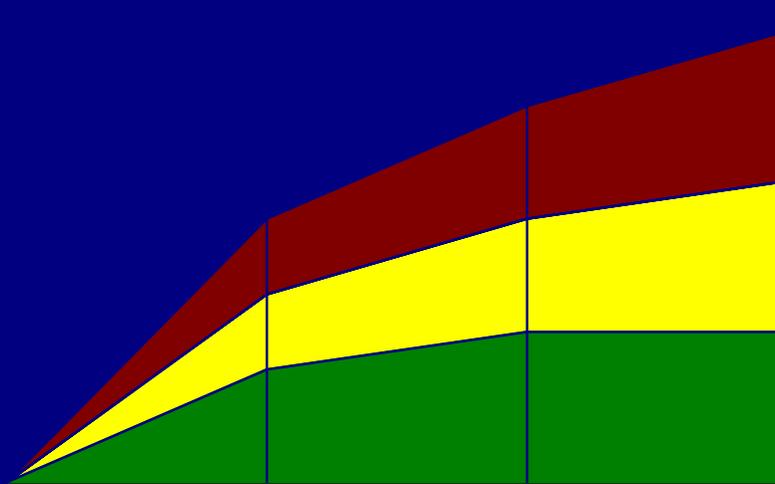


# **THE RISING PRICE OF INEQUALITY**

**HOW INADEQUATE GRANT AID LIMITS  
COLLEGE ACCESS AND PERSISTENCE**



**REPORT TO CONGRESS AND  
THE SECRETARY OF EDUCATION**

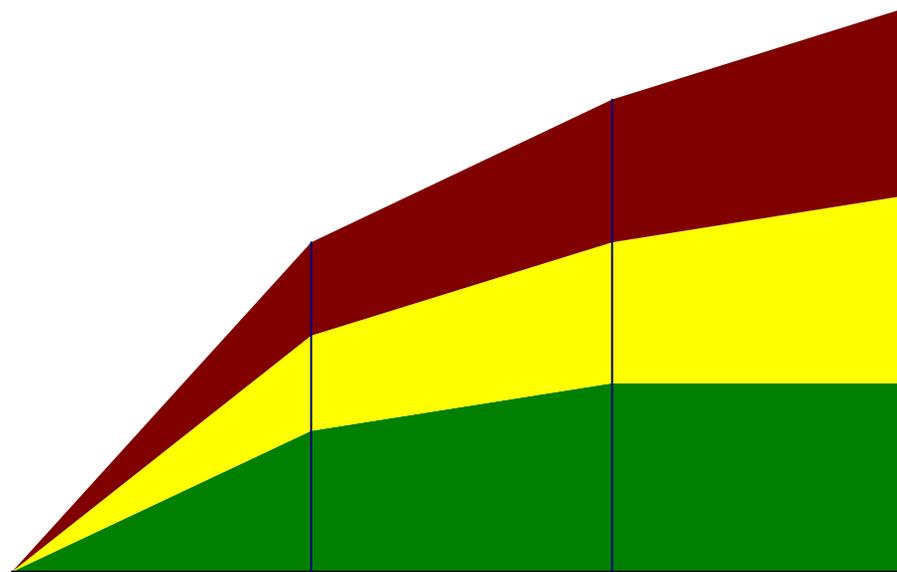
**ADVISORY COMMITTEE ON  
STUDENT FINANCIAL ASSISTANCE**

**WASHINGTON DC  
JUNE 2010**



# THE RISING PRICE OF INEQUALITY

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STUDENT FINANCIAL ASSISTANCE

WASHINGTON DC  
JUNE 2010

**ADVISING CONGRESS AND  
THE SECRETARY OF EDUCATION  
FOR OVER 20 YEARS**

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**The Advisory Committee on Student Financial Assistance (Advisory Committee) is a Federal advisory committee chartered by Congress, operating under the Federal Advisory Committee Act (FACA); 5 U.S.C., App.2). The Advisory Committee provides advice to the Secretary of the U.S. Department of Education on student financial aid policy. The findings and recommendations of the Advisory Committee do not represent the views of the Agency, and this document does not represent information approved or disseminated by the Department of Education.**

# EXECUTIVE SUMMARY

Congress charged the Advisory Committee in the *Higher Education Opportunity Act of 2008* with monitoring and reporting on the condition of college access and persistence for low- and moderate-income students. The law requires provision of analyses and policy recommendations regarding the adequacy of grant aid from all sources – federal, state, and institutional – and the postsecondary enrollment and graduation rates of these students. This report seeks to fulfill that mandate by providing insights drawn from the invaluable longitudinal studies conducted by the National Center for Education Statistics (NCES) – critical data that track the experiences of high school graduates through college.

Adequacy of grant aid from all sources is assessed by examining the enrollment and persistence rates of low- and moderate-income high school graduates who seek to earn a bachelor's degree and are qualified to gain admission to a 4-year college, relative to the rates of their middle- and high-income peers. Over time, prices net of total grant aid at 4-year public colleges have risen as a percentage of family income for these students, leading to a cascade of negative effects:

- Large-scale mismatches exist and are growing between the aspirations and qualifications of these high school graduates and where they are able financially to enroll in college.
- Triggered by increasing family financial concerns about college expenses and financial aid, these mismatches are shifting initial enrollment of qualified students away from 4-year colleges.
- Shifts in initial enrollment are consequential because where qualified high school graduates are able to start college (access) largely determines their likelihood of success (persistence).
- Exacerbating the negative impact of enrollment shifts, persistence rates today appear to be lower, especially for qualified high school graduates who are unable financially to start at a 4-year college.

These trends greatly undermined bachelor's degree completion of high school graduates over the last two decades and, if unchecked, will take an even greater toll this decade.

These findings are persuasive evidence that grant aid from all sources is not adequate to ensure access and persistence of qualified low- and moderate-income high school graduates. A summary of specific data findings and recommendations is contained in **exhibit 1**.

The trends and projections in this report do not include the widespread negative effects of the current economic downturn, including the sizeable impact of financially induced enrollment caps at many public colleges. If prices net of grant aid from all sources continue to escalate as a percentage of family income, as they have over the last decade, enrollment and persistence rates will very likely worsen, and bachelor's degree losses could increase well beyond those projected in this report.

In light of these trends, recent progress in increasing need-based federal grant aid is encouraging, but must be greatly intensified and broadened.

**At a minimum, federal policy must seek to ensure that states and public colleges hold Pell Grant recipients harmless against increases in cost of attendance, through increases in state and institutional need-based grant aid.**

Steady erosion in the purchasing power of hard-fought-for increases in Pell Grants must cease, if any progress is to be made in ensuring equal educational opportunity and success in higher education.

Finally, the findings in this report show that maintaining financial access to 4-year public colleges for qualified high school graduates is of paramount policy importance. Narrow strategies that focus on improving academic preparation alone, or on improving college persistence alone, will not reverse the trends outlined above. Going forward, the singular challenge for Congress and the Secretary of Education is to find a constructive and effective means of using federal need-based grant aid as a lever to increase state and institutional need-based grant aid. Shielding academically qualified low- and moderate-income students from rising public college prices is a national imperative.

# EXHIBIT ONE: FINDINGS AND RECOMMENDATIONS

## FINDINGS

Over the last two decades, prices net of all grant aid at 4-year public colleges have risen as a percentage of family income for low- and moderate-income high school graduates: from **41** percent to **48** percent and from **22** percent to **26** percent, respectively (**figure 4, page 8**):

- Between 1992 and 2004, initial enrollment rates of academically qualified low- and moderate-income high school graduates in 4-year colleges shifted downward: from **54** percent to **40** percent, and from **59** percent to **53** percent, respectively (**figure 6, page 9**).
- The cause appears to have been an increase in the importance of college expenses and financial aid to parents and students between 1992 and 2004 (**Table 4, page 17**). Differences in family financial concerns accounted **45** percentage points difference in 4-year college enrollment for the high school class of 2004 (**figure 18, page 21**).
- High school graduates from low-income families who started at a 4-year college earned a bachelor's degree over three times more often than their peers who started at a 2-year college, **62** percent vs. **20** percent. Their peers from moderate-income families earned the degree nearly twice as often, **67** percent vs. **34** percent (**table 7, page 26**). Given current policies, shifts in enrollment from 4-year to 2-year colleges have implications for degree completion.
- Persistence of low-income high school graduates five years after starting at a 4-year college has fallen from **78** percent to **75** percent; for those from moderate-income families, persistence has remained at **81** percent (**figure 25, page 27**). For those starting at a 2-year college, persistence has fallen significantly (**figure 26, page 27**).

For purposes of projection, even if persistence is assumed to be constant, bachelor's degree loss rates among low- and moderate-income 2004 high school graduates who took at least Algebra II are projected to be **69** percent and **55** percent, respectively (**table 9, page 30**). Total losses among high school graduates from 2000 through 2009 attributable to finances may exceed **3** million (**table 10, page 31**). Bachelor's degree losses this decade may be substantially higher (**table 11, page 32**).

