ISIC 8530 – Higher Education

39th Meeting of the Voorburg Group on Services Statistics

Copenhagen, Denmark

September 2025

Jason Carnival

Christine Darabaris

Allison Ramage

U.S. Bureau of Labor Statistics

Paper approved for release September 9, 2025

Contents

1. Description and Characteristics of the Industry

1.1 Definition of the Industry

ISIC class **8530, Higher Education,** and its North American Industry Classification System (NAICS) counterparts (611210 and 611310) are defined in the tables below.

This report will refer to the industry as "Postsecondary Education," "Higher Education" or by the Bureau of Labor Statistics (BLS) created NAICS code "611810" that combines NAICS 611210 – Junior Colleges and NAICS 611310 – Colleges, Universities, and Professional Schools.

Table 1. Industry Classification and Definition

<table>
<tr><th>ISIC Rev. 4 Class</th><th>NAICS 2022</th></tr>
<tr><td>8530 – Higher Education</td><td>611210 – Junior Colleges</td></tr>
<tr><td>This class includes the provision of post-secondary non-tertiary and tertiary education, including granting of degrees at baccalaureate, graduate or post-graduate level. The requirement for admission is at least a high school diploma or equivalent general academic training. Education can be provided in classrooms or through radio, television broadcast, Internet or correspondence.

This class includes:
- post-secondary non-tertiary education
- first stage of tertiary education (not leading to an advanced research qualification)
- second stage of tertiary education (leading to an advanced research qualification)
- performing arts schools providing higher education

This class excludes:
- Adult education, see 854</td><td>This industry comprises establishments primarily engaged in furnishing academic, or academic and technical, courses and granting associate degrees, certificates, or diplomas below the baccalaureate level. Junior colleges include both private (for-profit and not-for-profit) and public institutions offering diplomas and certificates below the baccalaureate level. Private junior colleges rely heavily on tuition and fees to operate while public junior colleges generate revenue through a mixture of government funding (local, state, and federal), private sources, and tuition and fees. Junior colleges are mostly designed to serve the local community in which they operate. Community colleges offering associate degrees are classified as junior colleges.

611310 – Colleges, Universities, and Professional Schools

This industry comprises establishments primarily engaged in furnishing academic courses and granting degrees at baccalaureate or graduate levels. NAICS 611310 includes both private (for-profit and not-for-profit) and public institutions offering diplomas at the baccalaureate and graduate levels. Private institutions generate revenue from tuition and fees, investment returns, federal appropriations and grants, and gifts and contributions. Similarly, public colleges, universities, and professional schools generate revenue from tuition and fees; local, state, and federal appropriations and grants; gifts and contracts; as well as ancillary enterprises and hospitals. Many institutions in this industry offer room and board services, and a broad array of academic and non-academic services for students.</td></tr>
</table>

1.2 Market Conditions and Constraints

Industry Size and Concentration

The US Economic Census, the primary source of revenue data for the BLS Producer Price Index (PPI) weights, does not collect data for NAICS 611210 – Junior Colleges or NAICS 611310 – Colleges, Universities, and Professional Schools, or their detailed service lines. As a solution to this problem, BLS obtained revenue data from the U.S. Department of Education's National Center for Education Statistics (NCES).

Table 2: Industry Revenue

	Value of sales, shipments, receipts, revenue ($000s)			Percent of Postsecondary Sector		
NAICS Level	**2012**	**2017**	**2022**	**2012**	**2017**	**2022**
NAICS 611810 - Postsecondary Education*	495,894,241	635,077,913	692,031,790	100.0%	100.0%	100.0%
NAICS 611210 - Junior Colleges	61,874,358	58,700,151	65,522,677	12.5%	9.2%	9.5%
NAICS 611310 - Colleges, Universities, and Professional Schools	434,019,883	576,377,762	626,509,112	87.5%	90.8%	90.5%

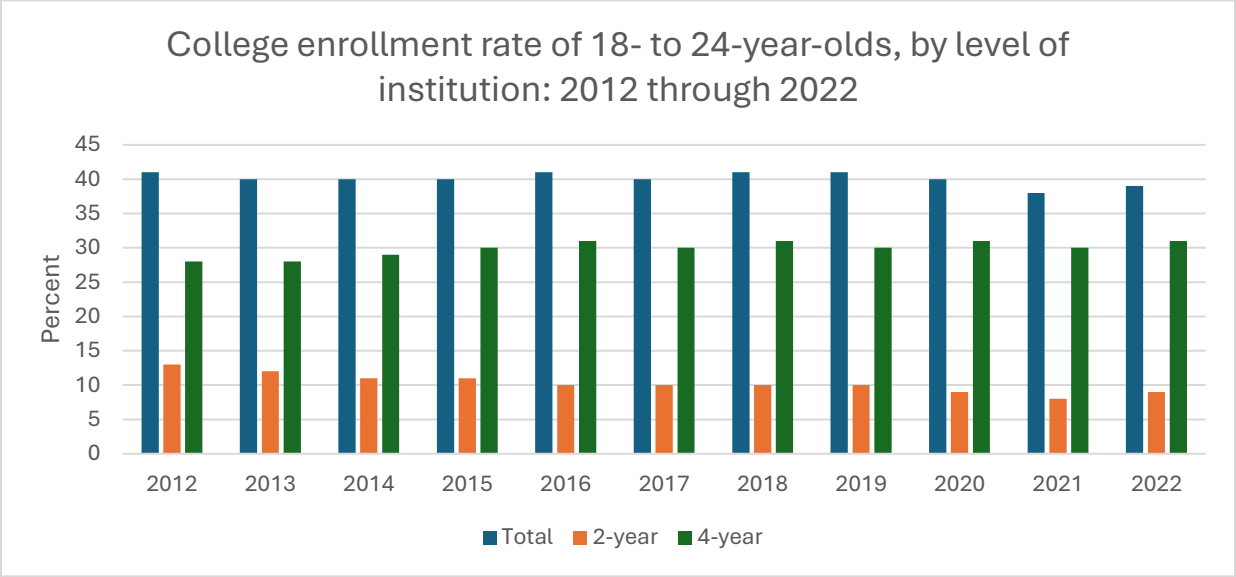
Source: *Digest of Education Statistics* - *tables 333.10, 333.40, and 333.55*, US Dept of Education, National Center for Education Statistics (NCES)
**BLS-created NAICS*

Revenue for postsecondary education increased robustly between 2012 and 2022. According to NCES, the overall college enrollment rate for 18- to 24-year-olds was 39 percent in 2022. This was a slight drop from a decade earlier in 2012, when the overall enrollment rate was 41 percent.[1]

However, there is ongoing concern across the industry as the U.S. will hit its peak number of high school graduates in 2025, followed by a period of steady decline. This is commonly referred to as the "enrollment cliff." There is a focus on stemming the impending decline in enrollment by increasing the percentage of high school graduates who pursue postsecondary education, but that strategy presents its own challenges as the trend of high school graduates who immediately enroll in postsecondary education has declined from 66% in 2012 to 62% in 2022[2].

[1] https://nces.ed.gov/programs/coe/indicator/cpb/college-enrollment-rate
[2] Lane, P., Falkenstern, C., & Bransberger, P. (2024). Knocking at the College Door: Projections of High School Graduates. Western Interstate Commission for Higher Education. https://www. wiche.edu/knocking.

