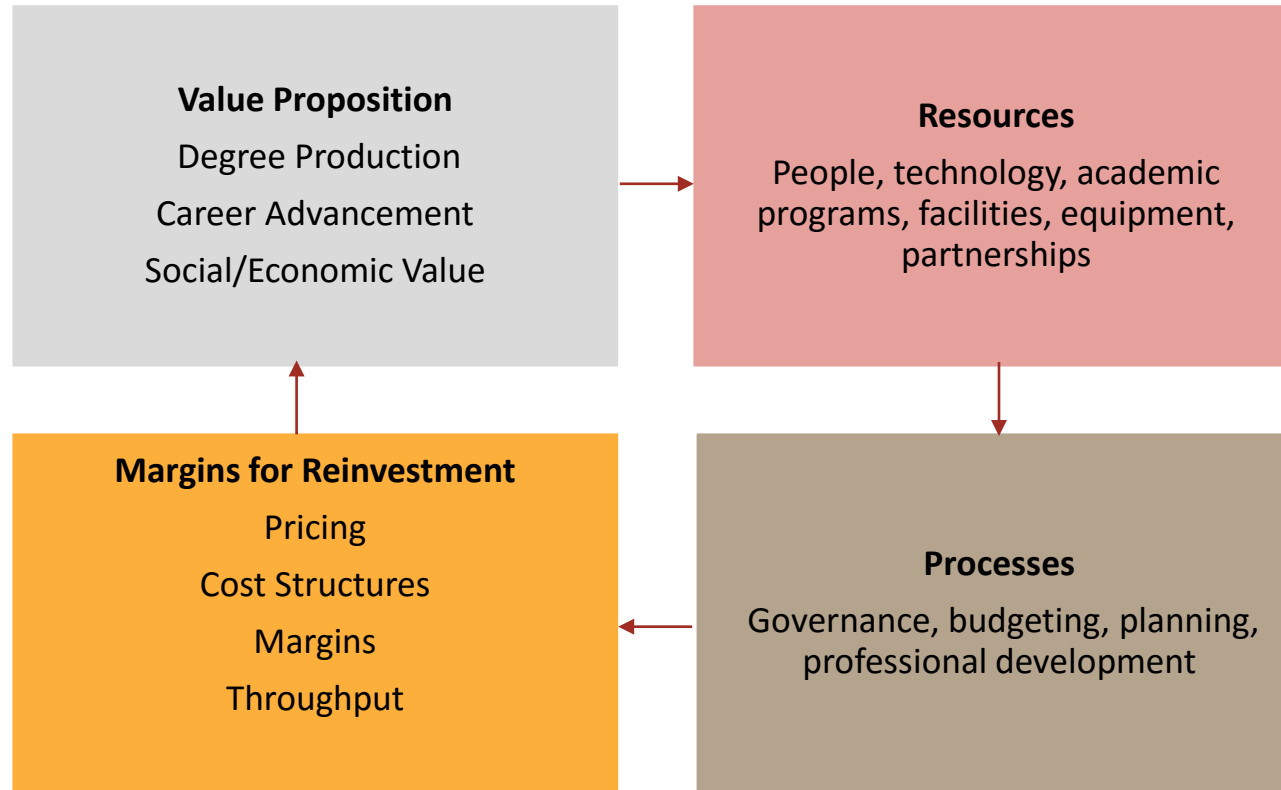
then we must get a **better return on investment** from current resources through understanding levers to change the business model...



If we are to **preserve access and increase attainment**, in a world of constrained resources and fewer students...

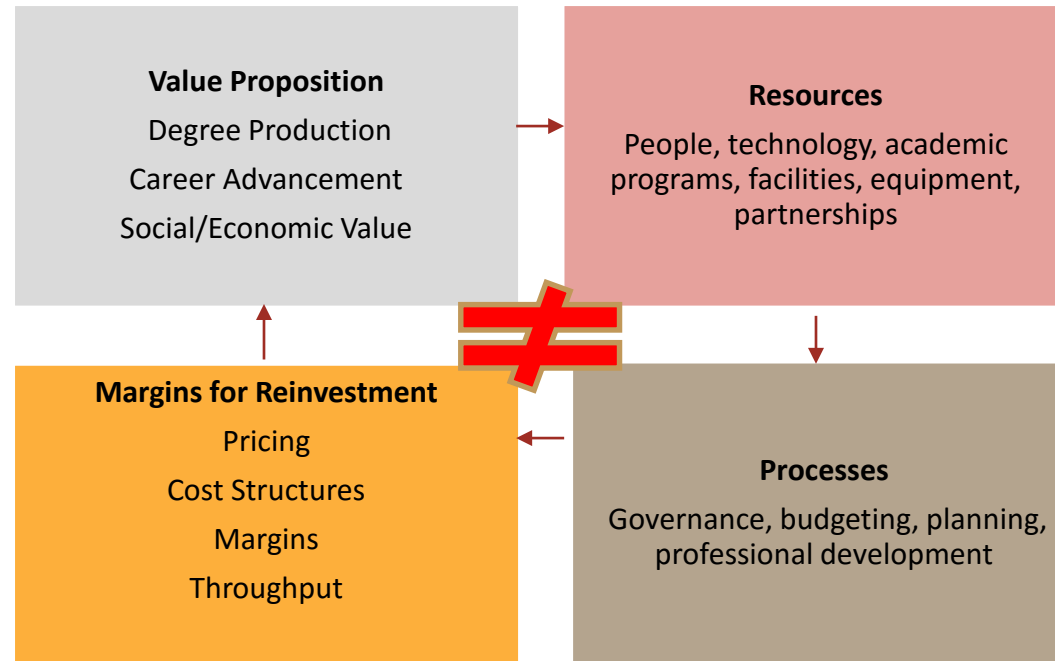
which will require a strategic approach connecting **financial practice** with **institutional change models**.

# What Do We Mean by “Business Model”



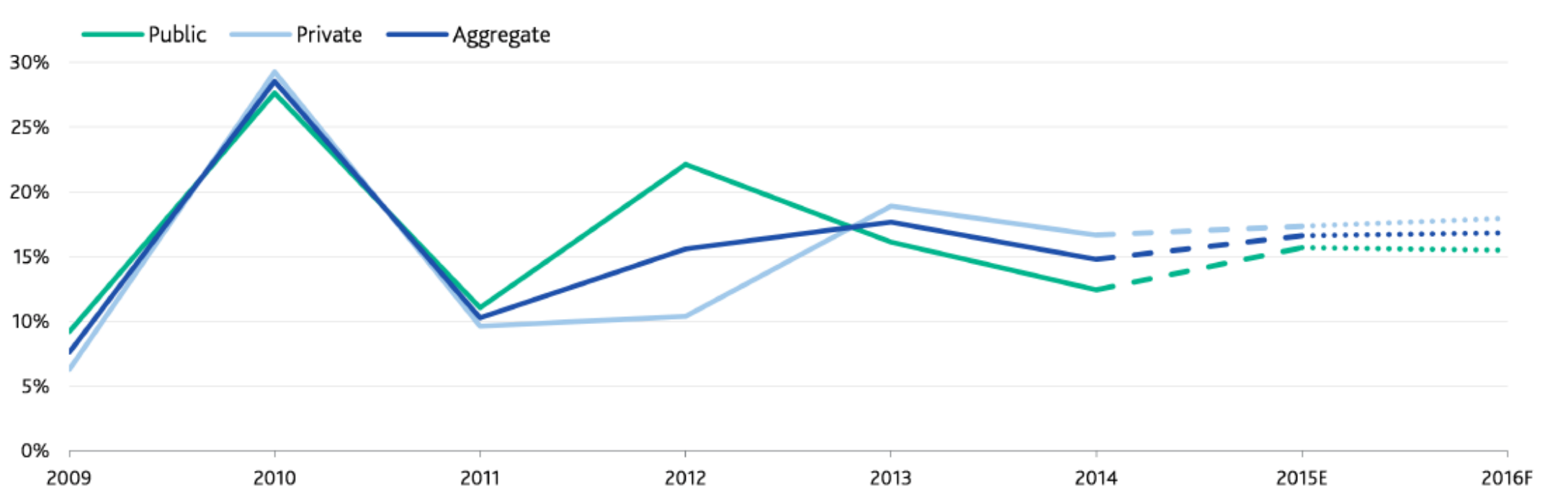
# What's the Problem?