## RECOMMENDATIONS

In its 2006 report, *Mortgaging Our Future*, the Advisory Committee identified six major policy implications. The data analyses in this report make those implications, and related recommended policy actions, even more urgent (**page 34**). Also, two reports in 2008 – *Transition Matters* and *Apply to Succeed* – identified policies and practices at leading 2-year colleges that might greatly ameliorate bachelor's degree losses.

In addition, given steadily rising net prices and cumulative loan burdens, and the considerable impact of parent financial concerns in 10<sup>th</sup> grade on college enrollment behavior, a national experiment is required. Its purpose would be to determine the impact on family financial concerns of current features of the federal student loan programs – in particular, the income-contingency and forgiveness provisions. This study should determine how the programs might be improved to offset the negative effects of financial concerns on students taking the steps of testing, applying, and enrolling in a 4-year college (**exhibit five, page 35**).

Finally, the analyses show that, if the policy goal is to raise bachelor's degree attainment rates of qualified low- and moderate-income high school graduates (**22** percent and **36** percent, respectively) to those of their middle-income peers (**55** percent), partial solutions will not work:

- Improving academic preparation alone might raise the rates to only **27** percent and **39** percent, respectively (**table 13, page 37**).
- Improving access (enrollment) alone might raise the rates to only **33** percent and **42** percent, respectively (**table 14, page 38**).
- Improving persistence alone might raise the rates to only **34** percent and **45** percent, respectively (**table 15, page 39**).

The data therefore strongly suggest that improving access (4-year college enrollment) is as necessary as improving persistence and that both, in turn, are as necessary as improving academic preparation. The bottom line from a federal policy perspective is that achieving the goal of increasing bachelor's degree attainment requires that the nation adequately address income-related inequalities in academic preparation, access, and persistence simultaneously (**table 16, page 39**).

## FOREWORD

In the *Higher Education Amendments of 1986* (P.L. 99-948), Congress created the Advisory Committee on Student Financial Assistance to be an objective, nonpartisan source of expertise and advice on student aid policy. Its legislative charge is to make recommendations to Congress and the Secretary of Education that maintain and improve college access and persistence for needy students. Through four administrations, eleven Congresses, and four reauthorizations, the Committee has made every effort to fulfill this mandate.

In the *Higher Education Opportunity Act of 2008* (P.L.110-315), Congress reauthorized the Committee and charged it to monitor and report annually on the condition of college access and persistence through 2014. Specifically, the annual report is required to contain analyses and policy recommendations regarding the adequacy of total grant aid and the postsecondary enrollment and graduation rates of low- and moderate-income students.

**Assessing the extent to which total grant aid is adequate to ensure enrollment and degree completion of academically qualified high school graduates is of overriding importance.**

The major focus of this first report is on 4-year college enrollment and bachelor's degree attainment, not because every high school graduate must or should enroll in a 4-year college or pursue a bachelor's degree, but because our financial aid system is founded on the principle that any youth, regardless of family income, should have the financial opportunity to do so, if he or she has the aspiration and prepares adequately. This longstanding principle is highly practical: Americans benefit greatly from increased educational attainment and economic productivity. Because our nation's competitiveness in the world economy is a particular focus and concern of federal policy today, assessing the extent to which total grant aid is adequate to ensure enrollment and degree completion of academically qualified high school graduates is of overriding importance.

Specifically, this report focuses on how financial concerns about college expenses and financial aid, triggered by high prices of 4-year public colleges net of all grant aid, affect low- and moderate-income high school graduates – in particular the steps they take toward college enrollment, and the consequences for degree completion. For analytical purposes, to focus as much on finances as possible, the report excludes a large portion of low- and moderate-income 8<sup>th</sup> and 10<sup>th</sup> graders who did not graduate from high school or graduated without being at least minimally prepared to attend a four-year college. But nothing in this report should be construed as implying that these students, who are also deserving recipients of Title IV assistance, should be left behind, or that scarce funds should be shifted away from them to their peers who are better prepared. Title IV has multiple purposes, one of which is to offset the continuing disparity in college preparation among poor and wealthy students. And the data show clearly that we are a long way from achieving a level playing field in that regard.

**Title IV has multiple purposes, one of which is to offset the continuing disparity in college preparation levels between poor and wealthy students, and thereby ensure a more level postsecondary playing field.**

The same is true of the large population of low- and moderate-income *nontraditional* students. As do previous Advisory Committee reports, this one does not deal with that problem directly, but chooses to focus on the underlying access and persistence pipeline that gives rise to this population in the first place. Financial barriers to college are a primary cause of delayed and part-time enrollment to begin with, and become a major obstacle to re-enrollment of nontraditional students in pursuit of a college degree. Lastly, while this report centers on 4-year college enrollment and completion, we recognize and wish to call attention to our belief that all types of postsecondary training, certificates, and degrees contribute greatly to our nation's well-being by enhancing workforce skills, critical thinking, adaptability, and social engagement that improve life for all Americans.

## ACKNOWLEDGEMENTS

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The Advisory Committee thanks the countless individuals in the higher education community who have provided unwavering support for our efforts to make recommendations to Congress and the Secretary of Education that increase college access and persistence for low- and moderate-income students. For technical assistance in analyzing and critiquing the data, analyses, and findings, we thank:

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Ed St. John	Donald Heller	Tom Mortenson	Bridget Long	Alicia Dowd
Brent Evans	Stephen Desjardins	Michelle Cooper	Laura Perna	Alberto Cabrera

These individuals are not responsible for the quality or accuracy of the analyses or data contained in this report, which is the sole responsibility of the Advisory Committee staff. Nor do they necessarily agree with any or all of the report's recommendations.

Also, this report would not have been possible without the support of the U.S. Department of Education, as evidenced by the development and maintenance of research databases supported by the National Center for Education Statistics (NCES). The analyses in this report are based almost exclusively on the National Education Longitudinal Study of 1988 (NELS), the Education Longitudinal Study of 2002 (ELS), and multiple years of the Beginning Postsecondary Students (BPS) and National Postsecondary Student Aid Survey (NPSAS). These databases allow policymakers and researchers to analyze national trends in college enrollment, persistence, and degree completion. The Department of Education's significant investment in these databases and in educational research continues to be critically important in determining the causes of educational inequality and identifying potential solutions.

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## **TABLE OF CONTENTS**

<b>Executive Summary.....</b>	<b>iii</b>
<b>Foreword.....</b>	<b>v</b>
<b>Acknowledgements.....</b>	<b>vi</b>
<b>Assessing Adequacy of Grant Aid.....</b>	<b>1</b>
<b>Overview: Inequality on the Rise.....</b>	<b>7</b>
<b>Unequal Access: Finances Matter.....</b>	<b>13</b>
<b>Unequal Persistence: Access Matters.....</b>	<b>25</b>
<b>Summary and Recommendations.....</b>	<b>33</b>
<b>Endnotes.....</b>	<b>41</b>
<b>References.....</b>	<b>47</b>
<b>Appendices.....</b>	<b>53</b>



## ASSESSING THE ADEQUACY OF GRANT AID

In the *Higher Education Opportunity Act of 2008*, Congress charged the Advisory Committee with monitoring and reporting annually on the condition of college access and persistence through 2014. Specifically, the mandated report is required to contain analyses and policy recommendations regarding the adequacy of total grant aid and the postsecondary enrollment and graduation rates of low- and moderate-income students. This report is designed to provide a benchmark in the form of a synthesis and analysis of what has been learned about access and persistence over the last two decades.

To measure adequacy of total grant aid today, as well as implications for the future, the report compares data from the 1990s and last decade. Was grant aid from all sources adequate to eliminate financial barriers for low- and moderate-income high school graduates? If not, what were the effects on their level and pattern of college enrollment? And, equally important, what was the longer term impact on bachelor's degree completion? The answers to these questions identify where educational opportunity stands today and where educational attainment, productivity, and income equality may be headed.

**The viability of the pathway from middle school through bachelor's degree completion has enormous implications for the nation's economic and social well-being.**

The language used in Congress's legislative charge to the Advisory Committee reflects an appreciation of the important connection between total grant aid and college access and persistence. Indeed, whether grant aid from all sources – federal, state, and institutional – is “adequate” to ensure enrollment and persistence may be the most important policy question in higher education today. The viability of the nation's core education pipeline – the pathway from middle school through bachelor's degree completion – has enormous implications for the nation's economic and social well-being.<sup>1</sup>

To be sure, a multitude of productive avenues can be taken by students and families toward investing in postsecondary education, resulting in a variety of desirable outcomes – ranging from just a few targeted courses, to short training programs, to many alternative certificates, to a plethora of advanced degrees. But the condition of the core pathway from middle school to a bachelor's degree for those who have the aspiration and are willing to prepare adequately is perhaps the best indicator of the overall efficiency and equity of the nation's higher education financing system.

**The condition of this pathway for those willing to prepare adequately is perhaps the best indicator of the overall efficiency and equity of the financing system.**

To provide an assessment of the adequacy of grant aid and its effects on enrollment and persistence, this report concentrates primarily on *low- and moderate-income* students, but, in most cases, presents findings in the context of the entire income distribution.<sup>2</sup> Many of the findings are relevant to middle-income students as well.

