

Overview¹

This industry includes public and private universities and colleges *in the United States* that offer academic courses and grant baccalaureate and graduate degrees. The requirement for admission is a high school diploma or equivalent general academic training. Instruction is typically provided on physical campuses, although online education and other unorthodox settings are gaining popularity. This industry does not include for-profit institutions or community colleges.

Key Statistics

Current Number of Public and Private Universities in the US: 1,950

2012 – 2017 Average Annual Revenue Growth: 3.0%

2017 – 2022 Projected Average Annual Revenue Growth: 2.5%

2017 – 2022 Projected Average Annual Enrollment Growth: 1.4%

Key External Drivers

- Number of College Students
- S&P 500
- Government Funding for Universities
- National Unemployment Rate
- High School Retention Rate

Discussion of Tuition Related External Drivers¹

Number of College Students

Industry institutions generate a substantial portion of total industry revenue from tuition and other academic fees. Therefore, as the number of college students paying these fees increases, revenue for colleges and universities increases as well. Overall, enrollment in industry institutions is expected to increase at an annualized rate of 1.4% over the next five years.

High School Retention Rate

An increase in the number of students graduating from high school directly correlates with growth in the number of college freshmen. Higher freshmen enrollment typically results in greater revenue from tuition. The high school retention rate is expected to remain relatively unchanged in 2017.

Tuition and Enrollment Trends at the National Level¹

Many institutions increased tuition fees during the five-year period of 2012 – 2017 to make up for declining government funding. According to data from the National Center for Education Statistics, public institutions increased tuition fees at an annualized rate of 3.3% over the past five years, while nonprofit private institutions raised tuition an annualized 5.8% during the same period. This trend, coupled with the steady increase in college enrollment that has occurred in recent years, helps to explain why industry revenue increased during this period despite limited levels of government funding. Moreover, increasing per capita disposable income and a declining national unemployment rate has made a college education financially viable for more students.

In addition to these improvements in the domestic market for higher education, industry institutions have also benefited substantially from increased demand from foreign students. Whereas just 545,256 international students were enrolled in industry institutions during the 2011 – 2012 academic year, an estimated 786,193 students were enrolled during the 2016 – 2017 academic year, according to data from the Institute of International Education. This trend is expected to continue over the five years to 2022 as US institutions are extremely competitive on a global scale, occupying many of the top spots in world university rankings. Moving forward, enrollment trends will likely continue to drive industry growth, both because demand from international students is relatively unaffected by fluctuations in endowment investments and government funding and because the overall economic climate is expected to continue improving in coming years. In coming years, US universities and colleges will likely make education more accessible to international students by expanding their use of distance education technologies, developing links with other colleges across the world, and improving their marketing efforts.

Demand Determinants¹

The affordability of a college education has a significant impact on industry demand. Tuition costs and household income determine affordability, and higher tuition typically decreases demand for postsecondary education. On an individual basis, a person's ability to forgo or endure reduced income from paid employment can influence the decision to go to school. This is particularly true of mature students who are returning to school after participation in the workforce. Per capita disposable income has increased at an annualized rate of 1.4% over the five years to 2017, while the national unemployment rate has experienced a significant decline during this same period, both of which indicate that US consumers have more money to spend on higher education. However, tuition and school fees have also risen substantially in recent years. As a result, total enrollment in industry institutions has increased at an annualized rate of just 0.5% over the past five years.

In some cases, scholarships, grants, and other financial aid can offset tuition expenses. This assistance is typically provided by an individual institution, but state and federal governments also offers significant financial aid to certain students and hope of fostering a well-educated population. The majority of federal and state government aid is directed toward students from low-income households. However, this assistance is rarely a blank check, and very few US students experience a college education that is truly free. In fact, about 70 % of federal student aid comes in the form of student loans, while just 30% comes from federal grants that do not have to be repaid, according to data from the National Center for Education Statistics. Additionally, overall government funding for universities has declined in recent years, which has caused many schools to increase the cost of tuition. This trend has likely weakened growth in total enrollment and demand for industry services during the past five years.

The Multivariate Relationship between Tuition and Enrollment²

Price elasticity is an economic term used to represent the responsiveness of demand to a change in price. Elastic indicates that demand changes when the price is changed; conversely, inelasticity occurs when the price changes, yet demand remains constant. Although for some

luxury goods, increased price could mean increased demand, people most often think of elastic in terms of demand decreasing as price is increased. This latter form of elasticity is of the most concern to school leaders, since many contemplate at what point rising tuition will restrict the market such that their enrollments cannot be sustained.

To consider only the relationship between tuition and enrollment is far too simplistic for an informed understanding of a school's tuition elasticity. Instead, it must be understood from a multivariate perspective. A variety of factors impact elasticity of demand for tuition, *and these factors tend to vary from school to school.*

Price Competition in Higher Education³

More and more colleges are beginning real sticker price competition. "Seeking students, public colleges cut out-of-state prices," reads a headline in Sunday's *Columbus Dispatch*, telling how Mississippi State, along with dozens of other schools, are dropping out-of-state tuition surcharges in order to raise enrollments. Why now and not a decade or two ago? Until the last five years, enrollments generally were rising in the U.S., along with state subsidies of public institutions. Now, in a period of declining demand and actual significant enrollment declines at a large number of state institutions, some colleges think by ending the large out of state surcharges, enrollments will surge and institutional finances will improve.

For the latter to happen, however, what economists call "the price elasticity of demand" must be substantial. Suppose a school charges out-of-state students \$12,000 and in-state students \$8,000 annually. Suppose it ends the \$4,000 surcharge on out-of-state students, and that before ending that surcharge the school had 1,000 out-of-state attendees, meaning it was taking in \$12 million in tuition revenue from out-of-state students (assume no tuition discounting). After the price cut for out-of-state students, it must enroll 1,500 of those students to raise the same \$12 million. In other words, cutting tuition fees by 33 percent must lead to at least a 50 percent increase in out-of-state enrollees for it to be revenue neutral.

Moreover, as out-of-state enrollments rise (by 500 in this example), there should be some increase in costs—the marginal cost of educating one more student may be low (as most classes can stand some increase in size without adding instructors), but it is certainly not zero. Suppose that marginal cost is a very low \$2,000 per student per year—\$1 million for the 500 students added in the above example. For the university to find tuition reduction actually financially profitable, out-of-state enrollment would have to rise by nearly 700 students—70 percent—implying an extremely high sensitivity of students to price.

Price resistance is rising in higher education, and it is greatest among relatively lower income students who know that their high school record suggests the probability of collegiate academic success is pretty low. College is a gamble, and whether it is a gamble worth taking depends mightily on price.

Sources

¹ IBIS World Industry Report 61131a Colleges and Universities in the US, November 2017.

² Tuition Elasticity: The Multivariate Relationship between Tuition + Enrollment, Stephen P Robinson (<https://enrollment.org/theyield/item/146-tuition-elasticity-the-multivariate-relationship-between-tuition-enrollment>)

³ Price Competition Comes to Higher Education, Forbes, November 28, 2016 (<https://www.forbes.com/sites/ccap/2016/11/28/price-competition-comes-to-higher-education/#7e1b1524192b>)