Chart 1: College enrollment rate of 18- to 24-year-olds, by level of institution: 2012 through 2022



Source: *Digest of Education Statistics* - table 302.60, US Dept of Education, National Center for Education Statistics (NCES)

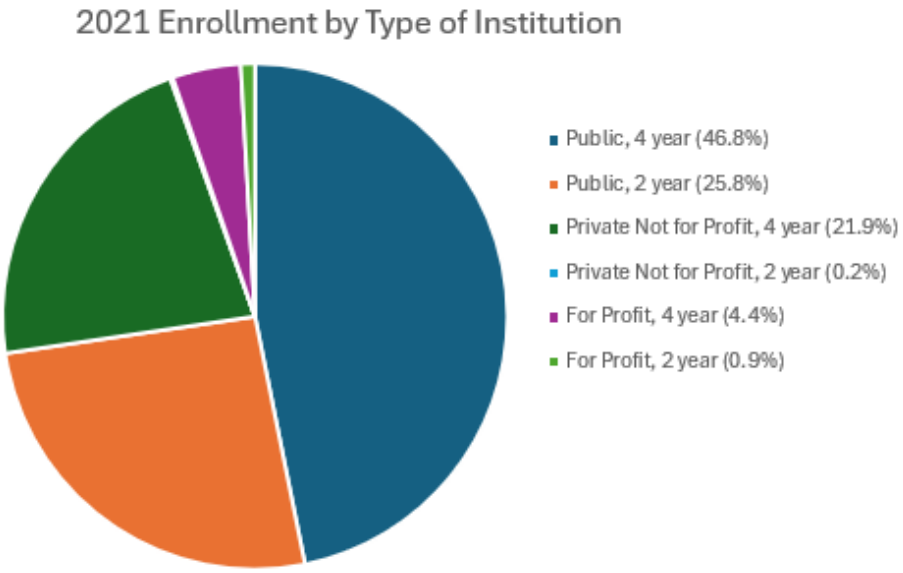
As shown in Table 3, approximately two-thirds of postsecondary institutions are classified as 4-year colleges and universities while the remaining third are 2-year institutions classified as junior colleges. Despite accounting for only two-thirds of the institutions, 4-year colleges and universities account for over 90% of the revenue generated by the higher education industry as seen in Table 1. Enrollment is also higher at 4-year colleges and universities than 2-year ones (see Chart 2 and Table 4). Nearly three-quarters (73.1%) of students in 2021 were enrolled in a 4-year institution, and almost half (46.8%) were enrolled in a public 4-year college or university.

Table 3: Number of Institutions by Type

Number of Institutions by Type				
Type of Institution	**2012**	**2017**	**2022**	**% change 2012-2022**
Public 4-year	682	737	756	10.9%
Private not-for-profit 4-year	1,553	1,581	1,541	-0.8%
Private for-profit 4-year	733	514	322	-56.1%
Total 4-year institutions	**2,968**	**2,832**	**2,619**	**-11.8%**
4-year institutions as % of total	63%	65%	67%	
Public 2-year	967	886	826	-14.6%
Private not-for-profit 2-year	100	101	85	-15.0%
Private for-profit 2-year	671	541	369	-45.0%
Total 2-year institutions	**1,738**	**1,528**	**1,280**	**-26.4%**
2-year institutions as % of total	37%	35%	33%	
Total all institutions	**4,706**	**4,360**	**3,899**	**-17.1%**

Source: *Digest of Education Statistics* - table 317.10, US Dept of Education, National Center for Education Statistics (NCES)

Chart 2: 2021 Enrollment by Type of Institution



Source: *Digest of Education Statistics* - table 317.40, US Dept of Education, National Center for Education Statistics (NCES)

Table 4: Total Enrollment by Institution Type, 2021

Total Enrollment by Institution Type, 2021			
	4-year	**2-year**	***Total***
Public	8,718,642	4,813,229	*13,531,871*
Private not-for-profit	4,073,945	31,742	*4,105,687*
Private for-profit	815,514	168,001	*983,515*
Total	*13,608,101*	*5,012,972*	*18,621,073*

Source: *Digest of Education Statistics* - table 317.40, US Dept of Education, National Center for Education Statistics (NCES)

Industry Regulation

The U.S. Department of Education is responsible for enforcing laws such as the Higher Education Act of 1965, as well as educational policies set forth by the U.S. Congress, to ensure that all postsecondary students receive equal access to higher education opportunities.

The Office of Postsecondary Education (OPE) formulates federal postsecondary education policy including policy relating to the federal student financial assistance programs.

Under the Higher Education Act, the Department of Education recognizes accrediting agencies that the Secretary of Education determines to be reliable authorities as to the quality of education or training provided by institutions of higher education, and the Department publishes a list of nationally recognized accrediting agencies.

College accreditation ensures that institutions of higher education meet acceptable levels of quality. In the United States, accreditation involves non-governmental entities as well as federal

and state government agencies. The United States has no centralized authority exercising single national control over postsecondary educational institutions. The individual states assume varying degrees of control over education, but, in general, institutions of higher education are permitted to operate with considerable independence and autonomy. As a consequence, American educational institutions can vary widely in the character and quality of their programs.

To ensure a basic level of quality, the practice of accreditation arose in the United States as a means of conducting non-governmental, peer evaluation of educational institutions and programs. Private educational associations of regional or national scope have adopted criteria reflecting the qualities of a sound educational program and have developed procedures for evaluating institutions or programs to determine if they are operating at basic levels of quality.

Product Structure

Value of shipments (VOS)/revenue data for the detailed service lines of NAICS 611210 and NAICS 611310 are obtained from the US Department of Education's National Center for Education Statistics (NCES). Tables 5 and 6, respectively, include the major sources of revenue in the two industries that comprise NAICS 611810 and their share of revenue from the NCES 2022 Digest of Education Statistics. For both, primary service revenue received for the provision of academic services includes tuition and fees (out-of-pocket); government appropriations - which supplement and are applied to tuition and fees; sales and services of educational activities; and sales and services of auxiliary enterprises. These sources account for over 80% of industry revenue. Secondary sources of revenue from institution-affiliated hospitals, investment returns, and miscellaneous revenue drive the remainder.

Note that even though hospital revenue is included in the following tables, BLS excludes it from the PPI for NAICS 611810 since it is captured in the PPI for NAICS 622110 – General Medical and Surgical Hospitals.