The scope of the analyses, estimates, and projections is further limited in the following five ways:

- **only recent high school graduates are included**
- **only public college prices are measured**
- **only nationally representative data are used**
- **adequacy is assessed from a student/family perspective**
- **academic preparation is measured by math courses taken.**

These limitations and their implications for the analysis and findings are discussed in more detail below.

**Only recent high school graduates are included**

By necessity, the focus is the enrollment and persistence behavior of *recent high school graduates* financially dependent on their parents, because rich demographic and longitudinal data exist for them. However, the relevance of the findings extends beyond this group to the nontraditional student who, in fact, has become uniquely traditional: older, single, and married adults, with and without dependents, who seek a wide range and variety of postsecondary education and training.

**Only public college prices are measured**

In keeping with decades of access and persistence policy and research, assessment of the adequacy of grant aid is restricted to measuring financial barriers faced by low- and moderate-income students at *public colleges and universities*.<sup>3</sup> However, data on low- and moderate-income students at all 4-year and 2-year colleges are used, and enrollment and persistence outcomes include the private sector.

**Only nationally representative data are used**

To ensure that the report’s findings are valid and reliable for public policy purposes, the assessment relies almost exclusively on the invaluable, *nationally representative* longitudinal databases created and maintained by the National Center for Education Statistics (NCES). Other data are used only to corroborate or punctuate findings.

**Adequacy is assessed from a student/family perspective**

Net price is measured by cost of attendance (list price) at public 4-year colleges, minus grant aid from all sources: federal, state, and institutional.<sup>4</sup> The report assumes that grant aid from all sources is “adequate” if it reduces to reasonable levels the financial barriers to a bachelor’s degree facing low- and moderate-income high school graduates who aspire to earn the degree. While equality of enrollment and persistence rates by family income is not required for grant aid to be adequate, markedly lower rates for low- and moderate-income students relative to similarly prepared middle- and high-income peers suggests strongly that grant aid is inadequate.

**Academic preparation is measured by math courses taken**

As in previous Advisory Committee reports, to isolate the effect of finances on access and persistence, the report targets those high school graduates who appear to be at least minimally qualified for and capable of gaining admission to a 4-year college.<sup>5</sup> It does so by concentrating on those high school graduates who have taken at least Algebra II. Results are shown to hold also for high school graduates who took at least Trigonometry. For analytical purposes, this screens out low- and moderate-income students who did not graduate from high school or graduated not able to gain admission to a 4-year college (**See figures 1 and 2**). However, since the purpose is not to measure the precise impact of academic preparation on behavior, but rather merely identify those high school graduates who could gain admission to a 4-year college, the analyses do not adjust for the rigor of the math courses taken nor the grades earned in those courses.

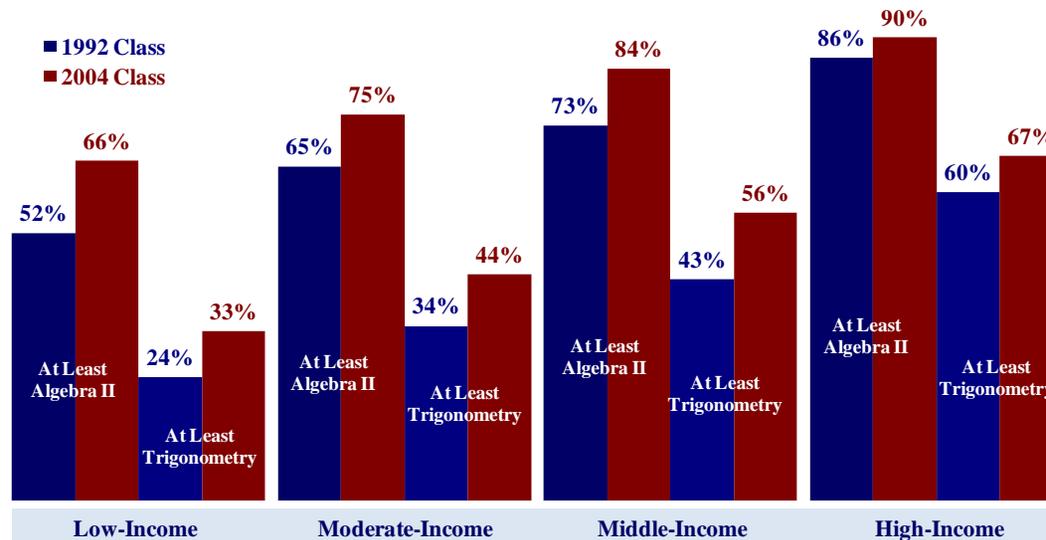
### Accounting for Academic Preparation

Academic preparation is taken into account by focusing analyses primarily on those high school graduates who took at least Algebra II, shown in **figure 1**.<sup>6</sup> This group includes those students who took Algebra II and higher level courses. Low- and moderate-income high school graduates improved their mathematics course taking between 1992 and 2004. For example:

- Among low-income students, the percent who had taken at least Algebra II increased from **52** to **66** percent.
- Among moderate-income students, the percent increased from **65** to **75** percent.

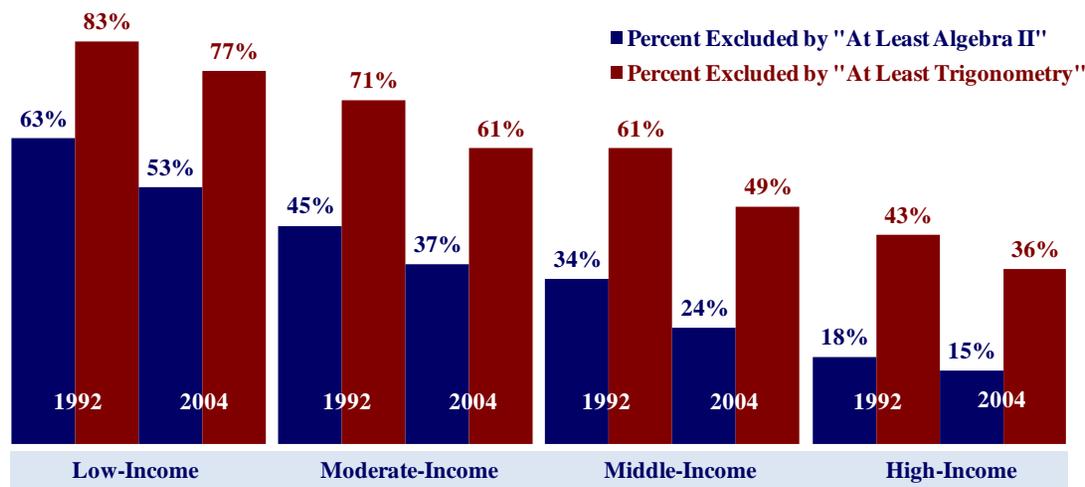
Their upper income peers improved their course taking between 1992 and 2004 as well. (See **table A-1**, page 53 for income range definitions used in this report.)

**FIGURE 1: MATHEMATICS COURSES TAKEN BY HIGH SCHOOL GRADUATES IN 1992 AND 2004**



Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

**FIGURE 2: PERCENT OF STUDENTS EXCLUDED BY MATH SCREENS USED IN THIS REPORT**



Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

### Students Excluded from the Analyses

Using a screen of “at least Algebra II” excludes large percentages of students from the analyses, because they either did not graduate from high school or graduated from high school not having taken at least Algebra II, as shown in **figure 2**:

- **63** percent of low-income 8<sup>th</sup> graders in 1988 are excluded (from the high school class of 1992)
- **53** percent of low-income 10<sup>th</sup> graders in 2002 are excluded (from the high school class of 2004).

This focuses analyses on high school graduates who expected to earn a bachelor’s degree and could gain admission to a 4-year college.

