

UW SYSTEM TUITION-SETTING POLICY TASK FORCE

Thursday, March 31, 2016, 8:30 a.m.

1220 Linden Drive
1820 Van Hise Hall
Madison, Wisconsin

Agenda

- 8:30 I. Introductions (if needed); feedback, summary and takeaways from the February 10, 2016 meeting – *Regent Chair Tim Higgins/All*
- 8:45 II. Identification and development of tuition principles
- A. Tuition principles survey results – *UW System Office of Budget and Planning Staff*
 - B. Discussion – *All*
- 9:45 III. Tuition Strategies
- A. Overview of other tuition models – *UW System Office of Budget and Planning Staff*
 - B. A closer examination of the per-credit and stratification models – *UW System Office of Budget and Planning Staff*
 - C. Discussion – *All*
- 11:30 Break
- 11:40 IV. Discussion: What does affordability mean? – *All*
- 1:00 V. Framing future discussions regarding the analysis of cost – *UW System Office of Budget and Planning Staff*
- 1:15 VI. Preview of Upcoming Meetings – *Regent Chair Tim Higgins*
- 1:30 VII. Adjourn



STRATIFIED TUITION AND DIFFERENTIAL TUITION

Tuition Setting Task Force, 2016

STRATIFIED TUITION AND DIFFERENTIAL TUITION

This document provides a history of tuition stratification and differential tuition since the merger of the UW System, general considerations for both policies, and options that the Task Force may wish to consider.

HISTORY

Tuition stratification refers to the difference in base tuition levels between UW institutions. Historically, the UW System has stratified tuition in three clusters – doctoral, comprehensive, and the UW Colleges. This section provides an overview of how the system developed its current tuition structure.

During the late 1960s and the 1970s, biennial budget reviews established that resident undergraduates should pay one-fourth of the average cost of their instruction.

Table 1: Resident Undergraduate Annual Tuition

	1971-72	1975-76	1976-77	1993-94	1997-98	2000-01	2005-06	2010-11	2015-16
UW-Madison	462	540	574	2,227	2,860	3,290	5,618	7,933	9,273
UW-Milwaukee	462	540	574	2,206	2,847	3,194	5,494	7,269	8,091
UW-Eau Claire	364	524	544	1,792	2,412	2,694	4,414	6,122	7,361
UW-Green Bay	462	524	544	1,792	2,312	2,594	4,277	5,659	6,298
UW-La Crosse	364	524	544	1,792	2,312	2,594	4,331	5,779	7,585
UW-Oshkosh	364	524	544	1,792	2,312	2,594	4,387	5,775	6,422
UW-Parkside	462	524	544	1,792	2,312	2,594	4,277	5,659	6,298
UW-Platteville	364	524	544	1,792	2,312	2,594	4,277	5,766	6,418
UW-River Falls	364	524	544	1,792	2,312	2,594	4,277	5,731	6,428
UW-Stevens Point	364	524	544	1,792	2,312	2,594	4,277	5,659	6,298
UW-Stout*	364	524	544	1,792	2,312	2,724	4,491	6,300	7,020
UW-Superior	364	524	544	1,792	2,312	2,594	4,427	5,866	6,535
UW-Whitewater	364	524	544	1,792	2,312	2,594	4,277	5,857	6,519
UW Colleges	462	524	518	1,467	1,956	2,264	3,977	4,268	4,750

* The per-credit rate at UW-Stout is multiplied by 15 credits

In the early 1970s, the current UW System was created by the merger of Chapter 36 institutions (UW-Madison, UW-Milwaukee, UW-Green Bay, and UW-Parkside) and Chapter 37 institutions. In 1971-72, tuition rates were stratified between Chapter 36 and Chapter 37 institutions (Table 1).

Graduate students were charged more than undergraduate students, which was referred to as a bi-level plan.

In 1973-74, the system started moving to an integrated tuition schedule. Tuition rates were not synchronized immediately in order to avoid “abrupt, sizeable increases in charges to some categories

of students.” Under the new schedule, students would continue to pay 25 percent of the average cost of education.

At the same time, the system also implemented a tri-level plan, which lowered tuition for freshmen and sophomores. The proposal was made in recognition of the lower cost to deliver freshmen and sophomore courses and in response to a Governor’s policy paper recommendation.

In 1975-76, the tuition schedule returned to a bi-level plan.

A three-year, low-tuition plan at the coordinated campuses in Fond du Lac (now UW-Fond du Lac) and Rice Lake (now UW-Barron County) ended in 1975-76. During the pilot, tuition was set at the same rate as the VTAE institutions (now Wisconsin Technical Colleges). Although the pilot demonstrated positive effects on student access to higher education and attracted national attention, a regent proposal to stabilize and then reduce fees throughout the system was not seriously considered in the legislative review.

In 1976-77, the tuition rate at the UW Colleges were reduced to reflect their lower instructional costs. Tuition was set at 25 percent of the UW Colleges cost and not the cost for the entire comprehensive cluster.

In 1993-94, the Board of Regents approved a 6.3 percent resident undergraduate tuition increase at UW-Milwaukee and a 7.3 percent tuition increase at UW-Madison. The additional 1.0 percent increase was legislatively authorized for undergraduate initiatives like advising, instructional technology, research seminars, and a business fellows program. This was the beginning of the tuition distinction between UW-Milwaukee and UW-Madison in the doctoral cluster.

In 1996-97, the board used differential tuition authority for the first time. The regents began a multi-year process to increase tuition at the UW Colleges to the level of the college-parallel program at the Wisconsin Technical Colleges.

Historically, the board had limited authority to set tuition, particularly for resident undergraduates, or to expend tuition revenue. Differential tuition was a statutory flexibility [Wis. Stat. 36.27(1)(am)6] that provided the board and institutions flexibility to address strategic priorities. The statute did not define the characteristics of a differential or the approval process that should be followed.

In other states, “differential tuition” has a different meaning than it does in Wisconsin. Nationally, differential tuition means that a specific program has a higher tuition rate (e.g., business and engineering). It is uncommon for differential tuition to apply to all students at an institution. In other states, an across-the-board tuition increase for an institutional priority would be handled like any other general tuition increase.

In 1997-98, the board approved differential tuition rates for the UW-Madison Doctor of Pharmacy Program, the UW-Eau Claire Undergraduate Baccalaureate Degree Program, and the UW-La Crosse allied health programs.

In the 2008 report of the Advisory Group on Tuition and Financial Aid Policy, the group identified tuition stratification and differential tuition as the policy alternatives that were the most consistent with the contemporary tuition policy principles.

In 2010, the board approved a new policy and approval process for differential tuition, including student involvement and five-year reviews.

In 2011, the legislature removed the statutory limitations on the board's tuition setting authority and the statutory reference to differential tuition (2011 Act 32). With these changes, the board could set tuition by program, institution, or cluster without a requirement to use the differential tuition process.

The 2011 Report of the Graduate Programs and Nonresident Tuition Working Group recommend greater flexibility for graduate and nonresident tuition setting. While the report was not presented to the board, differential tuition proposals have generally been limited to undergraduate tuition as a result of the report. Proposals to change graduate pricing have been treated as changes to the base tuition rate.

In a technical sense, the UW System continues to stratify tuition by cluster. Each comprehensive institution has a shared base rate for resident undergraduates. Differential tuition is added to that uniform rate. The end result is a functional diversity in tuition rates.

It should also be noted that tuition stratification in the UW System has become less defined as a result of the tuition freeze. While general resident undergraduate tuition is frozen, the Board has considered and approved proposals submitted by institutions for new programs. These new rates are not differentials as described in board policy, but changes to the institution's base tuition rate.

For example, the base resident undergraduate tuition rate at comprehensive institutions is \$6,298. At UW-River Falls, the base undergraduate tuition rate is \$6,298 with a \$130 differential. At UW-Green Bay, the base tuition rate for the recently approved undergraduate engineering technology program is \$7,698.

GENERAL CONSIDERATIONS

Tuition Stratification

Cluster-based stratification has its historical roots in recognizing the difference in instructional costs between clusters. The policy was based on the premise that students should be charged similar tuition rates at similar institutions as a matter of equity.

Those roots support a policy argument that a “UW credit is a UW credit,” and the quality and price of a credit should be similar regardless of the access point. A related argument is that students should select a UW institution based on educational fit instead of price.

Stratification also serves as a method to regulate pricing competition within a system. As resident freshmen enrollments continue to a 10-year low and state funding is reduced, there could be an incentive for institutions to use pricing to compete against each other. Creating a fixed tuition stratification across institutions reduces an institution’s ability to reduce tuition rates as a recruitment lever.

However, cluster-based stratification is not responsive to institutional markets or missions. Some institutions are able to charge higher tuition rates and maintain enrollments, while others cannot. Stratification could prevent institutions from raising rates to the market level, force institutions with less price flexibility to charge a higher tuition rate than is sustainable, or both.

Additionally, rigid tuition stratification does not take into account the higher cost of instruction for some programs. Programs that are more expensive to offer charge the same tuition as programs that are less expensive.

Affordability. Generally, cluster-based stratification is not intended to be an affordability strategy.

An argument can be made that stratification encourages affordability by limiting tuition increases to the same amount at each institution. Institutions with high student demand would be unable to increase tuition in response to the market.

However, using stratification for affordability only considers student cost at the broadest level and does not respond to the financial need of individual students. Students and families with greater ability to pay are charged the same tuition as students with limited means. A uniform tuition rate is not that same as a rate that is affordable to students of limited means.

Further, stratification focuses on tuition pricing, which is only one aspect of affordability. It could be argued that a higher tuition rate is more affordable if the resources are used to reduce time to degree or to increase retention rates.

Differential Tuition

Current differential tuition policy provides institutions with a mechanism to propose tuition increases that address institutional priorities while retaining board oversight. The statutory constraints on tuition setting that prompted the creation of the differential policies no longer exist, but the policies may still be a useful framework for resident undergraduate tuition proposals.

Current policy requires student input in differential tuition programs. This collaboration appears to have been a factor in legislative acceptance of the UW-Stevens Point differential tuition in the 2015-17 biennial budget (2015 Act 55):

The Board of Regents of the University of Wisconsin System may increase resident undergraduate tuition at the University of Wisconsin–Stevens Point in the 2015–16 and 2016–17 academic years to implement a differential tuition that is approved by students in a referendum held after the effective date of this subsection.

However, the differences in student populations creates disparities among institutions. Some institutions may be unable to implement a substantial differential because students are unwilling to support the proposal, the market appears to be unable to support the higher cost, or a differential is assumed to be inconsistent with an access mission.

The differential process also creates a segregated funding source that can only be reallocated to meet changing institutional priorities with board approval. And, an institution's operational obligations (i.e., common systems charges, facilities maintenance) are unlikely to qualify for differential funding. With continuing instability in GPR funding and growing pressure to fund core functions, segregating tuition revenue may no longer be desirable.

Further, the differential approval process, ongoing collaboration with students, and five-year reviews can be time intensive. An argument could be made that the ongoing administrative investment in maintaining a differential is disproportionately burdensome when compared to the greater flexibility on general tuition revenue.

Affordability. Differential tuition programs increase tuition, which increases the cost of attendance. The immediate impact is to reduce affordability.

However, additional services provided by differential tuition revenue may decrease time to degree or increase retention rates. For example, a differential may support high-impact practices or additional tutoring resources. If a student graduates in four years instead of five years as a result of these services, the overall reduction in the total cost of a degree may more than offset the cost of the differential.

A student's decision to attend an institution is dependent on many factors outside of the cost of attendance. Parental influence, program array, location, atmosphere, and extracurricular activities are some of the factors that also strongly influence the selection process. Because of the complexity of the decision making process, it is difficult to isolate the impact of a single variable – tuition – on enrollment.

With this in mind, the percentage of Pell-eligible resident new freshmen was compared between UW-La Crosse, UW-Eau Claire, and UW-Stevens Point to explore the impact of differential tuition on

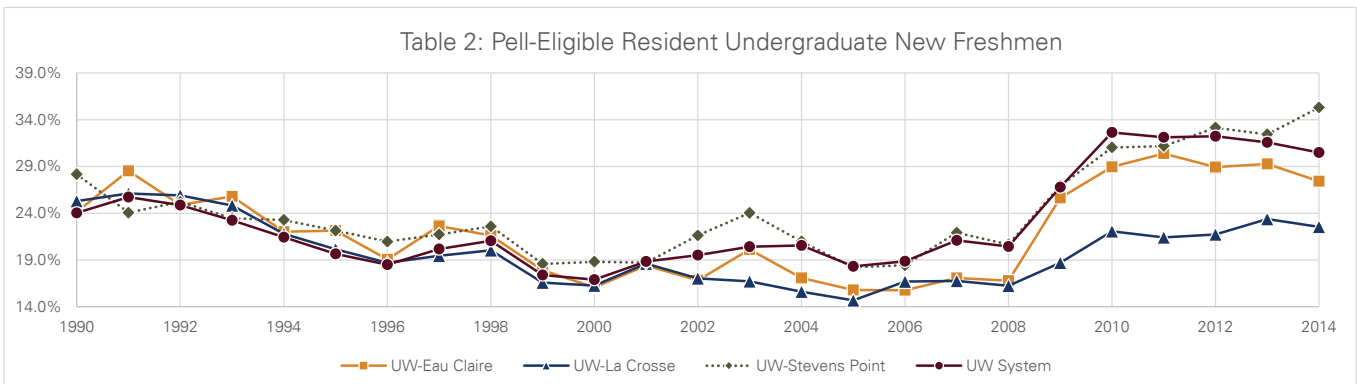
students of limited means. These institutions were selected because they are all comprehensive institutions, are geographically close, and have significant differences in their differential tuition programs.

The freshmen cohort was chosen because currently enrolled students may be charged less than new students during the implementation of a differential. And, currently enrolled students may be less price sensitive than students who are still selecting an institution.

UW-La Crosse implemented a small differential in Fall 2003 and a relatively large differential in Fall 2008. The large differential was \$250 per semester for new students in Fall 2008, and \$500 per semester in Fall 2009. The combined total of the two differentials is currently \$643.20 (\$69.96+\$573.24) per semester. UW-La Crosse intended to redirect GPR resources to need-based financial aid, but the change was not approved by the state legislature. As such, the differential does not have a defined financial aid component.

UW-Eau Claire implemented a small differential in Fall 1997 for \$50 per semester. In Fall 2010, the small differential was replaced with a relatively large differential. The differential was \$81.50 per semester in Fall 2009, \$231.50 in Fall 2010, \$381.50 in Fall 2011, and \$531.50 in Fall 2012. The final increase in Fall 2013 has not occurred because of the ongoing tuition freeze. The current differential included a substantial financial aid requirement. In particular, all Pell-eligible students receive a grant that offsets the entire differential.

UW-Stevens Point did not have a differential tuition program prior to Fall 2014.



Before 2008, the percentage of Pell-eligible students at UW-La Crosse was similar to the other institutions. After 2008, the percentages diverged sharply. This suggests that there may be some relationship between large differential tuition programs without financial aid and perceived or actual affordability.

Again, a student’s decision to select an institution is complex. Identifying the impact of a differential tuition program on students, particularly with the pervasive influence of the Great Recession, is difficult.

OPTIONS

The following are options that the task force members may wish to consider in their discussion.

1. Continue with current tuition stratification and differential tuition policy

2. Modify the current tuition stratification clusters and maintain differential tuition policy

- a. Gradually stratify institutions based on selectivity clusters.
- b. Gradually stratify institutions based on geographic clusters.
- c. Gradually stratify institutions based on mission clusters.
- d. Gradually stratify comprehensive institutions based on number of students.
- e. Include the UW Colleges in the comprehensive tuition cluster rate.

3. Continue with current tuition stratification and modify differential tuition policy

- a. Gradually convert all differentials to base tuition. All former differential tuition revenue remains at the institutions.
- b. Gradually convert all differentials to base tuition. All former differential tuition revenue is available for redistribution among institutions.
- c. Immediately convert all differentials to base tuition. All former differential tuition revenue remains at the institutions.
- d. Permit institutions to reallocate differential tuition funds to other institutional priorities with student consultation. The board would continue to require ongoing student consultation and five-year program reviews.

4. Reaffirm tuition stratification for resident undergraduates

- a. Maintain resident undergraduate tuition rates at UW-Madison and UW-La Crosse, and gradually increase tuition at other institutions until each cluster is at a single tuition rate. The additional tuition revenue remains at the institution. Gradually convert all differentials to base tuition with the revenue remaining at the institution.
- b. Maintain resident undergraduate tuition rates at UW-Madison and UW-La Crosse, and gradually increase tuition at other institutions until each cluster is at a single tuition rate. Some portion of the additional tuition revenue remains at the institution. Gradually convert all differentials to base tuition with the revenue remaining at the institution.

- c. After the tuition freeze, immediately raise all resident undergraduate tuition rates to the highest tuition rate within a cluster. The additional tuition revenue remains at the institution. Convert all differentials to base tuition immediately with the revenue remaining at the institution.
- d. After the tuition freeze, immediately raise or lower resident undergraduate tuition rates at each institution to the cluster average. The existing differential tuition programs would be rolled into the new rate, but the revenue would continue to be segregated for the purposes approved by the board.

5. Reaffirm tuition stratification by program

- a. Gradually increase program tuition rates so that similar programs have the same tuition rate across the system. The additional tuition revenue would remain at the institution. For example, all engineering programs would have the same tuition rate.

6. Reaffirm tuition stratification within current clusters for all students

- a. Freeze all tuition rates at UW-Madison and UW-La Crosse, and gradually increase tuition at other institutions until each cluster has the same tuition rate. The additional tuition revenue remains at the institution. Gradually convert all differentials to base tuition with the revenue remaining at the institution.
- b. Freeze all tuition rates at UW-Madison and UW-La Crosse, and gradually increase tuition at other institutions until each cluster has the same tuition rate. Some portion of the additional tuition revenue remains at the institution. Gradually convert all differentials to base tuition with the revenue remaining at the institution.
- c. After the tuition freeze, immediately raise all tuition rates to the highest tuition rate within a cluster. The additional tuition revenue remains at the institution. Convert all differentials to base tuition immediately with the revenue remaining at the institution.

7. Discontinue graduate and nonresident tuition stratification

- a. Continue to permit institutions to bring graduate and nonresident tuition increase proposals to the board for annual approval. Allow institutions to convert graduate and nonresident differentials to base tuition. Institutions would retain all tuition revenue.
- b. Continue to permit institutions to bring graduate and nonresident tuition increase proposals to the board for approval. Allow institutions to convert graduate and nonresident differentials to base tuition. Institutions would retain some portion of the additional tuition revenue generated.
- c. Delegate tuition-setting authority from the board to chancellors for nonresident and graduate tuition. Require institutions to report tuition rates to the board in the annual operating budget. Allow institutions to convert graduate and nonresident differentials to base tuition.