Table 5: Major Service Lines and Revenue for NAICS 611210

Major Service Lines NAICS 611210 - Junior Colleges	Revenue ($000s)	Service line revenue as % of total revenue of all establishments (%)
Industry total	65,522,677	100.0%
Tuition and fees (out of pocket)	10,339,011	15.8%
Federal appropriations, grants, and contracts	16,753,004	25.6%
State and local appropriations, grants, and contracts	32,050,216	48.9%
Private gifts, grants, and contracts	404,583	0.6%
Sales and services of educational activities	1,004,488	1.5%
Sales and services of auxiliary enterprises	937,940	1.4%
Hospital revenue*	-	0.0%
Investment return (gain or loss)	(426,751)	-0.7%
Other revenue**	4,460,187	6.8%

Source: *Digest of Education Statistics*, National Center for Education Statistics (NCES)
* Revenue captured in NAICS 622110 – General Medical and Surgical Hospitals
** includes all revenue not reported elsewhere

Table 6: Major Service Lines and Revenue for NAICS 611310

Major Service Lines NAICS 611310 - Colleges, Universities, and Professional Schools	Revenue ($000s)	Service line revenue as % of total revenue of all establishments (%)
Industry total	626,509,112	100.0%
Tuition and fees (out of pocket)	168,016,430	26.8%
Federal appropriations, grants, and contracts	107,249,448	17.1%
State and local appropriations, grants, and contracts	87,547,888	14.0%
Private gifts, grants, and contracts	49,277,407	7.9%
Sales and services of educational activities	40,264,993	6.4%
Sales and services of auxiliary enterprises	45,948,888	7.3%
Hospital revenue*	112,242,422	17.9%
Investment return (gain or loss)	(38,100,582)	-6.1%
Other revenue**	54,062,220	8.6%

Source: *Digest of Education Statistics*, National Center for Education Statistics (NCES)
* Revenue captured in NAICS 622110 – General Medical and Surgical Hospitals
** includes all revenue not reported elsewhere

1.3 Specific Characteristics of the Industry

The primary role of postsecondary education is to furnish academic courses and grant degrees.

Associate degrees often require two to three years of full-time study for completion. They usually require a high school diploma or passed General Education Development test to enroll, and are awarded by community colleges, junior colleges, technical colleges, and some universities. It is considered higher than a high school diploma but lower than a bachelor's degree.

Baccalaureate or Bachelor's degrees often require four years of full-time study for completion. Undergraduate degrees usually require a high school diploma or passed General Education Development test as well as the completion of a qualifying admittance exam (Scholastic Aptitude Test (SAT) or ACT) for entrance. Many schools stopped requiring these exams during the COVID-19 pandemic and 80% of colleges did not require them for the 2025 admissions cycle[3].

Master's degrees often require one to two years of full-time study beyond the baccalaureate degree for completion. These graduate programs usually require a bachelor's degree and the completion of a qualifying admittance exam (Graduate Record Examination (GRE) or Graduate Management Admission Test (GMAT)) for entrance. Graduate schools have also relaxed entrance exam requirements since the onset of the COVID-19 pandemic.

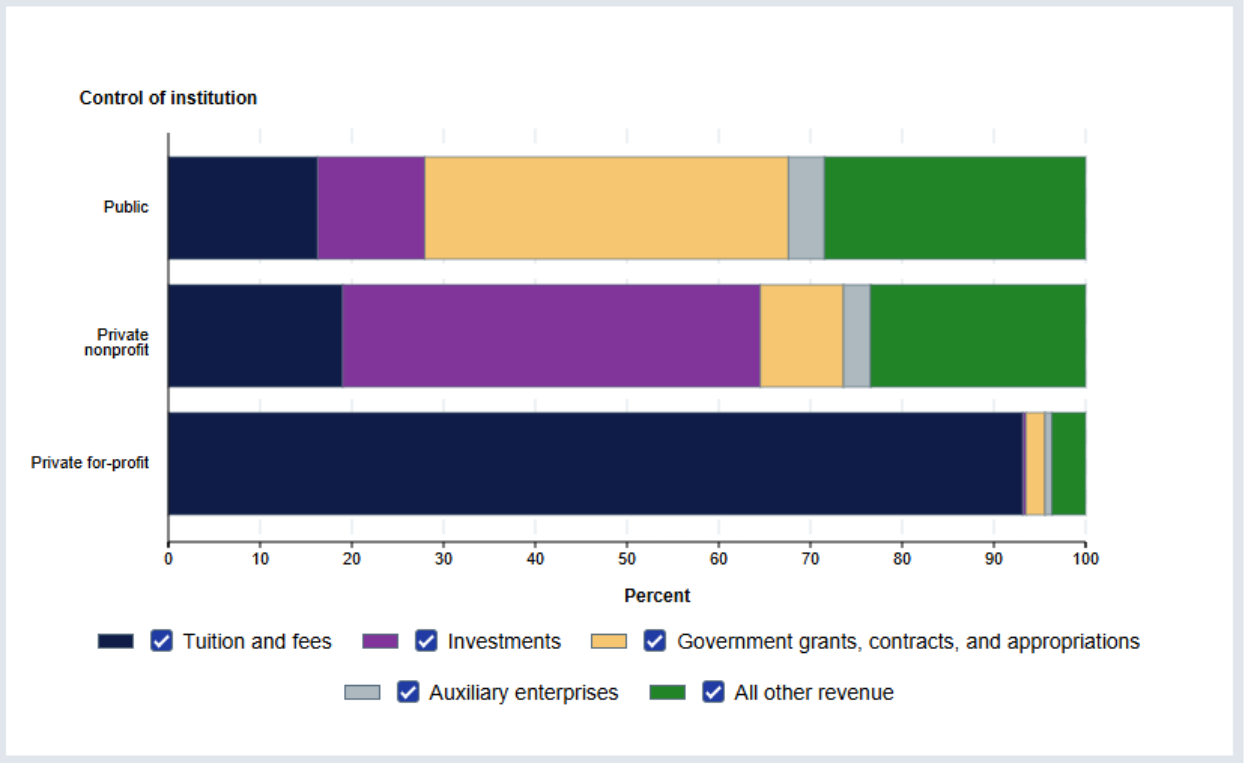
Doctoral degrees include professional doctorates such as the Doctor of Medicine and the Doctor of Jurisprudence, and research doctorates such as the Doctor of Philosophy. Research doctorates often require the acquisition of a master's degree, either before entry or in the course of the

[3] *Some Colleges Are Requiring Test Scores Again: What it Means for Applicants*, U.S. News and World Reports. https://www.usnews.com/education/best-colleges/applying/articles/some-colleges-are-requiring-test-scores-again-what-it-means-for-applicants

doctoral study. A further requirement in receiving a doctorate degree (particularly the research doctorates) can be the performance of independent scholarly research (e.g. a thesis) that contributes to the field of study. The time required to complete a doctorate can vary but typically takes around six years according to the National Science Foundation's Survey of Earned Doctorates[4].

Postsecondary education is characterized by multiple revenue streams for the same service. Presented in Chart 3 are distributions of total revenues by type of institution – public, private nonprofit, and private for-profit. For public institutions, the largest portion of revenue comes from state and federal governments in the form of appropriations or grants and contracts. For the purposes of the U.S. PPI, all revenue received for academic services is treated as a single type of revenue, regardless of source or whether public or private because it is all paid for the same service.

Chart 3: Percentage Distribution of Total Revenues by Type of Degree-Granting Postsecondary Institution: Fiscal year 2020-21



Source: *Digest of Education Statistics* - tables 333.10, 333.40, and 333.55. National Center for Education Statistics (NCES), Finance component.

When it comes to the amount that students pay for academic services, institutions engage in significant price discrimination. While institutions know how much it typically costs to educate a student, there is no "typical" price that students pay; and it is possible that every student at a specific institution could be paying a slightly different amount. With public institutions, some of the

[4] National Science Foundation, *Survey of Earned Doctorates*, 2023, https://ncses.nsf.gov/pubs/nsf24300/report/path-to-the-doctorate#time-to-degree

price discrimination is due to the residency status of the student, with in-state students being charged lower tuition. State appropriations to colleges and universities are largely dependent on the number of in-state students enrolled at a specific institution. State appropriations can heavily subsidize the out-of-pocket tuition cost, substantially lowering the amount that in-state students pay directly.

