



Report on Higher Education Financials Utilizing Metrics Developed by the Delta Cost Project

This study focuses on financing trends in postsecondary education for both the public and private sectors. It is funded by Washington's ARRA Statewide Longitudinal Data Systems Grant.

Purpose

This report contributes to our understanding of the finances of postsecondary education in Washington state: the sources of revenue, spending on instruction and other items, and the outcomes as measured by student completions. As part of the grant extension for the development of the P-20 data warehouse the ERDC proposed to develop a report on higher education financials. In addition to public institutions of higher education this report includes private nonprofit and for-profit institutions using comparable data.

Method and Data Sources

The Delta Project on Postsecondary Education Costs, Productivity, and Accountability (Delta Cost Project) was originally an independent nonprofit organization supported by the Lumina Foundation for Education.¹ The Delta Cost Project had as its purpose the development of data and policy tools to improve productivity and public accountability for performance in postsecondary education. The thinking behind the Delta Cost Project was that college costs could be contained through better use of data to inform strategic decision making.

The Delta Cost Project had three basic questions regarding the financing of higher education:

1. Where does the money come from?
2. Where does the money go?
3. What does the money buy?

To answer these questions the Delta Cost Project developed several aggregate measures using data obtained from National Center for Education Statistics through the Integrated Postsecondary Education Data System (IPEDS). IPEDS consists of nine annual interrelated surveys of higher education institutions. Survey topics

¹ See Appendix C for a list of references to Delta Cost Project reports, issue briefs, and the online "Trends in College Spending," all of which can be accessed at www.deltacostproject.org/.

include finances, 12-month enrollments, and completions. All postsecondary institutions that participate in federal financial aid programs are required to complete these surveys. Nationwide this is over 7,000 institutions, including public and private universities and colleges, community colleges, for-profit institutions, and non-degree granting schools such as business and beauty colleges. In Washington state about 125 institutions report annually.

The Delta Cost Project developed measures looking at:

- Revenue: Total operating revenue per FTE student and the sources of this revenue such as tuition, state appropriations, private gifts and investment returns, as well as other dedicated revenue sources like federal grants and contracts and auxiliary enterprises.
- Expenditures: Operating budget spending per FTE student organized into broad categories such as education-related expenditures consisting of spending on instruction, student services and a prorated share of spending on academic support, institutional support, and operations and maintenance, as well as spending on research and public services, scholarships and fellowships, and auxiliary enterprises.
- Subsidies: Comparing tuition revenue and education-related expenditures to parse the “student share of cost” and the “average subsidy.”
- Outcomes and Spending: Measuring performance by (1) comparing degrees earned and total completions to the number of students enrolled, and (2) comparing education-related expenditures to degrees earned and total completions.

This report applies the measures developed by the Delta Cost Project to Washington institutions of higher education. Included in this analysis are:

- private for-profit and nonprofit career schools that do not offer bachelor’s degrees;
- private nonprofit and for-profit baccalaureate colleges/universities that offer bachelor’s degrees or higher;
- public community and technical colleges;
- public comprehensive universities/college; and
- public research universities including the branch campuses.

All Washington institutions that reported either 12-month instructional activity or completions are included in the enrollment and completions portions of this report. Only institutions that returned the finance, the 12-month enrollment, and the completions surveys are included in the per full-time equivalent (FTE) student analysis of revenue and expenditures. A complete list of these institutions by sector is included in Appendix B.

All dollar values have been adjusted for inflation using the implicit price deflator for personal consumption expenditures (IPD-PCE).

The IPEDS finance surveys are based on each institution’s annual financial statement. These financial statements, along with the IPEDS finance survey, can follow different accounting procedures. Private institutions follow FASB (Financial Accounting Standards Board) standards and most public institutions

follow GASB (Governmental Accounting Standards Board) standards. These respective standards have also changed over time. These variations required the Delta Cost Project to define and adjust the reported financial statements to allow for comparability between private and public institutions and over time.

In Washington, the public institution's financial statements differ from what is reported to the state's accounting reporting system (Agency Reporting Financial System or AFRS). Both reports follow GASB standards, however, some program definitions differ between the AFRS reports and the financial statement/IPEDS reports. Both reports are "right" but serve different purposes. The financial statements/IPEDS reports are designed for public disclosure and understanding. The AFRS reports are designed for budgeting and budget monitoring purposes.

In addition this report collapses several program areas to allow for the combining of nonprofit and for-profit institutions into the same sectors. For-profit institutions are required to report less financial information to IPEDS than either nonprofit or public institutions.

In Washington, enrollments will also differ between what is reported to IPEDS and what is reported to the state. The state reports are for "state funded" enrollments whereas in IPEDS institutions report all student credit hours in courses that will lead to a degree or award. Another difference is that graduate level FTE students are computed at 36 (quarter) or 24 (semester) student credit hours. For the state reports, graduate FTE students are computed at 30 (quarter) or 20 (semester) student credit hours.

Results and Findings

Where are students taught?

Before answering the questions posed by the Delta Cost Project the following section describes the structure of postsecondary education in Washington state.

Most of the instructional activity as measured by full-time equivalent students takes place in public institutions. In 2012, 81 percent of the instructional activity took place in public institutions with 47 percent at community and technical colleges, 22 percent at research universities, and 12 percent at the comprehensive universities. The private baccalaureates accounted for 14 percent of the enrollments and the private career schools for 5 percent.

This enrollment pattern is basically the same as in 2002 when the split between public and private was 80:20.

Overall higher education enrollments grew at 1.8 percent per year with undergraduate enrollments growing at 1.9 percent per year and graduate level enrollments growing at 1.0 percent per year.

The research universities and community and technical colleges grew the fastest at 2.0 percent per year followed by the comprehensives at 1.8 percent per year. The private career schools grew at 1.7 percent per year with the private baccalaureates growing at 1.2 percent per year.