We have made the protection of resources and processes (the “stuff” and the way we’ve always done things) our value proposition, preventing us from reimagining how we might address the needs of students more efficiently



# Continued Need to Reduce Cost and Increase Efficiencies

**Between 15% and 20% of Universities will Need to Cut Costs to Maintain Operating Stability**  
Percentage of Universities Reducing Expenses over Prior Year



Source: Moody's Investors Service; Moody's Investors Service estimate

# Comparative Benchmarks

- Benchmarks for UNC System and U.S. averages on select revenue, expenditure, subsidy, and outcome metrics.
- Data is from IPEDS/Delta Cost Project, fiscal years 2004 and 2014.
- 16 UNC System campuses are organized by Carnegie category:

## Public Research:

- East Carolina University
- North Carolina A&T State University
- North Carolina State University
- UNC-Chapel Hill
- UNC Charlotte
- UNC Greensboro

## Public Bachelor's:

- Elizabeth City State University
- UNC Asheville

## Public Master's:

- Appalachian State University
- Fayetteville State University
- North Carolina Central University
- UNC Wilmington
- UNC Pembroke
- Western Carolina University
- Winston-Salem State University

## Public Specialty:

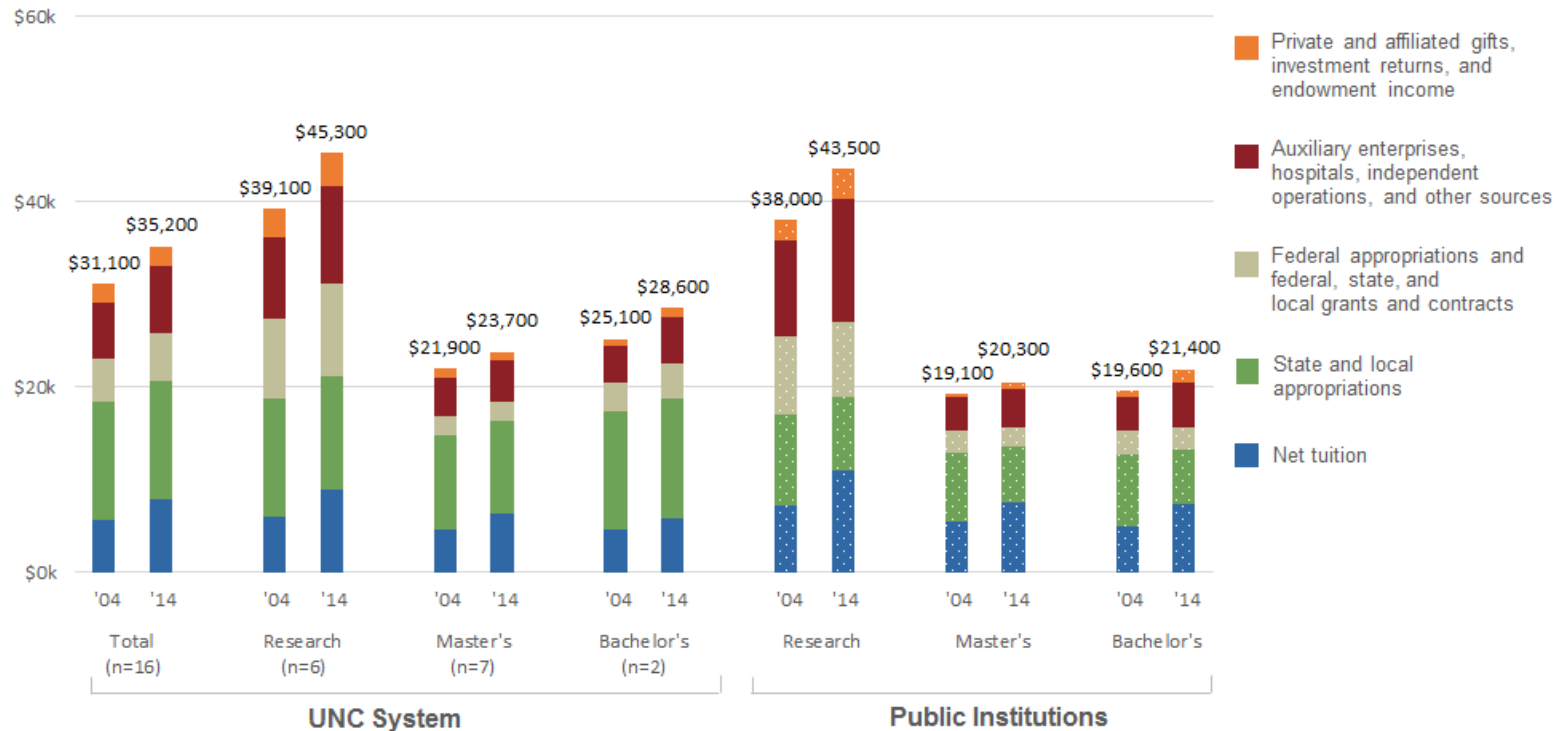
- UNC School of the Arts

*Note: The NC School of Science and Mathematics high school is excluded because only postsecondary institutions report data to IPEDS.*

# Diverse Revenue Sources Support Many Activities

- Some revenue sources are unavailable for education-related activities (e.g., restricted for research, contracts, etc.).
- At UNC's non-research institutions, average revenues per student exceed national averages; average per student revenue at UNC's research universities is comparable to the typical research university.
- UNC benefits from higher levels of state appropriations per student than the average institution.

**Total Revenues per FTE Student, FY 2004 and 2014 (in 2014 Dollars)**

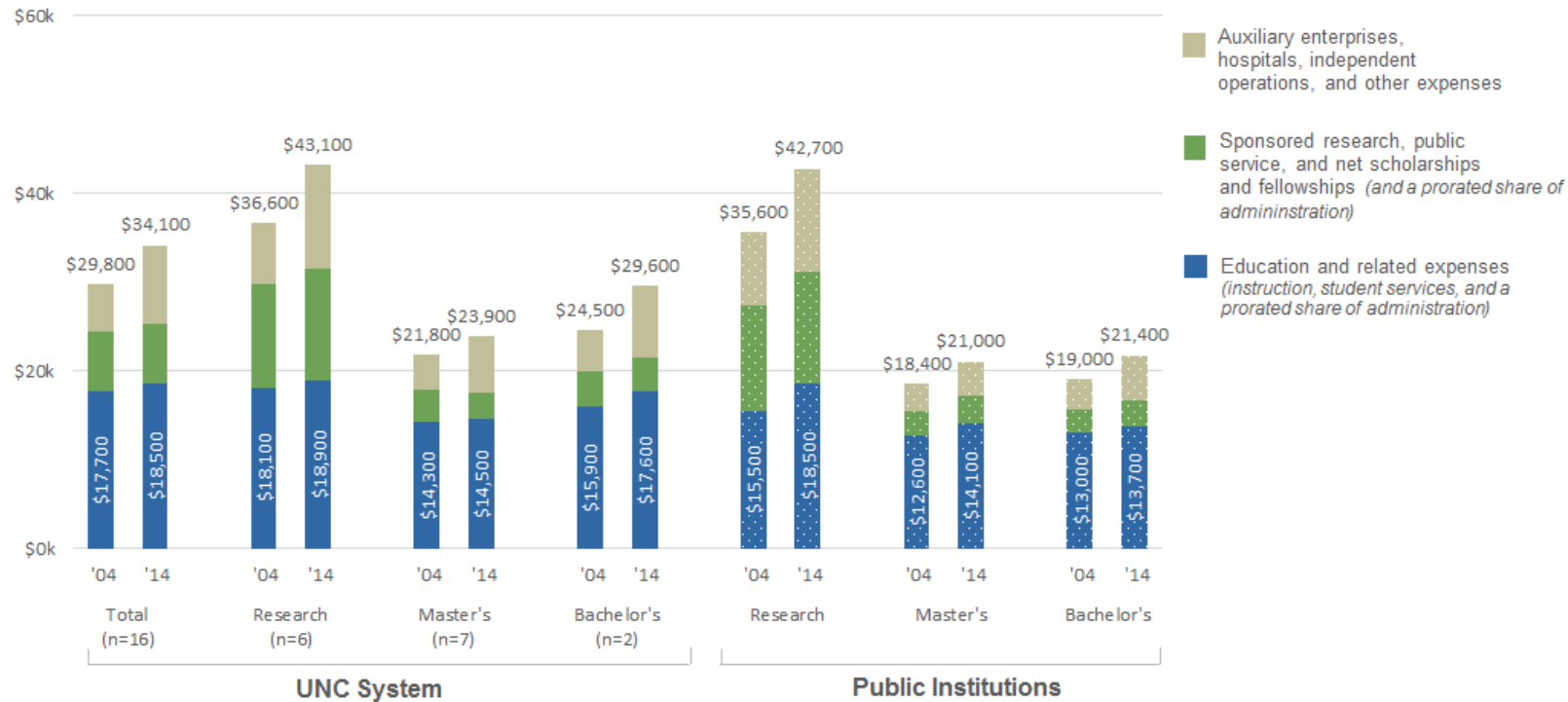


Notes: System total includes UNC School of the Arts; specialty institutions are not shown separately in the graphic. The NC School of Science and Mathematics high school is excluded from IPEDS.  
 Source: Delta Cost Project IPEDS Database 1987-2013 and IPEDS 2013-14.

# Total Spending Varies More Than Core Ed. Spending

- There is less variance in core education-related (E&R) spending across the different types of institutions than indicated by total spending levels.
- UNC's E&R spending per student is near the national average at research and master's institutions, but 29% higher than the average bachelor's degree-granting institution.