### Databases Used

To assess the condition of access and persistence, the report makes use of the following nationally representative NCES databases:

- **National Postsecondary Student Aid Study (NPSAS)**  
To measure net prices (cost of attendance less grant aid) facing low- and moderate-income students at public colleges.<sup>7</sup>
- **National Education Longitudinal Study (NELS)**  
To specify the full college access and persistence pipeline of the high school class of 1992 through the year 2000.<sup>8</sup>
- **Education Longitudinal Study (ELS)**  
To identify the access pipeline of the high school class of 2004 thus far, and compare it to the access pipeline of the high school class of 1992 (NELS).<sup>9</sup>
- **Beginning Postsecondary Students (BPS)**  
To compare the three-year persistence rates of college students of the last decade to the rates of their peers in the 1990s, and project bachelor's degree completion rates for the high school class of 2004 (ELS).<sup>10</sup>
- **Integrated Postsecondary Education Data System (IPEDS)**  
To estimate the cost of attendance facing students at public colleges today.<sup>11</sup>

**The unequal access and persistence patterns today that were, in part, inherited from the 1990s are likely to continue well into this decade.**

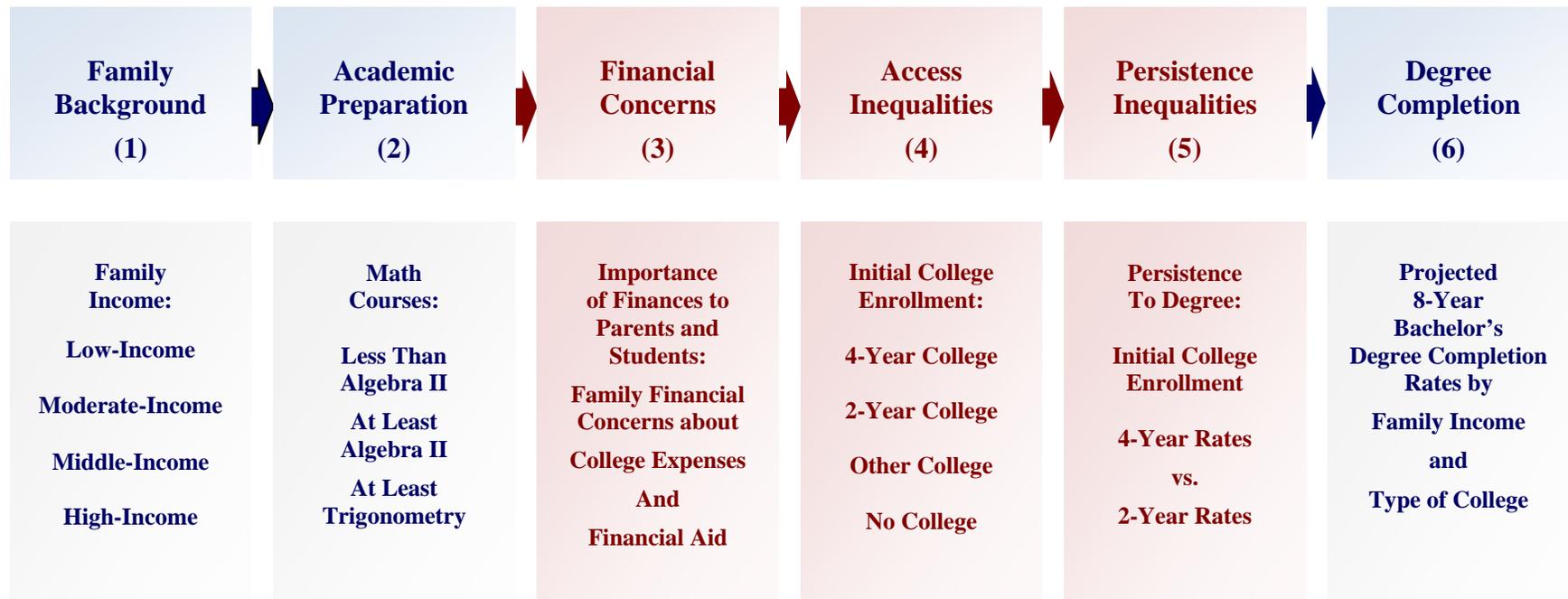
### Structure of the Report

The access and persistence patterns today that are, in part, inherited from the 1990s are very likely to continue into this decade. An understanding of those patterns and the role they continue to play requires historical perspective. Relying almost exclusively on longitudinal data from NCES, the remainder of this report is divided into four sections:

- **Inequality on the Rise.** Describes recent trends in the net price of 4-year public college and mean family income, and the impact of these trends on the access and persistence pipeline, including the net prices and work and loan burden facing low- and moderate-income high school graduates at 4-year public colleges today.
- **Unequal Access: Finances Matter.** Examines the role played by student and parent concerns about college expenses and financial aid in taking the steps toward enrollment in a 4-year college. Shows how these concerns account for large variations, shifts, and “mismatching” in enrollment which, in turn, undermine persistence to bachelor's degree completion.
- **Unequal Persistence: Access Matters.** Compares early persistence, 3- and 5-years out, in the 1990s and the 2000s to determine whether the known 8-year persistence patterns of the high school class of 1992 can be used with the enrollment pattern of the high school class of 2004 to project their rates of bachelor's degree completion.
- **Summary and Recommendations.** Summarizes the findings and identifies the implications for federal policies designed to increase bachelor's degree attainment rates by family income.

The report also contains an appendix with complementary figures that add detail to the analyses. The overall conceptual model used in the report is depicted in **exhibit two**.

**EXHIBIT TWO: CONCEPTUAL MODEL USED IN THIS REPORT**



1. Two nationally representative samples of high school graduates in 1992 and 2004, by family income, are used to ensure valid inferences for federal policy purposes.
2. To isolate the impact of finances, math courses taken in high school are used to identify those high school graduates who aspire and could gain admission to a 4-year college.
3. Data on the importance of college expenses and financial aid are used to show the impact of family financial concerns on students taking steps toward enrollment in a 4-year college.
4. Initial college enrollment within two years, by family income and type of college, is examined for financially driven inequalities in access (enrollment) that may affect persistence.
5. Two nationally representative samples, by family income, of college students who began in 1995 and 2003 are used to compare early persistence rates in the 1990s and 2000s.
6. Access (enrollment) of the 2004 high school class is linked to persistence of the 1992 class to derive conservative projections of 8-year bachelor's degree completion and loss.



## OVERVIEW: INEQUALITY ON THE RISE

In 2006, the Advisory Committee delivered a report to Congress and the Secretary of Education entitled, *Mortgaging Our Future: How Financial Barriers to College Undercut America's Global Competitiveness* (MOF). The report used two longitudinal databases: the National Education Longitudinal Study of 1988 (NELS), which tracked a cohort of 8<sup>th</sup> graders from 1988 through 2000, and the Education Longitudinal Study of 2002 (ELS), which tracked a cohort of 10<sup>th</sup> graders in 2002 from high school through postsecondary education. A third database, the National Postsecondary Student Aid Survey (NPSAS), was used to examine how students pay for postsecondary education, including information on college expenses and financial aid.

These three Department of Education (ED) data sets were employed to isolate the impact of financial barriers on high school graduates in the two cohorts, and to estimate bachelor's degree losses due to those barriers in the 1990s and last decade. To do so, the analyses focused on high school graduates who took at least Algebra II and, at a more rigorous level, those who took at least Trigonometry. High school math was used because it signals that these high school graduates expected to earn a bachelor's degree and were sufficiently qualified to gain admission to a 4-year public college. In addition, math has been shown to be a strong predictor of academic success for those who do enroll.

In extending these analyses with the addition of several Beginning Postsecondary Students (BPS) studies and the newest NPSAS study, this report continues to focus primarily on a more select subset of high school graduates, the vast majority of whom expected to earn a bachelor's degree, completed the necessary courses in high school, took the SAT or ACT, and applied for financial aid. These high school graduates had sufficient information about financial aid, were not discouraged by financial aid forms and processes, and could gain admission to a 4-year college. If grant aid from all sources – federal, state, and institutional – was adequate to offset college expenses for these students; that is, if access was equal, large income-related differences in enrollment and persistence should not have existed.

This section of the report addresses the following topics:

- prices net of total grant aid at public colleges over the last decade
- the burden of these net prices relative to family income
- the inequality in college enrollment that was associated with these net prices
- the likely implications for inequality in bachelor's degree completion
- the net prices high school graduates face today at 4-year public colleges.

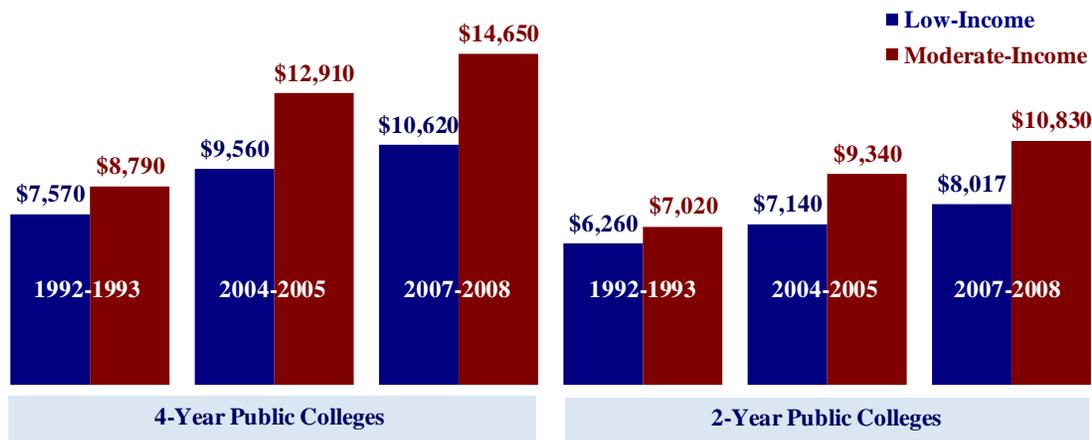
The data presented begin to define the full dimensions of the access and persistence challenge facing the nation today.

