



Issues in Higher Education Pricing

Board of Regents
State of Iowa

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My Background

- Professor, Institute of Higher Education, University of Georgia. Teach classes in economics and finance of higher education, statistical analysis
- Ph.D. in Economics (focus: Finance and Econometrics)
- Also worked at University of Minnesota, University System of New Hampshire, Indiana University
- Consult with colleges on financial planning and faculty compensation issues

Areas of Research/Teaching

- Financial issues for colleges and universities
 - Pricing of higher education services
 - Financial health of institutions
 - Payoffs to students and society from college
- Student demand for higher education
 - How students make decisions about going to college
- Faculty compensation
 - Are faculty paid differently by gender, race, age?
 - How do faculty choose retirement plans?



Selected Observations on Iowa Public Institutions

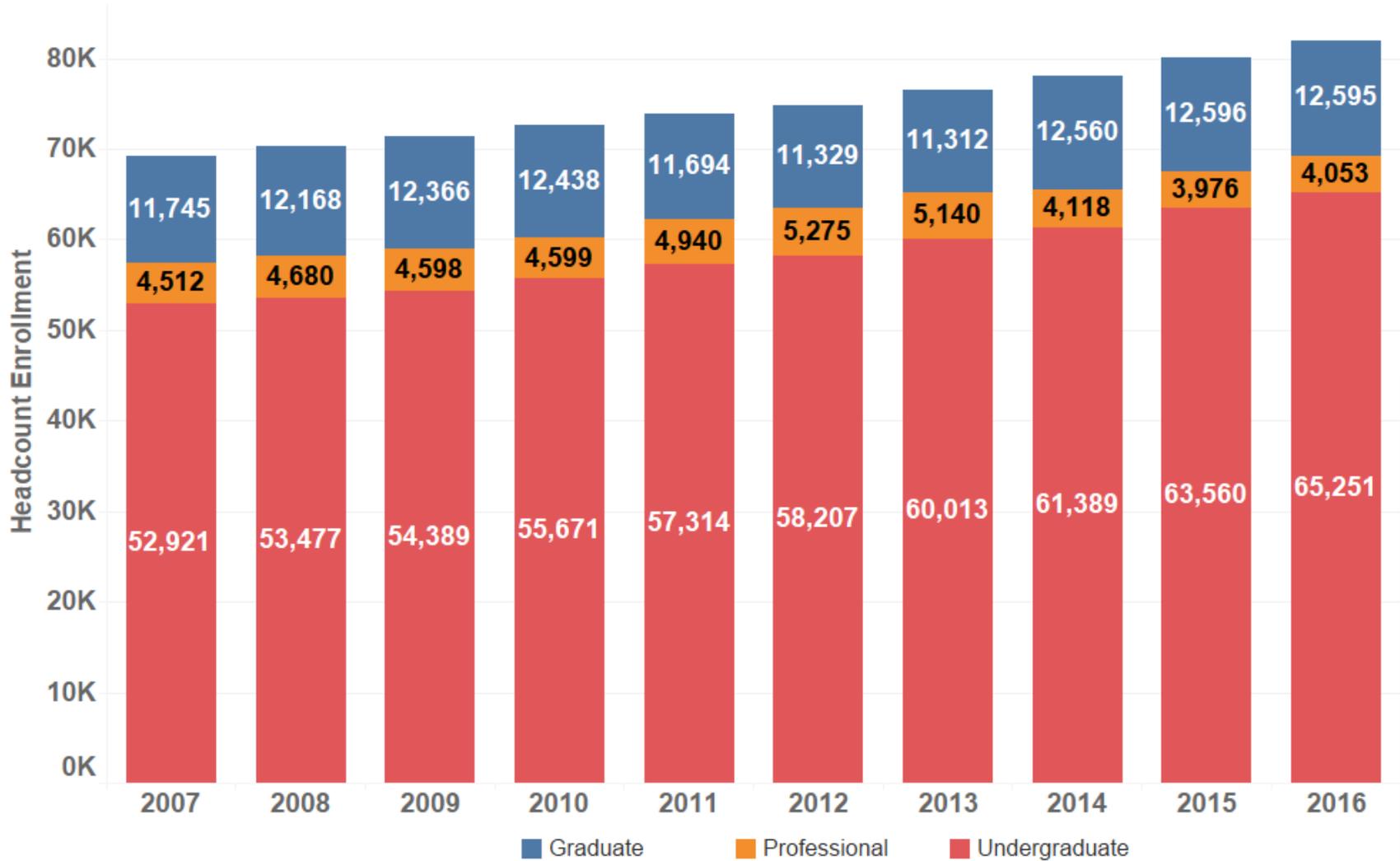
Strong Demand for Higher Education

Demand for public higher education in Iowa appears to be relatively strong

- Enrollments have trended upward for last 10 years