**Total Expenditures per FTE Student by Grouped Categories, FY 2004 and 2014 (in 2014 Dollars)**

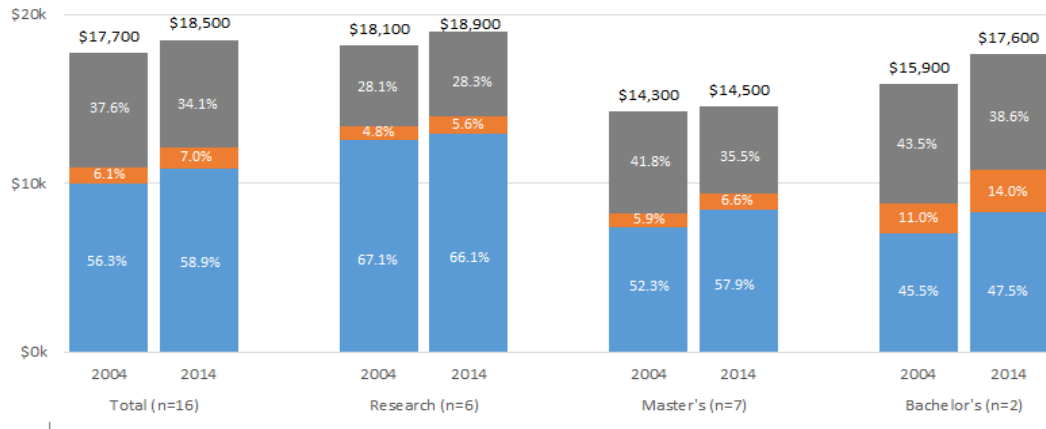


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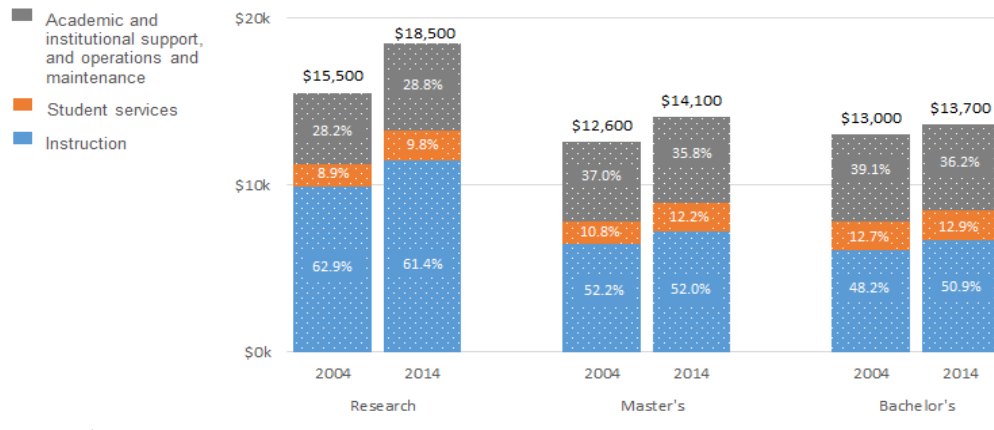


# E&R Spending Should Prioritize Instr. & Student Svcs.

**Average Education and Related Spending per FTE Student by Component, FY 2004 and 2014 (in 2014 Dollars)**



**UNC System**



**Public Institutions**

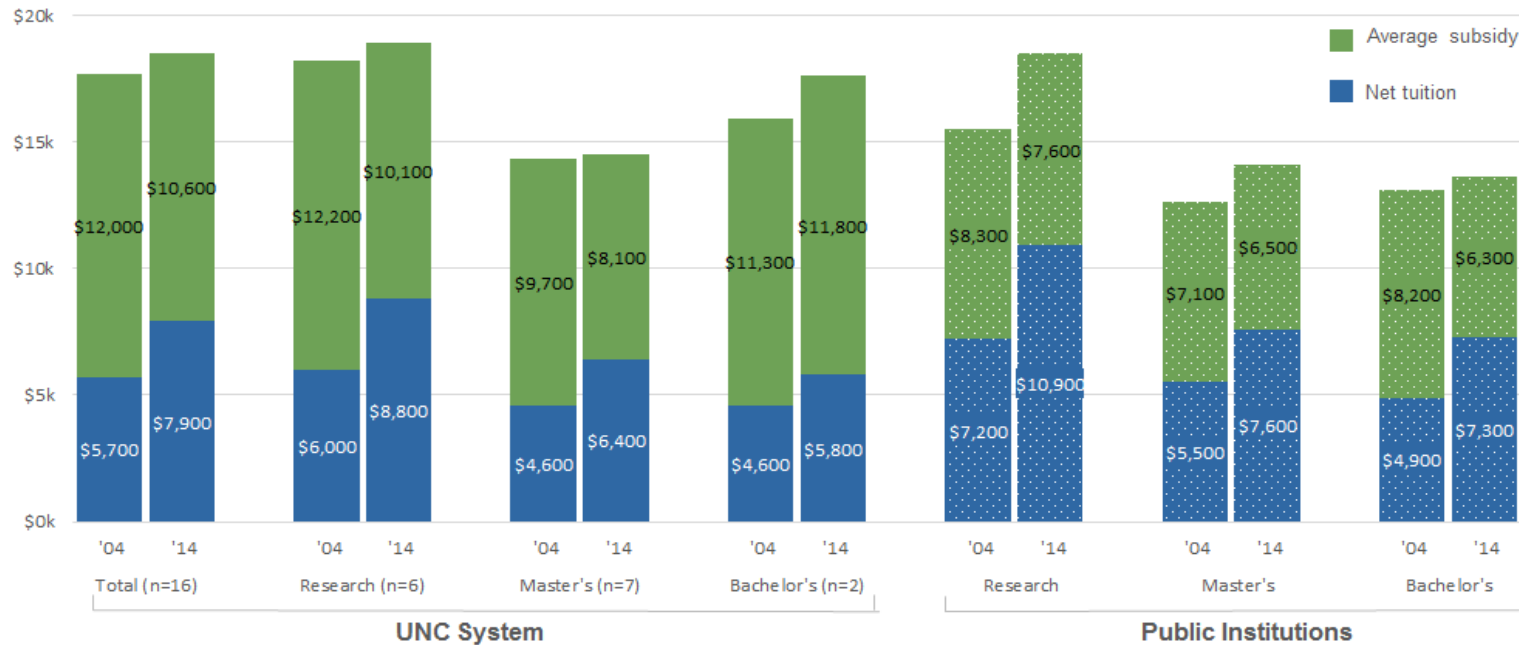
*Notes.* System total includes UNC School of the Arts; specialty institutions are not shown separately in the graphic. The NC School of Science and Mathematics high school is excluded from IPEDS.  
*Source.* Delta Cost Project IPEDS Database 1987-2013 and IPEDS 2013-14.

- Education-related spending per student increased modestly (4%) across the UNC system between 2004 and 2014.
- UNC research and master's institutions allocate larger shares of their educational resources to instructional activities compared to the average U.S. institution...but they devote smaller shares to student services.
- UNC bachelor's universities increased spending on instruction and student services...and are also spending less per student on administration-related activities.

# E&R Costs: Financed by Tuition and Subsidies

- Most students do not pay the institution's full cost of delivering education; "institutional subsidies" (primarily state appropriations at public institutions) cover a portion of the cost.
- UNC provides higher than average institutional subsidies, averaging \$10,600 per student; bachelor's degree students receive the largest average subsidy (\$11,800).
- The average subsidy per UNC student decreased 12% since 2004—and net tuition revenue per student increased nearly 40% to \$7,900.

**Average Education and Related Spending per FTE Student, by Net Tuition and Average Subsidy, FY 2004 and 2014 (in 2014 Dollars)**

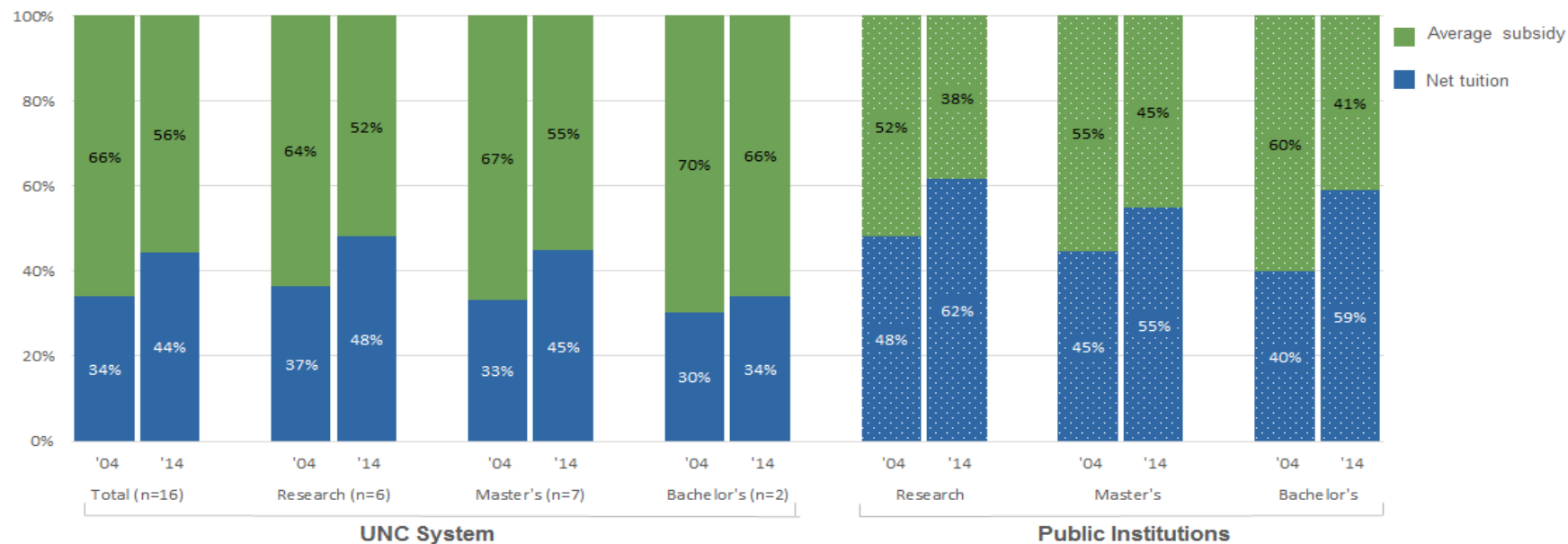


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 Source. Delta Cost Project IPEDS Database 1987-2013 and IPEDS 2013-14.