**The high school graduates who are the focus of this report had sufficient information about financial aid, were not discouraged by application forms and processes, and could gain admission to a 4-year college. If grant aid from all sources – federal, state, and institutional – was adequate to offset college expenses for these students, large income-related differences in enrollment and persistence rates should not have existed.**

**FIGURE 3: NET PRICES (WORK AND LOAN BURDEN) FACING FAMILIES AT PUBLIC COLLEGES**

Cost of Attendance Minus Grant Aid from All Sources

Full-Time Dependent Students



Source: National Postsecondary Student Aid Survey (NPSAS)

**Increases Over Time in the Net Price of Public Colleges**

Over the last two decades, the annual net price of public college has increased for low- and moderate-income students.<sup>12</sup> Between 1992-1993 and the most recent year for which national data are available, 2007-2008, total grant aid from all sources failed to keep pace with increases in the price of public colleges (figure 3):

- At 4-year public colleges, net prices rose from \$7,570 to \$10,620 for low-income students and from \$8,790 to \$14,650 for moderate-income students.<sup>13</sup>
- At 2-year public colleges, net prices rose from \$6,260 to \$8,017 for low-income students and from \$7,020 to \$10,830 for moderate-income students.<sup>14</sup>

Net prices are very close to list prices for moderate-income students who receive very little grant aid.

**Increasing Burden of Rising Net Prices**

Perhaps the best measure of the burden of public college prices is the share of family income they represent. Annual net prices of public colleges rose as a percentage of family income over the last two decades, as shown in figure 4.<sup>15</sup> At 4-year public colleges:

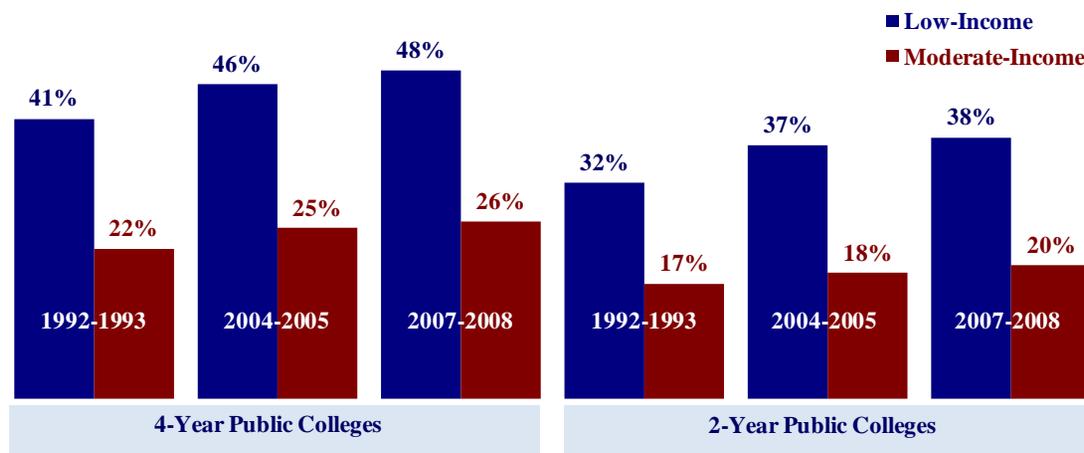
- net price as a percentage of family income for low-income families increased from 41 percent to 48 percent
- net price as a percentage of family income for moderate-income families increased from 22 percent to 26 percent.<sup>16</sup>

Net price as a percentage of income for middle- and high-income students was far lower and increased little over time (figure A-4, Appendix B, page 54).

**FIGURE 4: NET PRICES (FAMILY WORK AND LOAN BURDEN) AT PUBLIC COLLEGES AS A PERCENTAGE OF FAMILY INCOME**

Cost of Attendance Minus Grant Aid from All Sources

Full-Time Dependent Students

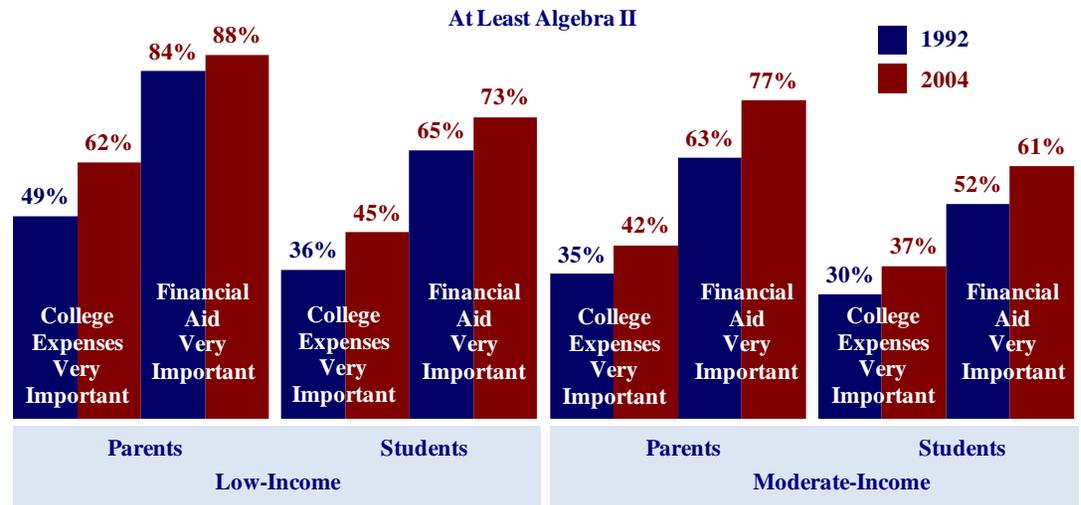


Source: National Postsecondary Student Aid Survey (NPSAS)

**Importance of Finances  
in Choosing a College**

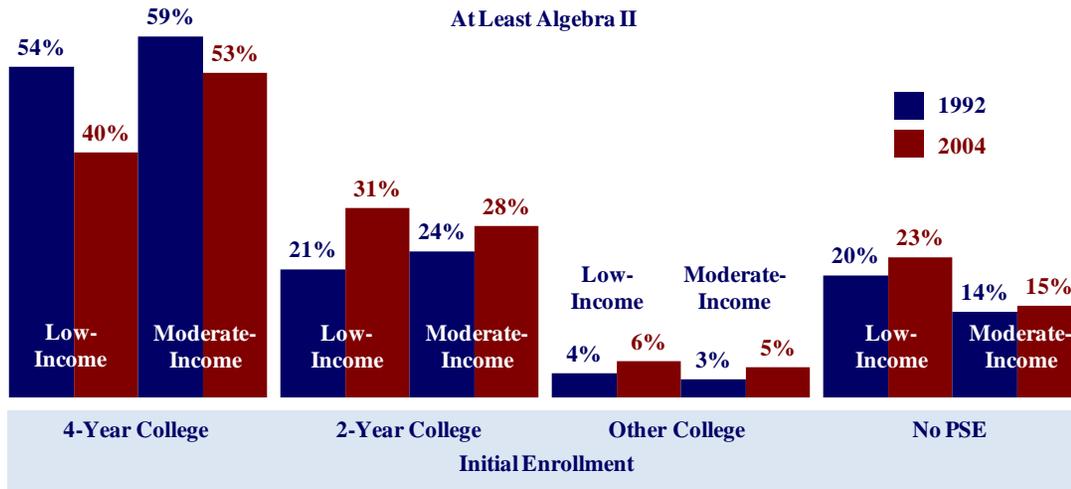
College expenses and financial aid are the two key components of net price from a family perspective. It is perhaps not surprising that increases in the net prices of public colleges, combined with stagnant family income, precipitated an upward shift between 1992 and 2004 in the degree of importance parents and students in low- and moderate-income families placed on finances, as illustrated in **figure 5**.<sup>17</sup> When surveyed, higher percentages of parents and students rated college expenses and financial aid “very important” in 2004 than did their peers in 1992. This was an important response to rising prices, indicating that family decisions about college going – whether to enroll, where, and when – were undergoing a transformation among low- and moderate-income parents and students.