8. Discontinue all tuition stratification

- a. Permit institutions to bring tuition increase proposals for residents, nonresidents, undergraduates, and graduates to the board for approval. Allow institutions to propose a process for converting differentials to base tuition for board approval. All tuition revenue would remain at the institution.
- b. Permit institutions to bring tuition increase proposals for residents, nonresidents, undergraduates, and graduates to the board for approval. Allow institutions to propose a process for converting differentials to base tuition for board approval. Some proportion of new tuition revenue would remain at the institution.
- c. Permit institutions to bring tuition increase proposals for residents, nonresidents, undergraduates, and graduates to the board for approval. Maintain current differential tuition programs for resident undergraduates. Allow institutions to convert graduate and nonresident differentials to base tuition.
- d. Delegate tuition-setting authority from the board to chancellors for all tuition rates. Require institutions to report tuition rates to the board in the annual operating budget. Allow institutions to convert all differentials to base tuition. All tuition revenue would remain at the institution.
- e. Delegate tuition-setting authority from the board to chancellors within limits approved by the board each year. Require institutions to report tuition rates to the board in the annual operating budget. Allow institutions to convert all differentials to base tuition. Institutions would retain all tuition.



PER-CREDIT OPTION PAPER

Office of Budget and Planning, 2016
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Background

This document was created for the Tuition Setting Policy Task Force. It provides an overview of per-credit tuition as an option for UW Institutions.

Whether per-credit tuition should be implemented will generally depend on the goals to be achieved, the type of change to the current tuition structure that is desired, and the circumstances of individual institutions.

Under a per-credit tuition structure, students pay a fixed amount for each credit regardless of the number of credits. For example, at a per-credit institution, an undergraduate student would pay \$200 per-credit regardless of whether the student enrolled in 4 credits (\$800) or 15 credits (\$3,000). A per-credit tuition structure is also known as a “linear model” in some states.

The paper is designed to follow charge of the Tuition Setting Policy Task Force as it relates to tuition structures. First, the paper will review current UW System policies and the history of per-credit tuition use in the UW System. Then, the paper will look at variations of the per-credit model and address the primary differences among those variations. The paper will also explore the effects a per-credit tuition structure can have on affordability, cost, and reporting requirements. Finally, the paper will address how a per-credit model could impact state needs in terms of resource efficiency.

History of Per-Credit Tuition in the UW System

The University of Wisconsin System currently utilizes a plateau model to assess tuition except at UW-Stout, which charges tuition on a per-credit basis. At all other institutions, undergraduate students are charged per-credit up to 12 credits. Between 12 and 18 credits, students pay the same tuition as a student taking 12 credits. The per-credit rate is again charged for each credit over 18 credits.

The current plateau policy was implemented from a report on restructuring tuition that was required in the 1987-89 biennial budget. At that time, the legislature was particularly interested in a per-credit tuition structure. In February 1989 the Board adopted Resolution 5144:

1. As a general University of Wisconsin System policy, the 12-18 credit plateau tuition structure is adopted;
2. If an institution determines that a per-credit structure better addresses local circumstances, the institution would be permitted to seek approval from the Board of Regents to adopt a per-credit structure;
3. The Report on Restructuring Tuition is received and approved for transmittal by the Board of Regents to the Joint Committee on Finance as directed by the Joint Committee on Finance in September, 1988 under Wis. Stats. § 13.10.

Since that time, per-credit tuition has been discussed repeatedly. The following summarizes some of the per-credit discussions:

- UW-Superior piloted a summer tuition schedule in 1998 that charged per-credit to graduate students.
- In 1999, UW-Oshkosh, UW-River Falls, UW-Eau Claire, and UW-Platteville also began to charge graduate summer per-credit tuition. UW-Stevens Point and UW-Green Bay began to charge graduate

summer per-credit tuition in 2011, however UW-Stevens Point returned to the plateau structure in summer 2012.

- In 2001, the Board approved a per-credit tuition structure at UW-Stout that applied to the entire academic year.
- *Building Our Resource Base*, an initiative by the Board of Regents in 2001 and 2002, recommended evaluating the existing per-credit pilots and permitting additional pilots under the Board review process.
- Per-credit tuition was part of a 2005 discussion to assess tuition differently.
- In the 2008 *Report on Tuition and Financial Aid Policy*, the President’s Advisory Group considered the advantages and disadvantages of a per-credit structure. Implementation of a per-credit tuition structure was not included in the group’s recommendations.
- The 2010 Legislative Study Committee on Financial Aid Programs discussed per-credit tuition options, but did not include per-credit tuition in the legislative recommendations.

Per-Credit Tuition Implementation Variations

Per-credit tuition structures can be implemented in five ways: 1) Revenue Neutral, 2) Revenue Generating, 3) Tuition Neutral, and 4) Expanded Summer Per-Credit 5) Modified Tuition Plateau.

1) Revenue Neutral

A revenue neutral transition from a plateau structure to a per-credit structure lowers the per-credit tuition rate in order to hold tuition revenue neutral. This approach is generally used when equity between full-time and part-time students or administrative improvements are a priority.

Depending on the implementation scope, revenue could be held neutral at the system level, by cluster, or by institution. The scope will change both the per-credit tuition rate and institutional contributions to the tuition pool. For example, UW-La Crosse has a higher percentage of full-time students than UW-Parkside. If revenue is held neutral by institution, the per-credit rate at UW-La Crosse would need to decrease by more to hold revenue neutral than it would at UW-Parkside.

It should be noted that a revenue neutral approach would not necessarily remain revenue neutral over time. For example, revenue models show that UW-Stout is generating less undergraduate revenue under the per-credit model than it would have under the plateau model.

Figure 2: UW-Stout Undergraduate Revenue under a Per-Credit and Plateau Model

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Per Credit	\$16,573,453	\$17,431,748	\$18,778,842	\$19,836,154	\$21,684,387	\$22,809,280
Plateau	\$16,207,361	\$17,202,737	\$18,498,081	\$19,799,873	\$21,742,217	\$22,945,446
Difference	\$366,092	\$229,011	\$280,761	\$36,281	-\$57,830	-\$136,167

The revenue generation in 2006-07 is likely the result of the initial per-credit rate being set with a contingency to prevent loss of revenue should student behavior be impacted by the change. Higher annual tuition increases on plateau tuition is largely responsible for the subsequent decline in revenue. Figure 3 shows this change over time.

Figure 3: UW-Stout Tuition Gap

	UW-Stout Per-Credit	Comprehensive Rate	Difference
2004-05	\$148.51	\$166.66	\$18.15
2005-06	\$158.16	\$178.21	\$20.05
2006-07	\$169.58	\$190.33	\$20.75
2007-08	\$178.90	\$200.80	\$21.90
2008-09	\$188.74	\$211.84	\$23.10
2009-10	\$199.12	\$223.49	\$24.37
2010-11	\$210.07	\$235.78	\$25.71
2011-12	\$221.62	\$248.75	\$27.13
2012-13	\$233.81	\$262.43	\$28.62
2013-14	\$233.81	\$262.43	\$28.62
2014-15	\$233.81	\$262.43	\$28.62
2015-16	\$233.81	\$262.43	\$28.62

Note: The Comprehensive rate is the base published per-credit rate before any added differentials.

2) Revenue Generating

Under a revenue generating model, the per-credit tuition rate either remains the same or is adjusted downward to a level that is higher than the revenue neutral level and the plateau is removed. All students must then pay for each credit. The summer graduate per-credit programs kept the per-credit rate the same and charged for all additional credits.

3) Tuition Neutral

A tuition neutral approach holds tuition constant for the average full-time student. The result is a lower per-credit rate for all students. A full-time student taking the average number of credits pays the same amount, while full-time students taking more than the average credit load pay more. Part-time students and students taking less than the average number of credits pay less in tuition. This approach is usually considered when access is the primary concern. This may result in a loss of revenue.

Figure 4: Tuition-Neutral Resident Undergraduate Rates 2015-16

	Full-time Rate	Average Full-time Credit Load	Per-Credit Rate
UW-Madison	\$4,637	14.5	\$319.79
UW-Milwaukee	\$4,046	14.4	\$280.97
UW-Eau Claire	\$3,681	14.7	\$250.41
UW-Green Bay	\$3,149	14.4	\$218.68
UW-La Crosse	\$3,792	14.9	\$254.50
UW-Oshkosh	\$3,211	15.0	\$214.07
UW-Parkside	\$3,149	14.2	\$221.76
UW-Platteville	\$3,209	15.2	\$211.12
UW-River Falls	\$3,214	14.5	\$221.66
UW-Stevens Point	\$3,149	14.4	\$218.68
UW-Superior	\$3,268	14.3	\$228.53
UW-Whitewater	\$3,259	14.8	\$220.20
UW-Colleges	\$2,375	13.9	\$170.86

4) Expanded Summer Per-Credit

Currently, several UW Institutions utilize a per-credit model for graduate students in the summer term. Undergraduate students, however, are charged under a modified plateau during the summer where students are charged per-credit up to six credits, are not charged for additional credits between six and nine credits, and continue to be charged the per-credit rate above nine credits.

It has been suggested that both graduate students and undergraduate students could be charged per-credit during the summer term. Moving to a per-credit model for the summer term may help offset the costs of holding summer courses.

5) Modified Tuition Plateau

A common plateau model includes a return to a per-credit model beyond a number of credits. For example, most UW institutions charge undergraduates per-credit tuition to 12 credits, do not charge for additional credits between 12 and 18 credits, and continue to charge the per-credit rate above 18 credits. The range for the plateau could be modified to include more or fewer credits.

Another plateau variation is charging a reduced rate beyond a certain number of credits. For example, an institution with a modified 12-credit plateau would charge \$200 per-credit to 12 credits and \$100 per-credit above 12 credits.

a) Raise the Tuition Plateau

The UW could also consider reassessing the plateau at the current average credit load at UW-Madison, UW-Milwaukee, and the Comprehensives. For example, the plateau could begin at 14 credits at UW-Madison instead of 12 credits.

Raising the plateau rate to the average credit load would account for students taking higher credit loads than in the past. This approach would generate additional revenue that could be used for system or institutional priorities.¹

Implications of Per-Credit Tuition on Cost and Affordability

UW institutions, System Administration, and the state legislature have discussed the advantages and disadvantages of a per-credit tuition structure for many years. This section addresses the validity of claims made during these discussions to the extent that is possible with existing data.

Student Credit Load

One of the stated purposes of the UW plateau structure is to encourage students to take additional credits in order to shorten their time to degree. For example, for a 120-credit program, students can graduate in four years instead of five by taking 15 credits per semester as opposed to 12. Proponents of the plateau argue that earlier graduation not only reduces tuition expenses and debt load, but also allows students to enter the workforce sooner.

Proponents of a per-credit structure generally offer two counter arguments. First, they argue that there has been little evidence to support a connection between a per-credit structure and reduced credit loads. And, second, any reduction in credit load may be the result of students more carefully considering their educational path. This may not necessarily impact time to degree.

This section evaluates both discussion points by reviewing modifications to the plateau at UW-Stout and Eastern Oregon University.

- *UW-Stout.*

UW-Stout partially implemented a revenue-neutral per-credit structure in fall 2002. Students already enrolled were grandfathered into the plateau structure; only new students started on the per-credit structure.

Figure 5 shows the average credit load for resident undergraduates who were enrolled full time. Note that there was a small decrease, 14.8 to 14.7 credits, in fall 2002. The credit load increased back to the plateau levels in two years. The table also shows that UW-Stout has had the largest decrease in credit load over time.

¹ In April 1991 the 12-18 credit plateau was set at the 14.1 credit equivalent rate. 14.1 credits was the average credit load covered by full-time students at the time.

	Fall 2001	Fall 2003	Fall 2005	Fall 2007	Fall 2009	Fall 2011	Fall 2013	Fall 2015
UW-Madison	14.2	14.4	14.4	14.3	14.4	14.4	14.4	14.5
UW-Milwaukee	13.9	14.1	14.1	14.1	14.2	14.2	14.3	14.4
UW-Eau Claire	14.5	14.6	14.6	14.6	14.6	14.6	14.6	14.7
UW-Green Bay	14.3	14.6	14.5	14.4	14.4	14.3	14.4	14.4
UW-La Crosse	14.8	14.8	14.9	14.9	14.9	14.9	14.9	14.9
UW-Oshkosh	15.2	15.1	15.1	14.9	14.9	14.8	14.8	15
UW-Parkside	14.1	14	14.1	14	13.9	13.9	13.9	14.2
UW-Platteville	14.9	14.9	15	15.1	15.2	15.1	15.2	15.2
UW-River Falls	14.8	14.7	14.7	14.6	14.5	14.4	14.5	14.5
UW-Stevens Point	14.6	14.6	14.6	14.6	14.7	14.6	14.5	14.4
UW-Stout	14.8	14.8	14.7	14.6	14.4	14.3	14.3	14.3
UW-Superior	14.4	14.3	14.4	14.2	14.3	14.1	14.3	14.3
UW-Whitewater	14.5	14.6	14.6	14.7	14.8	14.8	14.7	14.8
UW-Colleges	13.8	13.8	13.9	13.9	14	13.9	13.9	13.9

However, Figure 5 does not capture the larger undergraduate trend at UW-Stout. Between 2001-02 and 2015-16, full-time undergraduate headcount at UW-Stout increased from 6,545 students to 8,388 – a 22 percent increase. At UW comprehensives, excluding UW-Stout, the same headcount increased from 60,998 to 79,047 – or 30 percent.

Between 2001 and 2011, the number of students taking 15 or more credits at UW-Stout, which is the average credit load required to graduate in 4 years, declined by 12 percent (3,776 to 3,314). The other UW comprehensives saw a 12 percent increase (34,950 to 39,221).

Figure 6 shows the percent of full-time students taking 15 or more credits. Note that UW-Stout saw a significant decline, while the UW Comprehensives as a whole have remained relatively stable.

Figure 6: Percentage of Full-Time Undergraduates Enrolled in 15 or More Credits

	UW-Stout	Comprehensives
Fall 2001	57.7%	57.3%
Fall 2002	55.1%	58.3%
Fall 2003	56.2%	57.2%
Fall 2004	54.4%	57.3%
Fall 2005	56.2%	57.8%
Fall 2006	55.0%	57.4%
Fall 2007	55.2%	57.6%
Fall 2008	53.9%	58.3%
Fall 2009	49.2%	57.9%
Fall 2010	47.3%	57.1%
Fall 2011	46.3%	57.4%

The comprehensive institution data in Figure 6 does not, however, account for the significant variation in credit load changes between institutions. Using a two year average, UW-Stout saw the largest decline in the percentage of full-time students taking 15 or more credits (-8.2 percent). However, UW-Parkside (-8.0

percent), UW-Oshkosh (-7.3 percent), and UW-River Falls (-5.9 percent) also saw significant declines that cannot be attributed to a per-credit model. Stout does not appear to be unique in the dramatic decline in the percentage of students enrolled in 15 or more credits from fall 2008 to 2011.

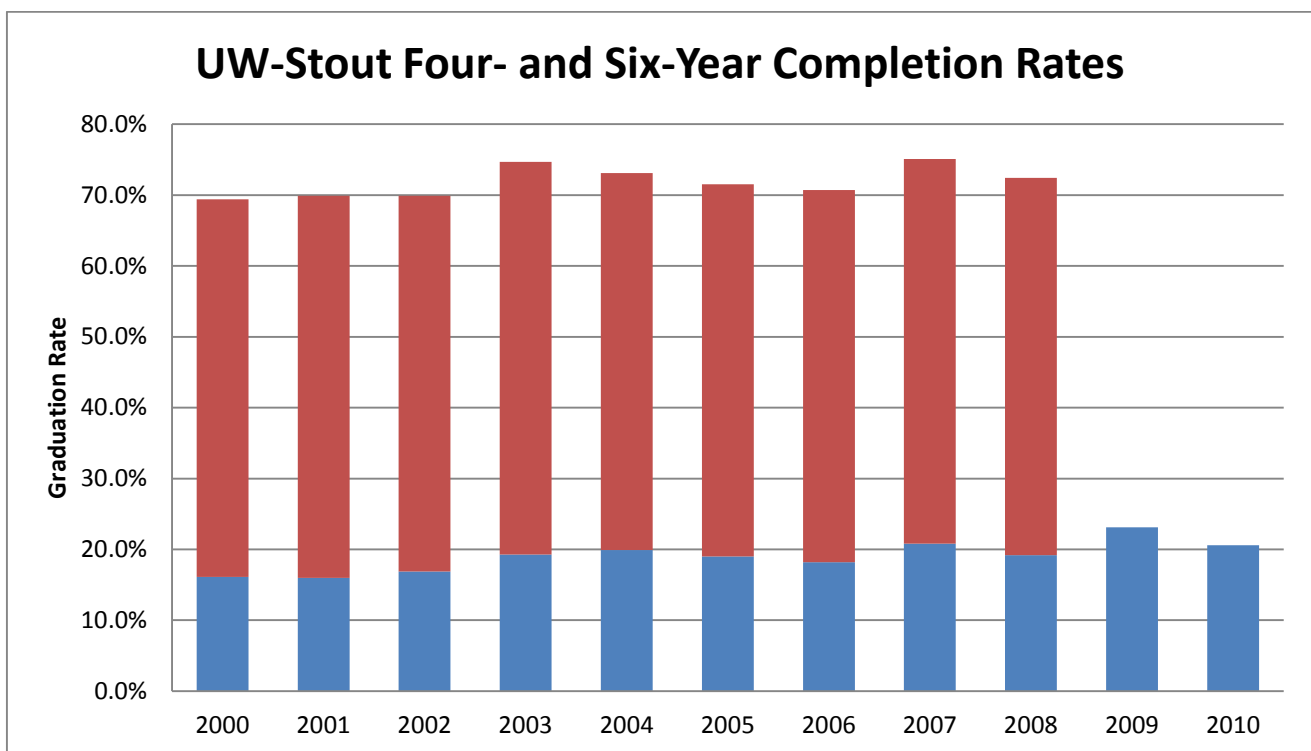
Figure 7 shows the six-year graduation rates at UW-Stout by freshman cohort. UW-Stout remained fairly level both before and after the per-credit model was implemented. UW System as a whole showed steady increases over the same time period. However, while some institutions saw significant increases in six-year graduation rates, other institutions that did not implement a per-credit structure also remained level.