Price discrimination also takes the form of scholarships or financial aid awarded by the institution. There are two main types of financial aid: funded vs. unfunded. Funded aid refers to a scholarship that is tied to a funding source, such as a government grant (federal, state, local), and is awarded by the university. Examples include Pell Grants, Leveraging Educational Assistance Partnerships (LEAP) state grants, and merit scholarships. Unfunded aid, on the other hand, does not have a funding source nor does it result in any revenue for the institution, it is merely a discount offered by the institution to attract additional enrollees. For example, to bring in top students from out-of-state, a university may offer such students in-state tuition. The funded aid is directly captured and included in the revenue portion of the price calculation for the PPI since the money is realized by the institution. Unfunded aid is indirectly accounted for in the unit price as the students receiving this aid are included in the number of FTE students. External scholarships and private financial aid are directly captured as tuition revenue paid by the student.

2. Measurement of PPI

2.1 General Framework

The U.S. PPI classifies revenue for postsecondary education according to the service for which it is received. The services provided by institutions in this industry are divided into two main service lines: academic services and non-academic services. In the U.S. PPI, “Tuition and fees” refers to all the revenue an institution receives for providing academic services and includes government appropriations, contracts, and grants, as well as the tuition money paid by a student. Regardless of payer, if money is received by an institution in exchange for furnishing academic services – such as teaching a class, awarding a degree, hosting a conference, or researching a specific issue – it falls under the service line category of “tuition and fees”.

Since investment income is received without the institution providing a service, it is excluded from an institution’s revenue for the U.S. PPI. Gifts and charitable donations are similarly excluded from revenue.

2.2 Measurement Issues

Product Structure

Table 7 shows the U.S. PPI structure for the postsecondary education industry. As previously noted, revenue figures are obtained from the U.S. Department of Education, as the Economic Census does not collect revenue figures for these industries. The publication structure is broken down by institution type and aligns with the U.S. Census Bureau’s NAICS classifications for 611310 and 611210.

Table 7: NAICS 611810 – Postsecondary Education Publication Structure

Index ID	Title
611810	Postsecondary education
611810P	Primary services
6118101	***4- year colleges***
61181011	**Tuition and fees 4-year**
611810111	Public tuition and fees 4-year
6118101111	*Public in-state tuition and fees 4-year*
6118101112	*Public out-of-state tuition and fees 4-year*
611810112	Private tuition and fees 4-year
6118101121	*Private not-for-profit tuition and fees 4-year*
6118101122	*Private for-profit tuition and fees 4-year*
61181012	**Room and auxiliary services 4-year**
611810121	Room and auxiliary services public 4-year
611810122	Room and auxiliary services private 4-year
6118101221	*Room and auxiliary services private not-for-profit 4-year*
6118101222	*Room and auxiliary services private for-profit 4-year*
6118102	***2- year colleges***
61181021	**Tuition and fees 2-year**
611810211	Public tuition and fees 2-year
611810212	Private tuition and fees 2-year
6118102121	*Private not-for-profit tuition and fees 2-year*
6118102122	*Private for-profit tuition and fees 2-year*

Service Definition

The primary output of postsecondary education for both 2- and 4-year institutions includes furnishing academic courses, granting degrees, and offering room and board services.

Academic Services

Colleges receive tuition and fees for teaching courses and conferring degrees in several areas: liberal arts and sciences, healthcare, business, computer and information sciences, protective services, and other specializations. Many colleges also offer trade or industry certificates or continuing education programs to individuals already in the workforce. These courses can be offered in multiple formats: in-person, online, or both. Other academic services include conferences and seminars.

Colleges receive direct out-of-pocket tuition and fees paid by the students as well as government appropriations and grants (federal, state, and local) for furnishing academic services. The level of appropriations varies by institution and control (private vs public) as public colleges tend to heavily subsidize students who are residents of the state in which the school is located. Since government appropriations are tied to the provision of academic services, they are included as tuition and fee

revenue for the purpose of the PPI even though the one paying – the government – is not the one receiving the service – the student.

Auxiliary services, including room and board

Auxiliary enterprises are operations that exist to provide a service to students, faculty, and/or staff, and that charge a fee directly related to the cost of the service. Examples of auxiliary enterprises are residence halls, food services, student health services, intercollegiate athletics, college unions, stores, and movie theaters.

Room consists of on-campus housing (e.g. residence halls). Many 4-year institutions require that students reside on-campus in their first and/or second year. In other cases, students reside in such housing throughout their undergraduate years. The room is usually furnished with a bed, desk, chair, and clothing storage. These rooms are often offered in various styles including singles, doubles, suite-style shared rooms, and apartments. Included in the fee are utility services such as heat, water (often in a communal kitchen and/or bathroom), electricity, and Wi-Fi.

Board includes a meal plan that can be customized and offers a detailed record of spending. Meal plans can range from price per meal credits to unlimited meals.

Room and board can either be purchased for a set fee or worked for as part of a wage agreement. For example, for the latter, a student can receive room and board as "in-kind" payment for serving as a resident hall advisor. Some institutions may charge for room and board as a bundle, while others separate the services and do not require the purchase of one with the other.

Sampling Design

Educational institutions and their weights and prices will be obtained from a secondary source that specializes in collecting and monitoring data related to postsecondary education. As this data source is comprehensive, we will utilize the universe of institutions rather than drawing a sample as is typical for U.S. PPI. Institutions for 611810 are individual universities and colleges. In the case of state university systems, the institution is an individual campus.

Data Sources for Various Weights

As previously mentioned, since the Economic Census does not collect VOS data for NAICS 611210 or NAICS 611310 or their detailed service lines, revenue data is obtained from the U.S. Department of Education's National Center for Education Statistics. These data are used to develop product line index weights for the proposed index structure shown above in Table 7.

Institutions are weighted within the index by the total revenue received from activities within the scope of the U.S. PPI. This includes revenue from:

- Tuition and fees (student paid)
- Government (federal, state, local) appropriations
- Government (federal, state, local) grants and contracts
- Sales and services of educational activities
- Sales and services of auxiliary enterprises

Revenue from gifts, investment income, or institution endowments are excluded when weighting an institution in the index.

2.3 Description of Pricing Methods and Criteria for Choosing the Method

Pricing Methods

The unit of measure for derived unit value prices is the *full-time equivalent (FTE) enrollment*. The FTE of student enrollment represents a single value that provides a meaningful combination of full-time and part-time students and allows for comparisons across institutions with different calendar systems and mixes of full-time and part-time students. FTE is calculated as: number of full-time Students x 1/3 number of part-time students.

Generally, a unit price based on FTE is the preferred price for all services.

Tuition and fees

The preferred price for this industry is the ***average tuition revenue per full-time equivalent (FTE) student***. This is calculated by dividing the total revenue generated by the institution's academic services by the total number of FTE students. A unit price is preferred given that tuition rates, scholarship amounts, and other costs are offered on an individual basis and are often negotiated during the enrollment process.