- Population growth projections for Iowa and several surrounding states is moderate to strong for the next 10 years

Iowa Public University Enrollments

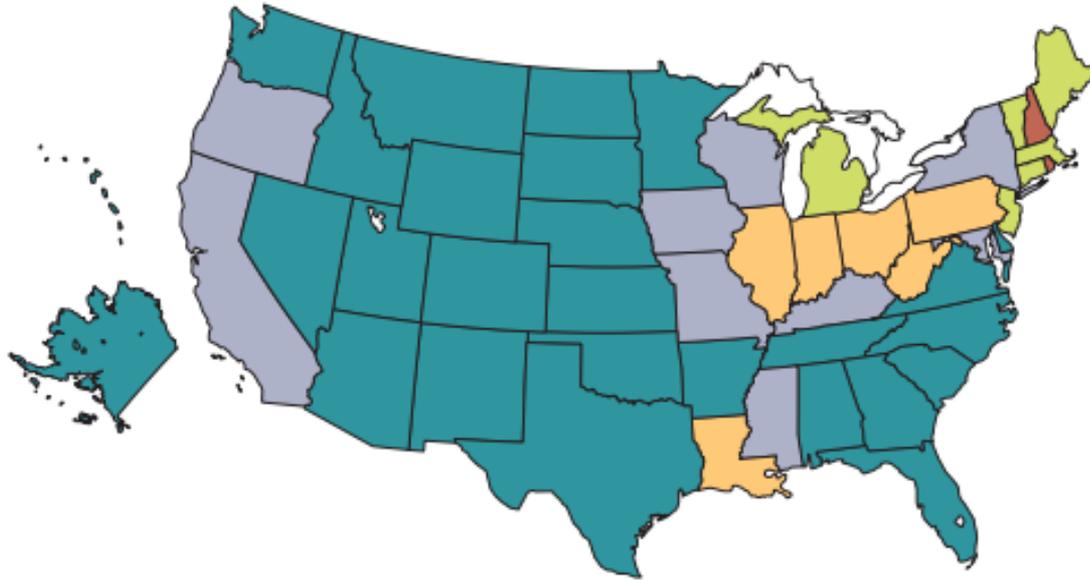
Headcount Enrollment by Education Level
Fall 2007 - Fall 2016



High School Graduate Projections

Areas of change over the next 10 years, 2014-24

Similar to the previous map, the map below shows the United States grouped in five categories to illustrate the coming demographic changes—except this map shows the changes over the next 10 years.



Key for both maps

- States that will have severe overall declines in high school graduates (decreases greater than or equal to 10 percent)
- States that will have a moderate overall decrease in high school graduates (decreases between 3 and 10 percent)
- States that will have a minimal overall change in high school graduates (less than 3 percent change, up or down)
- States that will have a moderate overall increase in high school graduates (increases between 3 and 10 percent)
- States that will have large overall increases in high school graduates (increases greater than or equal to 10 percent)