Figure 7: Six-Year Graduation Rates by Cohort

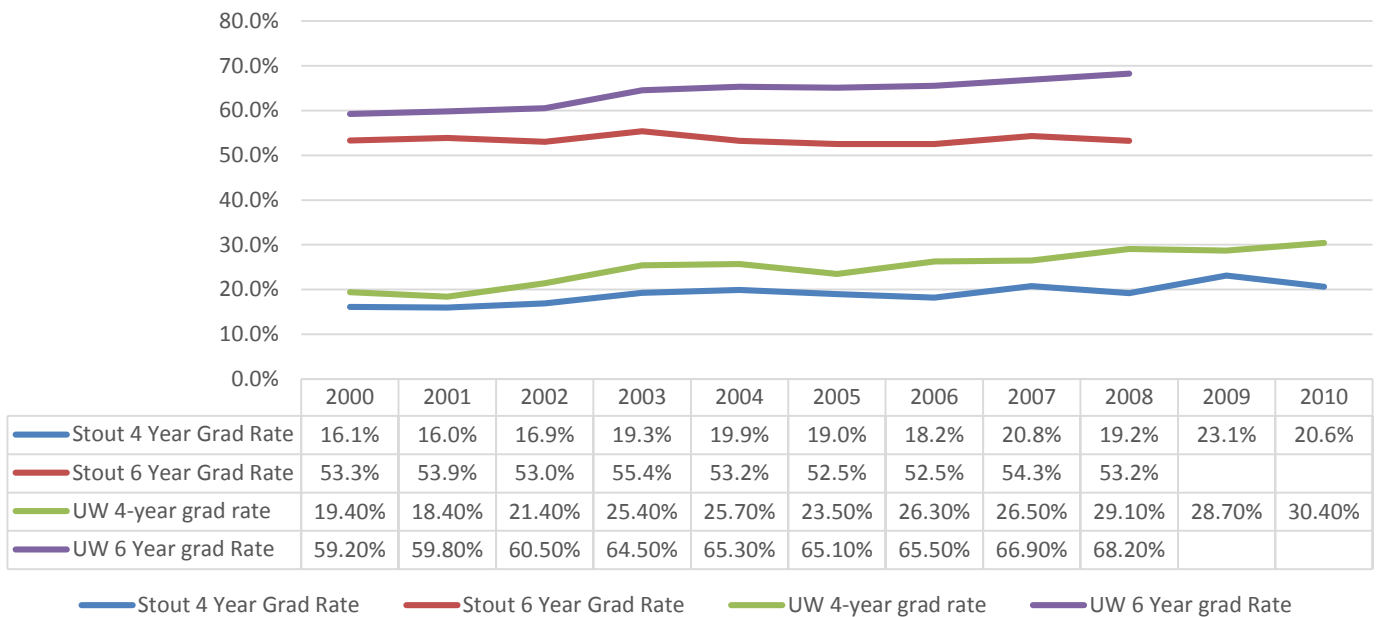
	Fall 2000	Fall 2001	Fall 2002	Fall 2003	Fall 2004
UW-Stout	53.3%	53.9%	53.0%	55.4%	53.2%
UW System	58.0%	58.7%	59.3%	59.7%	60.4%

While the graduation rate remained level, time to degree within the graduation rate changed. A greater proportion of students began graduating in four years. This further supports the claim that per-credit tuition does not negatively impact time to degree.

Figure 8:



UW Stout Four and Six-Year Completion Rates compared to UW-Comprehensive Rates



However, care should be taken in making long-term generalizations about the effects of per-credit tuition on graduation rates. Graduation rates are prone to swings that may not be related to per-credit tuition. For example, Figure 9 shows a similar trend at UW-Whitewater.

Figure 9: UW-Whitewater Four-Year Graduation Rates

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
20.7%	20.4%	23.1%	25.2%	24.5%	25.7%	29.9%	27.5%	27.0%	27.9%	29.0%

- *Eastern Oregon University.*

Historically, Eastern Oregon University used an undergraduate plateau between 12-18 credits. In 2003, the Oregon State Board of Higher Education approved a proposal to eliminate the plateau. The changes went into effect in winter 2003. The per-credit rate was reduced, but it is unclear if it was reduced far enough to be revenue neutral.

Citing financial benefits to students and an effort to increase on-campus learning, EOU reintroduced a partial plateau at 16 credits in fall 2008. Figure 10 shows the per-credit rate for each credit.

Figure 10: Resident Undergraduate Tuition Rate by Credit

	2008-09	2009-10	2010-11	2011-12
1	\$111.00	\$115.00	\$118.00	\$124.50
2	\$112.00	\$115.00	\$118.00	\$124.50
3	\$111.00	\$115.00	\$118.00	\$124.50
4	\$111.00	\$115.00	\$118.00	\$124.50
5	\$112.00	\$115.00	\$118.00	\$124.50
6	\$111.00	\$115.00	\$118.00	\$124.50
7	\$112.00	\$115.00	\$118.00	\$124.50
8	\$111.00	\$115.00	\$118.00	\$124.50
9	\$111.00	\$115.00	\$118.00	\$124.50
10	\$112.00	\$115.00	\$118.00	\$124.50
11	\$109.00	\$113.00	\$116.00	\$124.50
12	\$109.00	\$113.00	\$116.00	\$124.50
13	\$106.00	\$109.00	\$112.00	\$124.50
14	\$105.00	\$109.00	\$112.00	\$124.50
15	\$105.00	\$109.00	\$112.00	\$124.50
16	\$53.00	\$55.00	\$56.00	\$124.50
17	\$53.00	\$55.00	\$56.00	\$124.50
18	\$53.00	\$55.00	\$56.00	\$124.50

Figure 11 shows the change in full-time credit loads at EOU for resident undergraduate students. The first line is the average credit load. The second line is the percentage of full-time students taking 15 or more credits.

Figure 11: Change in Resident Undergraduate Credit Loads

	Fall 2002	Fall 2003	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008	Fall 2009	Fall 2010	Fall 2011
Credit Load	14.8	14.8	14.4	14.5	14.5	14.5	14.5	14.1	14.2	14.1
15 or More Credits	49.6%	50.2%	44.1%	46.0%	44.9%	44.5%	44.7%	39.9%	42.8%	38.1%

Both metrics showed a noticeable decline in fall 2004 when per-credit tuition was implemented.

Several states have worked with the Lumina Foundation to implement marketing campaigns to promote taking 15 credits and/or completing in 4 years under plateau approaches. More information/awareness might be useful in increasing credit loads.

Academic Breadth

Proponents of a plateau system often suggest that it provides greater flexibility for students to explore academic interests. This exploration enhances the breadth of a student’s education and contributes to a well-rounded individual.

Proponents of a per-credit system counter that charging for each credit encourages students to carefully consider their course selection and academic path. Students then take the courses that they need to graduate faster instead of electives.

UW-Stout. Figure 12 shows the total attempted credits to bachelor’s degree by graduation year. The data only includes students who graduated from the same UW institution where they entered as new freshmen. Only students earning their first UW bachelor’s degree are included. The difference column shows the change between 2001-02 graduates and 2006-07 graduates, which is when students starting under the per-credit model would start graduating.

Figure 12: Total Attempted Credits to Degree

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	Difference
UW-Eau Claire	142	141	142	142	141	138	138	136	137	136	137	-3
UW-Green Bay	132	135	131	131	132	131	131	133	132	133	135	-4
UW-La Crosse	142	140	142	141	142	141	140	138	137	139	138	0
UW-Madison	129	128	128	128	127	127	127	126	126	126	125	-1
UW-Milwaukee	143	142	143	142	141	141	141	140	141	141	141	-1
UW-Oshkosh	143	142	142	143	143	142	143	143	143	142	141	1
UW-Parkside	139	138	140	140	138	140	140	141	140	143	144	2
UW-Platteville	145	146	146	146	143	144	145	143	144	143	141	-1
UW-River Falls	138	137	138	137	135	134	133	135	136	135	135	-4
UW-Stevens Point	140	139	139	140	141	141	139	139	139	140	140	0
UW-Stout	142	141	142	143	141	140	141	141	138	139	138	0
UW-Superior	145	138	138	140	139	142	136	135	131	136	135	-2
UW-Whitewater	140	141	140	140	140	139	139	140	139	136	136	-2

The trend for credits to degree at UW-Stout is comparable to other UW institutions. And, in the total number of credits to degree, UW-Stout ranks in the middle of comprehensive institutions. The information available does not suggest that a per-credit model has impacted academic breadth.

Financial Aid

Pell-Eligible Students. A student taking 15 credits under a plateau structure and a student taking 15 credits under a per-credit structure are both considered full-time for financial aid purposes. The maximum Pell Grant that a full-time student can receive in 2015-16 is \$5,815 regardless of the tuition structure. As such, full-time students under either tuition structure would be eligible for the same maximum level of financial aid.

However, 15 credits under a revenue neutral or revenue generating per-credit model are more expensive than 16 credits under the plateau. Low-income students would then be responsible for paying the additional tuition from personal resources or by taking out additional loans.

Please note that Pell-eligible students taking fewer than 12 credits would benefit from the lower per-credit rate under a revenue neutral per-credit model. This is because their tuition cost would go down, freeing resources for other needs.

Figure 13 shows the total percentage of full-time Wisconsin resident students receiving Pell Grants. Note that the majority of Pell recipients at all institutions are full-time students who would not benefit from per-credit tuition.

Figure 13: Fall 2001 to fall 2014 Total Percentage of Full-Time Wisconsin Resident UW System Pell Recipients

Institution	2000-01			2007-08			2014-15		
	Full-time enrollment	Total Pell Awards	Total Percent	Full-time enrollment	Total Pell Awards	Total Percent	Full-time enrollment	Total Pell Awards	Total Percent
UW-Madison	18,139	2,285	12.60%	17,755	2,666	15.02%	17,092	3,240	18.96%
UW-Milwaukee	13,789	2,867	20.79%	19,320	4,334	22.43%	16,537	6,963	42.11%
UW-Eacu Claire	6,865	1,344	19.58%	7,214	1,550	21.49%	6,618	2,085	31.50%
UW-Green Bay	3,908	769	19.68%	4,376	1,043	23.83%	3,868	1,476	38.16%
UW-La Crosse	6,482	1,166	17.99%	6,663	1,212	18.19%	7,405	1,839	24.83%
UW-Oshkosh	7,528	1,355	18.00%	8,463	1,859	21.97%	8,434	2,773	32.88%
UW-Parkside	2,917	761	26.09%	3,237	1,047	32.34%	2,774	1,334	48.09%
UW-Platteville	4,186	934	22.31%	4,805	1,246	25.93%	5,253	1,600	30.46%
UW-River Falls	2,566	660	25.72%	2,813	849	30.18%	2,301	875	38.03%
UW-Stevens Poi	6,888	1,435	20.83%	7,398	1,793	24.24%	7,298	2,634	36.09%
UW-Stout	4,553	1,187	26.07%	4,489	1,243	27.69%	4,381	1,570	35.84%
UW-Superior	1,028	338	32.88%	1,040	435	41.83%	898	460	51.22%
UW-Whitewater	7,930	1,419	17.89%	8,040	1,670	20.77%	8,396	2,742	32.66%
UW-Colleges	7,247	1,391	19.19%	8,138	2,052	25.22%	7,015	2,895	41.27%
UW System	94,026	17,911	19.05%	103,751	22,999	22.17%	98,270	32,486	33.06%

Advising. Institutions have reported that financial aid advising is significantly more difficult under a per-credit structure. In order for students and families to know how much to borrow, they must know exactly how many credits the student will take. And, families often have difficulty estimating how many credits the student will take in the spring semester when applying for loans in the previous summer.

If a student takes one unanticipated class, tuition costs can increase by \$800. In the current economic climate, families may find it difficult to cover that additional cost. Conversely, if families overestimate the number of credits, then they have borrowed more than was needed for the year. This financial variability has anecdotally led to frustration for students and families.

While tuition is variable both below and above a plateau, the plateau does provide students and families with a greater degree of financial certainty and enrollment flexibility.

Administrative Burden. In past discussions about per-credit tuition, one concern was the complexity of administering financial aid under a per-credit structure. In particular, every add or drop is a separate transaction that must be evaluated for impacts on the financial aid package.

In practice, this does not appear to be a significant issue. Students are already charged on a per-credit basis under 12 credits and these changes are managed by financial aid offices. Additionally, students are categorized for federal financial aid purposes as quarter time, half time, three-quarters time, and full time. Provided that the student remains in the full-time category when adding or dropping classes, the financial aid package would usually remain the same.

Transparency

Student Billing. Under a per-credit model, enrollment changes before the drop-add deadline can be a challenge for students. When students drop a class before the add-drop period, they are issued a refund. Many students, however, will then add another class. This will generate another bill the students may not have been expecting.

Anecdotally, students become frustrated when they discover an overdue balance while trying to register for the following semester after having received a refund in the previous semester.

This situation could be improved by waiting to process refunds until after the add-drop period. For example, financial aid and student billing could be delayed until the fourth week after classes start. Up until that date, credit sensitive aid adjusts with every credit load change.

However, delayed processing may prevent students from receiving a timely refund so that they can pay for other expenses, such as books or rent.

Equity

Part-Time Student Disparity. Under a plateau tuition structure, full-time students are not charged for additional credits taken within the plateau. However, there is still a cost associated with providing these credits. As such, all students pay higher per-credit rates to cover the credits within the plateau.

Another way to consider equity is to look at the per-credit tuition price. A part-time student may pay \$1,200 for 6 credits, or \$200 per-credit. A full-time student would pay \$2,400 for 16 credits, or \$150 per-credit. Because of the plateau, part-time students pay more in tuition for the same courses.

A per-credit tuition structure would eliminate the difference between full-time and part-time student billing.

However, while part-time students pay higher tuition rates under the plateau structure, the higher rates may not be inequitable when considered holistically. While part-time students take fewer credits, they do not necessarily use proportionally fewer institutional resources. Part-time students may require the same or more academic advising, financial aid advising, career counseling, and general administrative support as full-time students.

Additionally, part-time students may receive the same access to institutional benefits at a disproportionately lower cost. For example, a part-time student taking 6 credits at UW-Stout pay \$192 per semester for a rental laptop. A student taking 16 credits would pay \$512 for the same laptop.

Based on this information, it is reasonable to assume that the inequities between part-time and full-time students vary by institution based on institutional policy and student composition. As such, a uniform statement cannot be made on the equity of a per-credit tuition model for part-time students.

Resource Efficiency

Institutional Planning. Under a plateau structure, tuition revenue varies with the number of credits taken by the student. For example, at UW-Green Bay, the plateau rate is \$3,149 per semester. A student taking 12 credits pays the equivalent of \$262.43 per-credit. A student taking 16 credits pays \$196.82 per-credit.

Because of this variation in the per-credit tuition rate, it is not readily apparent whether a proposed course will cover all of its expenses. For example, assume that a three-credit course at UW-Green Bay has a marginal cost of \$5,000 to offer. The course must enroll seven part-time students to cover the cost of the course. However, the same course must enroll nine 16-credit students to cover all expenses.

Under a per-credit model, it may be easier and more intuitive to evaluate the financial viability of new programs. Additionally, staff could more readily evaluate cross subsidizations between and within existing programs.

Plateau Discount. Historically, state support has been the primary source of revenue for universities. As other institutions have experienced a decrease in state support, they have found it meaningful to consider the merit of providing a product at no charge. This was one of the reasons cited when the Oregon University System transitioned from a plateau model toward a per-credit model.

Impact on State Needs

Revenue Sharing. When a student is enrolled at two University of Wisconsin institutions, the plateau applies to the combined enrollment at both institutions. In other words, a student taking 8 credits at UW-Fond du Lac and 7 credits at UW-Green Bay should only be charged for 12 credits.

FAP 44 discusses the implementation of this policy:

If the undergraduate credit plateau (12 through 18 credits) is achieved at the first institution, no additional tuition will be assessed by the second institution unless the total credits exceed 18 credits.... At no time will the credit plateau assessment be less than the lowest nor more than the highest credit plateau rate of the institutions involved. The first institution shall be generally defined as the one enrolled in for a degree.

In practice, revenue sharing within the plateau results in funding inequities. UW Colleges indicates that it is not usually considered to be the "first institution," which results in more tuition and fees being waived by the institution. In addition, UW-Stout, which is per-credit, never waives tuition and fees for dual enrolled students regardless of the "first institution" status.

Revenue sharing difficulty has been suggested as an obstacle to greater collaboration between institutions.

In fall 2010, 900 students were concurrently enrolled at more than one UW institution. Figure 22 shows the distribution of these students by institution. Please note that there were eight triple enrolled students who are not included on the table.

Figure 14: Students Concurrently Enrolled at Two UW Institutions - fall 2010

	MSN	MIL	EAU	GBY	LAC	OSH	PKS	PLT	RVF	STP	STO	SUP	WTW	UWC	Total
MSN		8	4	2	46	14			1	3	1		16	18	113
MIL	8				3	7	95	1		4	3	2	6	96	225
EAU	4			1	3		1		12	1	3	1	1	38	65
GBY	2		1		1	13	1			3	1		1	44	67
LAC	46	3	3	1		2			1	1	2	3		2	64
OSH	14	7		13	2		1	2	1	8		3	2	122	175
PKS		95	1	1		1					3		1	5	107
PLT		1				2			2	1	1		2	150	159
RVF	1		12		1	1		2			3	1		7	28
STP	3	4	1	3	1	8		1			5	1	3	52	82
STO	1	3	3	1	2		3	1	3	5		3		12	37
SUP		2	1		3	3			1	1	3			10	24
WTW	16	6	1	1		2	1	2		3				25	57
UWC	18	96	38	44	2	122	5	150	7	52	12	10	25		581
Total	113	225	65	67	64	175	107	159	28	82	37	24	57	581	

UW Colleges, which enrolls over half of the dual enrolled students, is the most impacted by the systemwide plateau. Of their nearly 600 dual enrolled students, UW Colleges indicates that FAP 44 may be inequitably applied to approximately 30. In fall 2015, 2,204 students were concurrently enrolled at more than one UW institution, which illustrates the growing demand for easy credit transfer by students.

If all UW institutions adopted a per-credit structure, this issue would be eliminated. However, if some institutions remained under the plateau, the inequities would not be resolved.

Another option that could alleviate revenue sharing concerns while maintaining the plateau would be to remove the system wide plateau for concurrently enrolled students.

Administration and Tuition Billing. As discussed above, the plateau currently applies to students who are enrolled at multiple institutions in a single semester. Because UW institutions do not have a common billing system, institutions must communicate with each other and students about concurrent enrollment status. Any enrollment changes must also be communicated.

Reducing the intricacy of tuition coordination has been suggested as a way to decrease administrative complexity and facilitate collaboration. This may become particularly relevant as tuition rates across UW institutions continue to diversify.

If the entire UW System adopted a per-credit structure or revised the policy as it relates to dual enrolled students, concurrent enrollment communication between institutions would be reduced.

However, regardless of the tuition structure, communication between institutions would still need to occur for financial aid and Wisconsin GI Bill purposes. And, if some institutions retained the plateau, communication between plateau and per-credit institutions would still be necessary.

- *Subterm Courses.*

Subterm courses are compressed courses that have a shorter duration than the standard academic calendar. For example, a subterm course may begin in the middle of the semester and meet twice as often.

Because subterm courses begin on a later date than the standard semester, subterm courses have unique add-drop deadlines. In past years, the difference between the standard add-drop deadline and the unique deadline created a calculation problem for the PeopleSoft system.