Table 1: Full-Time Equivalent (FTE) Students based on Institutional Instruction Activity

	Private			Public		
	Career Schools	Baccalaureate Institutions	Community & Technical Colleges	Comprehensive Institutions	Research Universities	Grand Total
2002 Amount						
Undergraduate	14,093	31,167	131,732	32,192	46,251	255,435
Graduate		10,967		2,245	16,556	29,768
Total FTE Students	14,093	42,134	131,732	34,437	62,807	285,203
2002 Shares						
Undergraduate	5.5%	12.2%	51.6%	12.6%	18.1%	100.0%
Graduate		36.8%		7.5%	55.6%	100.0%
Total FTE Students	4.9%	14.8%	46.2%	12.1%	22.0%	100.0%
2012 Amount						
Undergraduate	16,711	36,915	160,038	36,694	56,783	309,141
Graduate		10,462		2,600	19,958	33,020
Total FTE Students	16,711	47,377	160,038	41,294	76,741	342,161
2012 Shares						
Undergraduate	5.4%	11.9%	51.8%	12.5%	18.4%	100.0%
Graduate		31.7%		7.9%	60.4%	100.0%
Total FTE Students	4.9%	13.8%	46.8%	12.1%	22.4%	100.0%
Average Annual Change 2002-2012						
Undergraduate	1.7%	1.7%	2.0%	1.9%	2.1%	1.9%
Graduate		-0.5%		1.5%	1.9%	1.0%
Total FTE Students	1.7%	1.2%	2.0%	1.8%	2.0%	1.8%

Source: IPEDS 12-Month Enrollment Survey

1. Where does the money come from?

The sources of revenue vary widely among the sectors and there has been a dramatic change over the 2002 to 2012 period. At the public institutions especially, the major change has been the increased reliance on tuition revenue and the declining amount of state support. Revenue sources for an institution may be composed of net tuition, state appropriations, federal appropriations and governmental grants and contracts, gifts and investment returns, and revenue from auxiliary enterprises. Definitions for these sources are in the glossary (Appendix A).

Overall revenue per FTE student grew one percent per year at the public research universities (after adjusting for inflation). This growth includes revenue for federal and private research and public service which are not available for instructional purposes. Federal revenue and other governmental grants and contracts grew at 2.1 percent per year and the share went from 29 to 32 percent. Revenue from auxiliary enterprises such as housing, food services and the UW Hospital grew 1.5 percent per year. Meanwhile, revenue which can be used for instructional purposes stayed relatively flat. State appropriations went from 19 percent of revenue to 8 percent, declining 7.6 percent per year. This was offset by increases in student tuition, going from 12 percent of total revenue in 2002 to 20 percent in 2012, growing at nearly 7 percent per year.

Table 2: Revenue by Source per FTE Student (adjusted for inflation, 2012 dollars)

	2002		2012		Average Annual Change 2002-2012
	Amount	Share of Total	Amount	Share of Total	
PRIVATE					
Career Schools					
Net Tuition	\$5,906	85.4%	\$8,009	88.9%	3.1%
State Appropriations					
Federal Appropriations/Governmental Grants & Contracts	\$125	1.8%	\$183	2.0%	3.9%
Gifts & Investment Returns	\$74	1.1%	\$52	0.6%	-3.4%
Auxiliary Enterprises (Revenue)	\$807	11.7%	\$763	8.5%	-0.6%
Total Revenue	\$6,913	100.0%	\$9,008	100.0%	2.7%
Baccalaureate Institutions					
Net Tuition	\$14,115	73.1%	\$19,309	73.6%	3.2%
State Appropriations					
Federal Appropriations/Governmental Grants & Contracts	\$559	2.9%	\$671	2.6%	1.9%
Gifts & Investment Returns	\$968	5.0%	\$2,057	7.8%	7.8%
Auxiliary Enterprises (Revenue)	\$3,680	19.0%	\$4,191	16.0%	1.3%
Total Revenue	\$19,322	100.0%	\$26,228	100.0%	3.1%
PUBLIC					
Community & Technical Colleges					
Net Tuition	\$2,346	22.1%	\$3,531	31.0%	4.2%
State Appropriations	\$4,719	44.5%	\$3,608	31.7%	-2.6%
Federal Appropriations/Governmental Grants & Contracts	\$1,955	18.4%	\$2,764	24.3%	3.5%
Gifts & Investment Returns	\$406	3.8%	\$101	0.9%	-13.0%
Auxiliary Enterprises (Revenue)	\$1,187	11.2%	\$1,370	12.0%	1.4%
Total Revenue	\$10,612	100.0%	\$11,375	100.0%	0.7%
Comprehensive Institutions					
Net Tuition	\$4,868	28.8%	\$7,802	45.7%	4.8%
State Appropriations	\$6,283	37.2%	\$3,126	18.3%	-6.7%
Federal Appropriations/Governmental Grants & Contracts	\$2,043	12.1%	\$2,372	13.9%	1.5%
Gifts & Investment Returns	\$434	2.6%	\$225	1.3%	-6.4%
Auxiliary Enterprises (Revenue)	\$3,254	19.3%	\$3,544	20.8%	0.9%
Total Revenue	\$16,883	100.0%	\$17,069	100.0%	0.1%
Research Institutions					
Net Tuition	\$6,477	11.6%	\$12,586	20.3%	6.9%
State Appropriations	\$10,717	19.1%	\$4,844	7.8%	-7.6%
Federal Appropriations/Governmental Grants & Contracts	\$16,452	29.4%	\$20,159	32.4%	2.1%
Gifts & Investment Returns	\$3,320	5.9%	\$2,447	3.9%	-3.0%
Auxiliary Enterprises (Revenue)	\$19,056	34.0%	\$22,110	35.6%	1.5%
Total Revenue	\$56,022	100.0%	\$62,145	100.0%	1.0%

Source: IPEDS Finance Surveys

The public comprehensive universities had a similar story with state appropriations declining 6.7 percent per year with reliance on state support going from 37 percent to 18 percent of total revenue. Tuition per FTE student grew 4.8 percent per year and the share of total revenue derived from tuition increased from 29 percent to 46 percent. Overall revenue per FTE student was fairly flat growing at 0.1 percent per year. This total includes revenue growth in federal and state grants and contracts and auxiliary enterprises.