**FIGURE 5: IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS 1992 AND 2004 HIGH SCHOOL GRADUATES**



Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

**FIGURE 6: INITIAL COLLEGE ENROLLMENT HIGH SCHOOL GRADUATES IN 1992 AND 2004**



Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

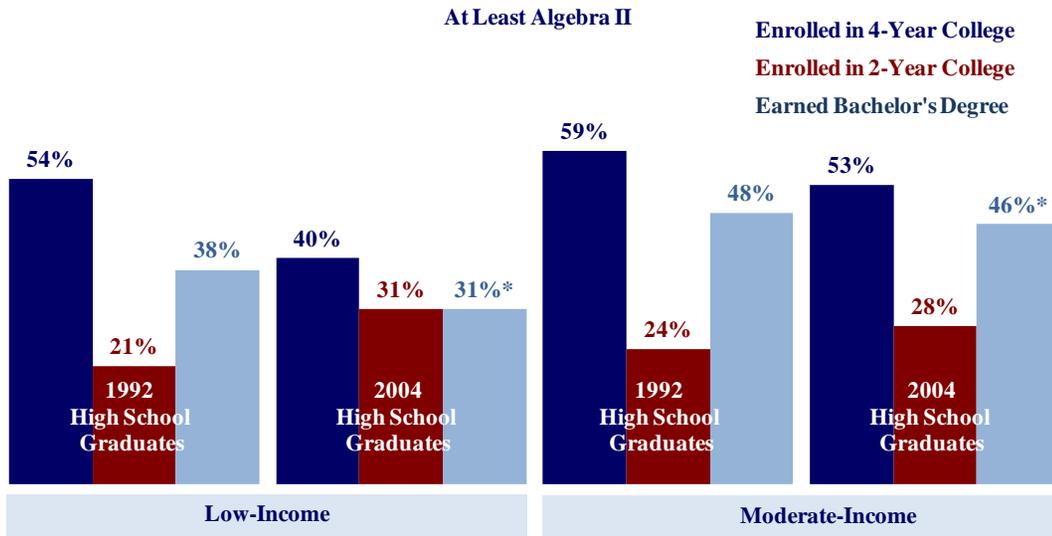
**Shifts in Initial  
College Enrollment**

Between 1992 and 2004, triggered by the increasing importance of finances, initial enrollment of qualified low- and moderate-income high school graduates shifted away from 4-year colleges, primarily toward 2-year colleges as shown in **figure 6**.<sup>18</sup>

- In 2004, only **40** percent of qualified low-income high school graduates enrolled in a 4-year college, while **54** percent of their peers in 1992 did so.
- In 2004, only **53** percent of qualified moderate-income high school graduates enrolled in a 4-year college, while **59** percent of their peers in 2004 did so.

The percentage of qualified low- and moderate-income high school graduates enrolling in no postsecondary education also increased between 1992 and 2004.<sup>19</sup>

**FIGURE 7: SHIFTS IN INITIAL COLLEGE ENROLLMENT AND PROJECTED BACHELOR'S DEGREE COMPLETION 1992 AND 2004 HIGH SCHOOL GRADUATES**



\*Projected  
Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

**Likely Consequences of the Enrollment Shift for Bachelor's Degree Completion**

Income-related shifts in enrollment away from 4-year colleges have major implications for bachelor's degree completion, even if rates of persistence by family income are constant over time. For example, even if low- and moderate-income high school graduates in the class of 2004 persist at the same level and in the same pattern as their peers did in the class of 1992, the shift away from 4-year colleges will result in lower bachelor's degree attainment rates by family income, as shown in **figure 7**:

- falling to **31** percent from **38** percent for those students from low-income families
- falling to **48** percent from **46** percent for those students from moderate-income families.

If persistence rates are not merely stagnant but declining, bachelor's degree completion rates will fall further.<sup>20</sup>

**EXHIBIT THREE: REVERSING THESE TRENDS IS THE POLICY CHALLENGE IN HIGHER EDUCATION**



**Net Price of 4-Year Public College Today**

In 2008-2009, the most recent year for which data are available, 4-year public colleges and universities had a median cost of attendance of **\$17,500**, with 25 percent having cost of attendance exceeding **\$20,000**. **Table 1** uses these two levels, along with average awards from NPSAS, to construct two sample student aid packages:

- The first is for a **low-income** full-time dependent student with a zero expected family contribution (EFC) and a full Pell Grant.
- The second is for a **moderate-income** full-time dependent student with a \$5,000 EFC, just beyond Pell-eligibility.

At a 4-year public **university** today, qualified high school graduates from low-income families typically face an annual net price (cost of attendance minus need-based grant aid) of **\$11,700** and a loan burden for four years of attendance of **\$36,800**. Their peers from moderate-income families face an annual net price of **\$18,450** and loan burden of **\$63,800**.<sup>21</sup> While actual awards and packages will differ from student-to-student, on average, these amounts are typical of those that face low- and moderate-income high school graduates today at 4-year public universities.

To many families, these net prices and corresponding loan burden levels are staggering and have a profound effect on the decision making of qualified high school graduates.<sup>22</sup> Making matters worse, many low- and moderate-income students and parents, not knowing these award amounts, may *overestimate* college prices and *underestimate* need-based grant aid. If current trends continue, these net prices and loan burdens will escalate rapidly.

**TABLE 1: NET PRICE AT 4-YEAR PUBLIC COLLEGES TODAY: TWO EXAMPLES**

College Expenses and Financial Aid Full-Time Resident Student	Sample Student Aid Packages			
	Low-Income Dependent Student Family Income = \$25,000 EFC = \$0, Max Pell Grant		Moderate-Income Dependent Student Family Income = \$50,000 EFC = \$5,000, No Pell Grant	
	4-Yr. Public College	4-Yr. Public University	4-Yr. Public College	4-Yr. Public University
Price (Cost of Attendance)	\$17,500	\$20,000	\$17,500	\$20,000
Federal Grant Aid	\$6,000	\$6,000	\$0	\$0
State Need-Based Grant	\$1,500	\$1,500	\$1,000	\$1,000
College Need-Based Grant	\$300	\$800	\$150	\$550
<b>Annual Net Price (Work-Loan Burden)</b>	<b>\$9,700</b>	<b>\$11,700</b>	<b>\$16,350</b>	<b>\$18,450</b>
Federal Work Study	\$2,000	\$2,500	\$2,000	\$2,500
Federal Direct/FFEL Loan	\$5,500	\$5,500	\$5,500	\$5,500
Federal Perkins Loan	\$2,000	\$2,000	\$2,000	\$2,000
Federal Parent PLUS Loan*	\$200	\$1,700*	\$6,850*	\$8,450*
<b>Total Net Price (Assumes 4 Years)</b>	<b>\$38,800</b>	<b>\$46,800</b>	<b>\$65,400</b>	<b>\$73,800</b>
Work Study	\$8,000	\$10,000	\$8,000	\$10,000
Cumulative Loan Burden—Parent*	\$200	\$5,800*	\$26,400*	\$32,800*
Cumulative Loan Burden—Student	\$30,600	\$31,000	\$31,000	\$31,000
<b>Total Loan Burden</b>	<b>\$30,800</b>	<b>\$36,800</b>	<b>\$57,400</b>	<b>\$63,800</b>

Source: Calculated from Estimates in the Postsecondary Student Aid Survey (NPSAS)

\*Assumes parents are able to borrow a plus loan if necessary.

**Recent progress in increasing federal need-based aid, particularly raising the Pell Grant maximum award, is very encouraging. However, if current trends continue, such increases will be offset by growth in 4-year public college cost of attendance, causing the net prices and loan burdens facing qualified low- and moderate-income high school graduates at 4-year public colleges to escalate beyond current levels.**



## UNEQUAL ACCESS: FINANCES MATTER

Among policymakers, researchers, and practitioners, there has been little doubt for decades that financial factors play an important role in the educational decision making of students and families. Financial barriers have long been seen as a factor that may potentially undermine educational aspirations, expectations, and plans – even academic preparation – as early as middle school. Accordingly, there is widespread support for early intervention programs aimed at ensuring that concerns about financial barriers are neutralized, to the extent possible, by timely and accurate information about the value of postsecondary education, its academic requirements, and the existence of financial aid.

While the view is nearly unanimous that financial barriers can be harmful to students at earlier stages of the access and persistence pipeline, the extent to which concerns about college expenses and financial aid negatively affect the enrollment decisions of *academically qualified* high school graduates has remained an open question.

- Indeed, it is not uncommon to encounter the view that financial concerns play a relatively minor role in the decisions of such students in testing, applying, and enrolling in a 4-year college.
- The corollary view is often that financial aid is at least adequate to ensure initial enrollment in a 4-year college by those high school graduates who are qualified, and that access, at least, is equal for those students.

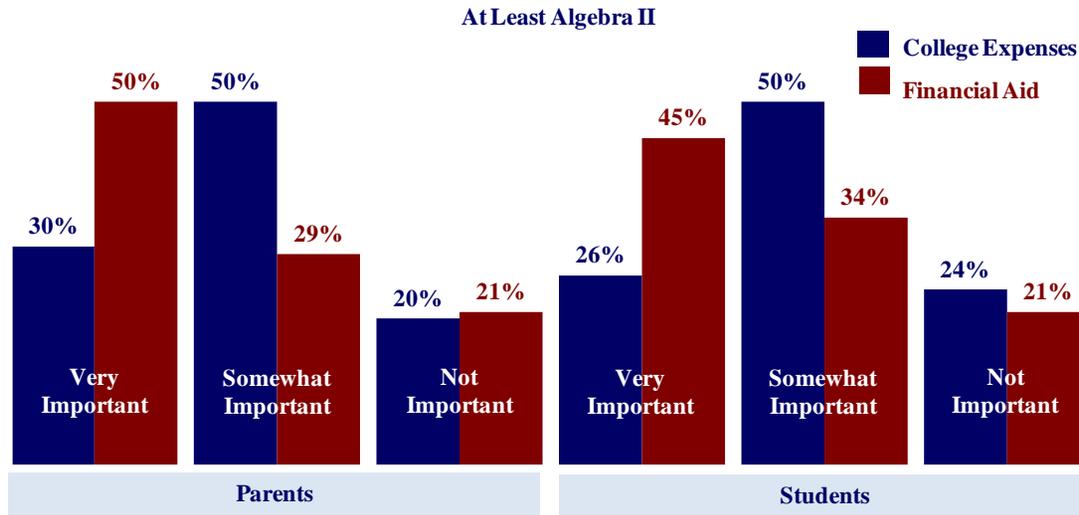
This report re-examines the data upon which these conclusions are based. To reassess the impact of financial concerns on access and persistence of academically qualified students, and the adequacy of grant aid, data from two nationally representative longitudinal studies – on the high school classes of 1992 and 2004 – are used to address the following topics:

- the concerns of students (and parents) about college expenses and financial aid, and how those concerns varied by family income
- the extent to which these financial concerns determined students' educational expectations, academic preparation, and plans to enroll in a 4-year college
- the extent to which the concerns determined whether qualified high school graduates tested for and applied to a 4-year college
- the effects of the concerns on initial enrollment by type of college, particularly on enrollment in a 4-year college versus a 2-year college.