For example, assume that a student is enrolled for 13 credits. One of the 13 credits is a subterm course that begins later in the semester. Suppose that the student drops a 3 credit course after the standard drop date. No refund is issued and the student is now actively enrolled in 10 credits. The student then drops the 1 credit subterm course before the subterm drop deadline.

PeopleSoft processes the one-credit drop as though the student was dropping from 10 credits to 9 credits. This generates a one-credit refund. However, PeopleSoft should have processed the drop as being a change from 13 credits to 12 credits – resulting in no refund.

UW Colleges currently offers a significant number of subterm courses. In past years, in order to accurately bill subterm students, UW Colleges central office staff had to manually review about 100 billing changes per week.

UW-Oshkosh also offers a significant number of subterm courses during the semester and has reported similar billing difficulties. An institutional study in 2010 found over \$25,000 in erroneous refunds or charges by PeopleSoft during one semester.

In previous discussions, staff at both UW Colleges and UW-Oshkosh believed that PeopleSoft lacked adequate functionality to correctly bill students for subterm courses.

If a per-credit model were adopted, the PeopleSoft deficiency would no longer be relevant. Each credit would be billed independent of any previous enrollment changes.

- *Differential Tuition Above the Plateau.*

Differential tuition proposals are usually made for a per-semester tuition increase that is prorated for part-time students. However, proposals generally do not include a prorated rate for students above the 12 to 18 credit plateau. As such, the differential is not charged for any credits above 18.

While this approach prevents students above the plateau from paying more differential tuition than other full-time students, it also creates a more complicated tuition structure. For example, at UW-Madison, an undergraduate is charged \$386.39 per-credit until 12 credits. From 12 to 18 credits, students are charged \$0.00 for each additional credit. For each credit above 18 credits, students are charged \$344.72, which excludes the differential.

Under a per-credit structure, the tuition schedule could be uniformly applied to all credits.

The tuition schedule could also be simplified while maintaining the plateau by clarifying the application of differential tuition pricing with the Board of Regents.

- *System Plateau Policy.*

Some concern has been expressed about the application of the plateau at institutions with diverse pricing structures (i.e., higher tuition engineering programs). For example, assume that an undergraduate student is taking 12 credits at the standard tuition rate and 4 credits at a higher tuition rate. UW policy does not specify whether the 4 higher-cost credits should be charged under the standard plateau rate or if the higher tuition increment should be charged in addition to the plateau.

Under a per-credit model, variations in credit pricing would not be an issue for billing.

However, some UW institutions have implemented a diversified tuition schedule successfully within the plateau structure. For example, UW-Madison, UW-Milwaukee, and UW-Superior have differential tuition programs that increase the tuition rate for courses in specific colleges and departments. Students regularly take a combination of lower- and higher-cost courses.

At UW-Superior, the differential for the Collaborative Degree Program is implemented as a special course fee for billing purposes. Students are billed the base tuition rate following plateau guidelines. The differential then appears as a separate charge for each course regardless of the plateau.

It should be noted that the differential appears on a student's bill as a distinct charge from tuition. While an itemized charge may make sense for some differentials, itemization may not be intuitive for students if the course has a higher price under the distance learning or service-based pricing policy.

- *Add/ Drop Processing.*

In previous discussions about per-credit tuition, one concern was the administrative burden of processing every add and drop on each student's account as a separate financial transaction.

However, this concern appears to predate significant advances in computer technology. Many of the processes involved in billing are now automated, and staff members are generally not required to manually update student accounts for enrollment changes.

College Affordability: What Is It and How Can We Measure It?

College affordability applies to students, not to parents.
Parents can subsidize students to make college more affordable for them.
But the focus should be on the students themselves.

Sandy Baum

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George Washington University
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and

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Policy Research Scientist
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This paper is one in a series of reports funded by Lumina Foundation. The series is designed to generate innovative ideas for improving the ways in which postsecondary education is paid for in this country—by students, states, institutions and the federal government—in order to make higher education more affordable and more equitable. The views expressed in this paper—and all papers in this series—are those of its authors and do not necessarily reflect the views of Lumina Foundation, George Washington University, the Urban Institute, or the College Board.

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Executive Summary

Discussions of improving college affordability are rarely grounded in a concrete definition of what it really means. This paper moves toward a more meaningful understanding of the financial accessibility of postsecondary education for students in different circumstances. We argue that the central question should be whether students, regardless of their ages when they enroll in college, can reasonably expect to improve their long-term standards of living, even after paying for college. Paying for college involves combining students' own resources both before and after college, resources their parents can provide, and financial aid from all sources. College affordability applies to students, not to parents. *Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.*

First steps in defining and measuring college affordability involve defining both the expenses and the resources that should be included. Should living expenses be considered part of the cost? How should we measure and treat forgone wages? Should the focus be on the least expensive postsecondary options, the most expensive, or something in between? Rather than settling on one answer to this question, it is constructive to measure and monitor all of these indicators to get a complete view of college affordability. The same is true of the resource side of the equation. Parents' ability to contribute to their children's education is a critical issue, but only part of the question of how much students can afford. Whether students are dependent or independent, they may have resources of their own before and during college and

most significant, they expect a financial return over the long run. College affordability is not just dependent on pre-college resources, but also on the magnitude of the expected return to the investment.

In this paper, we address the uncertainty in the return to postsecondary education and its impact on perceptions of college affordability, raise questions about the current concept of "unmet need," and examine the difference between published tuition and fee prices and the net prices students actually pay after taking grants and other gift aid into consideration. We ask how the price of college relative to the prices of other goods and services affects both ability to pay and the perception of ability to pay.

Measuring affordability requires a thoughtful approach to estimating how much students can afford to pay out of their future incomes, combined with improved measures of how much we can expect parents in different circumstances to subsidize their children. It is not sufficient to consider just current income and asset levels, as income over time and changing inequality in the distribution of income and wealth are relevant as well.

We propose defining and tracking an integrated set of metrics over time to monitor changes in college affordability. A clear view of the distribution of prices, earnings, other resources, and student debt will not yield one measure of college affordability, but monitoring changes over time in these indicators and the variety of circumstances facing students would provide a much better understanding of the financial accessibility of the wide variety of postsecondary options available.

College Affordability: What Is It and How Can We Measure It?

College affordability applies to students, not to parents. Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.

Widespread concern about whether college is “affordable” is leading to a search for policy solutions. The President, members of Congress, and other public officials promise to take actions to assure that college is affordable. But little effort has been made to develop a concrete definition of what this really means. The discussion usually focuses on the price of college and other associated expenses, and on the growth in prices relative to family incomes. Instead, we should focus on whether students, regardless of their ages when they enroll in college, can reasonably expect to improve their long-term standards of living, even after paying for college. Paying for college involves combining their own resources both before and after college, resources their parents can provide, and financial aid from all sources.

One problem with simple indicators of affordability is the variety of postsecondary options available. The word “college” applies to thousands of postsecondary institutions in the United States. Like the missions, programs, and opportunities offered by these institutions, the prices vary dramatically. About 150 community colleges charge full-time in-district students less than \$2,000 a year in tuition and fees in 2013-14. At the other end of the spectrum, a similar number of private nonprofit four-year colleges and universities charge tuition and fees exceeding \$40,000.¹

Furthermore, these published prices are not the prices most students pay. Many institutions discount their prices for some, most, or even all of their students. Federal and state governments, as well as numerous private organizations, also provide grants and scholarships that reduce the prices students pay.

Another complexity is defining exactly what should be included in the “price” that should be affordable. A reasonable perspective is that tuition and required fees constitute the relevant price. The core issue is providing access to education and training—the services purchased with tuition and fees. But what about the books and supplies required for effective studying? What about room and board at residential colleges, or even housing and food costs for students not living on campus? People must eat and have shelter whether they are students or not, so these are not actually costs of going to college. But if students have to set up separate households in order to be in geographical proximity to their institutions, it is reasonable to argue that covering these expenses is part of what should be addressed in discussions of college affordability. And there is evidence that living on campus has a positive impact on academic success.²

Of fundamental importance, it is impossible to define affordability only in terms of prices and required expenditures. The resources available to pay the prices determine how much people can afford. Given the large and growing inequality of incomes in the United States—

and the even greater inequality of wealth—expenditures that would require years of earnings for some people could be easily covered out of pocket by others.

Defining which resources are relevant for determining affordability is at least as difficult as defining prices. Discussions of affordability for recent high school graduates usually focus on parental income and assets. A few years after high school graduation, we stop thinking about parental resources and consider only how much money students themselves have.

But college is more than just a consumption good; it is an investment that pays off over time. Therefore, it is not logical to consider only the resources already available before a student begins college. No one thinks a house is affordable only if the buyer can pay cash. No one thinks starting a small business is affordable only if the entrepreneur already has the money to cover all of the start-up costs. In both cases, we assume that borrowing will be part of the picture and try to predict how much people will be able to pay over time.

All of these issues may seem obvious. But none are adequately considered in assertions that college is unaffordable. It is not enough to determine that college is expensive, or even that it is becoming more expensive. We must develop definitions of affordability that clarify who is in a position to pay for which types of postsecondary education and how that is changing over time.

The complexity of the concept makes it clear that there cannot be one metric that will define affordability or make it possible to monitor affordability over time. Rather, we should focus on measuring how much different people need to pay for different educational opportunities and what options they have for making these payments. It is reasonable to say that if a particular option requires an increasing proportion of a student's (or her family's) resources over time, it is becoming more difficult to afford. It is probably not reasonable to draw a bright line between what is affordable for any individual and what is not, since that is actually quite subjective. We might

be able to define what people in different circumstances would have to give up in order to purchase postsecondary education, but personal preferences and priorities will determine whether or not any individual is willing and able to make the necessary sacrifice.

In this paper, we address these issues in an attempt to develop viable concepts of affordability that can be used to assess the financial accessibility of postsecondary education for students in different circumstances. We examine data to shed light on the feasibility of financing different types of education and how that feasibility has changed over time. We also propose a set of metrics that could be monitored to make discussions of college affordability more constructive.

The remainder of the paper is structured as follows. In Sections 1 and 2, we discuss what it means for college to be “affordable” and the roles of students and parents in financing a college education. Section 3 provides information on the changing price of college. Sections 4 and 5 focus on determining how much parents and students can be expected to contribute. Section 6 describes some of the metrics that could be monitored to describe changes in college affordability over time and Section 7 concludes. The Appendix includes examples of potential metrics to supplement those appearing throughout the text.

Section 1: What Does It Mean for College to be “Affordable?”

Unmet Need

One metric frequently cited as an indicator of college affordability is “unmet need.”³ The basic concept is a good one—how much more does a student have to pay for college than she can afford to pay? But there are many problems with the current definition. Measures of unmet need take as a given that the “expected family contribution (EFC)” derived from the federal need analysis formula (FM) is a reliable measure of what a student can afford. Unmet need is then defined as the

total cost of attendance (including room and board and other expenses) at the institution where the student is enrolled less the sum of financial aid received and the EFC. It is, of course, not possible to measure this gap for students who are *not* enrolled, and these are likely to be the students for whom the financial barriers are greatest. Those who are enrolled are apparently managing to scrape together the needed funds.

Unfortunately, the calculated EFC is not a good estimate of what families can really afford to pay, and it is an even worse estimate of what students can reasonably be expected to pay for their own education. The formula is the result of years of political manipulation and does not rest on any careful analysis of ability to pay for higher education. Among the many problems with the formula, it is based on one year of income and is designed to estimate manageable payments out of that income. Most people consider calculated EFCs too high to be paid out of current income, but there has been little attempt to estimate reasonable payments out of longer-term resources.

Using the concept of calculated unmet need to define affordability without first developing a reasonable definition of what is affordable and how to improve on the EFC as a measure of that amount simply avoids the fundamental issue.

A measure of what is affordable is only the first step in developing a more meaningful concept of unmet need. How to treat loans and tax credits in measuring resources is not simple. All of the questions raised above about which resources and which expenses should be considered also apply here.⁴ Should the cost of food be included as part of “unmet need” in determining college affordability? Should high unmet need at a high-price institution with limited grant aid be the metric for college affordability just because a student chose this option? Unmet need provides some information, especially if measured over time. But it is far from a reliable metric of the gaps we should be filling in in order to assure adequate access to postsecondary education.

Expensive vs. Unaffordable

Many discussions of college being “unaffordable” focus on rising tuition prices, without much attention to the resources available to students to pay those prices. For example, the Department of Education’s College Affordability and Transparency Center lists colleges and universities with the highest and lowest tuition and net cost of attendance by sector as well as schools with the highest percentage increase in tuition by sector.⁵ A Huffington Post blog announces that “It’s Too Expensive to Go to College Anymore.”⁶ The Washington Post’s *Wonkblog* runs a series entitled, “The Tuition is Too Damn High.”⁷

When resources are considered, the most common approach is to cite the average published tuition and fee price as a percentage of median family income or as a percentage of family income for dependent students at different levels of the income distribution.⁸ Sometimes the reference is to the total cost of attendance, including room and board and other expenses (making the situation look worse) and sometimes it is to the net price, taking grant aid into consideration (making the situation look better).

The discussion above makes it clear that this simple approach is inadequate. First and foremost, it focuses only on resources available before college, without attention to the return on the investment. Moreover, it provides no insights into how students whose parents either have no available resources or are not in the picture might think about how much they can afford for college. And it makes no distinction between changes resulting from rising prices and those resulting from declining incomes or changing asset levels.

Like any other purchase, any given postsecondary option becomes more affordable either if its price declines or if an individual (or family) has increased resources. Rising concerns about college affordability are not just the result of rising published prices—and net prices that are rising, albeit more slowly than published prices. The reality is that as incomes have fallen or stagnated in recent years

for all except those at the top of the income distribution, and as home values—where many people hold most of their wealth—plummeted, household budgets have become increasingly strained. If it is challenging to cover daily expenditures, the idea of a major expenditure being added on becomes all the more daunting. At least for families with children graduating from high school, the expenditure is not unanticipated. If they were saving over time in preparation, education would be much more affordable. But absent this not-so-frequent pattern, many families are overwhelmed.

Uncertain Outcomes

Another reason for the concern is the increased visibility of uncertainty in the return to postsecondary education. Particularly in an economy characterized by high unemployment, a college education does not guarantee an immediate, satisfying and remunerative employment opportunity. As the experiences of the minority of college graduates facing real struggles in the labor market have gotten more attention, the problem is not just the rising price of college. It is also the question of whether the return is worth the investment. All of these issues are part of the complete story of college affordability.

Section 2: Affordable for Whom?

Focusing on the Student, Not the Parents

Focusing only on family income at the time students enroll in college is an inadequate method for determining what is affordable. This approach provides little insight into how older students might finance postsecondary education. It ignores the question of how much students themselves—whether dependent or independent—can afford to pay out of the significant earnings premium most students experience as a result of postsecondary education.

Current measures of ability to pay are quite generous to independent students with dependents of their own, because the costs of supporting their families are taken into account. Most are not assumed to be able

to contribute at all.⁹ If so many students really had no capacity to contribute to either their tuition or their living expenses while in school, we would have to question whether the education is really worth it. Why should either students or taxpayers struggle to buy an expensive service that will generate debt, deficits, and hardships, unless there is a high payoff? Certainly improvements in quality of life, broadened horizons, personal growth, and more effective citizenship are worth quite a bit. But students are exerting considerable effort and taxpayers are setting priorities in order to assure a more productive labor force and more financially self-sufficient households. The return to the investment should be considered in discussions of how much students can afford to pay for college.

We propose thinking about affordability for older independent students and younger dependent students in an integrated manner, rather than accepting the current rather arbitrary dividing line between younger students, whose parental resources contribute to their ability to pay, and older students, who are expected to rely only on their own resources. *College affordability applies to students, not to parents. Parents can subsidize students to make college more affordable for them. But the focus should be on the students themselves.*

One of the reasons making postsecondary education accessible to all who can benefit from it is so important is because in most cases, it increases earnings over a lifetime. Abstracting from the vital non-pecuniary benefits of a college education, it is a good investment if it has a favorable rate of return.¹⁰ So a central question is whether the present discounted value of the increase in the student's lifetime earnings will be high enough to yield a reasonable rate of return on his or her investment.

This logic applies to all students, whether they are still dependent on their parents or not. Of course for each individual student, future earnings and thus the return on investment are uncertain. But focusing on averages is sufficient for a conceptual discussion. If the expected return is not high enough, then another educational

path is probably advisable. Even if a student has wealthy parents who can pay cash up front without asking for any contribution from the student's current or future earnings, the investment may be a poor one if the funds could be better invested elsewhere.

Using this framework, the core question of affordability applies not to parents, but to students. If we focus on parental income before college, we would conclude that young people growing up in low-income households cannot afford to pay anything for college. But that is illogical. They cannot afford *not* to go to college if that is the route to assuring a secure future for themselves and their families. And they can afford to dedicate some portion of their increased future earnings to paying for college.

A constructive way to incorporate parental resources into this investment framework is to think of parental contributions as reducing the price that students must pay. In the same way that a Pell Grant—a subsidy from the federal government—reduces the net price to a student, a similar subsidy from parents reduces the net price to a student. This logic allows us to focus only on affordability for students, regardless of their age or family situations. Part of the determination, however, depends on how much of a subsidy it is reasonable to expect each student to receive from parents or from other sources.

How much can a student afford to pay for college? This depends on their expected earnings premium. Adding the amount the student can afford to pay to subsidies received from parents and/or from financial aid yields an estimate of the price tag that is affordable. Some difficult judgments will of course arise. And in many cases, maximizing lifetime earnings—as opposed to generating sufficient lifetime earnings—may be both unnecessary and undesirable.