The fastest growing source of revenue at the community and technical colleges was tuition at 4.2 percent per year going from 22 to 31 percent of total revenue. State support declined 2.6 percent per year going from 44 to 32 percent of total revenue. Governmental grants and contracts increased 3.5 percent per year and went from 18 to 24 percent of total revenue.

The private baccalaureate colleges had overall revenue growth of 3.1 percent per year, primarily coming from increased tuition revenue which grew at 3.2 percent per year. Reliance on tuition revenue remained about the same going from 73 to 74 percent of total revenue.

Reliance on tuition revenue increased at the private career schools going from 85 percent to 89 percent of total revenue. Tuition revenue grew at 3.1 percent per year and overall revenue grew at 2.7 percent per year.

2. Where does the money go?

Over two-thirds of all spending was related to student education in all the higher education sectors except for the public research universities. At the research universities, spending on education-related activities accounted for 35 percent of total expenditures. Education-related activities consist of instruction, student services, and a share of “overhead” items including administrative support, institutional support, and maintenance and operations. Other spending categories are research and public service, scholarships and fellowships, and auxiliary enterprises. Definitions for these items can be found in the glossary (Appendix A).

At the private career schools, the amount spent on education-related activities grew at 1.3 percent year going from 86 to 90 percent of total expenditures. Instruction expenditures increased 5.2 percent per year while the amount spent on student services declined 0.5 percent per year and the amount spent on administration and maintenance declined even more at 1.2 percent year.

Education-related spending increased 2.3 percent per year at the private baccalaureates with student services growing the fastest at 2.9 percent per year. The share of expenditures on education increased slightly from 81 percent to 84 percent of total expenditures. Spending on auxiliary enterprises remained flat and declined as a share of total expenditures.

The amount of money spent on education-related activities slightly declined at the community and technical colleges and the share of total expenditures spent on education fell from 77 percent to 76 percent. While money spent on administration and maintenance declined – as did expenditures on instruction, spending on student services increased. Spending on auxiliary enterprises also increased.

Spending on education-related activities also declined at the comprehensive institutions, all of which occurred in administration and maintenance. Spending on instruction and student services increased from 2002 to 2012. Overall the share of spending on education fell from 70 percent to 66 percent.

Table 3: Expenditures by Function per FTE Student (adjusted for inflation, 2012 dollars)

	2002		2012		Average Annual Change 2002-2012
	Amount	Share of Total	Amount	Share of Total	
PRIVATE					
Career Schools					
Instruction	\$1,838	26.3%	\$3,047	40.3%	5.2%
Student Services	\$1,212	17.4%	\$1,154	15.3%	-0.5%
Education Share Administration/Maintenance	\$2,959	42.4%	\$2,609	34.6%	-1.2%
<i>Education-Related Expenditures</i>	<i>\$6,009</i>	<i>86.1%</i>	<i>\$6,810</i>	<i>90.2%</i>	<i>1.3%</i>
Research/Public Service Related	\$0	0.0%	\$13	0.2%	70.5%
Scholarships/Fellowships	\$86	1.2%	\$2	0.0%	-30.1%
Auxiliary Enterprises	\$888	12.7%	\$726	9.6%	-2.0%
<i>Total Operating Expenditures</i>	<i>\$6,982</i>	<i>100.0%</i>	<i>\$7,552</i>	<i>100.0%</i>	<i>0.8%</i>
Baccalaureate Institutions					
Instruction	\$7,613	37.6%	\$9,122	37.2%	1.8%
Student Services	\$2,762	13.6%	\$3,668	14.9%	2.9%
Education Share Administration/Maintenance	\$6,067	29.9%	\$7,920	32.3%	2.7%
<i>Education-Related Expenditures</i>	<i>\$16,442</i>	<i>81.1%</i>	<i>\$20,709</i>	<i>84.3%</i>	<i>2.3%</i>
Research/Public Service Related	\$602	3.0%	\$681	2.8%	1.2%
Scholarships/Fellowships	\$262	1.3%	\$213	0.9%	-2.0%
Auxiliary Enterprises	\$2,959	14.6%	\$2,951	12.0%	0.0%
<i>Total Operating Expenditures</i>	<i>\$20,264</i>	<i>100.0%</i>	<i>\$24,554</i>	<i>100.0%</i>	<i>1.9%</i>
PUBLIC					
Community & Technical Colleges					
Instruction	\$5,156	45.3%	\$5,093	44.5%	-0.1%
Student Services	\$1,095	9.6%	\$1,175	10.3%	0.7%
Education Share Administration/Maintenance	\$2,503	22.0%	\$2,413	21.1%	-0.4%
<i>Education-Related Expenditures</i>	<i>\$8,754</i>	<i>77.0%</i>	<i>\$8,681</i>	<i>75.8%</i>	<i>-0.1%</i>
Research/Public Service Related	\$1	0.0%	\$0	0.0%	-100.0%
Scholarships/Fellowships	\$1,609	14.2%	\$1,412	12.3%	-1.3%
Auxiliary Enterprises	\$1,007	8.9%	\$1,359	11.9%	3.0%
<i>Total Operating Expenditures</i>	<i>\$11,371</i>	<i>100.0%</i>	<i>\$11,452</i>	<i>100.00%</i>	<i>0.1%</i>
Comprehensive Institutions					
Instruction	\$6,487	38.9%	\$6,739	39.4%	0.4%
Student Services	\$1,107	6.6%	\$1,233	7.2%	1.1%
Education Share Administration/Maintenance	\$4,149	24.9%	\$3,340	19.5%	-2.1%
<i>Education-Related Expenditures</i>	<i>\$11,743</i>	<i>70.5%</i>	<i>\$11,311</i>	<i>66.1%</i>	<i>-0.4%</i>
Research/Public Service Related	\$758	4.6%	\$660	3.9%	-1.4%
Scholarships/Fellowships	\$961	5.8%	\$1,654	9.7%	5.6%
Auxiliary Enterprises	\$3,199	19.2%	\$3,495	20.4%	0.9%
<i>Total Operating Expenditures</i>	<i>\$16,661</i>	<i>100.0%</i>	<i>\$17,210</i>	<i>100.0%</i>	<i>0.3%</i>
Research Institutions					
Instruction	\$12,374	23.4%	\$15,787	25.2%	2.5%
Student Services	\$760	1.4%	\$887	1.4%	1.6%
Education Share Administration/Maintenance	\$5,774	10.9%	\$5,407	8.6%	-0.7%
<i>Education-Related Expenditures</i>	<i>\$18,909</i>	<i>35.8%</i>	<i>\$22,081</i>	<i>35.3%</i>	<i>1.6%</i>
Research/Public Service Related	\$17,358	32.8%	\$19,290	30.8%	1.1%
Scholarships/Fellowships	\$1,276	2.4%	\$2,123	3.4%	5.2%
Auxiliary Enterprises	\$15,331	29.0%	\$19,044	30.5%	2.2%
<i>Total Operating Expenditures</i>	<i>\$52,874</i>	<i>100.00%</i>	<i>\$62,538</i>	<i>100.0%</i>	<i>1.7%</i>