The revenue portion of an institution's price calculation accounts for multiple sources of funding for the provision of academic services. This revenue is reported across several categories from various payers and must be combined to calculate the average revenue the institution receives. The alternative data source classifies the different revenue sources by payer/source of revenue as described below:

> *Student paid tuition and fees* includes all tuition and fees assessed against students, after accounting for institution-awarded scholarships, discounts and aid, as well as fees for continuing education programs, conferences, and seminars. This also includes any money a student is awarded from external scholarships that is paid to the institution. Note that tuition revenue is not currently broken out by undergraduate and graduate degree-granting programs due to data limitations - research is underway to capture that level of detail in the future.
>
> *Government appropriations* include appropriations from the federal, state, and local level, and includes the amount received from the respective government legislative body, except for grants and contracts. Private institutions typically receive minimal appropriations from state or local governments.
>
> *Government grants and contracts* includes transfers of money from various government entities (federal, state, local) to the institutions and may take the form of student financial aid. Examples include Pell Grants, Leveraging Educational Assistance Partnerships (LEAP) state grants, merit scholarships, tuition and fee waivers for which the institution was reimbursed by a state agency, as well as local government grants and scholarships.

Sales and services of educational activities include all revenues derived from the sales of goods and services that are incidental to the conduct of instruction, research, or public service, and revenues of activities that exist to provide instructional and laboratory experience for students and that incidentally create goods and services that may be sold. Examples include film rentals, scientific and literary publications, testing services, university presses, dairies, and patient care clinics that are not part of a hospital.

The components of the revenue calculation are constructed differently for private and public institutions since, as noted previously, public institutions receive money from the state government to subsidize the education of in-state students.

Tuition and Fees - Unit Price Calculations

Private Institutions

Since private institutions do not receive revenue from state or local governments based on a student's residential status, the unit price calculation is relatively straightforward: all the variables are divided by the FTE enrollment reported by the institution and added together to get an "Average tuition per FTE" as seen in the following example:

Table 8: Example tuition and fees price calculation for Private Institutions

Institution Reported Revenue Component		BLS Calculated Average	
Full Time Equivalent (FTE) Enrollment	1,500		
Tuition and fees (out-of-pocket (OOP))	$39,565,000	OOP tuition and fees per FTE	$26,376.67
Federal Appropriations	$275,000	Government appropriations per FTE	$183.33
State appropriations	$0		
Local appropriations	$0		
Federal grants and contracts	$1,525,300	Grants and Contracts per FTE	$2,441.53
State grants and contracts	$2,137,000		
Local grants and contracts	$0		
Sales and services of educational activities	$55,000	Educational activities per FTE	$36.67
		PPI Unit Price = Average tuition and fees per FTE	***$29,038.20***

Public Institutions

As with private institutions, the preferred price for public postsecondary education is a unit price based on the average revenue per FTE. However, public institutions charge students different tuition rates depending on a student's residential status because state governments contribute funding based on the number of in-state students an institution enrolls. The U.S. PPI calculates two separate prices for public institutions, one for in-state and one for out-of-state students. And even though in-state student tuition and fees are heavily subsidized by state and local appropriations while out-of-state students have higher out-of-pocket costs, public institutions attempt to hit a

similar average revenue target per student when factoring in all revenue sources, regardless of residency status.

Most price components are directly captured by the alternative data source; however, some components must be derived. While total institution FTE enrollment data is available, the data for FTE enrollment designated as "in-state" and "out-of-state" is not. The closest available in- and out-of-state data are the number of first year in-state FTEs and the number of first year out-of-state FTEs. To derive the ratio of in-state to out-of-state students for the institution, a rolling calculation is used to create a four-year cohort for each group based on the first year in and out-of-state FTE figures. As an example, consider the following scenario where an institution reports a total FTE of 1,000 students for 2022 and four-year cohorts are used to estimate the in-state and out-of-state FTE figures in 2022:

Table 9: First year FTE figures used to estimate in-state and out-of-state ratios.

Reported Variable	Number of Students
2019 First year, in-state FTE (4th year in 2022)	103
2020 First year, in-state FTE (3rd year in 2022)	105
2021 First year, in-state FTE (2nd year in 2022)	122
2022 First year, in-state FTE (1st year in 2022)	120
2019 First year, out-of-state FTE (4th year in 2022)	175
2020 First year, out-of-state FTE (3rd year in 2022)	171
2021 First year, out-of-state FTE (2nd year in 2022)	150
2022 First year, out-of-state FTE (1st year in 2022)	154

In this case, the estimated number of in-state students out of the reported 1,000 FTE is derived as follows:

Equation 1:

$$2022\ In\ State\ Cohort = 103 + 105 + 122 + 120 = 450$$

Equation 2:

$$2022\ Out\ of\ State\ Cohort = 175 + 171 + 150 + 154 = 650$$

Equation 3:

$$2022\ In\ State\ Ratio = \frac{2022\ In\ State\ Cohort}{2022\ In\ State\ Cohort + 2022\ Out\ of\ State\ Cohort} = \frac{450}{1100} = 0.4091$$

Equation 4:

$$2022\ Derived\ In\ State\ FTE = 2022\ Reported\ Total\ FTE * 2022\ In\ State\ Ratio$$
$$= 1000 * 0.4091 = 409$$

The estimated number of out-of-state FTE students is derived as follows:

Equation 5:

$$2022\ Out\ of\ State\ Ratio = \frac{2022\ Out\ of\ State\ Cohort}{2022\ In\ State\ Cohort + 2022\ Out\ of\ State\ Cohort} = \frac{650}{1100} = 0.5909$$

Equation 6:

$$2022\ Derived\ Out\ of\ State\ FTE = 2022\ Reported\ Total\ FTE * 2022\ Out\ of\ State\ Ratio$$
$$= 1000 * 0.5909 = 591$$

These derived FTE figures are then used to apportion the revenue components to either in-state or out-of-state to calculate the unit prices. Any revenue coming from the state or local government is apportioned to the in-state students, while funding from the federal government is divided among all students.

In-state unit value price calculation includes the total of the following:

- tuition and fees per in-state FTE (out-of-pocket)
- government appropriations per FTE (federal, state, local)
- government nonoperating grants per FTE (federal, state, local)
- sale and services of educational activities per FTE

Out-of-state unit value price calculation includes the total of the following:

- tuition and fees per out-of-state FTE (out-of-pocket)
- federal appropriations per FTE
- federal nonoperating grants per FTE
- sale and services of educational activities per FTE

Because the ratio of in-state to out-of-state students does not necessarily equal the ratio of revenue each group provides, additional calculations are used to apportion the Tuition and Fees Revenue to either in-state or out-of-state students. Continuing the example above, consider the following scenario and components:

Table 10: Tuition and fees out-of-pocket price components

Price Components	
Tuition and fees revenue (reported)	$22,333,444
FTE (reported)	1,000
In-state FTE (BLS derived)	409
Out-of-state FTE (BLS derived)	591
In-state tuition and fee rate (reported)	$14,500
Out-of-state tuition and fee rate (reported)	$35,600

The components of the in-state and out-of-state tuition rates reported by the institution are the amounts charged without excluding any discounts. Since institutions engage in extensive price discrimination, as mentioned previously, these rates should not be used as the average revenue. However, they are used to help allocate the reported Tuition and Fee Revenue between in-state and out-of-state students.