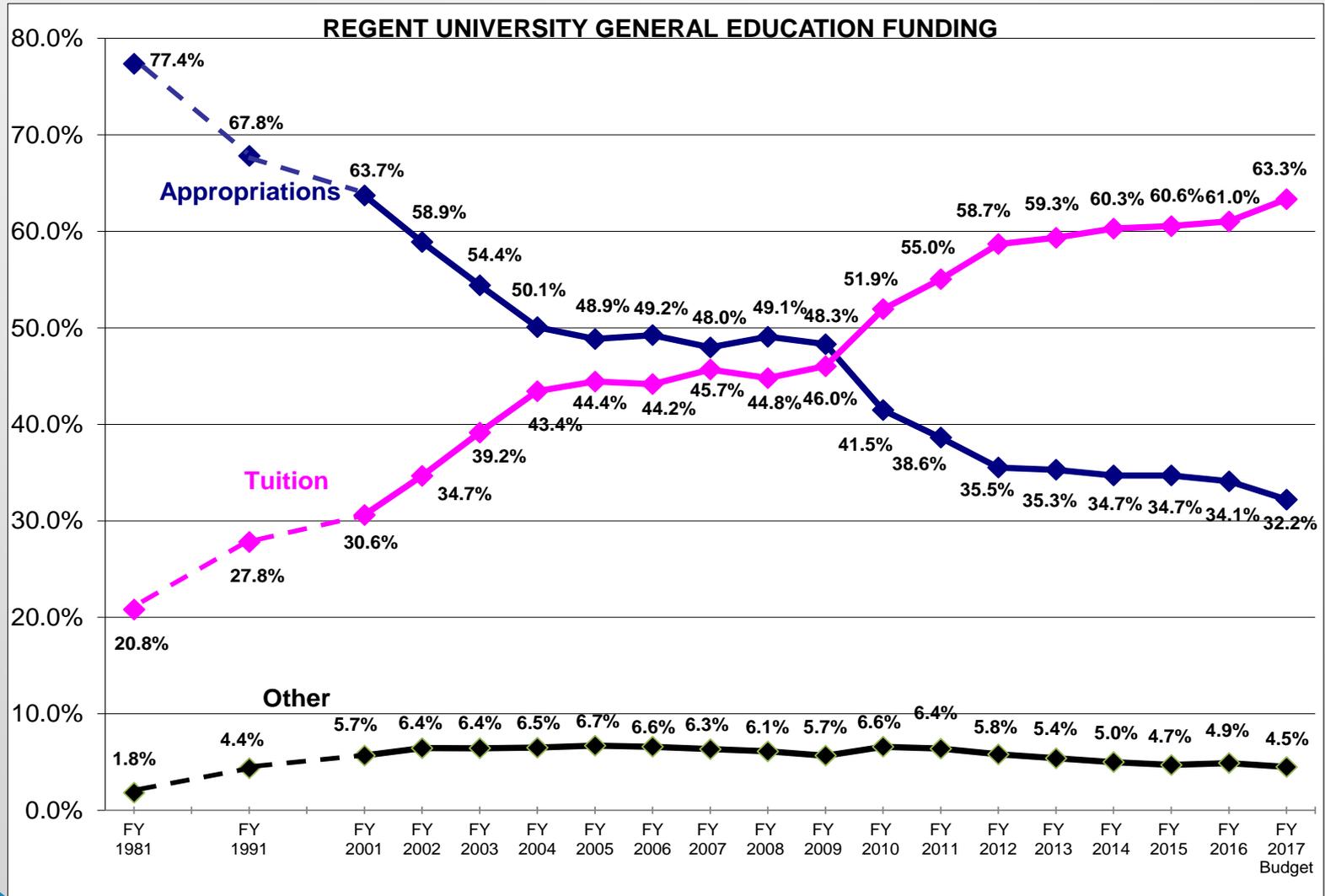
Data source: Brian T. Prescott and Peace Bransberger (2012). *Knocking at the college door: Projections of high school graduates* (eighth edition). Boulder, CO: Western Interstate Commission for Higher Education. Retrieved from <http://www.wiche.edu/pub/knocking-8th-and-supplements>

Financial Burden Shifting to Students

The burden for paying for higher education in Iowa's public institutions is moving away from government and towards students

- Prospects not good for large increases in state funding for higher education in near future
- However, the same trend is happening at competitor institutions as well as in Iowa

Changing Shares of General Education Revenues by Source in Iowa



Data are for SUI, ISU and UNI combined. *Source:* Board of Regents

Iowa's Prices are Competitive

- Gross prices at public institutions in Iowa are generally lower than competitors
- Combined with rising and strong demand for higher education means less urgency than in other states to increase financial aid to attract students