Section 3: Judging the Price of College

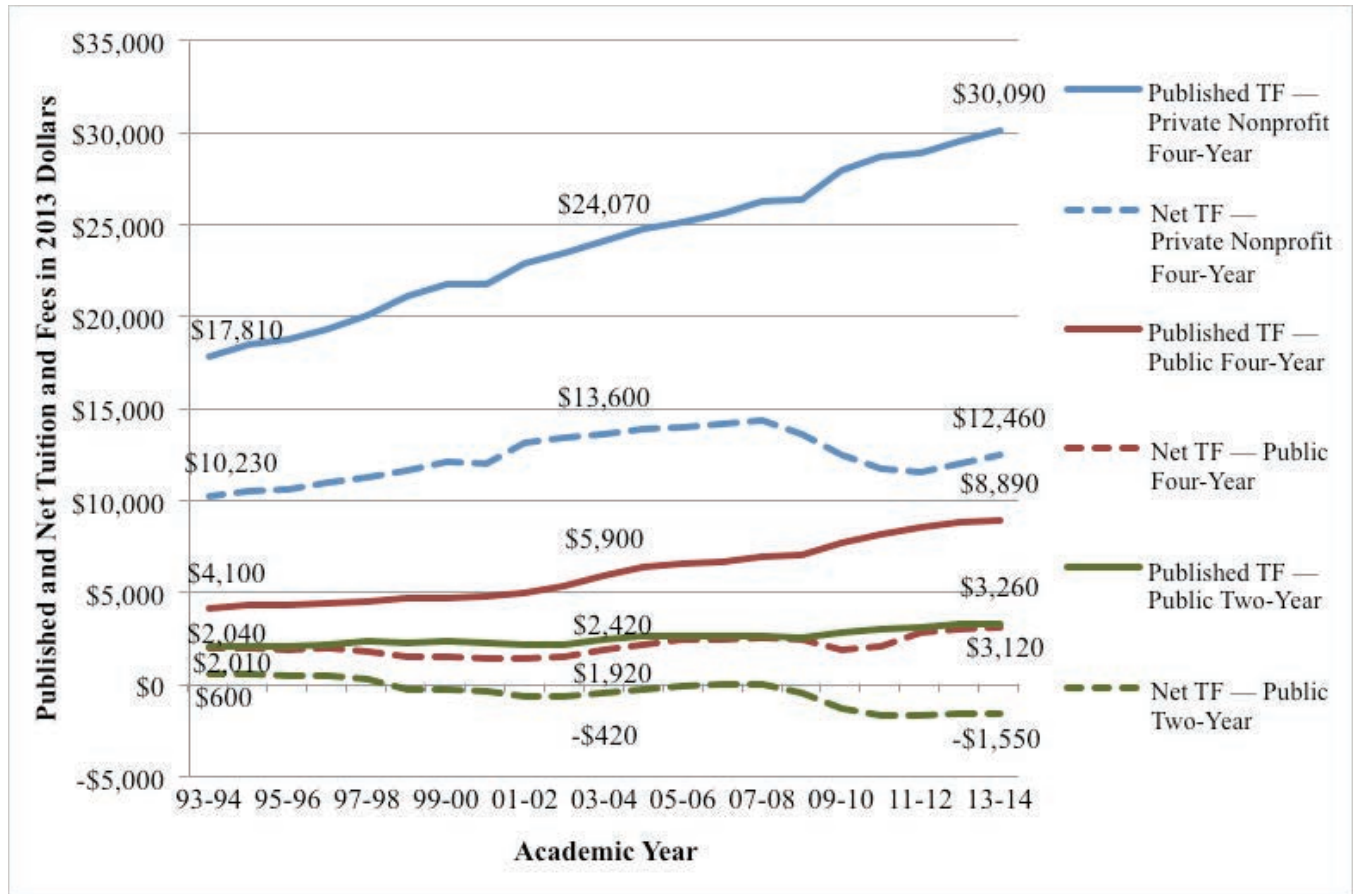
Trends in Published Prices and Net Prices

It is widely recognized that the rate of increase in the published tuition and fee price of college has far exceeded the rate of increase in average prices in the economy over time. This reality makes college appear increasingly “unaffordable.” During the 20-year period from 1993-94 to 2013-14, the Consumer Price Index (CPI) increased by 62%, while published tuition and fee prices increased by 162%, 251%, and 173% in the public two-year, public four-year, and private nonprofit four-year sectors, respectively, before adjusting for inflation.¹¹ After adjusting for inflation, average published tuition and fees increased by 62%, 117%, and 69%, respectively, in the three sectors over 20 years. But changes in net tuition and fees—the amount students actually pay after taking grant aid and tax benefits into consideration—tell a much different story.

Figure 1 shows inflation-adjusted published and net tuition and fee prices by sector from 1993-94 to 2013-14. During this 20-year time period, net tuition and fee prices increased at much slower rates than published prices in the four-year sectors—by 53% (from \$2,040 in 2013 dollars to \$3,120) in the public four-year sector and by 22% (from \$10,230 in 2013 dollars to \$12,460) in the private nonprofit sector. Average net tuition and fees for full-time students in the public two-year sector declined during this period, from \$600 in 2013 dollars in 1993-94 to -\$1,550 in 2013-14.

As discussed above, including living expenses in the cost of going to college is questionable, since people must have food and housing whether or not they are in school. Nonetheless, since these are expenses that students must pay, it is important to examine them. As Figure 2 on page 9 shows, the patterns are similar when room and board are included. The percentage increases in inflation-adjusted net tuition, fee, and room and board (TFRB) charges are much smaller than those in published TFRB charges for all sectors.

Figure 1: Published and Net Tuition and Fees (TF) in 2013 Dollars, by Sector, 1993-94 to 2013-14

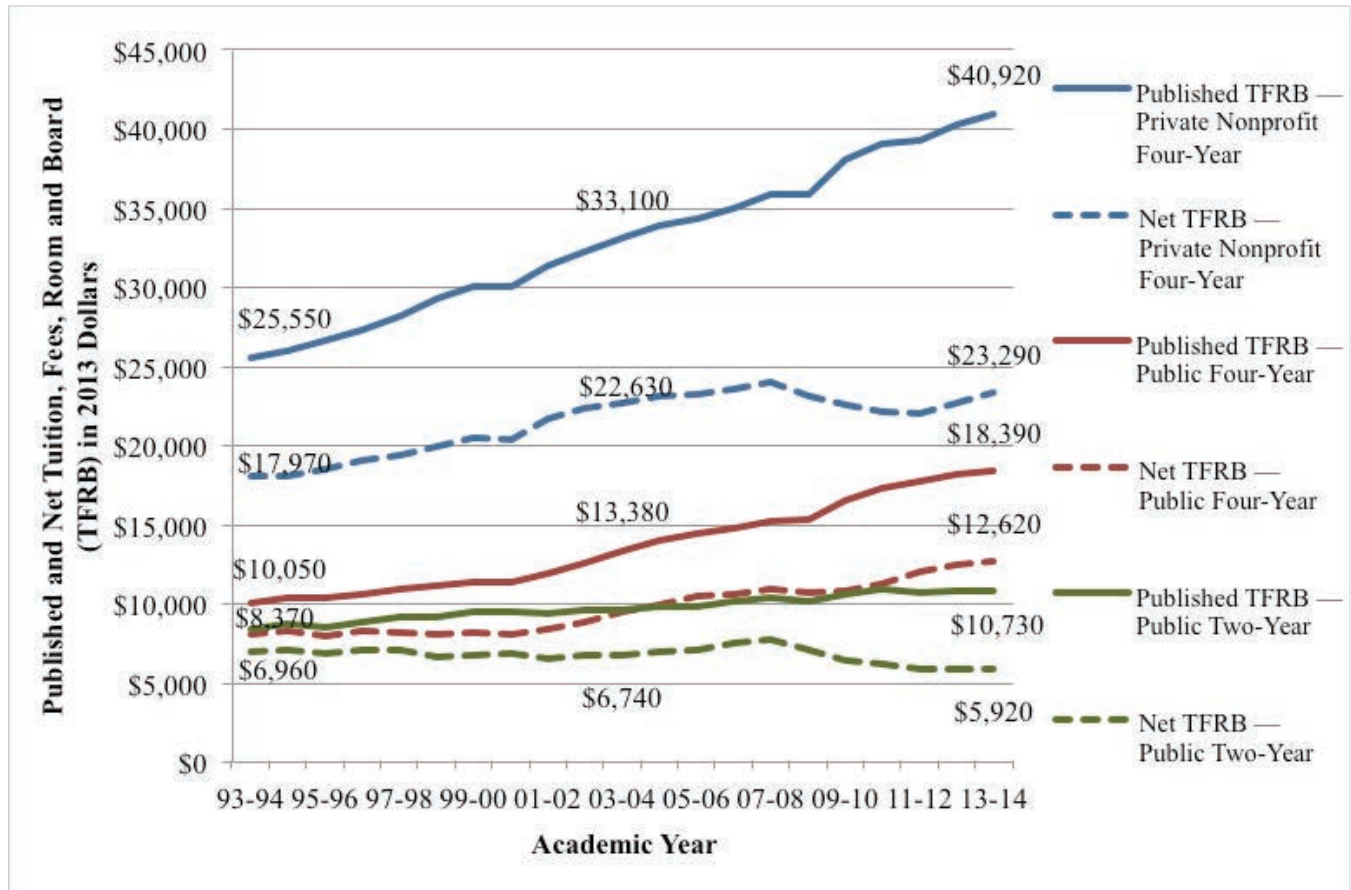


	Public Two-Year		Public Four-Year		Private Nonprofit Four-Year	
	Published TF	Net TF	Published TF	Net TF	Published TF	Net TF
1993-94	\$2,010	\$600	\$4,100	\$2,040	\$17,810	\$10,230
2003-04	\$2,420	-\$420	\$5,900	\$1,920	\$24,070	\$13,600
2013-14	\$3,260	-\$1,550	\$8,890	\$3,120	\$30,090	\$12,460
20-Year \$ Change	\$1,250	-\$2,150	\$4,790	\$1,080	\$12,280	\$2,230
20-Year % Change	62%	-358%	117%	53%	69%	22%

Note: Published tuition and fee prices in the public two-year and public four-year sectors reflect prices charged to in-state students. Net tuition and fee prices are calculated by subtracting total grant aid from all sources and federal education tax credits from published prices.

Source: The College Board, *Trends in College Pricing 2013*, online Tables 2, 7, and 8.

Figure 2: Published and Net Tuition, Fees, Room and Board (TFRB) in 2013 Dollars, by Sector, 1993-94 to 2013-14



	Public Two-Year		Public Four-Year		Private Nonprofit Four-Year	
	Published TFRB	Net TFRB	Published TFRB	Net TFRB	Published TFRB	Net TFRB
1993-94	\$8,370	\$6,960	\$10,050	\$7,990	\$25,550	\$17,970
2003-04	\$9,580	\$6,740	\$11,380	\$9,400	\$33,100	\$22,630
2013-14	\$10,730	\$5,920	\$18,390	\$12,620	\$40,920	\$23,290
20-Year \$ Change	\$2,360	-\$1,040	\$8,340	\$4,630	\$15,370	\$5,320
20-Year % Change	28%	-15%	83%	58%	60%	30%

Note: Published tuition and fee prices in the public two-year and public four-year sectors reflect prices charged to in-state students. Net TFRB charges are calculated by subtracting total grant aid from all sources and federal education tax credits from published TFRB prices.

Source: The College Board, *Trends in College Pricing 2013*, online Tables 2, 7, and 8.

A relevant question is whether living expenses differ for college students and others of similar ages. It is clear that if it is necessary to set up a separate household, expenses rise. But is there any indication that either rent or food is higher for students than for others? Data from the Consumer Expenditure Survey show that in 2011–2012, adults 25 or younger living alone spent an average of \$2,900 on food and \$4,500 on rent per year.¹² The total spending on food and rent (\$7,400) is similar to the room and board expenses for public two-year commuters (\$7,466 in 2013-14), but lower than the room and board charges at both public four-year (\$9,498) and private nonprofit four-year (\$10,823) schools. However, it is worth noting that only 55% of full-time undergraduate students in the private nonprofit sector and 30% in the public four-year sector lived on campus in 2011-12.¹³

Another commonly-cited measure of price is the total cost of attendance (COA), which includes estimated budgets of books and supplies, transportation, and other

expenses in addition to tuition and fees and room and board. In 2013-14, these non-TFRB budget items account for 33% of the COA for full-time public two-year students, 19% for public four-year students, and 9% for private nonprofit four-year students (Table 1). These non-TFRB budget items exceed the published in-state tuition and fees for public two-year students and are 50% and 13% of published tuition and fees for full-time public four-year in-state and private nonprofit four-year students, respectively.

A Context for College Prices

It may be helpful to put college price changes in context. In 1971, the median price of houses sold was \$25,600. Published in-state tuition and fees for four years at public four-year colleges and universities averaged \$1,712, about 7% of the price of a house. By 2006, the median price of a house had increased by a factor of about 10, to \$250,400. Over the same time, the average in-state tuition and fee price of four years at a public college rose to \$23,216,

Table 1: Average Estimated Full-Time Undergraduate Budgets, 2013-14 (Enrollment-Weighted)

Sector	Tuition and Fees (TF)	Room and Board	Books and Supplies	Transportation	Other Expenses	Cost of Attendance (COA)	Non-TFRB Expenses as a % of Total COA	Non-TFRB Expenses as a % of TF
Public Two-Year In-State Commuter	\$3,264	\$7,466	\$1,270	\$1,708	\$2,225	\$15,933	33%	159%
Public Four-Year In-State On-Campus	\$8,893	\$9,498	\$1,207	\$1,123	\$2,105	\$22,826	19%	50%
Private Nonprofit Four-Year On-Campus	\$30,094	\$10,823	\$1,253	\$990	\$1,590	\$44,750	9%	13%

Source: The College Board, *Trends in College Pricing 2013*, Figure 1.

about 14 times as high as it had been 35 years earlier. The average published in-state tuition and fee price for four years at public four-year colleges increased from 7% to 9% of the price of a house. Between 2006 and 2011, housing prices fell by 15%, while average public four-year published in-state tuition and fees rose by 43%.¹⁴

As mentioned earlier, net tuition and fee prices have been rising at a much slower pace than published tuition and fee prices. Between 1991 and 2011, the average net tuition and fees for four years at public four-year colleges increased from 4% to 5% of the price of a house.

On one hand, if housing prices and college prices rise at the same rate, the trade-off between buying housing and buying education remains constant.¹⁵ In other words, if housing prices are rising at the same rate, rising college prices do not seem so “unaffordable.” Moreover, as housing prices rise, people who already own homes, as is the case for the parents of many college students, experience increases in net worth providing resources to pay for college. On the other hand, if monthly housing expenses rise for new homebuyers or for renters, people with given incomes have lower discretionary incomes out of which to pay for education, making education less affordable.

Houses are an exception because they act as a store of wealth, as opposed to something people have to buy

out of their incomes, along with paying for education. As the price of college rises relative to other prices, people have to give up more consumption of other goods and services in order to pay for college. A thorough analysis of this issue would require more data and analysis than this discussion can include, but a brief look will elucidate the question. The Consumer Price Index for (published) college tuition and fees was 3.14 times as high in 2013 as in 1993. In contrast, the CPI for legal services was 2.20 times as high and the CPI for food at home was 1.67 times as high as in 1993. This means that consumers had to give up more in terms of legal services or food at home in order to pay the published price for a year of college.¹⁶

Table 2 provides some examples of the change in relative prices of tuition and some other goods and services. For example, in 2013 consumers could, on average, purchase 2.9 times as many new cars in exchange for a year of tuition as they could have purchased in 1993. This perspective on the rising price of college would be moderated if we focused on net price instead of published price, but provides a powerful insight into concerns over declining affordability.

As Archibald and Feldman (2012) point out, if other goods and services get relatively cheaper, there is more discretionary income and people should be able to pay higher prices for college.¹⁷ But the rising relative price of

Table 2: Amount of Other Goods and Services That Could Be Purchased for Average Published Tuition and Fee Price Relative to 1993

	All Items	Information Technology Hardware & Services	New Vehicles	Food at Home	Child Care & Nursery School	Rent of Primary Residence	Legal Services	College Tuition and Fees
1993	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2003	1.4	8.5	1.7	1.4	1.1	1.3	1.1	1.0
2013	1.9	29.0	2.9	1.9	1.4	1.8	1.4	1.0

Source: Bureau of Labor Statistics, Consumer Price Index Customized Tables, <http://data.bls.gov/cgi-bin/dsrv?cu;> calculations by the authors.

college makes it appear less affordable, whether or not people are actually less able to pay for it.

Choosing Benchmarks

An issue that distinguishes paying for college from paying for many other goods and services is the gap between the actual required expenditures and perceptions of that expenditure. The car market is similar in some ways.

If I want to buy a new car, there are many options with many different price tags and the price I will actually pay depends on how successfully I can negotiate with the salesperson. Most people borrow at least a portion of the price and pay over time. But for most purchases, people can look at the price tag and decide on the spot whether they are able and willing to pay or not.

Some of the recent efforts to increase the information available to students choosing postsecondary educational paths seem to be modeled on the automobile market. In addition to the wide variety of models available and the gap between sticker prices and prices paid, both education and cars are products that are difficult for consumers to evaluate. Walking around a campus or exploring the website provides only superficial information. The same is true of a test drive. The stakes are high in both cases—safety in the case of automobiles. But government regulation allows shoppers to trust that all available models are safe and to focus on less critical characteristics that fit their personal preferences and pocketbooks.

While in theory the accreditation process and the provision of federal student aid should eliminate “unsafe” colleges, it’s not at all clear that this is the case. And while for students choosing among elite residential colleges, the food in the dining hall, the quality of the athletic facilities, and the level of political activism among the student body might be analogous to the design differences among automobiles, many of the differences among institutions are much more critical.

Moreover, the car is the same regardless of who is driving it. The college experience depends at its core on the

relationship between the student and the institution and the best college for one individual might be a very poor choice for another. As long as the cars are safe, we don’t really worry about whether some people can afford only a budget car while others can choose a luxury car. But a low-tuition community college offers very different opportunities than a public flagship university.

This complicates the affordability question quite a bit. Do we just want to assure that students can afford the lowest-price option? Do we have to assure that all students can choose among any institutions for which they are academically prepared, regardless of price? Surely the answer lies somewhere in between these two extremes.

Actual vs. Perceived Affordability

How should we evaluate a policy that increases affordability but not perceived affordability? If people perceive postsecondary education as unaffordable, they are likely to make decisions that limit their participation and success. Some policies that increase affordability from an objective perspective may not significantly affect that perception. Federal tax credits provide a good example. Federal subsidies to college students and their families through tax credits and deductions increased from about \$7 billion in 2007-08 to about \$17 billion in 2009-10.¹⁸ Clearly, these tax policies reduce the price people pay and make college more affordable. But because people don’t associate their lower tax bills directly with their tuition bills, they are likely not to feel that they can actually afford to pay an extra \$2,500 a year for college as a result of a \$2,500 a year tax credit.

This difference between perception and objective reality raises the question of whether just lowering prices or just providing more financial aid really has the desired impact. Insights from the burgeoning field of behavioral economics are helpful here. The idea is not that people fail to respond to monetary incentives, but that their responses do not always follow the model of purely rational economic agents. People make judgments based on the information that is most salient in their

minds, rather than by weighing all of the facts and figures. If they hear every day that college prices are skyrocketing, that college is out of reach for all but the wealthy, they are likely to believe that. They may have no idea that financial aid is available. The complexity of the aid and pricing systems compounds the problem.

How things are framed also matters. The example of the recent proposal in Oregon to “Pay It Forward” is instructive. The proposal would eliminate up-front tuition payments and replace them with the requirement that students pay a percentage of their incomes for a specified number of years after they leave school. The proposal is described as: “Pay It Forward (HB 3472) will provide access for all Oregonians to a debt-free degree and protect funding for public higher education.”¹⁹ A requirement to make payments later is a debt by another name. But

calling it something other than debt seems to have a big psychological impact, allowing people to breathe a sigh of relief.