The percentage of the reported Tuition and Fees revenue allocated to either in-state or out-of-state students is derived as follows:

Table 11: Average out-of-pocket tuition and fees per FTE calculation

BLS-derived Variables		
Total tuition and fees	(409 * $14,500) + (591 * $35,600)	$26,970,100
Total tuition and fee rev in-state	[(409 * $14,500) / $26,970,100] * $22,333,444	$4,910,938
Total tuition and fee rev out-of-state	[(591 * $35,600) / $26,970,100] * $22,333,444	$17,422,506
Avg tuition per in-state FTE	$4,910,938 / 409	**$12,007.18**
Avg tuition per out-of-state FTE	$17,422,506 / 591	**$29,479.71**

As with the unit price for private institutions, the Average tuition per FTE at a public institution includes more than just the reported "out-of-pocket" tuition and fee revenue. Continuing the public example above, price components both reported by the institution and derived by BLS yield the following unit prices for in-state and out-of-state tuition.

Table 12: Government appropriations, grants, and other price components

Institution Reported Components	
Federal appropriations	$134,000
State appropriations	$5,050,000
Local appropriations	$0.00
Federal grants and contracts	$1,255,600
State grants and contracts	$2,111,000
Local grants and contracts	$60,000
Sales and services of educational activities	$5,432,100
FTE enrollment	1,000

Table 13: Average government appropriations, grants, and other revenue per FTE calculation

BLS-derived Components		
Average tuition per in-state FTE		$12,007.18
Average tuition per out-of-state FTE		$29,479.71
Federal appropriations per FTE	($134,000 / 1,000)	$134.00
Federal grants and contracts per FTE	($1,255,600 / 1,000)	$1,255.60
Sales and services of educational activities per FTE	($5,432,100 / 1,000)	$5,432.10
State and local appropriations per In-State FTE	($5,050,000 / 409)	$12,347.00
State and local grants and contracts per In-State FTE	($2,171,000 / 409)	$5,308.07

Table 14: In-state unit price calculation

In-state unit price	
Tuition and fees per in-state FTE	$12,007
Government appropriations per in-state FTE	$12,481
Government nonoperating grants per in-state FTE	$6,564
Other educational activities revenue per FTE	$5,432
BLS in-state price	**$36,484**

Table 15: Out of state unit price calculation

Out-of-state unit price	
Tuition and fees per out-of-state FTE	$29,480
Federal appropriations per out-of-state FTE	$134
Fed nonoperating grants per out-of-state FTE	$1,256
Other educational activities revenue per FTE	$5,432
BLS out-of-state price	**$36,301**

As is evident from the example calculations, once all revenue streams are combined, the total amounts that the institution receives for educating an in-state student and out-of-state student are very close. This reflects what we learned from talking to industry experts – the institution typically knows how much it costs to educate a student and aims to reach that number through the various revenue streams a student brings with them. In this example, the state heavily subsidized the education of in-state students and thus the "out-of-pocket" price the average in-state student paid was substantially lower than the amount an out-of-state student paid. The institution, however, only received slightly more per in-state student than it did per out-of-state student.

Room and auxiliary services

The unit price for room and board is measured using an ***average auxiliary services fee, including room and board, per FTE***. As stated previously, auxiliary enterprises are operations that exist to furnish a service to students, faculty, or staff, and that charge a fee that is directly related to the cost of the service. Examples of auxiliary enterprises are residence halls, food services, student health services, intercollegiate athletics, college unions, stores, and movie theaters.

While we initially expected to calculate more detailed prices for rooming and meal services, the alternative data source combines this data into a single revenue stream.

Price Determining Characteristics

The price determining characteristics for NAICS 611210 and 611310 include: public vs. private control; resident status of the student; full-time vs. part time enrollment; length of school term, semester, summer, or winter; financial aid status and type; method of tuition charge (per semester, per year, etc.); prestige of the university; and student to teacher ratio.

Index Estimation Procedure, Including Estimation of Missing Prices

U.S. PPIs are calculated using the formula for a modified Laspeyres index. The Laspeyres index compares the base period revenue for a set of products or services to the current period revenue for the same set of products or services.

The alternative data source contains the universe of institutions. No estimation of missing prices is expected.

Quality Adjustment

Currently, no explicit quality adjustment methods are being utilized.

Frequency of Collection

Prices are set on an annual basis and are collected with a one-year lag. Regardless of the data source or sampling methodology, the necessary price component data are not available on a timely basis.

3. Evaluation of Measurement

Since the BLS is using a comprehensive alternative data source to populate this index, one issue in maintaining index quality is retaining access to administrative or private data.

Additionally, there could be potential issues with item substitution when classes move from in-person to online. Ongoing research is needed to answer several questions related to this transition: are online classes the same quality as in-person ones; can the difference be quantified and assigned a dollar value; is this distinction more important for certain courses (e.g. is the difference between an online science lab course and an in-person lab more pronounced than between a history class offered online and in-person); does this substitution to online cause bias or noise as the mix within the average price changes?

Further, continued changes in the student-to-teacher ratios could affect the quality of instruction. Student-to-teacher ratio data is not currently taken into account in the dataset and may require BLS economists to obtain additional information from individual institutions regarding these changes.

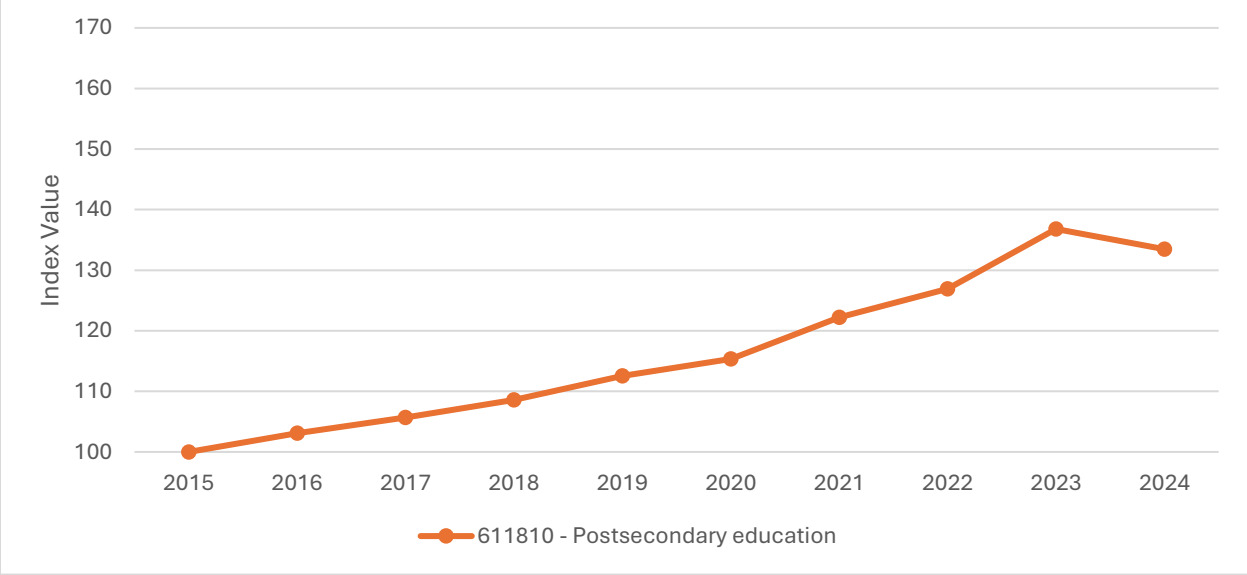
As previously mentioned, there is a reporting lag of a year for the Postsecondary Education PPI due to the nature of the industry and the price methodology. The U.S. PPI is a monthly index which may require this particular index to be released annually as a supplemental or experimental index.