Resident Tuition and Fees at Regents Universities and Comparators, 2016-17

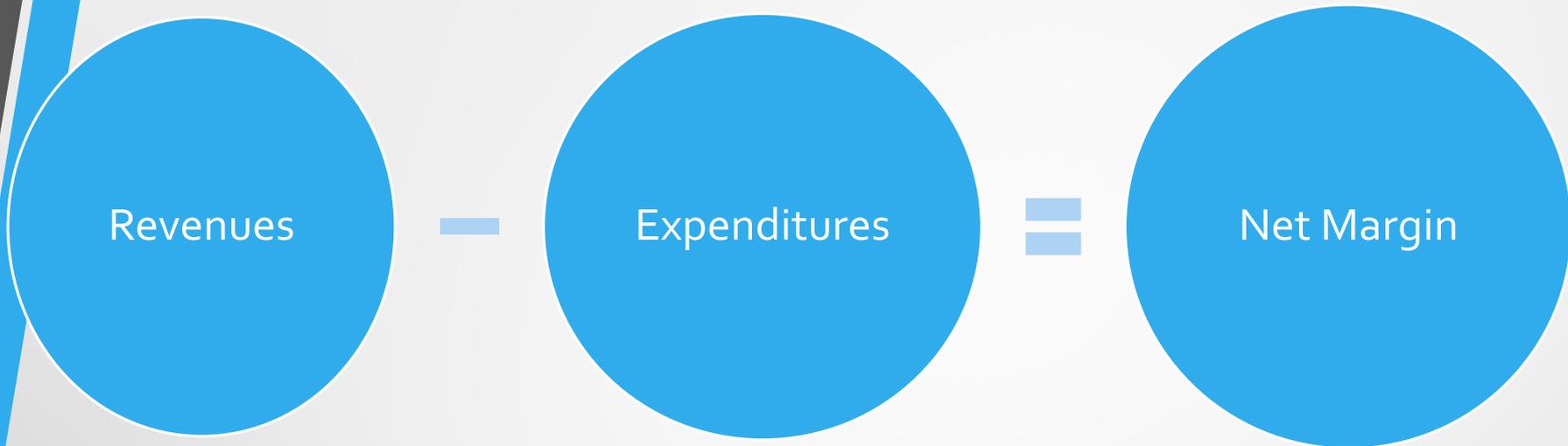
<u>University of Iowa</u>		<u>Iowa State University</u>		<u>University Northern Iowa</u>	
Illinois	\$15,698	Penn State	\$17,900	S Illinois - Edwardsville	\$13,663
Michigan	\$14,402	Illinois	\$15,698	UMass - Dartmouth	\$13,593
Minnesota	\$14,142	Minnesota	\$14,142	UM - Duluth	\$12,617
UCLA	\$12,920	Michigan State	\$14,063	College of Charleston	\$11,811
Arizona	\$11,769	UC - Davis	\$14,046	Eastern Illinois	\$11,580
Wisconsin	\$10,488	Wisconsin	\$10,488	Ferris State	\$11,138
Indiana	\$10,388	Ohio State	\$10,037	James Madison	\$10,390
Ohio State	\$10,037	Texas A&M	\$10,030	U Northern Iowa	\$8,309
Texas	\$10,144	Purdue	\$10,002	Western Washington	\$8,263
North Carolina	\$8,834	NC State	\$8,880	Truman State	\$7,456
Iowa	\$8,676	Iowa State	\$8,219	Marshall	\$7,154
Avg w/o SUI =	\$11,882	Avg w/o ISU =	\$12,529	Avg w/o UNI =	\$10,767

Non-resident tuition and fees at Iowa's Regents universities are also below comparator averages