# Tuition Financing of Ed. Costs Has Grown Nationwide

- The tuition-financed share of E&R spending increased at UNC, but by a lesser amount than observed for the average research and bachelor's institutions in the U.S.
- Tuition revenue pays for less than half E&R spending at UNC's research and master's institutions, and only one-third of spending at bachelor's colleges.
- UNC institutions subsidize, on average, between one-half and two-thirds of the cost of providing an education, which is higher than the average national subsidy share (38% to 45% by type of institution).

Net Tuition and Subsidy Shares of Education and Related Spending, FY 2004 and 2014



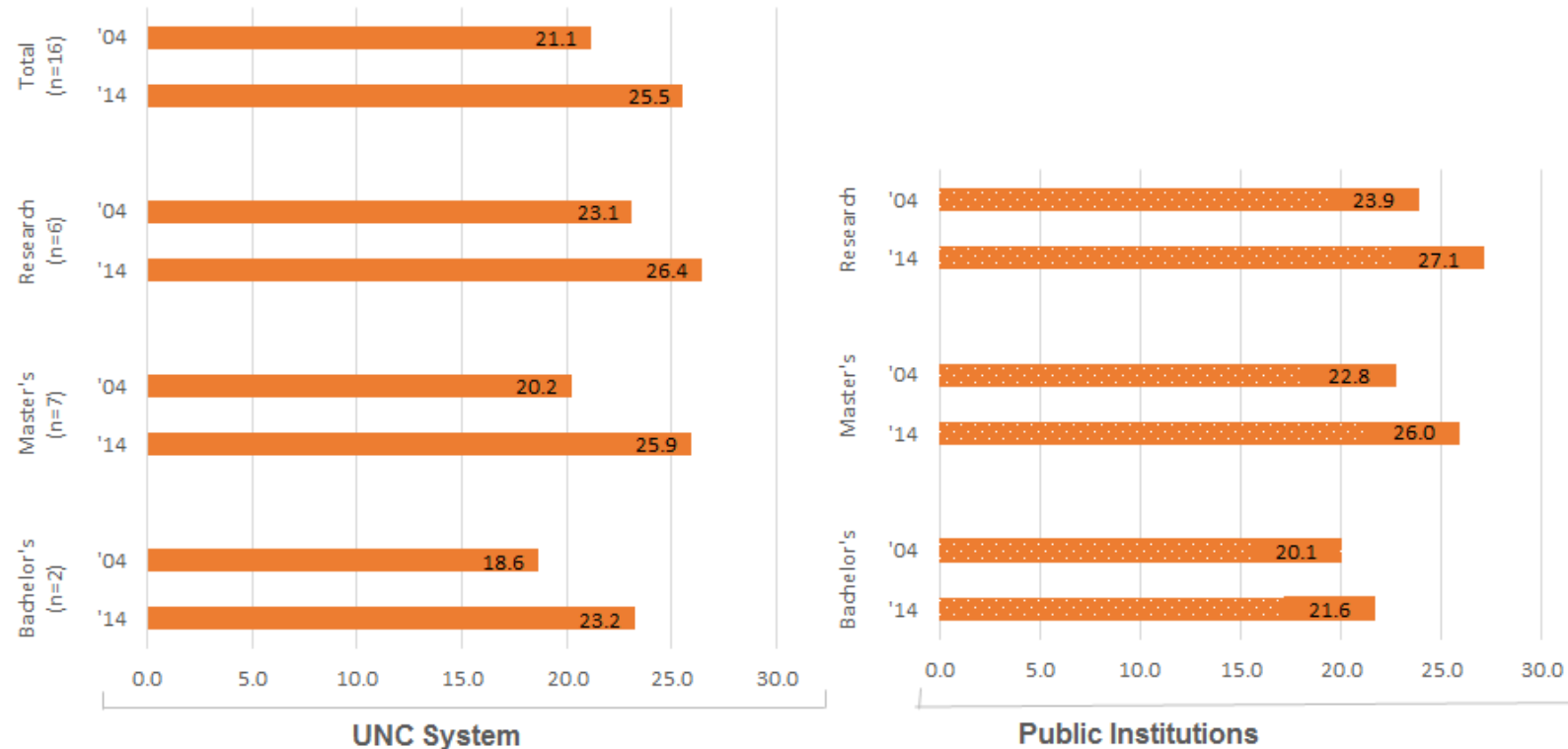
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Source. Delta Cost Project IPEDS Database 1987-2013 and IPEDS 2013-14.

# Institutions Improved Degree Productivity

- Student throughput has improved, with increasingly more credentials (degrees and certificates) awarded per student enrolled.
- In 2014, UNC awarded an average of 4 more credentials for every 100 FTE students enrolled compared to 2004.

**Total Completions per 100 FTE Students, FY 2004 and 2014**



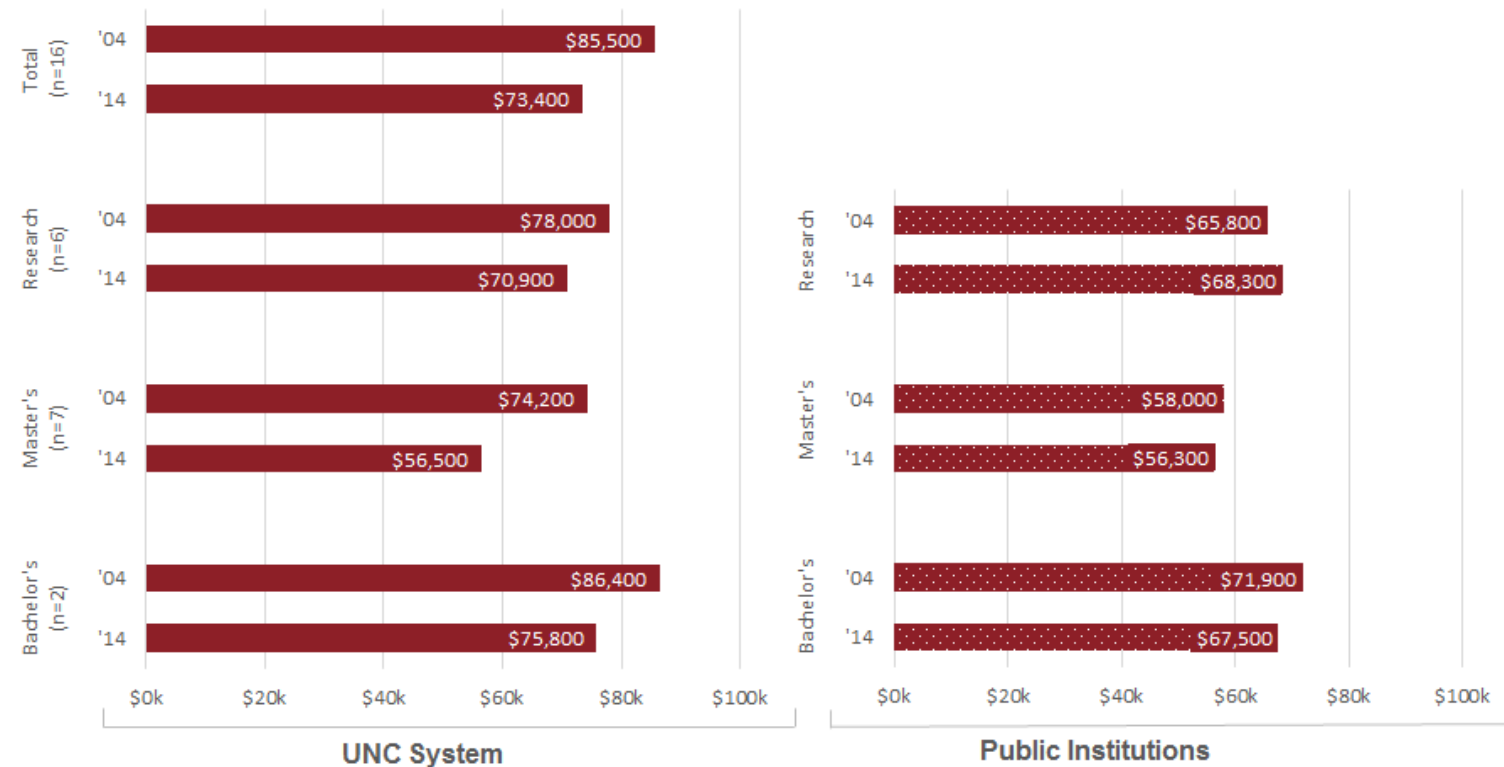
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*Source.* Delta Cost Project IPEDS Database 1987-2013 and IPEDS 2013-14.

# Cost per Completion Declined Across UNC System

- The average cost per completion (degree or certificate) at UNC declined 14 percent between 2004 and 2014.
- UNC's cost per completion declined faster than average across all types of institutions...but remains at or above the national average.