Source: IPEDS Finance Surveys

Spending at the research universities increased 1.7 percent per year with spending on education going up 1.6 percent per year. Education spending fell slightly as a percent of total spending going from 36 to 35 percent of the total. Spending on instruction and student services increased, while spending on administration and maintenance declined 2.1 percent per year. Auxiliary enterprises are a significant portion of spending at the research universities at 30 percent. This category includes the University of Washington Hospital.

COMPARISON OF TUITION REVENUE AND EDUCATION SPENDING

Comparing education-related expenditures to tuition revenue results in the average subsidy per FTE student. Generally tuition does not cover the full cost of instruction at public and private nonprofit institutions. The difference, or subsidy, is usually covered by state appropriations in the case of public institutions and at private nonprofit institutions by gifts and investment returns. The tuition amount is considered to be the “student share.”

The private career schools are mostly for-profit establishments and derived most of their revenue from student tuition. In 2012 tuition revenue accounted for 89 percent of the career schools’ revenue while auxiliary enterprises accounted for another 8 percent. In 2012 tuition revenue equaled 118 percent of the amount spent by career schools on education. Students on average paid \$1,200 more in tuition than the schools spent on their education.

The private baccalaureates, mostly nonprofits, subsidized their students. The difference between tuition revenue and education expenditures is accounted for by gifts and investment returns. The average subsidy in 2012 was \$1,400, down from \$2,300 in 2002. Tuition revenue increased 3.2 percent per year while education expenditures increased 2.3 percent per year. The student share of costs increased from 86 to 93 percent.

The student share of education expenditures went from 27 percent in 2002 to 41 percent in 2012 at the community and technical colleges. The amount of average subsidy declined 2.2 percent per year. Education expenditures remained relatively flat while tuition revenue increased 4.2 per year.

The public comprehensive institutions also saw a dramatic decline in the average subsidy, going down 6.5 percent per year from \$6,900 to \$3,500. The student share of education costs went from 41 percent to 69 percent.

The average subsidy at the research universities also declined. The subsidy fell 2.7 percent per year with student share going from 34 percent to 57 percent of education expenditures. The research universities were able to boost education spending by 1.6 percent per year – not by as much as at the private baccalaureates (2.3 percent) – while education spending declined at the community and technical colleges and comprehensive universities.

Table 4: Average Subsidy per FTE Student (adjusted for inflation, 2012 dollars)

	2002	2012	Average Annual Change 2002-2012
PRIVATE			
Career Schools			
Education-related expenditures	\$6,009	\$6,810	1.3%
Net tuition revenue	\$5,906	\$8,009	3.1%
Average subsidy	\$102	-\$1,199	NA
Student share of costs	98%	118%	
Subsidy share of costs	2%	-18%	
Baccalaureate Institutions			
Education-related expenditures	\$16,442	\$20,709	2.3%
Net tuition revenue	\$14,115	\$19,309	3.2%
Average subsidy	\$2,327	\$1,400	-5.0%
Student share of costs	86%	93%	
Subsidy share of costs	14%	7%	
PUBLIC			
Community & Technical Colleges			
Education-related expenditures	\$8,754	\$8,681	-0.1%
Net tuition revenue	\$2,346	\$3,531	4.2%
Average subsidy	\$6,409	\$5,150	-2.2%
Student share of costs	27%	41%	
Subsidy share of costs	73%	59%	
Comprehensive Institutions			
Education-related expenditures	\$11,743	\$11,311	-0.4%
Net tuition revenue	\$4,868	\$7,802	4.8%
Average subsidy	\$6,875	\$3,509	-6.5%
Student share of costs	41%	69%	
Subsidy share of costs	59%	31%	
Research Universities			
Education-related expenditures	\$18,909	\$22,081	1.6%
Net tuition revenue	\$6,477	\$12,586	6.9%
Average subsidy	\$12,432	\$9,495	-2.7%
Student share of costs	34%	57%	
Subsidy share of costs	66%	43%	

Source: IPEDS Finance Surveys

3. What does the money buy?

In 2012 students attending Washington institutions of higher education earned 73,500 degrees and nearly 30,000 awards and certificates. Total completions came to 103,500. Of the degrees, 39 percent were associate's degrees, 44 percent bachelor's degrees, 13 percent master's degrees, and 3 percent were doctorate or professional practice degrees. Of the non-degree awards, 59 percent required less than one academic year of study; 38 percent required at least one but less than four years of study; and three percent were post-degree certificates.

Nearly all (96 percent) of the associate's degrees were earned at community and technical colleges. The bachelor's degrees were primarily earned at the research universities (47 percent), comprehensive institutions (28 percent), and at the private baccalaureate institutions (25 percent). Master's degrees were earned at the research universities (46 percent), the private baccalaureates (42 percent), and at the comprehensive institutions (12 percent). Doctorate and professional degrees were earned at the research universities (65 percent) and the private baccalaureates (34 percent).