The results of these re-analyses suggest that financial concerns have played a far more significant role in the decision making of academically qualified students and their parents than previously believed, and will continue to do so in the future. While the vast majority of students included in these analyses were undeterred from taking the SAT or ACT exam, taking the steps of applying to and enrolling in a 4-year college were strongly and negatively influenced by family concerns about college expenses and financial aid.

**Financial concerns about college expenses and financial aid have played a far more important role in the decision making of qualified students and their parents than previously thought.**

**FIGURE 8: IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS**  
1992 HIGH SCHOOL GRADUATES



Source: Calculations based on analyses of the National Education Longitudinal Study of 1988/2000 (NELS).

**Importance of Finances in 1992**

In 1992, NCES surveyed parents and students on the importance of both college expenses and financial aid in choosing a college. As illustrated in **figure 8**, respondents could select, for each component of net price:

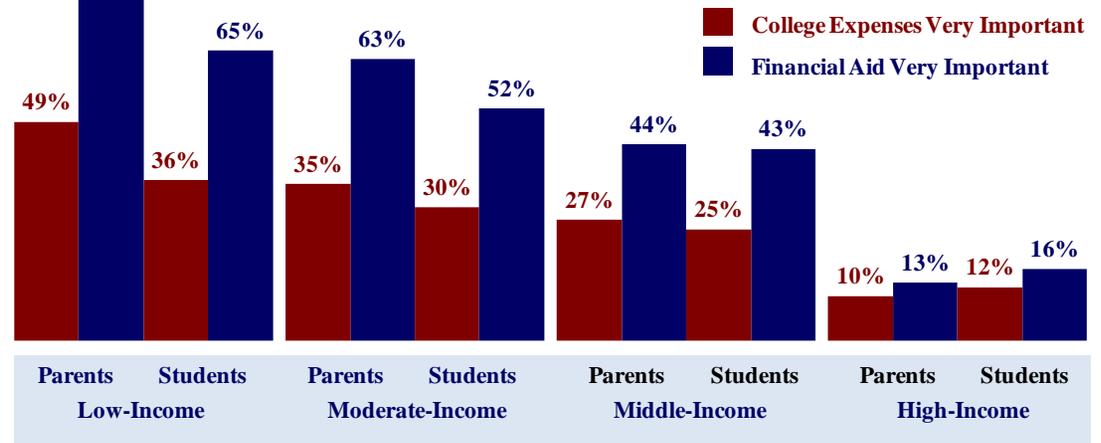
- “very important”
- “somewhat important”
- “not important.”

The questions were asked when the student was in 12<sup>th</sup> grade and reflect the family member’s general state of mind regarding how college might be financed. These responses were used by NCES to construct an index of parent and student financial concerns (about college expenses and financial aid combined) with three categories: very concerned, somewhat concerned, and not concerned.<sup>23</sup>

**Importance of Finances and Family Income in 1992**

Not surprisingly, the level of importance that parents and students placed on college expenses and financial aid was inversely related to family income: low-income parents and students were much more likely to rate college expenses and financial aid as “very important,” while higher income parents and students were far less likely to do so.<sup>24</sup> For example, as shown in **figure 9**, 49 percent of low-income parents and 36 percent of low-income students rated college expenses as “very important,” while only 10 percent of high-income parents and 12 percent of high-income students did so. The contrast was even more striking for financial aid: 84 percent of low-income parents and 65 percent of low-income students rated financial aid as “very important,” while only 13 percent of high-income parents and 16 percent of high-income students did so.<sup>25</sup>

**FIGURE 9: IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS**  
1992 HIGH SCHOOL GRADUATES



### Creating an Index of Financial Concerns

In order to determine whether differences in the importance of finances affected enrollment behavior, it is useful to create an index of financial concerns that combines the parents’ (or the student’s) separate responses about college expenses and financial aid into a single measure. The simplest and most direct way to create such an index is to assign numerical values to each of the parent and student responses, as shown in **table 2**:

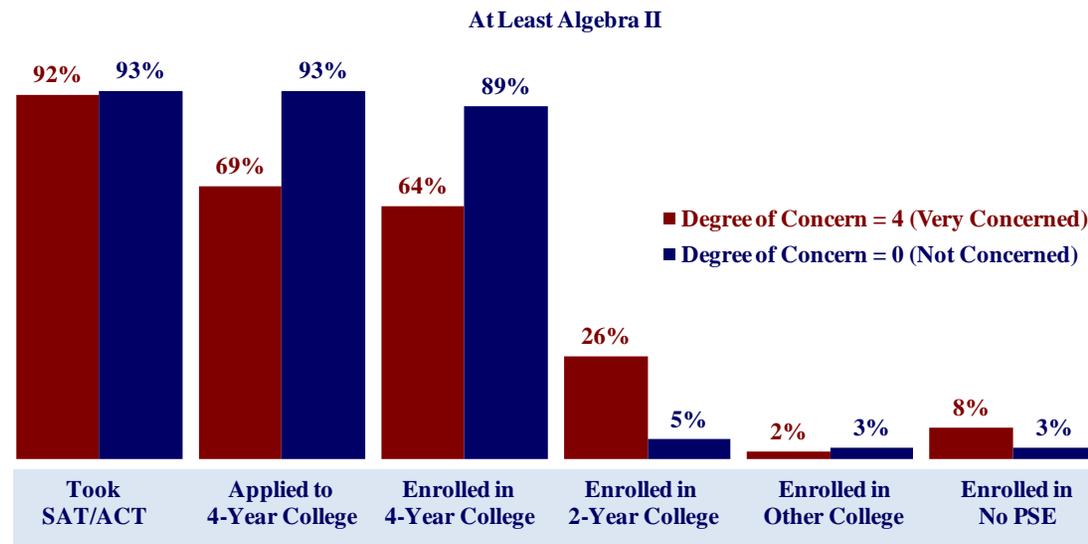
- 2 for “very important”
- 1 for “somewhat important”
- 0 for “not important.”

This yields five degrees of concern – 0 to 4 – and nine combinations for parents and students.<sup>26</sup>

Rating Given to College Expenses	Degree of Concern		
	If Rating Given to Financial Aid Is: “Very Important” (2)	If Rating Given to Financial Aid Is: “Somewhat Important” (1)	If Rating Given to Financial Aid Is: “Not Important” (0)
“Very Important” (2)	4	3	2
“Somewhat Important” (1)	3	2	1
“Not Important” (0)	2	1	0

**Examples:** A student who rated *both* college expenses and financial aid as “very important” is assigned a value of 4, while a student who thought *both* college expenses and financial aid were “not important” is assigned a value of 0. The same is done for the student’s parents.

FIGURE 10: PARENT FINANCIAL CONCERNS AND ENROLLMENT BEHAVIOR OF 1992 HIGH SCHOOL GRADUATES



### Parent Financial Concerns and Enrollment Behavior in 1992

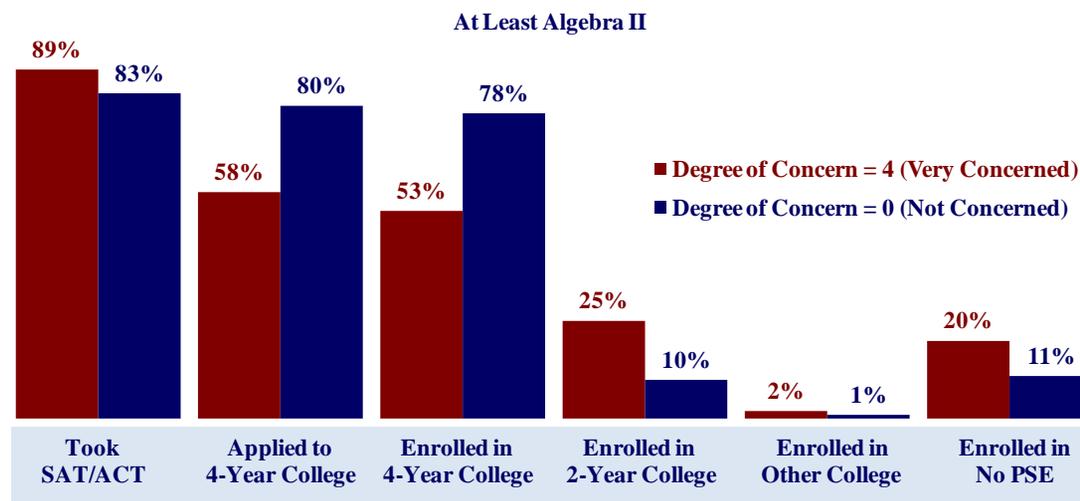
The financial concerns index in **table 2** can be used to show the impact of differences in the degree of parent financial concerns on the steps students must take to enroll in a 4-year college.<sup>27</sup> Among 1992 high school graduates, while testing was unaffected:

- Only **69** percent of those whose parents were “very concerned” applied to a 4-year college, while **93** percent of their peers whose parents were “not concerned” did so.
- Only **64** percent of those whose parents were “very concerned” enrolled in a 4-year college, while **89** percent of their peers whose parents were “not concerned” did so.