3.1 Experimental Results

The following graphs illustrate unofficial, preliminary results for industry 611810, Postsecondary Education, and various lower-level PPIs between 2015 and 2024.

As can be seen from the preliminary index results, the average revenue per student increased consistently for 611810 from 2015 to 2023. The falloff in 2024 can be attributed to the exhaustion of $76 billion in Higher Education Emergency Relief Fund (HEERF) allotments that schools received during the COVID-19 pandemic to stabilize postsecondary institutions.[5]

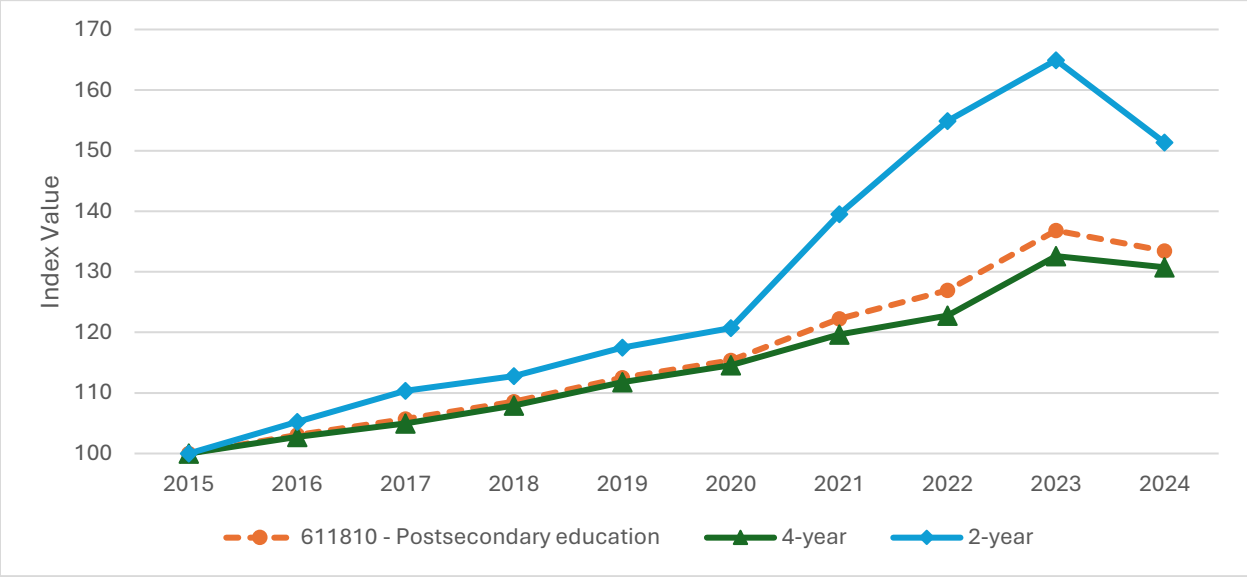
Chart 4: Postsecondary education (611810) PPI



[5] https://www.ed.gov/sites/ed/files/about/offices/list/ope/opebriefingheerfarpinstitution.pdf

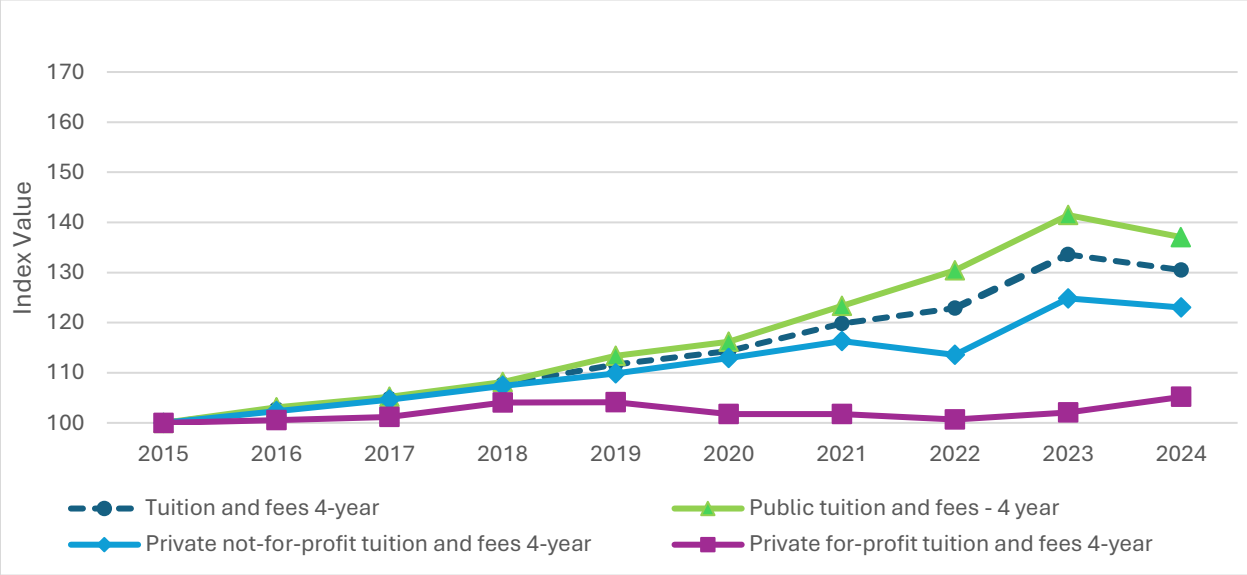
The preliminary PPI for 611810 is primarily driven by 4-year colleges, which exhibit less volatility than 2-year schools. See Chart 5.

Chart 5: Postsecondary education (611810) PPI – 4-year vs 2-year



Within the PPI for Tuition and fees at 4-year institutions, public and private not-for-profit institutions drive the index as they make up more than 85-percent of 4-year institutions (see Chart 6). The dip in the PPI for private for-profit colleges in 2020 is consistent with their struggles following several class action lawsuits and the closure of more than half of private for-profit schools between 2012 and 2022. However, average tuition and fee revenue at these institutions rebounded slightly in 2023 and surpassed the 2019 index in 2024.