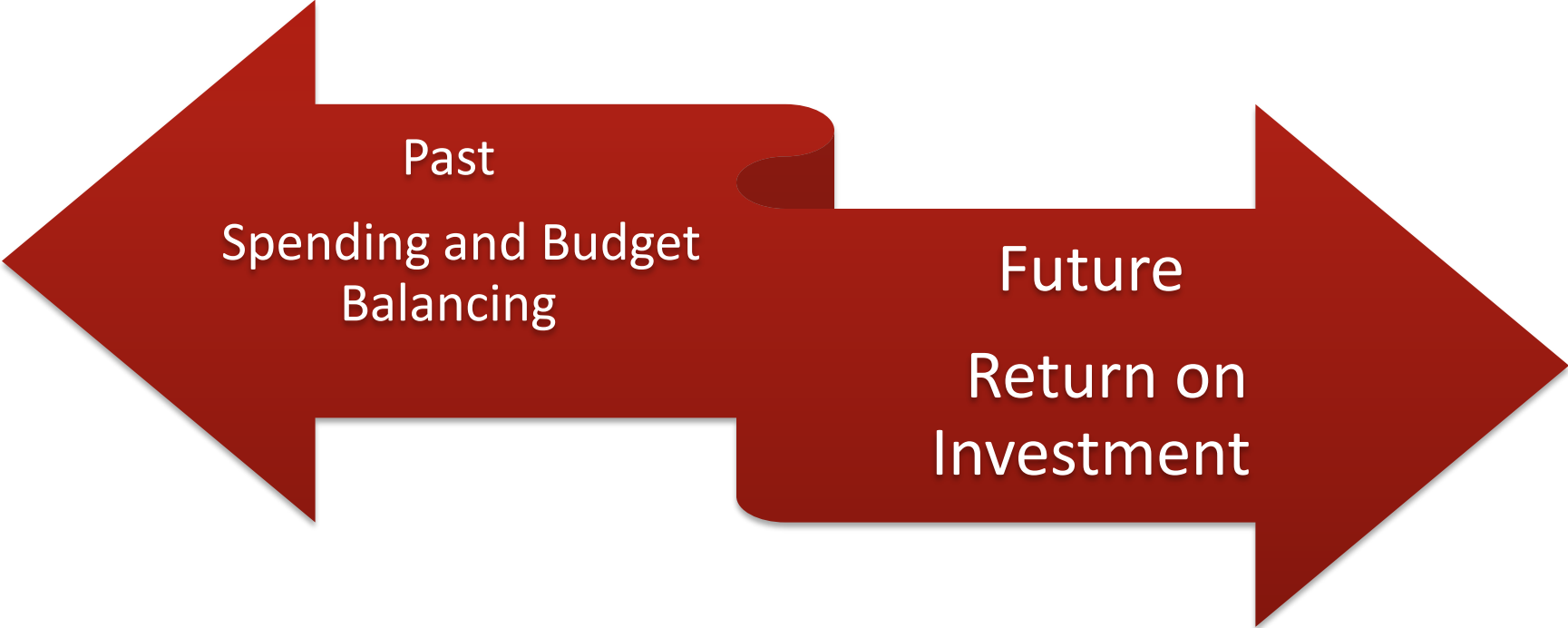
**Total Education and Related Spending per Completion, FY 2004 and 2014 (in 2014 Dollars)**



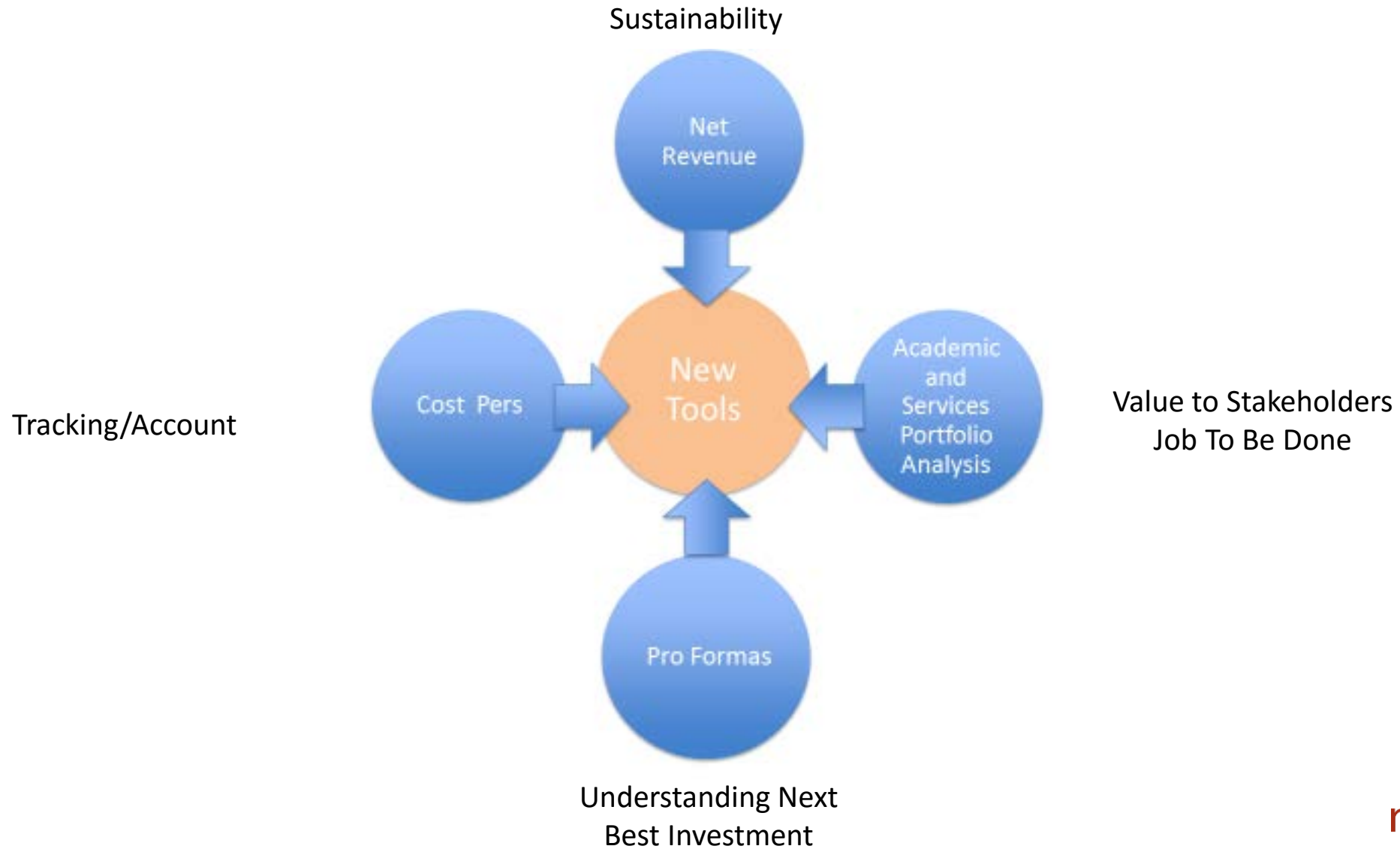
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# Need to Redefine the Goal



# Creating a New Tool Box to Adopt a Return on Investment Lens



# Net Revenue - Understanding Financial Sustainability

## Net Revenue Modeling - By Division

|                     | <b>Undergraduate</b> | <b>PT Undergraduate</b> | <b>Accelerated</b> | <b>Graduate</b> | <b>Institutes</b> | <b>Total</b> |
|---------------------|----------------------|-------------------------|--------------------|-----------------|-------------------|--------------|
| Revenue             | 15,686,486           | 2,481,446               | 3,999,994          | 10,266,637      | 464,207           | 32,898,770   |
| Tuition Discounting | 5,656,577            | 40,026                  | 0                  | 876,158         | 0                 | 6,572,761    |
| Discounted Revenue  | 10,029,909           | 2,441,420               | 3,999,994          | 9,390,479       | 464,207           | 26,326,009   |
| Total Discount %    | 36.06%               | 1.61%                   | 0.00%              | 8.53%           | 0.00%             | 19.98%       |

|                    | <b>Undergraduate</b> | <b>PT Undergraduate</b> | <b>Accelerated</b> | <b>Graduate</b> | <b>Institutes</b> | <b>Total</b> |
|--------------------|----------------------|-------------------------|--------------------|-----------------|-------------------|--------------|
| Discounted Revenue | 10,029,909           | 2,441,420               | 3,999,994          | 9,390,479       | 464,207           | 26,326,009   |
| Direct Costs       | 8,284,316            | 1,277,669               | 1,554,435          | 2,874,851       | 347,933           | 14,339,204   |
| Net Revenue        | 1,745,593            | 1,163,751               | 2,445,559          | 6,515,628       | 116,274           | 11,986,805   |
| Net Revenue %      | 17%                  | 48%                     | 61%                | 69%             | 25%               | 46%          |

|                                 | <b>Undergraduate</b> | <b>PT Undergraduate</b> | <b>Accelerated</b> | <b>Graduate</b> | <b>Institutes</b> | <b>Total</b> |
|---------------------------------|----------------------|-------------------------|--------------------|-----------------|-------------------|--------------|
| Discounted Revenue              | 10,029,909           | 2,441,420               | 3,999,994          | 9,390,479       | 464,207           | 26,326,009   |
| Total Direct and Allocated Cost | 9,954,583            | 2,366,828               | 3,149,668          | 7,858,580       | 347,933           | 23,677,592   |
| Net Revenue                     | 75,326               | 74,592                  | 850,326            | 1,531,899       | 116,274           | 2,648,417    |
| Net Revenue % - FY 2010         | 0.8%                 | 3.1%                    | 21.3%              | 16.3%           |                   | 10.1%        |
| Net Revenue % - FY 2009         | 2.1%                 | 18.8%                   | 28.8%              | 25.0%           |                   | 16.5%        |
| Net Revenue % - FY 2008         | 5.5%                 | 23.0%                   | 20.0%              | 25.0%           |                   | 16.0%        |



# Net Revenue - Understanding Financial Sustainability

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The undergraduate program appears profitable when measuring gross revenue