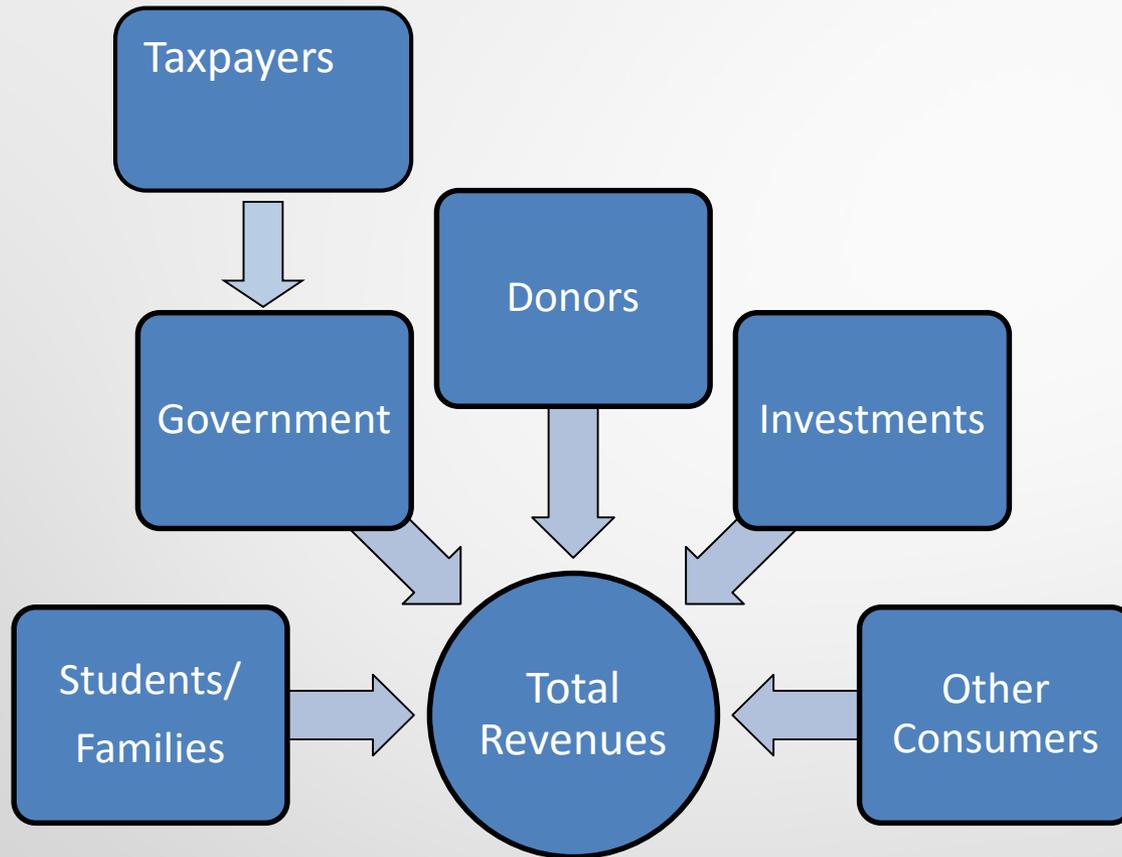
Overview of Higher Education Finances

Basic Depiction of Finances



- Revenues tend to fluctuate more than expenditures
- Public not-for-profit institutions can have a positive net margin, but average is close to zero
- Some revenues received at specific times (Fall, Spring) and not evenly throughout the year

Sources of Revenue



Ultimately,
most money
comes from
individuals

These
sources may
want
different
things for
their money

Notes on Revenues

- Public institutions rely heavily on net tuition and state appropriations to fund their activities
- State funding has generally failed to keep pace with higher education costs
- Because institutions have most control over tuition revenue, state funding shortfall has contributed to rising prices for students

Net Tuition Revenue

Net tuition revenue is determined by:

$$\text{Net Tuition Revenue} = \text{Net Price} \times \text{Enrollments}$$

where Net Price = Average price after institutional aid (grants, scholarships)