Overall the number of completions increased at a rate of 3.9 percent per year from 2002 to 2012. Instructional activity during this period increased at a rate of 1.8 percent per year. On the surface it required less instructional activity per degree and completion in 2012 than it did in 2002. The amount of total degrees earned grew at a rate 3.1 percent per year from 2002 to 2012. The number of non-degree awards and certificates earned grew at a rate of 6.0 per year. The growth in non-degree awards was driven by the number of less-than-one-year certificates earned at the community and technical colleges, which grew at 9.0 percent per year.

Table 5: Degrees and Completions – All Sectors

	2002		2012		Average Annual Change 2002-2012
	Amount	Share	Amount	Share	
Associate's degree	20,158	37%	28,977	39%	3.7%
Bachelor's degree	24,462	45%	32,376	44%	2.8%
Master's degree	7,551	14%	9,595	13%	2.4%
Doctor's degree/Professional practice	1,857	3%	2,561	3%	3.3%
Total Degrees	54,028	100%	73,509	100%	3.1%
Non-degree award of less than 1 academic year	7,537	45%	17,762	59%	9.0%
Non-degree award of at least 1 but less than 4 academic years	8,460	51%	11,255	38%	2.9%
Post-degree certificates	610	4%	844	3%	3.3%
Total non-degree awards and certificates	16,607	100%	29,861	100%	6.0%
Total Completions	70,635		103,370		3.9%

Source: IPEDS Completion Survey

The Delta Cost Project measures of productivity are (1) the number of degrees and completions awarded per 100 FTE students; and (2) the education-related expenditures per degree and completion. These measures are problematic on several levels. First, not all degrees or awards are equal in the amount of time required to earn one or in the expenditures required to provide the courses necessary to earn one. A bachelor's degree generally requires four years of coursework while an associate's or master's degree may require two years. A doctorate or professional degree (law, medicine) has different requirements. Even within a particular degree, such as a bachelor's, the expenditure requirements differ. It costs more to provide the courses for a degree in engineering than it does for a degree in business or sociology. Across the institutional sectors the goals and priorities differ. While it may be reasonable to expect a completion at baccalaureate institutions to be in the form of a degree, the community and technical colleges have a wide range of activities, and measuring

“success” can take different forms. For example, a successful transfer from a community college to a four-year institution does not require a degree. In addition many community colleges provide GED® preparation and apprenticeship programs. These awards are not included in the IPEDS count of completions; students in these programs are not counted in the FTE enrollments (unless they take courses that could lead to a postsecondary certificate or degree), but expenditures for these programs are included in the financial reports.

Given these caveats, Table 6 presents several productivity measures by sector. At the private career schools completions per 100 FTE students declined from 50.7 to 47.2 completions per 100 FTE students from 2002 to 2012. Education expenditures per completion increased 1.3 percent per year.

The private baccalaureate institutions saw productivity increase as measured by the amount of instruction being provided per degree earned, going from 26.4 degrees to 28.8 degrees per 100 FTE students. Expenditures per degree increased from \$63,000 to \$72,000, a growth rate of 1.4 percent per year.

The community and technical colleges saw dramatic productivity increases in both degrees and completions. The number of degrees earned per 100 FTE students went from 14.2 to 17.5 and the number of completions went from 20.9 to 30.7. Expenditures per degree and completion fell during this time. The amount of expenditures per degree fell an average of 2.2 percent per year from \$62,000 to \$50,000. The amount of expenditures per completion and award fell an average of 3.9 percent per year from \$42,000 to \$28,000. During this time the community and technical colleges greatly expanded the issuance of awards requiring less than one year of study. These awards are the result of (1) curriculum changes that provide for short-term certificates (building blocks) on the path to longer term awards and (2) specific hiring demands in local areas.²

The public comprehensive institutions saw a slight improvement in degrees awarded per 100 FTE students going from 24.5 to 25.0. They also experienced a reduction in expenditures per degree going from \$48,000 to \$45,000, a reduction of 0.5 percent per year.

At the research universities degrees per 100 FTE students increased from 25.0 to 27.5, an improvement of one percent per year. At the same time education-related expenditures also increased from \$75,500 to \$80,000 per degree.

² “Growth in Short-Term Certificates at Washington’s Community and Technical Colleges,” Research Report No. 10-3, State Board for Community and Technical Colleges, September 2010.

Table 6: Productivity Measures (dollar values adjusted for inflation, 2012 dollars)

	2002	2012	Average Annual Change 2002-2012
PRIVATE			
Career Schools			
Degrees per 100 FTE students	0.4	2.5	21.2%
Completions per 100 FTE students	50.7	47.2	-0.7%
Education-related expenditures per degree	\$1,645,432	\$275,561	-16.4%
Education-related expenditures per completion	\$12,749	\$14,442	1.3%
Baccalaureate Institutions			
Degrees per 100 FTE students	26.4	28.8	0.9%
Completions per 100 FTE students	27.1	29.4	0.8%
Education-related expenditures per degree	\$62,768	\$72,261	1.4%
Education-related expenditures per completion	\$61,603	\$70,767	1.4%
PUBLIC			
Community & Technical Colleges			
Degrees per 100 FTE students	14.2	17.5	2.1%
Completions per 100 FTE students	20.9	30.7	3.9%
Education-related expenditures per degree	\$61,791	\$49,625	-2.2%
Education-related expenditures per completion	\$41,952	\$28,254	-3.9%
Comprehensive Institutions			
Degrees per 100 FTE students	24.5	25.0	0.2%
Completions per 100 FTE students	24.6	25.6	0.4%
Education-related expenditures per degree	\$47,868	\$45,305	-0.5%
Education-related expenditures per completion	\$47,789	\$44,237	-0.8%
Research Universities			
Degrees per 100 FTE students	25.0	27.5	1.0%
Completions per 100 FTE students	25.7	28.4	1.0%
Education-related expenditures per degree	\$75,513	\$80,189	0.6%
Education-related expenditures per completion	\$73,603	\$77,672	0.5%