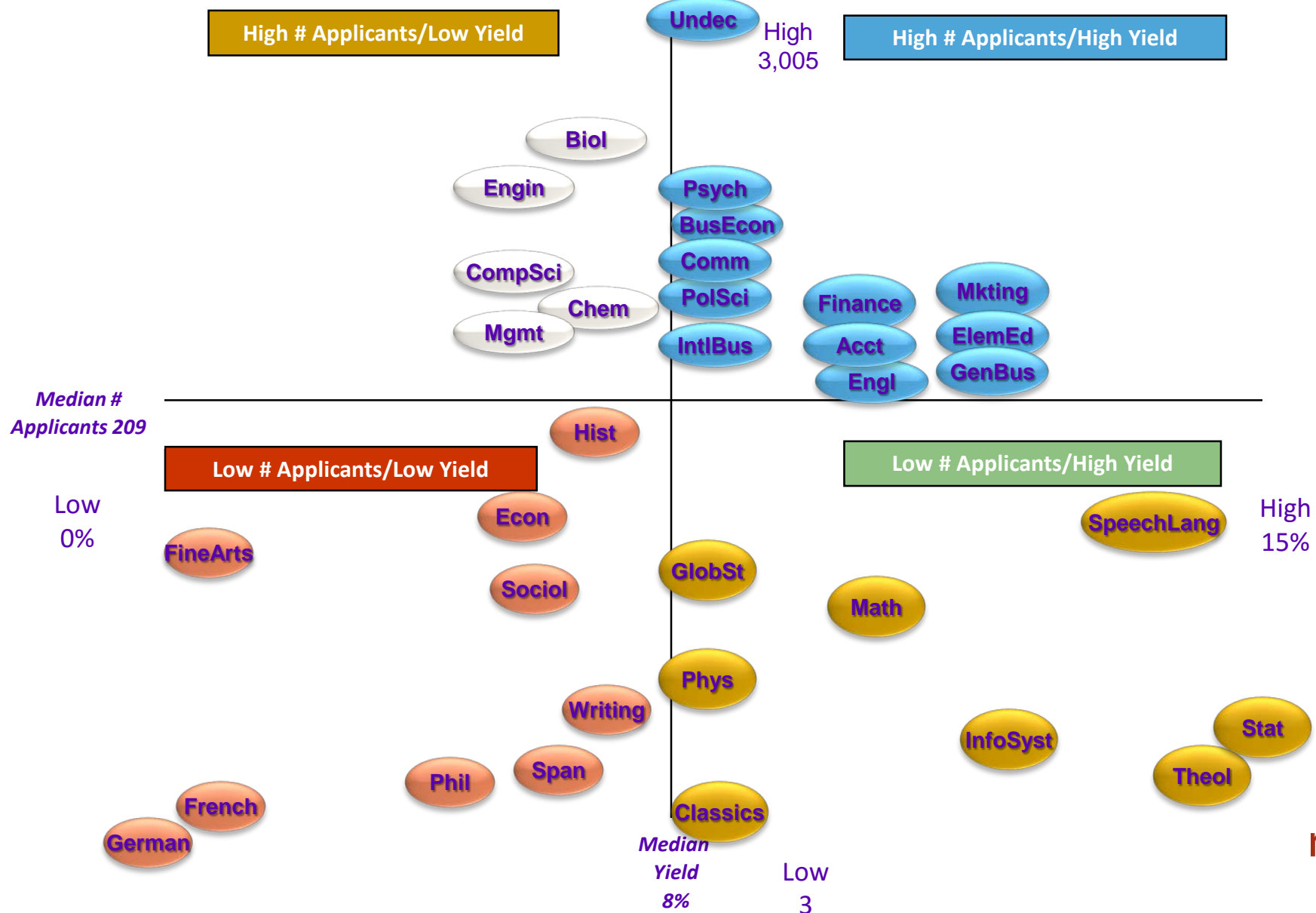
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|                                 | Undergraduate |
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| Net Revenue                     | 75,326        |
| Net Revenue % - FY 2010         | 0.8%          |
| Net Revenue % - FY 2009         | 2.1%          |
| Net Revenue % - FY 2008         | 5.5%          |

But is barely breaking even when measuring net revenue



# Academic Portfolio Review - Scorecard Based Approach - Sample



# Academic Portfolios - Overlaying Net Revenue - Sample

|   | # applic | appl/enrol | # degrees |
|---|----------|------------|-----------|
| <b>High demand, low yield, high degrees</b> |          |            |           |
| Biol  | 1,985    | 7%         | 50        |
| Engin                                       | 975      | 6%         | 16        |
| Mgmt  | 244      | 6%         | 21        |

|  | # applic | appl/enrol | # degrees |
|--|----------|------------|-----------|
| <b>High demand, low yield, low degrees</b> |          |            |           |
| CompSci                                    | 285      | 6%         | 5         |
| Chem                                       | 257      | 7%         | 4         |

|  | # applic | appl/enrol | # degrees |
|--|----------|------------|-----------|
| <b>High demand, high yield, high degrees</b> |          |            |           |
| Psych  | 919      | 8%         | 75        |
| Comm   | 627      | 8%         | 113       |
| PolSci                                       | 532      | 8%         | 40        |
| Mkting                                       | 465      | 10%        | 68        |
| ElemEd                                       | 443      | 10%        | 40        |
| Acct   | 419      | 9%         | 55        |
| Finance                                      | 418      | 9%         | 72        |
| IntlBus                                      | 293      | 8%         | 34        |
| Engl   | 216      | 9%         | 22        |

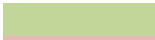


|   | # applic | appl/enrol | # degrees |
|---|----------|------------|-----------|
| <b>High demand, high yield, low degrees</b> |          |            |           |
| GenBus                                      | 332      | 9%         | 13        |

|  | # applic | appl/enrol | # degrees |
|--|----------|------------|-----------|
| <b>Low demand, low yield, high degrees</b> |          |            |           |
| Hist                                       | 202      | 7%         | 22        |

|   | # applic | appl/enrol | # degrees |
|---|----------|------------|-----------|
| <b>Low demand, low yield, low degrees</b> |          |            |           |
| Econ                                      | 164      | 6%         | 12        |
| FineArts                                  | 121      | 3%         | 3         |
| Sociol                                    | 119      | 6%         | 9         |
| Writing                                   | 56       | 7%         | 12        |
| Span                                      | 28       | 6%         | 13        |
| Phil                                      | 27       | 5%         | 6         |
| French                                    | 12       | 3%         | 1         |
| German                                    | 3        | 0%         | 0         |

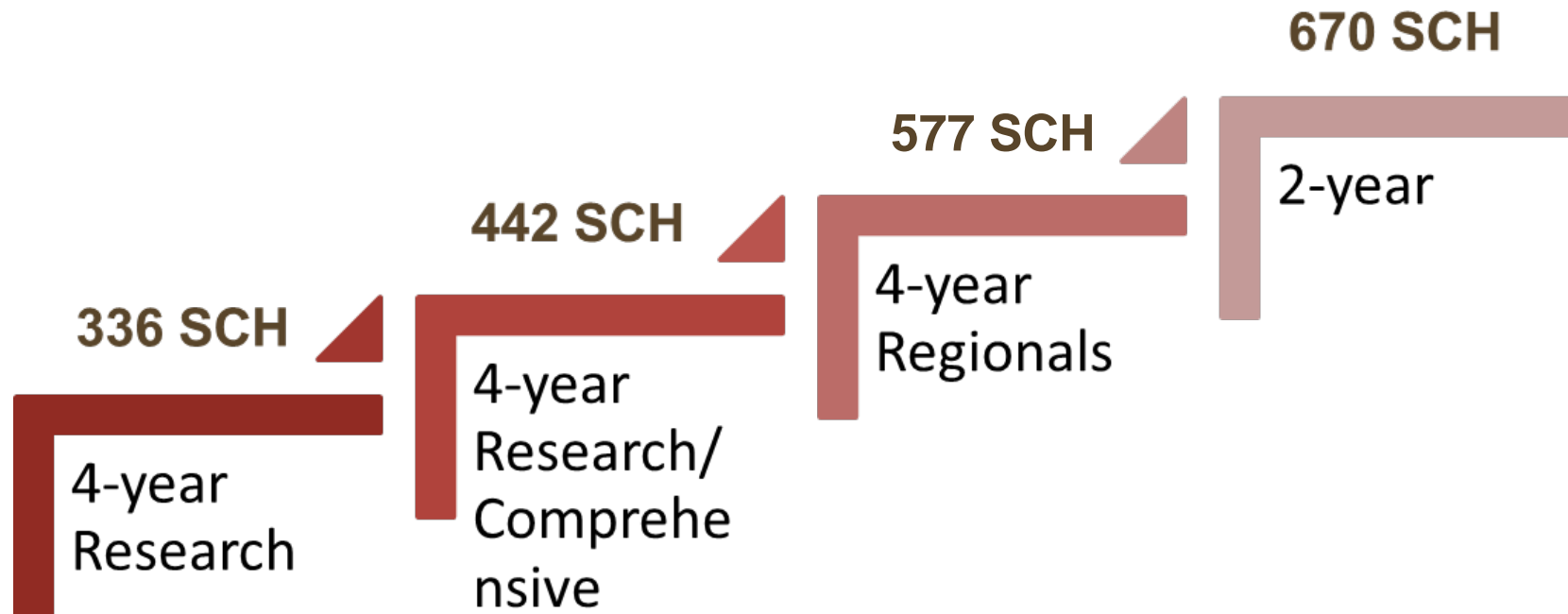
|   | # applic | appl/enrol | # degrees |
|---|----------|------------|-----------|
| <b>Low demand, high yield, high degrees</b> |          |            |           |
| SpeechLang                                  | 190      | 12%        | 59        |
| GlobStud                                    | 177      | 8%         | 29        |
| InfoSyst                                    | 38       | 10%        | 15        |

|  | # applic | appl/enrol | # degrees |
|--|----------|------------|-----------|
| <b>Low demand, high yield, low degrees</b> |          |            |           |
| Math                                       | 112      | 9%         | 8         |
| Phys                                       | 77       | 8%         | 4         |
| Stat                                       | 33       | 15%        | 4         |
| Theol                                      | 20       | 11%        | 4         |
| Classics                                   | 15       | 8%         | 1         |