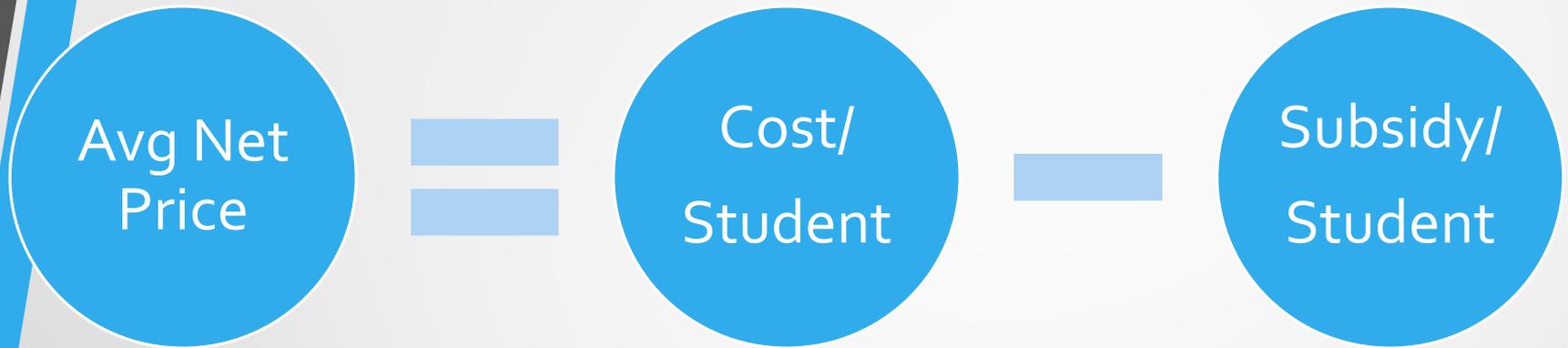
Enrollments = Number of students enrolled

Question: How is average net price determined?



Higher Education Pricing

Formula for Higher Education Pricing



- “Cost” = how much the institution spends to provide postsecondary ed services
- “Subsidy” = revenue from everyone except students and their families (state appropriations, donations, grants and contracts)

Notes on Net Price

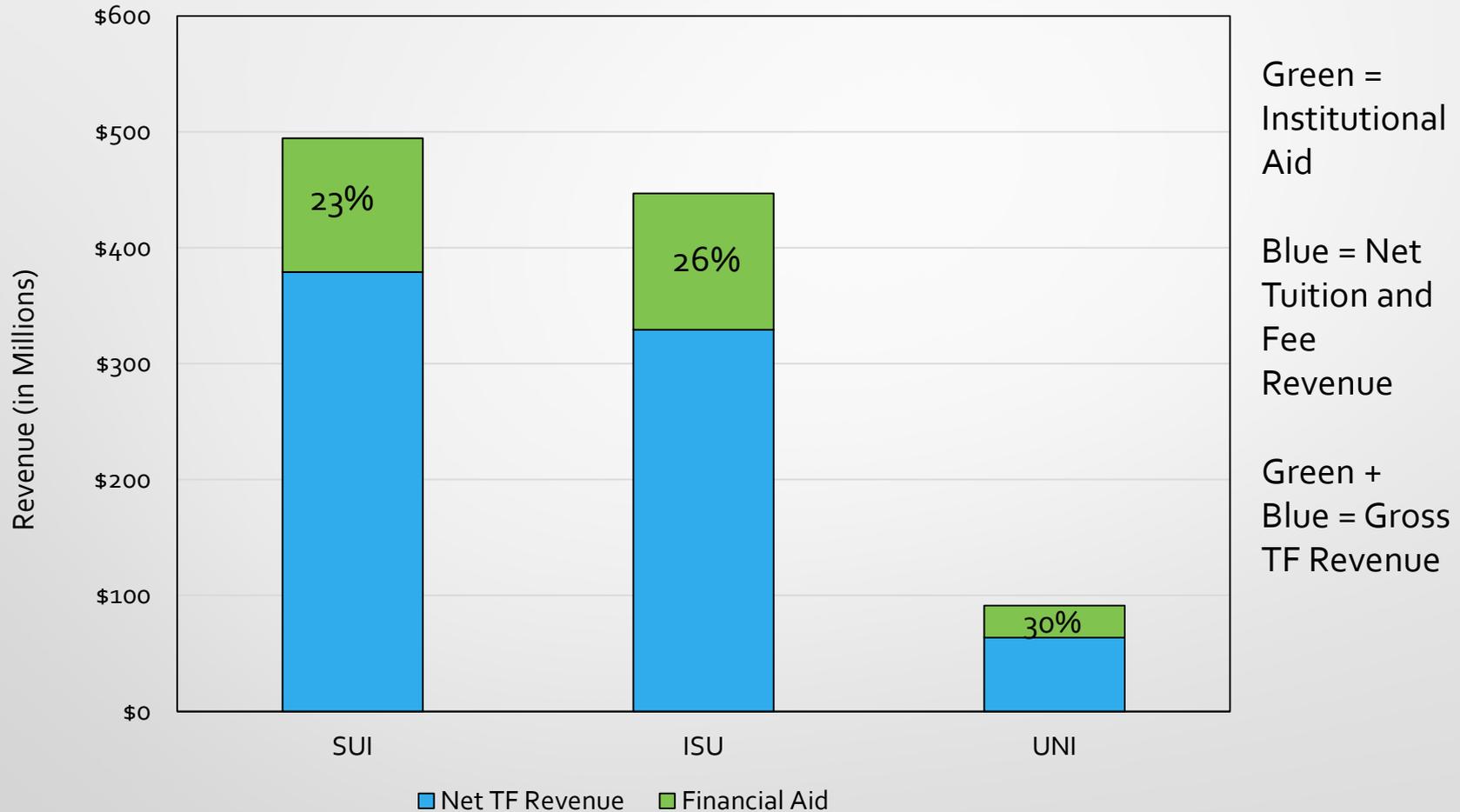
1. Net price is less than cost of service
 - Many factors affect the cost of education
 - Costs tend to be higher at research institutions
2. Net price rises when cost of service rises
 - Related to array of services and institutional mission
3. Net price rises when subsidies fall
 - Iowa higher ed appropriations fell from 11.1% of state budget in FY99 to 6.8% in FY17