Source: IPEDS Completion, 12-Month Enrollment, and Finance Surveys

Summary

- Four-fifths (80 percent) of the postsecondary education instructional activity occurs at public higher education institutions. Twenty percent occurs at private institutions. From 2002 to 2012 the amount of instruction increased an average of 1.9 percent per year.
- Student tuition is the primary source of revenue at private institutions. At public institutions tuition is a growing source of revenue with state appropriations a declining factor. Governmental grants and contracts are also a significant portion of revenue at public institutions.
- Spending on student education, consisting of instruction, student services and the education share of administration and maintenance, was the primary activity in all the sectors. It ranged from 35 percent of total operating expenditures at the research universities (with research and public services at 31 percent and auxiliary enterprises at 30 percent) to 90 percent at the career schools. The public baccalaureates spent 84 percent of total operating expenditures on education, the community and technical colleges 76 percent, and the comprehensive institutions 66 percent. Spending on education increased in all the sectors except at the comprehensives which declined 0.4 percent per year. The entire decline at the comprehensives occurred in “overhead” – administrative support, institutional support, and operations and maintenance. Declines in overhead expenditures also occurred at the public research universities, the community and technical colleges, and the private career schools. Spending on student services increased as a share of all education-related expenditures for all institutional categories except private career schools.
- Private career schools collect more in student tuition than they spend on student education. All other sectors subsidize students by spending more on education than they collect in tuition revenue. The amount of this subsidy has been declining at the public institutions as state support has decreased and tuition rates increased. At private baccalaureate institutions the amount of subsidy declined as education expenditures did not keep pace with tuition increases.
- Between 2002 and 2012, the number of degrees awarded increased by 3.1 percent per year, while the number of non-degree awards increased by 6.0 percent per year, fueled by large increases in the number of certificates requiring less than one year of study.
- Three patterns emerged in the area of completion-related productivity:
 - Public research institutions and private baccalaureate institutions experienced increases in degrees and completions per 100 FTE students as well as increases in education-related expenditures per degree.
 - At the public comprehensive institutions and the community and technical colleges, there were increases in degrees per 100 FTE students along with declines in education-related expenditures per degree.
 - The private career schools experienced decreases in completions per 100 FTE students and increases in education-related expenditures per completion.

Appendix A: Glossary

Label	Definition
Total FTE Students	Full-time equivalent students are derived from the 12-month enrollment survey. Students reported are those enrolled for credit in courses that can be applied toward a postsecondary degree, diploma, certificate, or other formal award.
Undergraduate students	The total number of undergraduate students enrolled based on the 12-month enrollment survey. FTE student estimates are derived (a) for institutions reporting contact or clock hours by dividing the number of contact hours by 900; (b) for institutions operating on a quarter system by dividing the number of undergraduate credit hours by 45; and (c) for institutions operating on a semester system by dividing the number of undergraduate credit hours by 30.
Graduate and first professional students	The total number of graduate and first professional students enrolled based on the 12-month enrollment survey. FTE student estimates are derived (a) for institutions operating on a quarter system by dividing the number of graduate credit hours by 36; and (b) for institutions operating on a semester system by dividing the number of graduate credit hours by 24.
Net tuition	Net tuition revenue is the amount of money the institution takes in from students (including fees) net of all institutional grant aid provided.
State appropriations	The total amount of revenue from state appropriations. State appropriations are revenue received by the institution through acts of a state legislative body (except grants and contracts and capital appropriations). Funds reported in this category are for meeting current operating expenses, not for specific projects or programs.
Federal appropriations and federal, state, and local grants and contracts	The total amount of revenue coming from federal appropriations, grants, and contracts. Federal appropriations are revenue received by the institution through acts of a federal legislative body. Federal, state, and local grants and contracts are revenue from governmental agencies that are for training programs, research, or public service activities for which expenditures are reimbursable under the terms of a government grant or contract. Excludes Pell grants.

Private gifts, investment returns, and endowment income

Private gifts: Revenue from private donors for which no legal consideration is involved, and from private contracts for specific goods and services provided to the funder as stipulation for receipt of the funds (also includes the estimated dollar amount of contributed services). Includes only those gifts, grants, and contracts that are directly related to instruction, research, public service, or other institutional purposes. **Investment returns:** Revenue from the institution's investments, including investments of endowment funds. Such income may take the form of interest income, dividend income, rental income or royalty income and includes both realized and unrealized gains and losses. **Endowment income:** As a result of changes in reporting standards, endowment income is now largely reported within investment income.

Auxiliary enterprises, hospitals, independent operations, and other sources (revenue)

The total amount of revenue from auxiliary enterprises, hospitals, independent operations, and other sources. **Auxiliary enterprises:** Revenue generated by or collected from operations that furnish a service to students, faculty, or staff, and charge a fee that is directly related to the cost of the service. Auxiliary enterprises are managed as essentially self-supporting activities and examples include: residence halls, food services, student health services, intercollegiate athletics, college stores, etc. **Hospitals:** Revenue generated by a hospital operated by a postsecondary institution (including gifts, grants, appropriations, research revenue, endowment income, and revenue of health clinics that are part of the hospital, unless such clinics are part of the student health services program). Revenue associated with the medical school is included elsewhere. **Independent operations:** Revenue generated by operations independent of, or unrelated to, the primary missions of the institution (instruction, research and public service) although they may contribute indirectly to the enhancement of these programs. Generally includes only those revenue associated with major federally funded research and development centers. Other sources: Revenue not reported elsewhere, including revenue from the sales and services of internal service departments to persons or agencies external to the institution (e.g., the sale of computer time, and educational sales and services).

Total revenue

Total revenue is the sum of net tuition; federal, state, and local appropriations, grants, and contracts; private gifts, grants, and contracts; investment return; endowment income; auxiliaries; hospitals; and other independent operations.