Variation in Prices

As discussed above, the net prices students actually pay have risen more slowly over time than published tuition and fee prices. The differential between the two prices varies considerably across income levels and average net prices conceal very different scenarios for students in different circumstances.

For example, for low-income students enrolled in public research universities, the average net tuition and fee price (in 2011 dollars) declined from -\$703 in 1999-2000 to -\$1,647 in 2007-08, before rising to -\$1,064 in 2011-12. In other words, grant aid left low-income students with more funding to cover non-tuition expenses in 2011-12

Table 3: Net Tuition and Fees and Net Cost of Attendance in 2011 Dollars at Public Research Universities, by Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12

Quartile of Parents' Income of Dependent Students	1999-2000	2003-04	2007-08	2011-12	\$ Change from 1999-2000 to 2011-12
Net Tuition and Fees					
Lowest	-\$703	-\$674	-\$1,647	-\$1,064	-\$361
Second	\$1,983	\$2,724	\$1,661	\$3,075	\$1,092
Third	\$4,374	\$4,775	\$5,588	\$7,165	\$2,791
Highest	\$5,552	\$6,282	\$7,289	\$9,431	\$3,879
Net Cost of Attendance					
Lowest	\$10,750	\$11,520	\$11,960	\$12,978	\$2,229
Second	\$13,473	\$14,832	\$14,817	\$17,006	\$3,533
Third	\$15,962	\$17,089	\$18,954	\$21,193	\$5,231
Highest	\$17,171	\$18,791	\$20,924	\$23,727	\$6,556

Note: Net prices are calculated by subtracting grant aid from all sources and veterans' benefits from published tuition and fees and cost of attendance. Income categories (all in 2011 dollars) for each year are: lowest: less than \$30,000; second: \$30,000 to \$64,999; third: \$65,000 to \$105,999; highest: \$106,000 or higher.

Source: NCES, NPSAS: 2000, 2004, 2008, and 2012.

than in 1999-00 or in 2003-04. If room and board and other expenses in students budgets are also included, the average net price for low-income students increased by \$2,229 (in 2011 dollars) or 21% from 1999-2000 to 2011-12.

The picture is quite different for the third income quartile (with incomes between \$65,000 and \$105,999 in 2010). For these upper-middle-income students, the average net tuition and fee price at public research universities has increased at an accelerating rate and was 64% (\$2,791 in 2011 dollars) higher in 2011-12 than in 1999-00. Focusing on total costs of attendance diminishes the contrast across income groups, yielding an increase of 33% or \$5,231 for these students.

These figures suggest increasing affordability issues for the third income quartile of dependent undergraduate students. But comparing net prices for these students across types of institutions reveals that the net price increase has been larger for public research universities than for other sectors (Table 4). For example, at private research universities, net tuition and fees increased by 10% in real terms for this group over this time period (total cost of attendance increased by 21%).

These examples illustrate the difficulty of finding one answer about how the price of college has changed over time—even before comparing that price to the resources available to pay.

Opportunity Costs

A very real cost of attending college is the opportunity cost of time. If students leave the labor force in order to study, their forgone wages are a cost of going to college. In reality, many college students work at least part time, complicating the task of measuring this cost. Opportunity cost is rarely included in discussions of college affordability, but it is useful to develop some approximations and consider the impact of changes in forgone wages on affordability.

Between 2002 and 2012, median earnings for male high school graduates between 18 and 24 increased by 3%, from \$14,560 to \$15,000. This amounted to a 19% decline after accounting for inflation. Women's median earnings declined in both nominal and real terms during this 10-year period—9% in nominal and 29% in real terms. In other words, the opportunity cost of going to college declined over this time period.

Table 4: Net Tuition and Fees in 2011 Dollars for Third Income Quartile of Dependent Undergraduates, 1999-2000 to 2011-12

Carnegie Classification	1999-2000	2003-04	2007-08	2011-12	% Change from 1999-2000 to 2011-12
Public Associate	\$1,434	\$1,576	\$1,949	\$1,906	33%
Public Research	\$4,374	\$4,775	\$5,588	\$7,165	64%
Public Master's	\$3,696	\$4,060	\$4,402	\$5,587	51%
Public Bachelor's	\$4,083	\$4,594	\$4,875	\$5,494	35%
Private Research	\$14,627	\$18,967	\$18,117	\$16,156	10%
Private Master's	\$9,394	\$11,562	\$13,172	\$13,582	45%
Private Bachelor's	\$10,309	\$10,410	\$13,788	\$12,317	19%

Source: NCES, NPSAS: 2000, 2004, 2008, and 2012.

Discussions of the increase in college enrollments during recessions frequently acknowledge that limited labor market opportunities contribute to greater participation in postsecondary education. But it is not so easy to think of declines in wages as making college more affordable. If the declines persist and students have lower earnings after they leave school, they will have less ability to pay for college. But changes in the opportunity cost of college are a critical component of the cost of college. For men who are giving up \$15,000 a year of earnings to go to college, tuition at public two-year and four-year colleges becomes a relatively small part of what they are paying if they leave the labor market to spend a year in college.

Section 4: How Much Can Families Afford to Subsidize Their Children?

Students whose parents are in a position to subsidize their college education can afford to pay more than others because they can combine their own resources with parental resources. Students who do not have parents who can subsidize them are likely to require grant aid from other sources to supplement what they can pay out of their future earnings premium.

Determining the subsidy amount that is reasonable to expect from parents is the question usually framed as how much the student (and family) can afford to pay. As noted above, it is common to cite the ratio of the net price of college to family income. But it is not easy to evaluate these ratios.

A family with a higher income can afford to contribute a higher percentage of their income for college, all other things equal, so one benchmark percentage is not adequate. Moreover, a precise definition of what is affordable for the family is not possible, but defining discretionary income is a reasonable starting point.

Through much of the 20th century, the Bureau of Labor Statistics (BLS) constructed living standards based on the prices of market baskets of goods. However, more

recently the consensus is that observing how much households in different circumstances actually spend is a more constructive approach than attempting to prescribe how much they should be spending.²⁰ In other words, rather than specifying that people should consume the most basic diet that provides the necessary nutrients, we should look at how much households at the 25th or 50th percentile of the income distribution spend on food and use that as a standard.

The federal poverty guidelines are prescriptive rather than descriptive, but are used to determine eligibility for a number of means-tested public programs. The Economic Policy Institute's Family Budget Calculator estimates that all families need more than twice the federal poverty line to get by.²¹ The 2013 poverty guidelines for the 48 contiguous states from the U.S. Department of Health and Human Services are shown in Table 5.

Considering income exceeding a specified percentage of the poverty line discretionary will have a very different impact over time from using median income as a benchmark because the poverty line, which is adjusted annually for changes in the Consumer Price Index, tends to decline relative to median income. As Table 6 shows,

Table 5: 2013 Federal Poverty Guidelines

Number in Household	2013 Federal Poverty Guideline
1	\$11,490
2	\$15,510
3	\$19,530
4	\$23,550
5	\$27,570
6	\$31,590
7	\$35,610
8	\$39,630

Source: U.S. Department of Health and Human Services, Poverty Guidelines, <http://aspe.hhs.gov/POVERTY/13poverty.cfm#guidelines>.

Table 6: Median Family Income and Poverty Guidelines in Current Dollars for Families with Four People, 1982 to 2012, Selected Years

	Median Family Income	Poverty Guideline	200% of Poverty Guideline	200% Poverty Guideline/Median Family Income
1982	\$27,619	\$9,300	\$18,600	0.67
1987	\$37,086	\$11,200	\$22,400	0.60
1992	\$44,251	\$13,950	\$27,900	0.63
1997	\$53,350	\$16,050	\$32,100	0.60
2002	\$62,732	\$18,100	\$36,200	0.58
2007	\$75,675	\$20,650	\$41,300	0.55
2012	\$79,698	\$23,050	\$46,100	0.58

Sources: U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-8, <http://www.census.gov/hhes/www/income/data/historical/families/>; U.S. Department of Health and Human Services, Poverty Guidelines, <http://aspe.hhs.gov/POVERTY/figures-fed-reg.cfm>.

200% of the poverty guideline for a family of four was \$18,600 in 1982, 67% of the \$27,619 median income of families of four. By 1992, the ratio had declined to 63% and in 2012, 200% of the poverty guideline for a family of four was \$46,100, 58% of the \$79,698 median income of families of four.

If we assume that a family with income below 200% of the poverty guideline cannot afford to make a measurable contribution to tuition and fees for children, the simplest way to derive an approximation of how much a family can afford to contribute is to assume a fixed percentage of income exceeding the threshold of 200% of the poverty level.²² As Table 7 on page 17 illustrates, this type of formula yields contribution-to-income ratios that increase with income. Choosing, for example, 25% would yield estimated contributions from parents of only 1% of total income of \$50,000 (just above 200% of poverty), of 10% of total income of \$80,000 (approximately median family income), and 18% of total income \$160,000 (about twice median family income).

Without making judgments about the exact optimal schedule, it is possible to use this approach as the

foundation for assuming that students from higher-income families can afford to pay more for college than others (absent financial aid) because they should expect subsidies from their parents, diminishing the portion of their education they must finance on their own.

However, this simple formula assumes that parents can contribute only out of their current incomes. It is more reasonable to assume that parents can plan for college, save over time, make contributions from assets, and even borrow against future income. One possibility, desirable because of its simplicity, is to use current income as a proxy for longer-term financial capacity. This becomes more reasonable if instead of using only one year of income, we look at three or more years of income, a viable possibility if data from the Internal Revenue Service are available.

Before accepting this approach, however, it is useful to gain some insight into the savings and asset accumulation patterns of families in different circumstances, as well as income stability over time. Aggregate data confirm that family incomes are sensitive to business cycles and assuming a steady rate of growth

Table 7: Total Family Income, Discretionary Income, and Potential Contribution from Discretionary Income for Families with Four People, 2013

Family Income	Discretionary Income (Total Income minus 200% of Poverty Guideline)	Contribution from Discretionary Income					
		50%		25%		10%	
		Dollars	As a % of Total Income	Dollars	As a % of Total Income	Dollars	As a % of Total Income
\$40,000	-\$7,100	\$0	0%	\$0	0%	\$0	0%
\$50,000	\$2,900	\$1,450	3%	\$725	1%	\$290	<1%
\$60,000	\$12,900	\$6,450	11%	\$3,225	5%	\$1,290	2%
\$80,000	\$32,900	\$16,450	21%	\$8,225	10%	\$3,290	4%
\$100,000	\$52,900	\$26,450	26%	\$13,225	13%	\$5,290	5%
\$120,000	\$72,900	\$36,450	30%	\$18,225	15%	\$7,290	6%
\$140,000	\$92,900	\$46,450	33%	\$23,225	17%	\$9,290	7%
\$160,000	\$112,900	\$56,450	35%	\$28,225	18%	\$11,290	7%

over time is likely to over-burden families affected by recessions.

Income over time

As Figure 3 on page 18 shows, between 1982 and 2007, median family income in the United States increased by 27% and 33% for all families and for families of four, respectively, after adjusting for inflation. Median family income for all families peaked at \$67,944 in 2007 and was \$62,241 by 2012. Median family income for families of four peaked at \$83,802 in 2007 and was \$79,698 in 2012.

Perhaps more important for determining the validity of basing expected contributions from parents on a single year of income information is an understanding of changes in relative incomes, which would affect the equity of expectations across families. The rate of change in median income underestimates the growth in incomes at the top and overestimates changes at the bottom of the income distribution. As Figure 4 on page 19 shows, average income for families in the lowest income quintile was the same in real terms in 2012 as it had been in 1982. Over these thirty years, average income increased by 16% for the middle quintile, by 53% for the highest quintile, and by 87% for the top 5% of families in the U.S.

This reality implies that using the most recent year of income as an indicator of long-term financial capacity over-estimates the contributions we should expect from lower-income families relative to those we should expect from more affluent families.²³

Savings

At the national level, the personal saving rate experienced a slight upward trend between 1952 and 1975, from 11.1% to 13.0% (Figure 5 on page 20). Between 1975 and 2005, it declined sharply from 13.0% to 2.6%. Since 2005, the saving rate has been going up, reaching 5.6% in 2012.

The overall decline in the saving rate contributes to an understanding of the difficulties families experience in subsidizing their children’s education. Low levels of accumulated savings, combined with annual expenditures that consume all or almost all of a family’s income, make this added demand all the more challenging.

Not surprisingly, higher-income families save higher percentages of their incomes than lower-income families. Estimates suggest that saving rates range from 1% for families in the lowest income quintile to 24% for families in the highest quintile, a figure heavily affected

by the 51% saving rate of the top 1%.²⁴ If the lowest 20% of families—those with incomes below \$27,795 in 2012—are expending their entire incomes, they will have considerable difficulty contributing measurable amounts to their children’s education.

The disparity in saving rates and the growing inequality in income make it unsurprising that, as shown in Table 8 on page 21, inequality in net worth has increased over time, making it more difficult—at least in relative terms, for middle-income families to subsidize their children’s education by relying on contributions from assets.

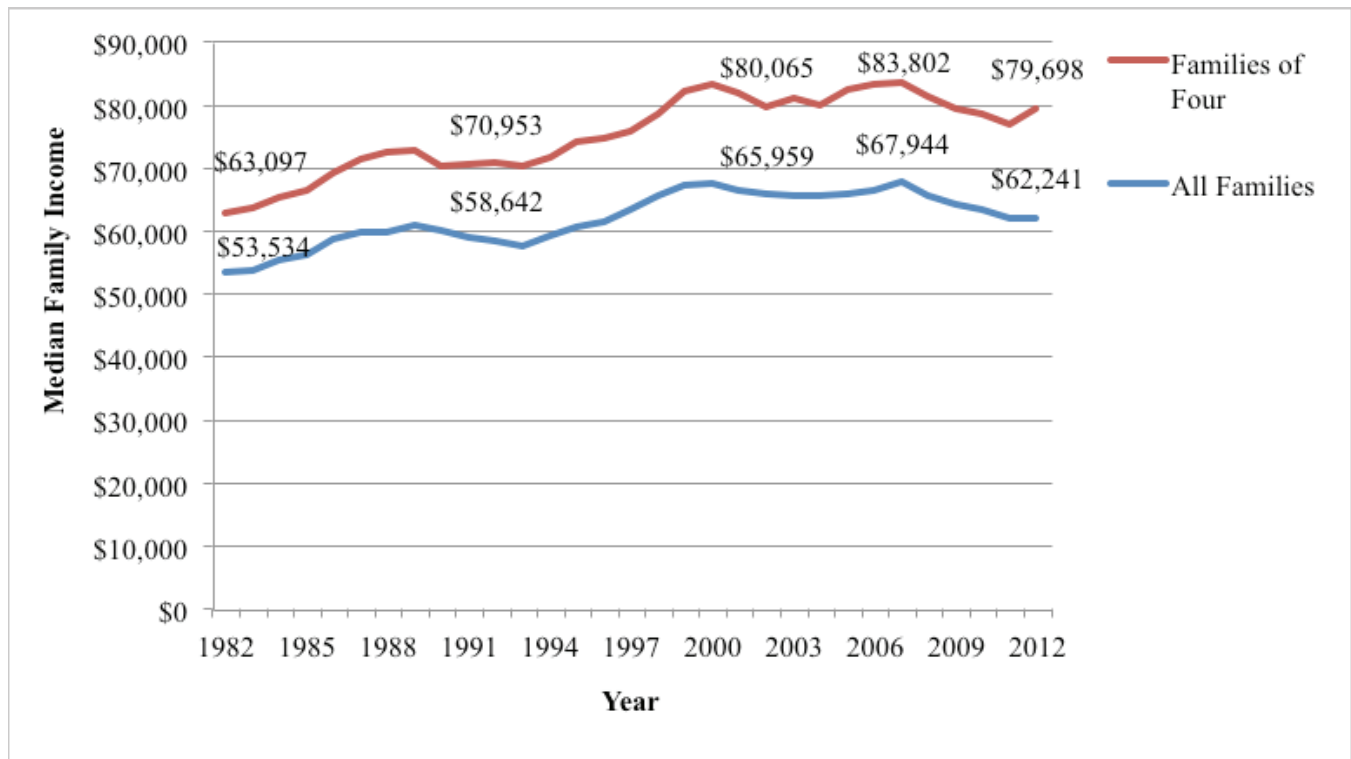
Monitoring changes in the distribution of income, in the saving rate, and in the distribution of net worth across families cannot yield a precise estimate of what families can afford to contribute to postsecondary education,

but it sheds light on both changes in that capacity and differences across families.

Section 5: How Much Can Students Afford to Contribute Out of Income?

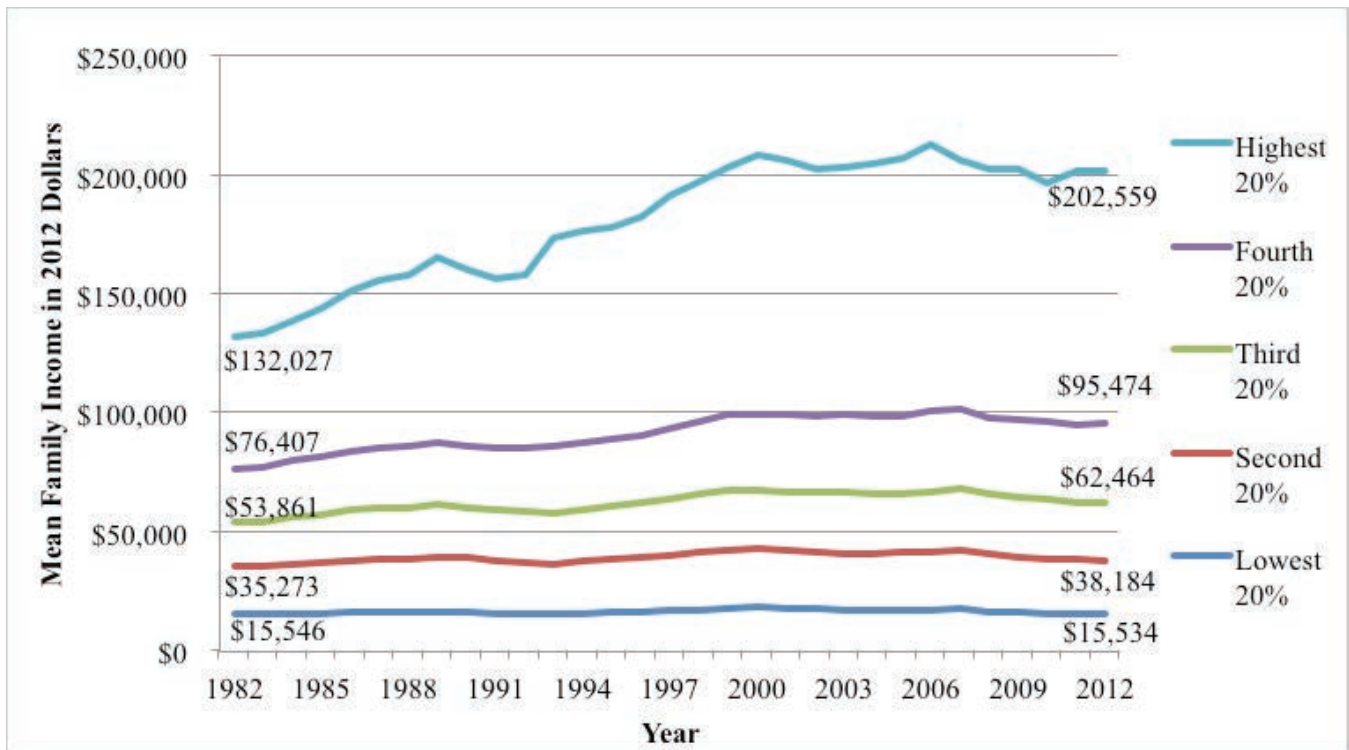
The difference between the average earnings of high school graduates and the average earnings of adults of similar ages with some college, associate degrees, or bachelor’s degrees is an imperfect measure of the amount by which an individual’s earnings increase as a result of their investment in postsecondary education. Some of the differential may be attributable to systematic differences in the personal characteristics of people with different levels of education. And there is considerable variation in earnings within educational categories.