Gross versus Net Price

Important to distinguish between gross and net price

- Gross price = posted or sticker price charged to students
- Net price = gross price minus institutional financial aid

Institutional Aid and Tuition and Fee Revenue, FY16



Sources: Audited financial statements for each institution

Models of Pricing and Financial Aid

1. Low price / low aid = use subsidies to keep gross prices lower, but provide less financial aid
2. High price / high aid = use subsidies to give more financial aid, but keep higher gross prices

Category	High Price/Aid	Low Price/Aid
Gross Price	\$40,000	\$24,000
- Fin Aid	\$20,000	\$4,000
= Net Price	\$20,000	\$20,000
Aid as % of Price	50%	17%

Three Main Pricing Goals

Institutions use pricing in the following three ways:

1. Bring in enough revenue to run their operations
2. Enroll a sufficient number of students to fulfill organizational functions
3. Enroll a mix of students who help the institution best achieve its mission

Prices and Tuition Revenue

As your institutions raise prices:

1. Some students will stay (+) } Gain
2. Some students will leave (-)
3. Some new students will not enroll (-) } Loss

Institutions with more applicants than spaces ("excess demand") would not lose new students

Price Differentiation

Colleges and universities compete for students in different markets – not all students are alike

Common to charge different prices to students:

1. State of residence (in-state vs. out-of-state)
2. Academic level (graduate vs. undergraduate)
3. Ability to pay (lower-income vs. upper-income)
4. Merit (high ACT/grades vs. lower ACT/grades)