Instruction

Includes expenses of the colleges, schools, departments, and other instructional divisions of the institution and expenses for departmental research and public service that are not separately budgeted. Includes general academic instruction, occupational and vocational instruction, community education, preparatory and adult basic education, and regular, special, and extension sessions. Also includes expenses for both credit and non-credit activities. Excludes expenses for academic administration where the primary

function is administration (e.g., academic deans). Information technology expenses related to instructional activities are included if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support).

Student services

Includes expenses for admissions, registrar activities, and activities whose primary purpose is to contribute to student's emotional and physical well-being and to their intellectual, cultural, and social development outside the context of the formal instructional program. Examples include student activities, cultural events, student newspapers, intramural athletics, student organizations, supplemental instruction outside the normal administration, and student records. Intercollegiate athletics and student health services may also be included except when operated as self - supporting auxiliary enterprises. Also may include information technology expenses related to student service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in institutional support.)

Education share Administration/ Maintenance

The portion of academic support, institutional support, and operations and maintenance (i.e. "overhead") associated with providing instruction and student services. **Academic support** includes expenses of activities and services that support the institution's primary missions of instruction, research, and public service. It includes libraries, museums, and galleries; organized activities that provide support services to the academic functions of the institution (such as a demonstration school associated with a college of education; veterinary and dental clinics, etc.); media such as audiovisual services; academic administration (including academic deans but not department chairpersons); and formally organized and separately budgeted academic personnel development and course and curriculum development expenses. Also included are information technology expenses related to academic support activities; if an institution does not separately budget and expense information technology resources, the costs associated with the three primary programs will be applied to this function and the remainder to institutional support. **Institutional support** includes expenses for the day-to-day operational support of the institution such as expenses for general administrative services, central executive-level activities concerned with management and long range planning, legal and fiscal operations, space management, employee personnel and records, logistical services such as purchasing and printing, and public relations and development. Also includes information technology expenses related to institutional support activities. If an institution does not separately budget and expense information technology resources, the costs associated with student services and operation and maintenance of plant will also be applied to this function. **Operations and maintenance** includes expenses for operations established to provide service

	<p>and maintenance related to campus grounds and facilities used for educational and general purposes. Specific expenses include utilities, fire protection, property insurance, and similar items. This function does not include amounts charged to auxiliary enterprises, hospitals, other, and independent operations. Also includes information technology expenses related to operation and maintenance of plant activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in institutional support). Institutions may, as an option, distribute depreciation expense to this function.</p>
Education related expenditures	<p>Total spending on direct educational costs. Education related expenses include spending on instruction, student services, and the education share of spending on academic support, institutional support, and operations and maintenance (i.e. "overhead").</p>
Research/Public service related	<p>Includes direct spending on research and public service plus a prorated share of spending on academic support, institutional support, and operations and maintenance (i.e. "overhead"). Research includes expenses for activities commissioned by an outside agency specifically organized to produce research outcomes. These research activities - either external to the institution or separately budgeted by an organizational unit within the institution - include institutes and research centers, and individual and project research. This function does not include nonresearch sponsored programs (e.g., training programs). Also included are information technology expenses related to research activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support.) Public service includes expenses for activities established primarily to provide noninstructional services beneficial to individuals and groups external to the institution. Examples are conferences, institutes, general advisory service, reference bureaus, and similar services provided to particular sectors of the community. This function includes expenses for community services, cooperative extension services, and public broadcasting services. Also includes information technology expenses related to the public service activities if the institution separately budgets and expenses information technology resources (otherwise these expenses are included in academic support).</p>
Net scholarships and fellowships	<p>The portion of scholarships and fellowships granted by an institution that exceeds the amount applied to institutional charges such as tuition and fees or room and board and excludes allowances. Note: the amount reported as net scholarships and fellowships reflects only a small portion of the actual amount of grant aid spent on students, which primarily takes the form of discounts on tuition and fees and room and board.</p>

Auxiliary enterprises	<p>Auxiliary enterprises include auxiliary enterprises, hospital services, independent operations, and other expenses. Auxiliary enterprises are essentially self-supporting operations of the institution that exist to furnish a service to students, faculty, or staff, and that charge a fee that is directly related to, although not necessarily equal to, the cost of the service. Examples are residence halls, food services, student health services, intercollegiate athletics (only if essentially self-supporting), college unions, college stores, faculty and staff parking, and faculty housing. Hospital services expenses is the sum of all operating expenses associated with a hospital operated by the postsecondary institution (but not as a component unit) and reported as a part of the institution. This classification includes nursing expenses, other professional services, general services, administrative services, and fiscal services. Independent operations expenses are associated with operations that are independent of or unrelated to the primary missions of the institution (i.e., instruction, research, public service) although they may contribute indirectly to the enhancement of these programs. This category is generally limited to expenses of a major federally funded research and development center. Other expenses and deductions is the sum of all operating expenses that are not associated with functions previously listed (i.e., instruction, research, public service, academic support, student services, institutional support, operations and maintenance of plant, depreciation, scholarships and fellowships, auxiliary enterprises, hospitals, and independent operations).</p>
Total operating expenditures	<p>Total education related expenditures plus expenditures for research and public service related activities, net scholarships and fellowships, and auxiliary enterprises (auxiliaries, hospitals, independent and other operations).</p>
Average subsidy	<p>The dollar amount of education related expenditures that are covered by institutional resources (primarily state funding at public institutions); it is the difference between education related expenditures and net tuition revenue.</p>
Student share of costs	<p>The share of education related expenditures that are covered by net tuition revenue.</p>
Total degrees	<p>The total number of degrees conferred by a college, university, or other postsecondary education institution as official recognition for the successful completion of a program of study.</p>
Total completions	<p>Total degrees, awards and certificates granted. Degrees are reported by level (associate's, bachelor's, master's, doctor's, and first-professional) and awards by length of program.</p>
Total degrees per 100 FTE students	<p>The total number of degrees granted per 100 full time equivalent students enrolled.</p>

Total completions per 100 FTE students	The total number of completions (degrees, certificates, formal awards) granted per 100 full time equivalent students enrolled.
Education related expenditures per degree	A measure of spending on educational costs per degree (in contrast to cost per student enrolled); calculated as the total education related expenditures (for all students) divided by all degrees (undergraduate, graduate, and professional) awarded in that year.
Education related expenditures per completion	A measure of spending on total educational costs per completion (in contrast to costs per student enrolled); calculated as the total education related expenditures (for all students) divided by all degrees and certificates awarded in that year. "Completions" includes all degrees, certificates, diplomas or other formal awards granted by an institution in a year, regardless of when the student initially enrolled in that institution (i.e. as a freshman or a junior) and without regard to the number of years the student was enrolled before attaining the completion.