 = positive net revenue (greater than \$50,000)  
 = negative net revenue (less than -\$50,000)  
 = between \$50,000 and -\$50,000

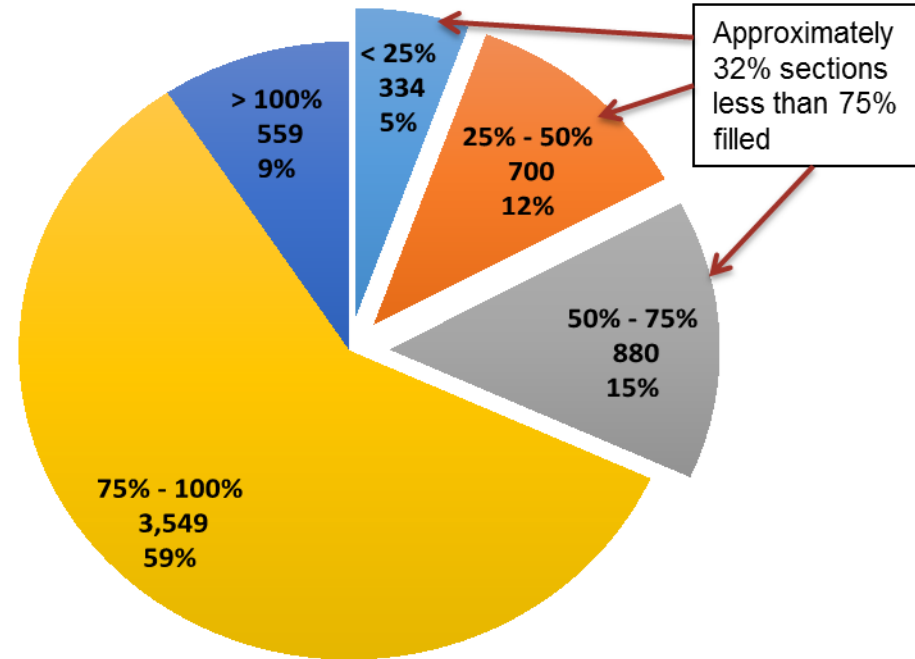
# Key Lever – Faculty Throughput

- Faculty “throughput” – the total annual student credit hours (SCH) per FTE faculty – is highly variable and within institutional control
- Throughput is twice as high at 2-year institutions than at highly selective research universities



# Key Lever – Fill Rates – “Flying the Planes Full”

**Average Fill Rate & Number of Sections  
FY 2013-2015 - Undergraduate**



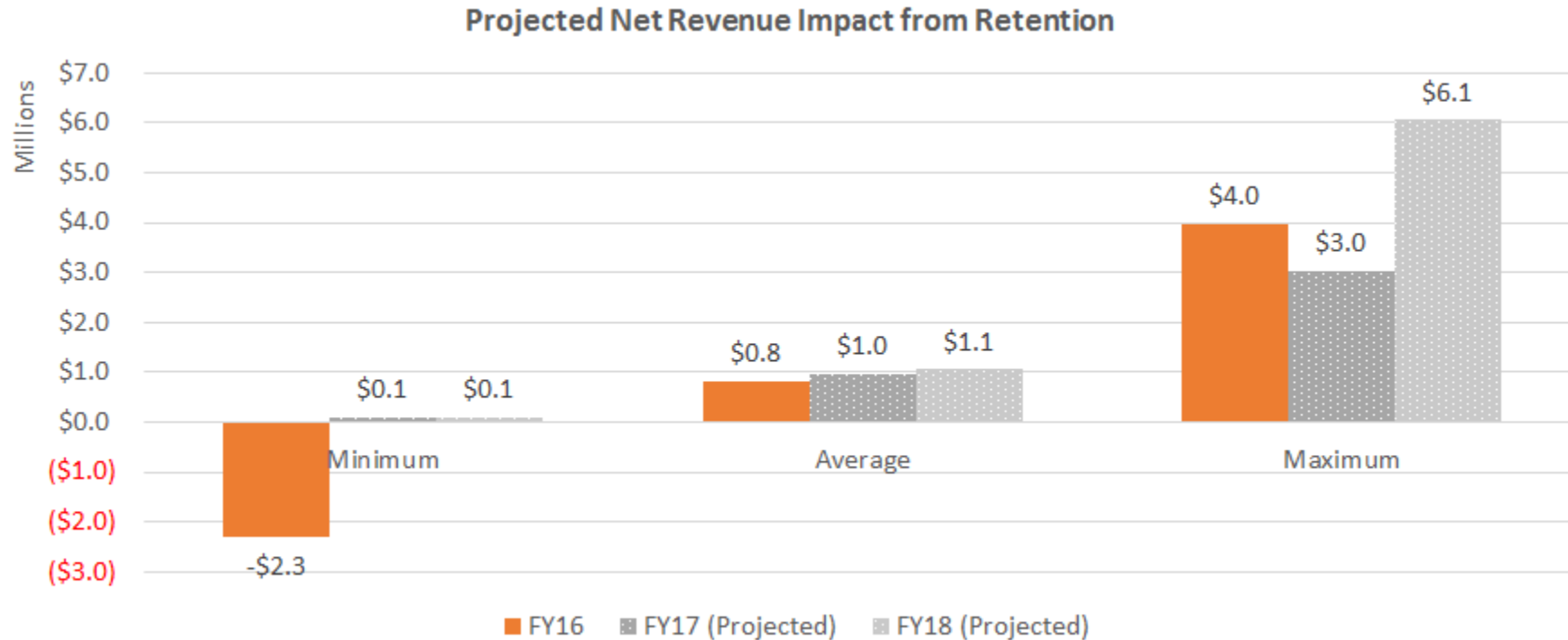
Based on institution's definition of maximum capacity by section.

# Cost “Pers”

- Higher education must pay less attention to total cost and more attention to cost per unit
- Sample Cost pers:
  - Cost per Completion
  - Cost of Student Credit Hours Completed (vs attempted)
  - Net Revenue Impact for Every 1% Change in Retention
  - Cost to Achieve Gateway Course Completion

# Cost Pers Example – iPASS and Improved Retention

- Rising retention rates boost enrollment and can generate additional net revenue for grantees.
- The projected revenue increases averaged more than \$800,000 per institution in FY16 and are expected to grow modestly along with retention.



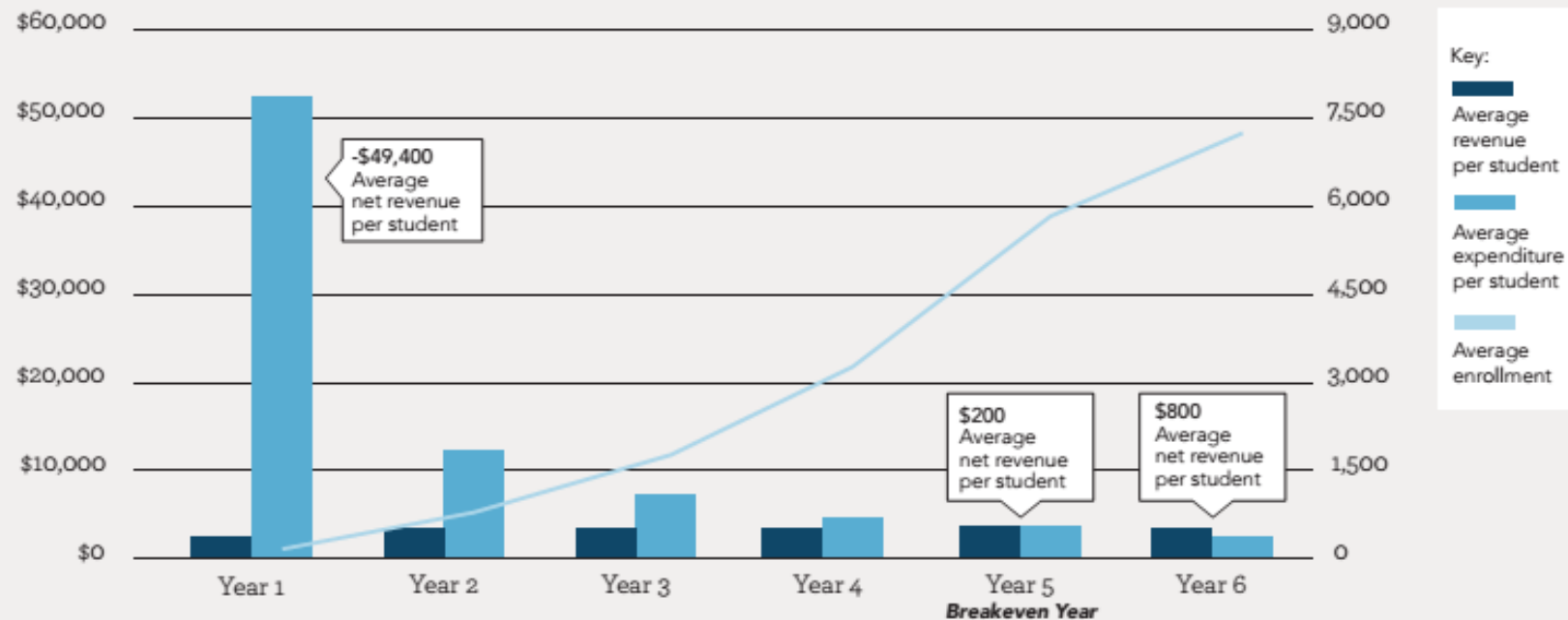
# Business Pro Formas – What's In It For Me?