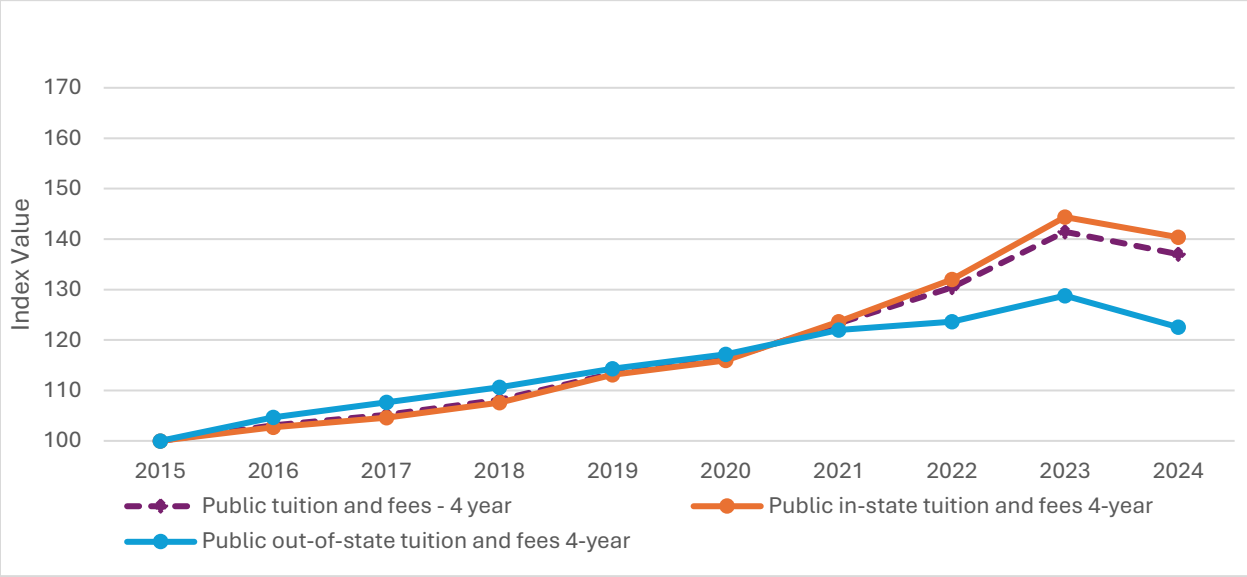
Chart 6: Tuition and Fees at 4-year institutions PPI



Tuition and fees for public in-state students are highly correlated with the overall PPI for public tuition and fees at 4-year colleges (see Chart 7). Growth for both in- and out-of-state PPIs were

relatively consistent between 2015 and 2021; and while there was a divergence in 2022 that was most likely caused by post-pandemic enrolment shifts, both indexes fell in 2024.

Chart 7: Tuition and Fees at 4-year Public Institutions PPI



The overall PPI for 4-institutions is highly correlated with the movement for tuition and fees as it is the highest weighted-component (see Chart 8). While room and auxiliary services play a complimentary role to the academic services captured by tuition and fees, the consistent increases since 2015 have been driven by the growth in overhead costs associated with building maintenance and repair, staffing, utilities, and other administrative expenses.

Chart 8: Tuition & Fees and Room & Aux Services at 4-year Institutions PPI

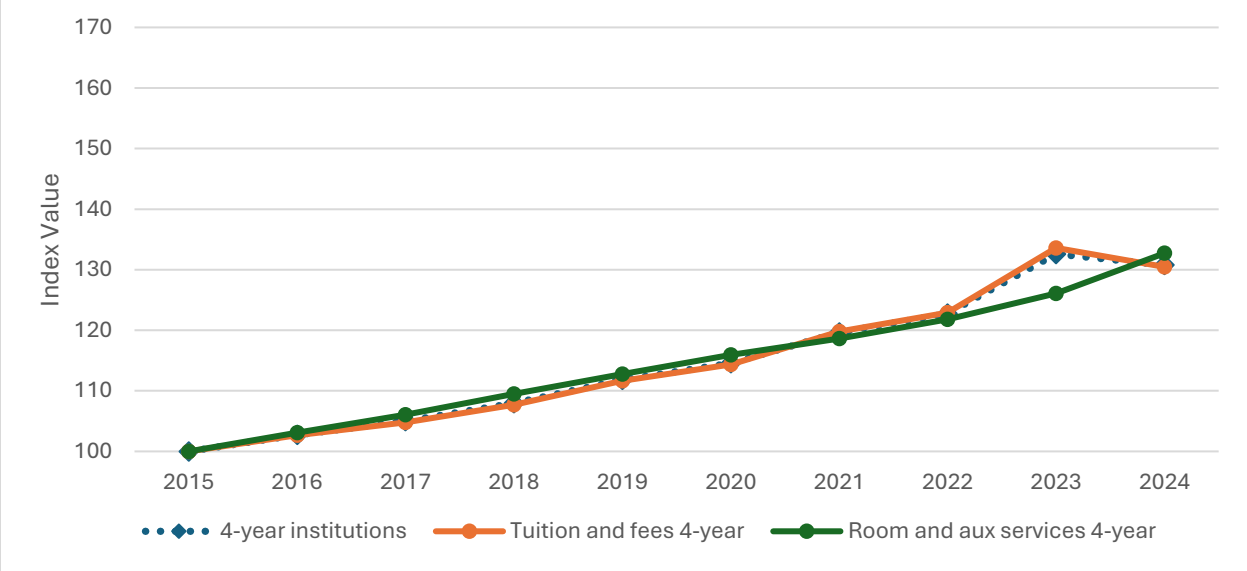
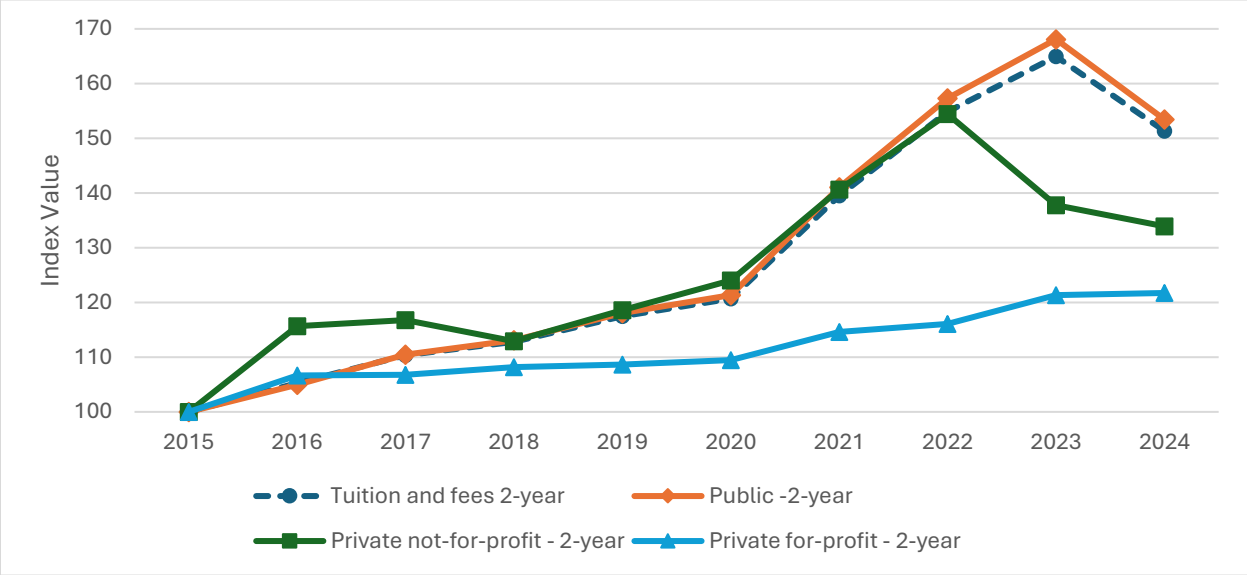


Chart 9 illustrates the impact that COVID relief funds played in buoying 2-year institutions that experienced large enrolment declines in the early phase of the pandemic but have since seen enrolment rates rebound and exceed 2019 levels.

Chart 9: Tuition and Fees at 2-year Institutions PPI



BLS is reviewing the methodology, validating the preliminary calculations, and determining the next steps for publication. Since prices in this industry are set on an annual basis and collected with a one-year lag, the data are not available on a timely basis for incorporation into the official PPI publication structures and instead may be published as a satellite series.