Figure 3: Median Family Income in 2012 Dollars for All Families and Families of Four People in the United States, 1982 to 2012



Source: U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-8, <http://www.census.gov/hhes/www/income/data/historical/families/>.

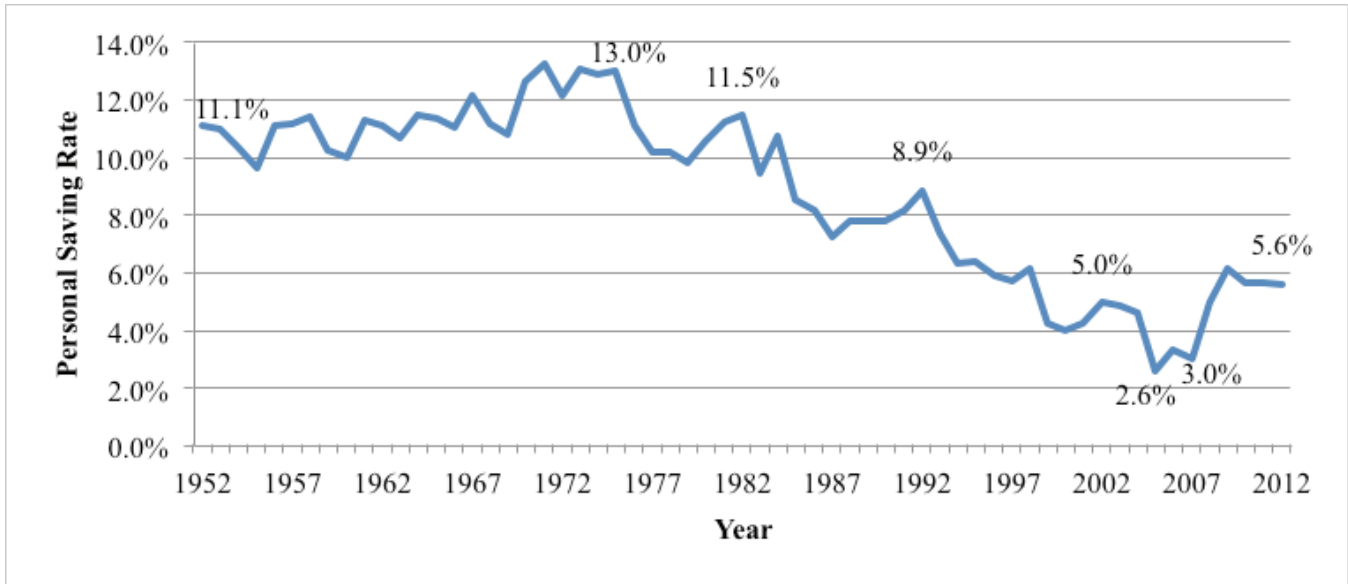
Figure 4: Mean Family Income in 2012 Dollars by Quintile, 1982 to 2012



	Lowest 20%	Second 20%	Third 20%	Fourth 20%	Highest 20%	Top 5%
\$ Change 1982–2012	-\$12	\$2,911	\$8,603	\$19,067	\$70,532	\$163,442
% Change 1982–2012	0%	8%	16%	25%	53%	87%
2012 Income Bracket	\$27,794 or less	\$27,795 to \$49,788	\$49,789 to \$76,538	\$76,539 to \$119,001	\$119,002 or more	\$210,001 or more
2012 Mean Income	\$15,534	\$38,184	\$62,464	\$95,474	\$202,559	\$352,338

Source: U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, Historical Income Table F-3, <http://www.census.gov/hhes/www/income/data/historical/families/>.

Figure 5: Personal Saving Rate in the United States, 1952 to 2012



Note: Personal saving rate is the percentage of after-tax (disposable) income that was not spent and is based on the National Income and Product Accounts (NIPAs) data.

Source: U.S. Department of Commerce, Bureau of Economic Analysis.

Postsecondary education is an investment with a high average rate of return, but it involves considerable risk. Some of the variation in outcomes is predictable, but some of it is the result of unforeseen circumstances.

Relying on averages for estimating how much people can afford to pay for college out of their future incomes is more problematic than relying on averages to estimate how much of their pre-college resources people can devote to postsecondary education because of the uncertainty involved. Some people will end up with no earnings premium at all. But a meaningful concept of affordability has to be based on averages with the understanding that some people will, in the end, not to be able to afford what looked in advance like a good investment.

The question of whether someone has the resources to pay for education is not the same as the question of how high the return to the investment in education is. People

who are wealthy before and/or after college can pay for expensive educations whether or not those educations increase their earnings. Other people may in fact increase their lifetime earnings by an amount that exceeds the cost of their education, making them financially better off as a result of the education—but still have great difficulty paying the bills. Their incomes, even with the earnings premium, may not be high enough to cover a reasonable standard of living.

Is college affordable for someone who has a lifetime after-tax earnings premium that exceeds the price of college (including the opportunity cost), but whose earnings are so low as to make her struggle to make ends meet? If she has extra disposable income that she would not have had if she had not continued her education, it is questionable to call college unaffordable. College is affordable because she is better off financially after paying for college than she would have been if she had passed on the opportunity. But even with college, her income will be too

Table 8: Median Net Worth of Households by Income Percentile, 1989 to 2010

Median Net Worth in Current Dollars								
Percentile of Income	1989	1992	1995	1998	2001	2004	2007	2010
Lower than 20th	\$1,800	\$4,000	\$6,000	\$5,800	\$7,900	\$7,500	\$8,100	\$6,200
20–39.9	\$24,100	\$27,800	\$33,500	\$33,100	\$37,400	\$33,700	\$37,800	\$25,600
40–59.9	\$41,600	\$39,600	\$46,400	\$53,400	\$63,700	\$72,000	\$88,100	\$65,900
60–79.9	\$66,500	\$75,700	\$76,100	\$112,300	\$144,300	\$160,000	\$205,800	\$128,600
80–89.9	\$132,000	\$115,700	\$128,100	\$188,500	\$263,100	\$313,700	\$356,200	\$286,600
90–100	\$388,500	\$363,700	\$355,600	\$452,400	\$833,600	\$929,600	\$1,119,000	\$1,194,300
90–100 /40–60	9.3	9.2	7.7	8.5	13.1	12.9	12.7	18.1

Source: Federal Reserve Bank, Survey of Consumer Finances.

low for a comfortable lifestyle and her loan payments may be “unaffordable.”

The problem here is that a significant number of people in our economy—including some with postsecondary education—do not earn enough to have discretionary income. Clearly if college were free, they would be better off financially (assuming others bore the tax burden required to finance the free education). The same is true of housing or any other necessity. In the example above, college more than paid for itself, so deeming it unaffordable is not logical. But since basic necessities are unaffordable, additional expenses are also problematic.

Payments for College Out of the Earnings Premium

In 2012, median earnings of all workers between the ages 25 and 34 with associate degrees were about \$5,400 higher than median earnings of those with high school diplomas (\$30,900 vs. \$25,500). After accounting for taxes paid, this differential shrinks to about \$4,000.²⁵

With an earnings increment of \$4,000 a year for a 40-year work life, how much could an individual afford to pay for education? Suppose we assume that half of the earnings premium can go to pay for education, while the other half supports an increased standard of living.

That would allow for payments of \$2,000 a year. Clearly, the length of time over which the payments are made is relevant. Suppose we limit the payments to 20 years. At an interest rate of 6.8%, this worker could pay down a debt about \$22,000 over 20 years.²⁶

There are many judgment calls in this example. A higher interest rate reduces the amount the borrower can repay. A longer repayment period increases the manageable debt. Perhaps the most critical question is how much of the earnings premium the borrower should be expected to devote to education.

Table 9 shows what percentage of the average earnings differential between high school graduates and four-year college graduates would be needed to make the loan payments required for different amounts of debt at different interest rates. Notably, the average debt of bachelor’s degree recipients in 2011-12 who borrowed was about \$30,000.²⁷ Paying off that debt at 6.8% interest over 10 years requires only 25% of the average monthly earnings premium.

These illustrative examples suggest that current problems are not a function of education debt actually being disproportionate to the typical college earnings

premium. Rather, the variation in outcomes, which leaves some graduates with relatively low earnings, is a central issue.²⁸ Moreover, the earnings levels associated with sub-baccalaureate credentials may generate problems even if they represent significant advantages relative to high school graduates.

The \$30,900 median earnings of associate degree holders on which the example above is based is 2.7 times the 2013 poverty guideline for a single person, but it is only 1.3 times the poverty level for a family of four—less

than the minimal amount cited above on which a family can reasonably manage. In other words, the range of post-college circumstances clouds the concept of college affordability. Even the significant earnings premium from college is frequently not enough to generate a comfortable standard of living. The dilemma is that while the higher earnings do afford people the possibility of paying for college and still being better off than without the degree, the payments do not seem affordable, because even without the payments, the earnings are inadequate.

Table 9: Monthly Loan Payment Amount by Repayment Period, Interest Rate, and Loan Amount

Loan Amount	10-Year Repayment Plan Interest Rate			15-Year Repayment Plan Interest Rate			20-Year Repayment Plan Interest Rate		
	3.4%	5.0%	6.8%	3.4%	5.0%	6.8%	3.4%	5.0%	6.8%
Monthly Loan Payment									
\$20,000	\$196	\$211	\$229	\$142	\$158	\$177	\$115	\$131	\$152
\$30,000	\$294	\$317	\$343	\$212	\$236	\$265	\$172	\$197	\$228
\$40,000	\$393	\$423	\$458	\$283	\$315	\$353	\$229	\$263	\$304
\$50,000	\$491	\$528	\$572	\$354	\$394	\$441	\$287	\$329	\$380
Monthly Loan Payment as a Percentage of Monthly College Earnings Premium for All Workers Ages 25 to 34*									
\$20,000	14%	16%	17%	10%	12%	13%	8%	10%	11%
\$30,000	22%	23%	25%	16%	17%	19%	13%	14%	17%
\$40,000	29%	31%	34%	21%	23%	26%	17%	19%	22%
\$50,000	36%	39%	42%	26%	29%	32%	21%	24%	28%

Note: In this simplified example, the college earnings premium is calculated as the difference between the 2012 median earnings of all workers whose highest degree is a bachelor’s degree and all workers whose highest degree is a high school diploma.

Sources: U.S. Census Bureau, *Income, Poverty and Health Insurance in the United States: 2012*, PINC-03, http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03_000.htm; calculations by the authors.

Section 6: Developing Metrics

Meaningful metrics for assessing changes in college affordability over time cannot draw bright lines between what is affordable and what is not. Preferences and priorities vary considerably across students and families. Some families with very low incomes contribute to their children's education because they consider it so important. They are willing to eat less, to forgo entertainment, to have smaller wardrobes in order to assure this opportunity for their children. For other families, any contribution to education seems unaffordable unless it comes after restaurant meals once a week, annual vacations, and clothes that make their children feel that they fit in with their peers. Maybe even a new car every few years.

Some families will stretch to send their children to the best school they can get into. Others will see no value to paying more than the tuition at the local community college. Families in very similar financial circumstances will make very different judgments about what they are willing to sacrifice and about what is affordable.

This subjectivity, combined with the complexities highlighted in the discussion above, suggests that the most constructive approach is to develop a set of indicators that can be monitored over time to assess the financial accessibility of postsecondary education for students in different circumstances. Precise specification of the best available set of indicators will require further research and analysis, but the ideas discussed here lay the groundwork for this endeavor.

Below is a list of indicators that should be monitored over time, and should be examined in relation to one another. We have presented examples of some of these indicators throughout the paper. Additional examples are shown in the Appendix.

Prices

- Average tuition and fees by sector by state
- Average tuition and fees by Carnegie classification within sectors
- Average room and board charges
- Housing and food prices by geographical area
- Textbook prices
- Net prices for students with different characteristics at different types of institutions
- Changes in college prices relative to prices of other goods and services

Earnings

- Earnings by educational attainment for full-time workers, all workers, and members of the labor force
- Earnings by educational attainment by geographical area and by age
- Average earnings for different levels of educational attainment and the variation in earnings
- Expected earnings incorporating probabilities of completing different types of credentials for students in different circumstances

Other resources

- Discretionary income
- Net worth by age, income, and other characteristics
- Saving rates
- Inequality of income and net worth

Student debt

- Percentage of students with education debt and distribution of debt levels for students with different characteristics at different types of institutions
- Loan payments relative to earnings premium

Section 7: Summary

To better understand and measure college affordability we should focus on students and what they can afford to pay for education. We should expect that students will rely on a combination of their own resources at the time they enroll, the expected earnings premium resulting from their postsecondary education, and the subsidies their parents should be able to provide.

There will never be one answer to how affordable college is or how that affordability is changing. Different educational opportunities come with a wide range of prices and the net prices individual students pay for the same institutions and programs also vary widely. Individuals and families have different preferences and priorities, making college expenses look very different even to students in similar financial circumstances.

But the complexity of the issue need not prevent the constructive collection and dissemination of data that paint a fairly complete picture of the financial accessibility of different postsecondary options for students in different circumstances.

A constructive next step would be to compile available data on the variables discussed in this paper and to analyze them and the relationships among them in a way that presents a coherent picture of college affordability over time.

Endnotes

- 1 The College Board (2013), Annual Survey of Colleges.
- 2 Cooperative Institutional Research Program (CIRP) (2011), *Completing College: Assessing Graduation Rates at Four-Year Institutions*, HERI Research Brief, <http://heri.ucla.edu/DARCU/CompletingCollege2011.pdf>.
- 3 See, e.g. Vicki Choitz and Patrick Reimherr, *Mind the Gap: High Unmet Financial Need Threatens Persistence and Completion for Low-Income Community College Students*, CLASP, April 2013, <http://www.clasp.org/resources-and-publications/publication-1/CLASP-Unmet-Need-Brief-041213-final-ab-2.pdf>; TICAS, *Quick Facts About Financial Aid and Community Colleges, 2007-08*, May 2009, http://www.ticas.org/files/pub/cc_fact_sheet.pdf; Kevin Carey and Erin Dillon, *Drowning in Debt: The Emerging Student Loan Crisis*, Education Sector, July 8, 2009, <http://www.educationsector.org/publications/drowning-debt-emerging-student-loan-crisis>.
- 4 Unmet need is usually defined as in excess of federal student loans, in addition to grant aid. These loans might be taken as a rough approximation of the amount the student can reasonably be expected to contribute out of future earnings, but it is somewhat arbitrary to define affordability as based on the federal student loan limits, or on the amount of those loans the student chooses to take. Unmet need should probably be defined to account for federal tax credits, which diminish the price the student is actually paying for college, but this is not general practice.
- 5 <http://collegecost.ed.gov/cat/>.
- 6 Marc Joseph, September 17, 2013, http://www.huffingtonpost.com/marc-joseph/its-too-expensive-to-go-t_b_3935231.html.
- 7 Dylan Matthews, August 26, 2013, <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/08/26/introducing-the-tuition-is-too-damn-high/>.
- 8 See, for example, the NCHEMS Information Center, <http://www.higheredinfo.org/dbrowser/?level=nation&mode=map&state=0&submeasure=75>.
- 9 About 61 percent of independent undergraduates with dependents had EFC=\$0 in 2011-12 (National Center for Education Statistics [NCES], National Postsecondary Student Aid Study [NPSAS]: 2012, calculations from DataLab).
- 10 From a social perspective, the relevant issue is the increase in earnings (or the increased output) resulting from the education relative to the entire cost of providing that education. However, because the issue at hand is how much students (and families) can reasonably be expected to pay, we focus here only on the portion of the cost of education actually borne by students (and families), and not on the portion subsidized through tuition that is less than total cost or through financial aid.
- 11 The College Board (2013), *Trends in College Pricing 2013*, Table 2 and Table A2.
- 12 Bureau of Labor Statistics, Consumer Expenditure Survey, 2011–2012 Current Cross-Tabulated Tables, Age of reference person by income before taxes, under 25, Table 3600, <http://www.bls.gov/cex/2012/CrossTabs/sizbyage/aone.PDF>.
- 13 NCES, NPSAS: 2012, calculations from DataLab.
- 14 Sources: *The College Board, Trends in College Pricing 2013*, online Table 2; U.S. Census Bureau, Median and Average Sales Prices of New Homes Sold in the United States, <http://www.census.gov/const/uspricemon.pdf>.
- 15 The reality is more complicated, since houses are almost always financed through mortgages and interest rates also vary considerably over time, altering the monthly payments associated with any house price.
- 16 Source: Bureau of Labor Statistics, Consumer Price Index Customized Tables, <http://data.bls.gov/cgi-bin/dsrv?cu>.
- 17 Archibald and Feldman argue that college has not actually become less affordable as its price has risen relative to family incomes and to other goods and services. “Over any given span of years, once you account for all price changes and all changes in family income, can a family purchase

- the exact same set of goods and services as before, and have more money left over to buy other things? If so, then no one is “forced” to drop out of college or to trade down to lower-priced educational alternatives. They may choose to attend different types of schools as the relative price of public versus private education changes, or as college tuition rises relative to automobiles or televisions. But if you can purchase the exact same basket of goods and services and then some, you are better off.” Robert Archibald and David Feldman, *The Anatomy of College Tuition*, American Council on Education, 2012, <http://www.acenet.edu/news-room/Documents/Anatomy-of-College-Tuition.pdf>.
- 18 The College Board (2013), *Trends in Student Aid 2013*, Figure 16a.
- 19 <http://oregonwfp.org/issues/debt-free-higher-education/>. Bills in the U.S. Senate and House of Representatives make similar proposals for the nation (<http://www.merkley.senate.gov/newsroom/press/release/?id=bb43fdf2-2a1d-4c7c-ba4f-eac1243f0670>; <https://www.govtrack.us/congress/bills/113/hr3959/text>).
- 20 In 1978, BLS convened an expert committee to study the concept of family budgets. The group recommended a descriptive approach to developing a “prevailing family standard” set at the median level of expenditures for families of four with two children. The “lower living standard” is two-thirds of that level and the “social minimum” is one half. The “social abundance standard” is 50 percent higher than the prevailing standard. A National Research Council panel also recommended tying budget standards to median expenditures (David Johnson, John Rogers, and Lucilla Tan, “A Century of Family Budgets in the United States,” *Monthly Labor Review*, May 2001, <http://www.bls.gov/opub/mlr/2001/05/art3full.pdf>.)
- 21 Economic Policy Institute, <http://www.epi.org/resources/budget/>.
- 22 Choosing this percentage is arbitrary and it may be more reasonable to assume that at higher income levels, families can contribute a greater percentage of discretionary income while still sacrificing less utility than lower-income families.
- 23 When asked how much their parents have helped them with their tuition and living expenses while they are in school, on average students from families with incomes below \$30,000 report that their parents have contributed more than the calculated EFC, while those from higher-income families report parental support far lower than EFCs (NCES, NPSAS: 2012, calculations from DataLab).
- 24 Dylan, Skinner, and Zeldes (2004), Do the Rich Save More? *Journal of Political Economy*, 112(2), 397–444, Table 3, <https://www.dartmouth.edu/~jskinner/documents/DynanKEDotheRich.pdf>.
- 25 U.S. Census Bureau, Income, Poverty and Health Insurance in the United States: 2012, PINC-03, http://www.census.gov/hhes/www/cpstables/032013/perinc/pinc03_000.htm; calculations by the authors.
- 26 This example and the one shown in Table 9 are based on all workers between the ages of 25 and 34. They are illustrative and more precise estimates would require incorporating earnings differentials at older ages.
- 27 Source: NCES, NPSAS: 2012.
- 28 For detailed discussion of the variation in post-college earnings, see Sandy Baum, Charles Kurose, and Jennifer Ma (2013), *How College Shapes Lives: Understanding the Issues*, The College Board.