- Pro Forma analysis benefits stakeholders
  - Sets an expectation for analysis
  - Creates milestones throughout the process –Go/No Go
  - Resources are identified up front to support the initiative
  - Creates accountability and transparency



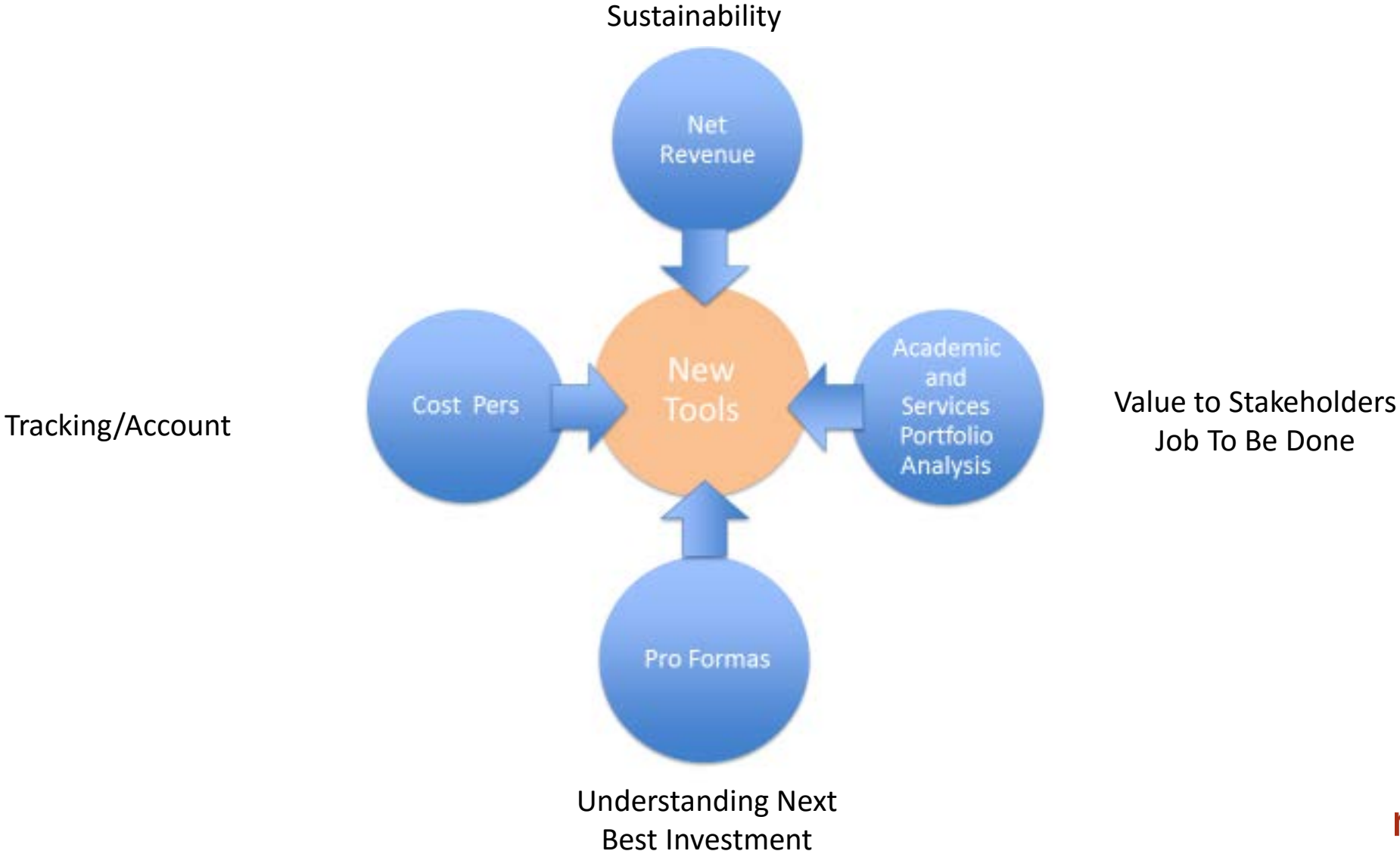
# Pro Forma Example – CBE and Annual Breakeven Point

Average CBE Net Revenue per Student, Expenditure per Student, Enrollment, and Breakeven Year, Four Institutions



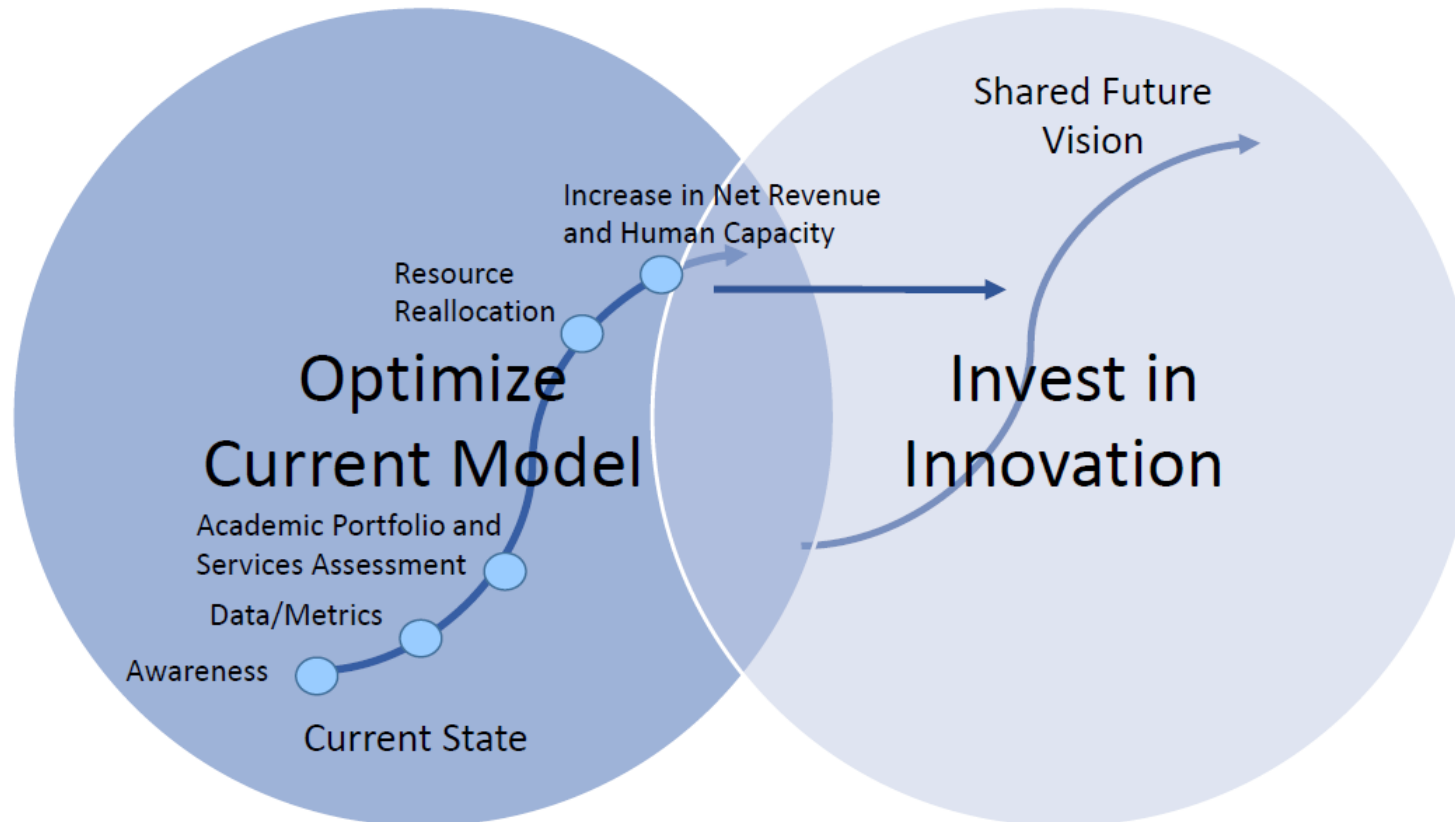
Note: The breakeven year reflects the first year that annual revenues per student exceed expenditures per student. The payback year (not shown) reflects the point where the total revenues since program launch exceed total expenditures (including initial investment and annual expenditures); the average payback in aggregate dollars occurs in Year Six (\$3.6 million).

# Creating a New Tool Box to Adopt a Return on Investment Lens



# How Can We Jump From One Curve to the Next?

## Harvesting Resources to Invest in Innovation



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# Roles and Responsibilities

- In what ways is the role of the board different under an ROI lens?
- How might the board and the state support investment in student success and the creation of sustainable financial models under an ROI approach?

# To continue the dialogue . . .

- Rick Staisloff, Principal

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