Appendix B: Institutions Included in Analysis

PRIVATE

Private Career Schools

Academy of Cosmetology
Alpine College
Beauty Academy
Bellingham Beauty School
BJ's Beauty & Barber College (Tacoma, Puyallup)
Bryman College-Lynnwood
Business Career Training Institute (all campuses)
Cambridge College-Seattle
Carrington College-Spokane
Cascade Beauty College
Chetta's Academy Of Hair And Nails
Cortiva Institute-Brian Utting School of Massage
Cortiva Institute-Seattle (Federal Way)
Cortiva Institute-Seattle (Seattle)
Court Reporting Institute and Agency
Divers Institute of Technology
Emil Fries Piano Hospital and Training Center
Everest College-(Bremerton, Everett, Federal Way, Tacoma)
Everest College-Renton
Everest College-(Seattle, Everett, Tacoma, Vancouver massage therapy)
Everest College-Vancouver
Evergreen Beauty & Barber College-Bellevue
Evergreen Beauty & Barber College-Everett
Gary Manuel Aveda Institute
Gene Juarez Academy of Beauty (all campuses)
Glen Dow Academy of Hair Design
GP Institute of Cosmetology
Inland Massage Institute
Interface College-Spokane (all locations)
International Air and Hospitality Academy
Kaplan College-Renton
Le Cordon Bleu College of Culinary Arts-Seattle

Lucas Marc Academy
Northwest Hair Academy
Northwest HVAC/R Training Center
Northwest School of Wooden Boat Building (Port Hadlock)
Nursing Assistant Training Institute^2
Paroba College of Cosmetology
Paul Mitchell The School Spokane
Perry Technical Institute
Phagans Orchards Beauty School^1
Pima Medical Institute-Renton
Pima Medical Institute-Seattle
Professional Beauty School (Yakima and Sunnyside)
Seattle Midwifery School
Stylemaster College of Hair Design
Sunnyside Beauty Academy
The Salon Professional Academy-Tacoma
Toni & Guy Hairdressing Academy-Bellingham
Toni & Guy Hairdressing Academy-Shoreline
Total Cosmetology Training Center
Victoria's Academy of Cosmetology
Yakima Beauty School Beautyworks

Private Baccalaureate Institutions

Antioch University-Seattle^1
Argosy University-Seattle
Bainbridge Graduate Institute
Bakke Graduate University
Bastyr University
City University of Seattle
Corban University School of Ministry
Cornish College of the Arts
Crown College
DeVry University's Keller Graduate School of Management-Washington (Federal Way)
DeVry University-Washington
DigiPen Institute of Technology
Faith Evangelical College & Seminary (Tacoma)
Gonzaga University
Henry Cogswell College^1

Heritage University
International Academy of Design and Technology-Seattle
ITT Technical Institute-Everett
ITT Technical Institute-Seattle
ITT Technical Institute-Spokane Valley
Northwest College of Art & Design
Northwest Institute of Literary Arts
Northwest University
Pacific Lutheran University
Pacific Northwest University of Health Sciences^1
Puget Sound Christian College
Saint Martin's University
Seattle Institute of Oriental Medicine
Seattle Pacific University
Seattle University
The Art Institute of Seattle
The Seattle School of Theology & Psychology
Trinity Lutheran College
University of Phoenix-Eastern Washington Campus^1
University of Phoenix-Western Washington Campus
University of Puget Sound
Walla Walla University
Whitman College
Whitworth University
Whitworth University-Adult Degree Programs

PUBLIC

Community & Technical Colleges

Bates Technical College
Bellevue College
Bellingham Technical College
Big Bend Community College
Cascadia Community College
Centralia College
Clark College
Clover Park Technical College
Columbia Basin College
Edmonds Community College

Everett Community College
Grays Harbor College
Green River Community College
Highline Community College
Lake Washington Institute of Technology
Lower Columbia College
Northwest Indian College
Olympic College
Peninsula College
Pierce College (Fort Steilacoom & Puyallup)
Renton Technical College
Seattle Community College-Central Campus
Seattle Community College-North Campus
Seattle Community College-South Campus
Seattle Vocational Institute
Shoreline Community College
Skagit Valley College
South Puget Sound Community College
Spokane Community College
Spokane Falls Community College
Tacoma Community College
Walla Walla Community College
Wenatchee Valley College
Whatcom Community College
Yakima Valley Community College

Comprehensive Institutions

Central Washington University
Eastern Washington University
The Evergreen State College
Western Washington University

Research Universities

University of Washington – (all campuses)
Washington State University – (all campuses)

Notes:

- 1 – Students and completions only
- 2 – Completions only

Appendix C: References

All of the following can be accessed through the Delta Cost Project website www.deltacostproject.org/

“Revenue: Where Does the Money Come From? A Delta Data Update, 2000-2010,” Rita J. Kirshstein and Steven Hurlburt, American Institutes for Research.

“Spending: Where Does the Money Go? A Delta Data Update, 2000-2010,” Steven Hurlburt and Rita J. Kirshstein, American Institutes for Research.

“Spending and Results: What Does the Money Buy? A Delta Data Update 2000-2010,” Donna M. Desrochers and Steven Hurlburt, American Institutes for Research.

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“Issue Brief #2: Metrics for Improving Cost Accountability,” Delta Project on Postsecondary Education Costs, Productivity and Accountability, revised February 2009.

“Trends in College Spending (TCS) Online,” accessed at www.tcs-online.org/Home.aspx