Appendix: Additional Examples of Potential Indicators of College Affordability

This Appendix includes examples of the types of indicators that should be included in a comprehensive measure of college affordability. Other indicators are in Figures 1 through 5 and Tables 1 through 9 in the body of the paper.

Table A1: Average Published Tuition and Fees and Room and Board in 2013 Dollars, by Sector, 1983-84 to 2013-14

	Tuition and Fees in 2013 Dollars			Room and Board in 2013 Dollars	
	Private Nonprofit Four-Year	Public Four-Year	Public Two-Year	Private Nonprofit Four-Year	Public Four-Year
1983-84	\$11,909	\$2,684	\$1,235	\$6,234	\$5,343
1988-89	\$15,778	\$3,111	\$1,575	\$7,207	\$5,671
1993-94	\$17,806	\$4,101	\$2,014	\$7,746	\$5,948
1998-99	\$21,054	\$4,648	\$2,224	\$8,236	\$6,473
2003-04	\$24,071	\$5,900	\$2,425	\$9,028	\$7,475
2008-09	\$26,356	\$7,008	\$2,530	\$9,539	\$8,255
2013-14	\$30,094	\$8,893	\$3,264	\$10,823	\$9,498
1983-84 to 1993-94	50%	53%	63%	24%	11%
1993-94 to 2003-04	35%	44%	20%	17%	26%
2003-04 to 2013-14	25%	51%	35%	20%	27%
2003-04 to 2008-09	9%	19%	4%	6%	10%
2008-09 to 2013-14	14%	27%	29%	13%	15%

Source: The College Board, *Trends in College Pricing 2013*, online Table 2.

Table A2: Average Published and Net Tuition and Fees (TF) in 2013 Dollars, by Sector, 1993-94 to 2013-14

	Public Two-Year In-State		Public Four-Year In-State		Private Nonprofit Four-Year	
	Published TF	Net TF	Published TF	Net TF	Published TF	Net TF
1993-94	\$2,010	\$600	\$4,100	\$2,040	\$17,810	\$10,230
1994-95	\$2,060	\$580	\$4,260	\$2,020	\$18,450	\$10,490
1995-96	\$2,040	\$470	\$4,310	\$1,930	\$18,710	\$10,530
1996-97	\$2,180	\$520	\$4,430	\$1,980	\$19,330	\$10,990
1997-98	\$2,280	\$300	\$4,530	\$1,810	\$20,060	\$11,220
1998-99	\$2,220	-\$230	\$4,650	\$1,560	\$21,050	\$11,640
1999-2000	\$2,310	-\$260	\$4,710	\$1,500	\$21,750	\$12,070
2000-01	\$2,220	-\$380	\$4,740	\$1,380	\$21,730	\$12,010
2001-02	\$2,120	-\$580	\$4,960	\$1,390	\$22,870	\$13,080
2002-03	\$2,170	-\$580	\$5,320	\$1,520	\$23,420	\$13,410
2003-04	\$2,420	-\$420	\$5,900	\$1,920	\$24,070	\$13,600
2004-05	\$2,560	-\$230	\$6,320	\$2,210	\$24,720	\$13,860
2005-06	\$2,610	-\$50	\$6,570	\$2,460	\$25,080	\$13,910
2006-07	\$2,600	\$30	\$6,660	\$2,450	\$25,610	\$14,110
2007-08	\$2,570	\$20	\$6,940	\$2,590	\$26,260	\$14,320
2008-09	\$2,530	-\$400	\$7,010	\$2,420	\$26,360	\$13,550
2009-10	\$2,790	-\$1,250	\$7,670	\$1,940	\$27,920	\$12,420
2010-11	\$2,940	-\$1,680	\$8,170	\$2,070	\$28,680	\$11,730
2011-12	\$3,070	-\$1,680	\$8,560	\$2,820	\$28,830	\$11,550
2012-13	\$3,220	-\$1,590	\$8,820	\$3,050	\$29,560	\$11,930
2013-14	\$3,260	-\$1,550	\$8,890	\$3,120	\$30,090	\$12,460

Note: Numbers have been rounded to the nearest \$10.

Source: The College Board, *Trends in College Pricing 2013*, online Tables 7 and 8.

Table A3: Average Published and Net Tuition and Fees (TF) and Cost of Attendance (COA) in 2011 Dollars, by Sector and Family Income Quartile of Full-Time Dependent Students, 1999-2000 to 2011-12

	Public Two-Year				Public Four-Year			
Lowest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net COA	\$7,672	\$7,656	\$7,752	\$8,065	\$9,620	\$10,280	\$10,590	\$11,854
Published TF	\$1,949	\$2,122	\$2,404	\$2,608	\$4,939	\$6,200	\$6,687	\$8,256
Published COA	\$11,160	\$11,730	\$12,434	\$13,756	\$15,467	\$17,643	\$19,277	\$21,689
Second Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$530	\$328	\$502	\$0	\$1,785	\$2,175	\$1,473	\$2,325
Net COA	\$9,746	\$9,746	\$10,614	\$10,942	\$12,498	\$13,621	\$13,785	\$15,832
Published TF	\$2,290	\$2,389	\$2,580	\$2,854	\$5,478	\$6,458	\$7,153	\$8,992
Published COA	\$11,506	\$11,807	\$12,693	\$14,103	\$16,191	\$17,904	\$19,465	\$22,498
Third Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$1,509	\$1,700	\$1,963	\$1,900	\$4,114	\$4,482	\$5,066	\$6,417
Net COA	\$11,041	\$11,482	\$12,409	\$13,292	\$15,059	\$16,069	\$17,631	\$20,086
Published TF	\$2,157	\$2,542	\$2,709	\$2,950	\$5,863	\$6,690	\$7,730	\$9,384
Published COA	\$12,201	\$12,324	\$13,155	\$14,343	\$16,807	\$18,277	\$20,294	\$23,053
Highest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$1,538	\$1,812	\$2,114	\$2,051	\$5,067	\$5,797	\$6,610	\$8,346
Net COA	\$11,239	\$11,521	\$12,760	\$13,795	\$16,284	\$17,840	\$19,639	\$22,525
Published TF	\$1,980	\$2,495	\$2,602	\$2,867	\$6,509	\$7,587	\$8,682	\$10,921
Published COA	\$11,681	\$12,205	\$13,248	\$14,611	\$17,726	\$19,630	\$21,711	\$25,101
	Private Nonprofit Four-Year				For-Profit			
Lowest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$4,387	\$6,688	\$6,370	\$4,971	\$6,676	\$7,424	\$9,880	\$11,297
Net COA	\$14,735	\$18,348	\$18,702	\$19,360	\$18,411	\$18,345	\$22,127	\$24,173
Published TF	\$16,542	\$20,117	\$22,797	\$27,798	\$11,357	\$14,115	\$14,802	\$17,630
Published COA	\$26,890	\$31,777	\$35,130	\$42,187	\$23,093	\$25,036	\$27,050	\$30,506
Second Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$8,553	\$9,660	\$10,191	\$8,609	\$9,891	\$10,692	\$14,874	\$13,718
Net COA	\$19,809	\$21,498	\$22,633	\$22,748	\$21,827	\$21,860	\$27,662	\$27,063
Published TF	\$20,374	\$22,168	\$25,050	\$28,964	\$12,949	\$14,614	\$17,585	\$17,931
Published COA	\$31,630	\$34,006	\$37,492	\$43,103	\$24,884	\$25,782	\$30,373	\$31,276
Third Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$11,383	\$12,875	\$14,703	\$13,974	\$12,969	\$12,658	\$16,811	\$18,046
Net COA	\$22,893	\$24,855	\$27,485	\$28,519	\$24,450	\$24,340	\$30,345	\$32,012
Published TF	\$21,717	\$23,442	\$26,677	\$29,363	\$14,126	\$14,836	\$17,738	\$19,291
Published COA	\$33,226	\$35,422	\$39,459	\$43,908	\$26,764	\$26,518	\$31,273	\$33,257
Highest Income Quartile	1999-2000	2003-04	2007-08	2011-12	1999-2000	2003-04	2007-08	2011-12
Net TF	\$17,769	\$19,510	\$20,339	\$19,724	\$14,076	\$13,830	\$17,578	\$17,463
Net COA	\$29,763	\$31,973	\$33,745	\$34,962	\$27,462	\$26,492	\$34,028	\$33,044
Published TF	\$24,097	\$26,986	\$28,822	\$32,213	\$14,929	\$15,384	\$17,740	\$19,335
Published COA	\$36,091	\$39,449	\$42,228	\$47,451	\$28,316	\$28,046	\$34,189	\$34,916

Note: Grant aid includes grants from all sources and veterans' benefits, but not federal tax credits and deductions. Income categories for each year: lowest: less than \$30,000; second: \$30,000 to \$64,999; third: \$65,000 to \$105,999; highest: \$106,000 or higher (all in 2011 dollars). Because of the small sample size, grant aid estimates for the highest-income group in the for-profit sector are unstable and should be interpreted with caution. **Source:** NCES, NPSAS: 2000, 2004, 2008, and 2012.

Table A4: Average Published In-State Tuition and Fees in 2013 Dollars at Public Four-Year Institutions, by State, 2008-09 and 2013-14

	2013-14	2008-09	Five-Year Percentage Increase	Five-Year Dollar Increase in 2013 Dollars
U.S.	\$8,893	\$7,008	27%	\$1,885
Alaska	\$5,885	\$4,968	18%	\$917
Alabama	\$9,143	\$6,338	44%	\$2,805
Arizona	\$10,065	\$5,930	70%	\$4,135
Arkansas	\$7,238	\$6,281	15%	\$957
Arizona	\$10,065	\$5,930	70%	\$4,135
California	\$9,037	\$5,773	57%	\$3,264
Colorado	\$9,096	\$6,151	48%	\$2,945
Connecticut	\$10,206	\$8,536	20%	\$1,670
Delaware	\$11,261	\$8,805	28%	\$2,456
Florida	\$6,336	\$4,062	56%	\$2,274
Georgia	\$7,823	\$4,729	65%	\$3,094
Hawaii	\$9,097	\$6,184	47%	\$2,913
Iowa	\$7,841	\$6,832	15%	\$1,009
Idaho	\$6,325	\$4,898	29%	\$1,427
Illinois	\$12,550	\$10,642	18%	\$1,908
Indiana	\$8,916	\$7,670	16%	\$1,246
Kansas	\$7,729	\$6,382	21%	\$1,347
Kentucky	\$8,692	\$7,231	20%	\$1,461
Louisiana	\$6,546	\$4,325	51%	\$2,221
Massachusetts	\$10,792	\$8,750	23%	\$2,042
Maryland	\$8,475	\$7,850	8%	\$625
Maine	\$9,391	\$8,579	9%	\$812
Michigan	\$11,600	\$9,696	20%	\$1,904
Minnesota	\$10,468	\$8,832	19%	\$1,636
Missouri	\$8,093	\$7,676	5%	\$417
Mississippi	\$6,558	\$5,254	25%	\$1,304
Montana	\$6,211	\$5,667	10%	\$544
North Carolina	\$6,514	\$4,663	40%	\$1,851
North Dakota	\$7,265	\$6,485	12%	\$780
Nebraska	\$7,315	\$6,325	16%	\$990
New Hampshire	\$14,665	\$10,931	34%	\$3,734
New Jersey	\$12,715	\$11,414	11%	\$1,301

	2013-14	2008-09	Five-Year Percentage Increase	Five-Year Dollar Increase in 2013 Dollars
New Mexico	\$5,987	\$4,800	25%	\$1,187
Nevada	\$6,387	\$4,669	37%	\$1,718
New York	\$6,919	\$5,438	27%	\$1,481
Ohio	\$9,906	\$8,999	10%	\$907
Oklahoma	\$6,583	\$5,991	10%	\$592
Oregon	\$8,605	\$6,626	30%	\$1,979
Pennsylvania	\$12,802	\$10,995	16%	\$1,807
Rhode Island	\$10,922	\$8,206	33%	\$2,716
South Carolina	\$11,138	\$9,698	15%	\$1,440
South Dakota	\$7,717	\$6,051	28%	\$1,666
Tennessee	\$8,036	\$6,038	33%	\$1,998
Texas	\$8,522	\$7,348	16%	\$1,174
Utah	\$5,906	\$4,540	30%	\$1,366
Virginia	\$10,366	\$8,051	29%	\$2,315
Vermont	\$13,958	\$12,044	16%	\$1,914
Washington	\$10,811	\$6,832	58%	\$3,979
Wisconsin	\$8,736	\$7,217	21%	\$1,519
West Virginia	\$6,251	\$4,999	25%	\$1,252
Wyoming	\$4,404	\$3,845	15%	\$559

Source: The College Board, *Trends in College Pricing 2013*, online Table 5.

Table A5: Median Earnings of Full-Time Workers Ages 25 to 34 by Gender and Educational Attainment, 1971 to 2011, Selected Years

	Men			Women			BA/HS		Male/Female	
	High School Diploma (including GED)	Some College or Associate Degree	Bachelor's Degree or Higher	High School Diploma (including GED)	Some College or Associate Degree	Bachelor's Degree or Higher	Men	Women	HS	BA or Higher
1971	\$51,406	\$55,945	\$64,041	\$31,530	\$35,946	\$45,133	1.25	1.43	1.63	1.42
1976	\$49,170	\$53,343	\$59,497	\$31,647	\$35,369	\$43,132	1.21	1.36	1.55	1.38
1981	\$44,233	\$47,916	\$55,395	\$29,087	\$33,174	\$40,673	1.25	1.40	1.52	1.36
1986	\$42,029	\$48,051	\$59,911	\$29,727	\$34,325	\$45,050	1.43	1.52	1.41	1.33
1991	\$37,152	\$43,740	\$58,088	\$28,824	\$34,265	\$44,880	1.56	1.56	1.29	1.29
1996	\$36,602	\$40,875	\$55,289	\$27,634	\$32,426	\$43,622	1.51	1.58	1.32	1.27
2001	\$37,147	\$44,504	\$60,852	\$28,517	\$33,375	\$47,800	1.64	1.68	1.30	1.27
2006	\$35,203	\$40,830	\$56,945	\$26,363	\$32,430	\$46,597	1.62	1.77	1.34	1.22
2011	\$32,891	\$40,347	\$55,592	\$26,884	\$30,726	\$45,743	1.69	1.70	1.22	1.22
1971 to 1981	-14%	-14%	-14%	-8%	-8%	-10%				
1981 to 1991	-16%	-9%	5%	-1%	3%	10%				
1991 to 2001	0%	2%	5%	-1%	-3%	7%				
2001 to 2011	-11%	-9%	-9%	-6%	-8%	-4%				
2001 to 2006	-5%	-8%	-6%	-8%	-3%	-3%				
2006 to 2011	-7%	-1%	-2%	2%	-5%	-2%				

Source: Baum, Ma, and Payea (2013), *Education Pays 2013: The Benefits of Higher Education for Individuals and Society*, The College Board.

Table A6: Average Total Debt Levels in 2012 Dollars, Bachelor's Degree Recipients at Public and Private Nonprofit Four-Year Colleges and Universities, 1999-2000 to 2011-12

	Per Borrower	Per Bachelor's Degree Recipient	Percentage who Borrowed
Public Four-Year			
1999-00	\$20,800	\$11,200	54%
2000-01	\$20,400	\$10,600	52%
2001-02	\$20,500	\$10,600	52%
2002-03	\$20,900	\$11,000	53%
2003-04	\$21,000	\$11,400	54%
2004-05	\$21,500	\$11,800	55%
2005-06	\$21,800	\$12,100	55%
2006-07	\$21,500	\$11,900	55%
2007-08	\$21,500	\$11,900	55%
2008-09	\$21,100	\$11,700	55%
2009-10	\$23,200	\$13,000	56%
2010-11	\$24,200	\$13,900	57%
2011-12	\$25,000	\$14,300	57%
Five-Year Percentage Change			
2001-02 to 2006-07	5%	12%	
2006-07 to 2011-12	16%	20%	
Private Nonprofit Four-Year			
1999-00	\$23,800	\$15,000	63%
2000-01	\$23,700	\$14,800	63%
2001-02	\$24,200	\$15,400	64%
2002-03	\$25,400	\$16,100	63%
2003-04	\$25,900	\$16,500	64%
2004-05	\$27,500	\$17,700	64%
2005-06	\$28,600	\$18,600	65%
2006-07	\$28,700	\$19,000	66%
2007-08	\$27,800	\$18,200	65%
2008-09	\$27,800	\$18,000	65%
2009-10	\$29,300	\$19,200	66%
2010-11	\$30,400	\$20,000	66%
2011-12	\$29,900	\$19,500	65%
Five-Year Percentage Change			
2001-02 to 2006-07	19%	23%	
2006-07 to 2011-12	4%	3%	

Source: The College Board, *Trends in Student Aid 2013*, Figures 10a and 10b.

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