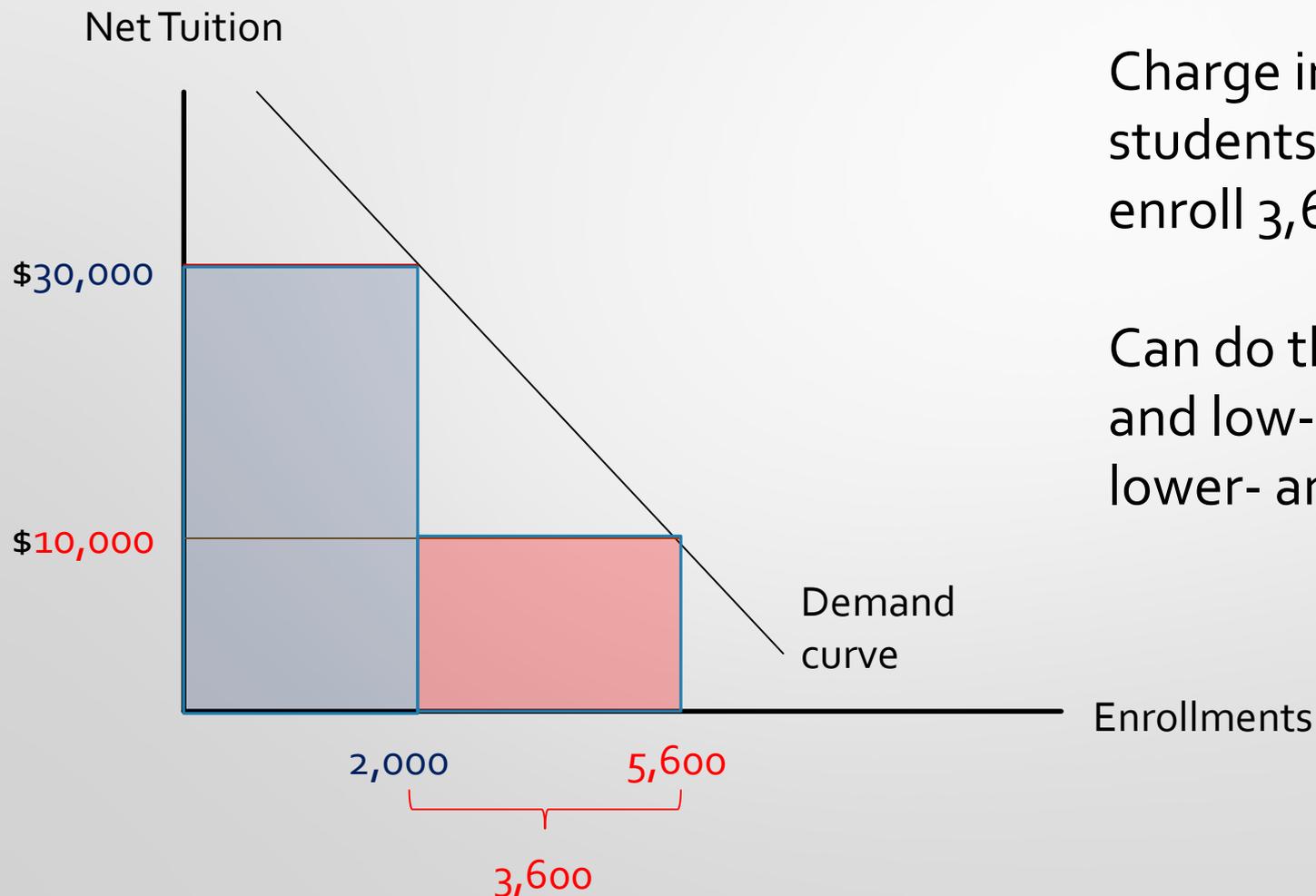
Average net price is a combination of all prices charged

Price Differentiation

Charge out-of-state students \$30,000 and enroll 2,000 students

Charge in-state (lowa) students \$10,000 and enroll 3,600 students

Can do the same for high- and low-ability students, lower- and upper-income





Markets in Higher Education

Higher Education Markets

- Colleges compete with each other in markets for students, financial resources, and human resources
- Markets consist of suppliers (colleges) and demanders (students and their families)
- Important for BOR to understand:
 - Supply Side: Who are your competitors? How much do they charge? What do they offer students?
 - Demand Side: What is your pricing strategy for different markets of students?

Identifying Competitors

With whom do your three institutions compete for students? Factors include:

1. Geographic proximity (markets mostly regional)
2. Selectivity / prestige
3. Mission and academic programs

Competitors for students may differ from comparators / peers / conference foes

Forms of Competition

1. Compete on price (gross and net)
 - Lower gross price may encourage applicants, but may also signal lower quality
 - Net price has more impact on enrollment decision than on application because it is not known until student is accepted
2. Perceived quality of education
 - Difficult to measure and change
3. Institutional amenities
 - Students are buying a bundle of services when they enroll
4. Locational attributes
 - Town/city offers positive and negative benefits to students

Ways to Help Identify Markets

1. Which institutions react to changes at your institutions?
Which institutions do yours follow?
2. Examine data on ACT score sending behavior (overlap institutions)
3. Work with high schools to see where students apply to college
4. Follow up survey of admitted students (and faculty) who do not enroll at your institutions – where do they go, and why

Concluding Comments

- Strategic pricing is an important function for governing boards
- Balance revenue concerns, equity, access, and competitiveness
- Pricing is a challenging exercise – no simple answers for how to do it