Most of the difference in enrollment was accounted for by attending a 2-year college. For the full range of effects, see **table A-10** in Appendix C on page 55.

Source: National Education Longitudinal Study of 1988/2000 (NELS).

FIGURE 11: STUDENT FINANCIAL CONCERNS AND ENROLLMENT BEHAVIOR OF 1992 HIGH SCHOOL GRADUATES



Source: National Education Longitudinal Study of 1988/2000 (NELS).

### Student Financial Concerns and Enrollment Behavior in 1992

As in the case of parent financial concerns, 1992 high school graduates who were “very concerned” about college expenses and financial aid behaved very differently than their peers who were “not concerned,” as shown in **figure 11**. While testing was unaffected:

- Only **58** percent of those who were “very concerned” applied to a 4-year college, while **80** percent of their peers who were “not concerned” did so.
- Only **53** percent of those who were “very concerned” enrolled in a 4-year college, while **78** percent of their peers who were “not concerned” did so.

The difference in enrollment was accounted for primarily by attending a 2-year college or no college at all. For the full range of effects, see **table A-11** in Appendix B on page 55.

### Creating an Index of Family Financial Concerns

The financial concerns index in **table 2** combines responses about college expenses and financial aid into a single value that ranges from 0 to 4, for both parents and the student. A financial concerns index for the entire family unit can be created by combining the responses of parents and students. A family in which the parents and student were “very concerned” about *both* college expenses and financial aid can be assigned a value of 8, as shown in **Table 3**. A family in which both the parents and student were “not concerned” about *either* college expenses or financial aid can be assigned a value of 0. This yields 9 degrees of concern and **81** combinations of parent and student concern about college expenses and financial aid that capture all of the variation in responses.

TABLE 3: MEASURING DEGREE OF FAMILY FINANCIAL CONCERNS

Importance of College Expenses to:		Importance of Financial Aid to Parents:								
		Very			Somewhat			Not		
Parents	Student	And to Student:			And to Student:			And to Student:		
		Very	Somewhat	Not	Very	Somewhat	Not	Very	Somewhat	Not
Very	Very	8	7	6	7	6	5	6	5	4
	Somewhat	7	6	5	6	5	4	5	4	3
	Not	6	5	4	5	4	3	4	3	2
Somewhat	Very	7	6	5	6	5	4	5	5	3
	Somewhat	6	5	4	5	4	3	4	3	2
	Not	5	4	3	4	3	2	3	2	1
Not	Very	6	5	4	5	4	3	4	3	2
	Somewhat	5	4	3	4	3	2	3	2	1
	Not	4	3	2	3	2	1	2	1	0

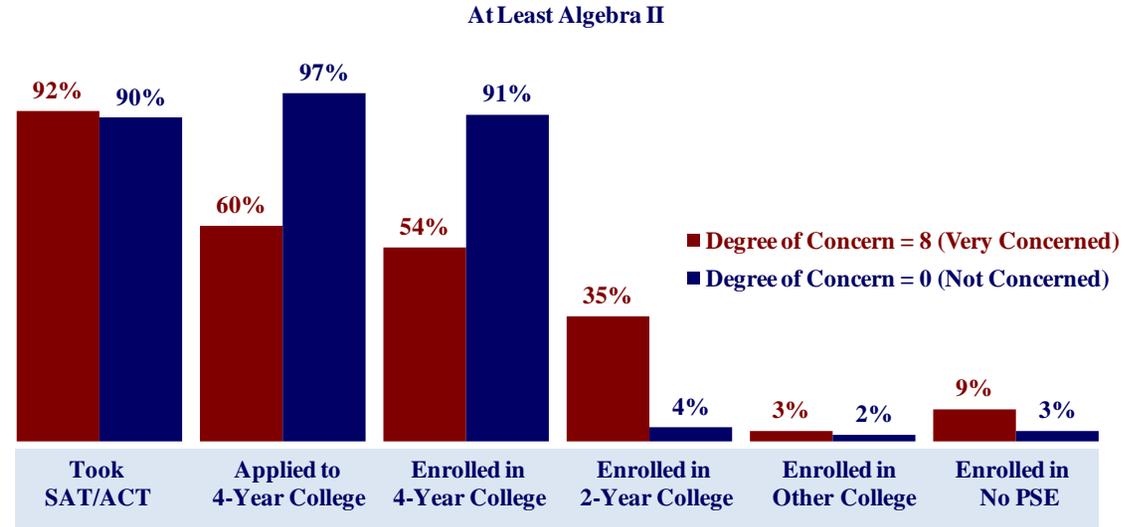
**Family Financial Concerns and Enrollment Behavior in 1992**

The family financial concerns index in **table 3** can be used to show the impact of family concerns on enrollment behavior. As shown in **figure 12**, among high school graduates in 1992, while testing was unaffected:

- Only **60** percent of those whose family was “very concerned” applied to a 4-year college, while **97** percent of their peers whose family was “not concerned” did so.
- Only **54** percent of those whose family was “very concerned” enrolled in a 4-year college, while **91** percent of their peers whose family was “not concerned” did so.

The difference in initial college enrollment was accounted for by attending a 2-year college. For the full range of effects, see **table A-12** in Appendix C on page 56.

**FIGURE 12: FAMILY FINANCIAL CONCERNS AND ENROLLMENT BEHAVIOR OF 1992 HIGH SCHOOL GRADUATES**



Source: National Education Longitudinal Study of 1988/2000 (NELS).

**TABLE 4: INCREASES IN THE IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS BETWEEN 1992 AND 2004**

At Least Algebra II

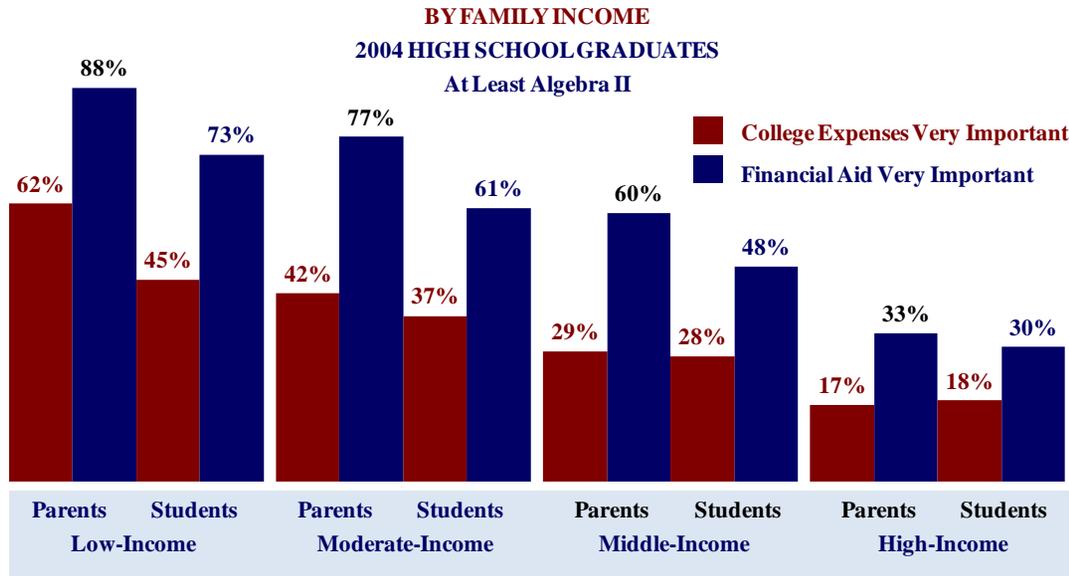
Level of Importance	Parents				Level of Importance	Student			
	College Expenses		Financial Aid			College Expenses		Financial Aid	
	1992	2004	1992	2004		1992	2004	1992	2004
Very	30%	40%	50%	69%	Very	26%	34%	45%	57%
Somewhat	50%	46%	29%	24%	Somewhat	50%	48%	34%	30%
Not	20%	14%	21%	7%	Not	24%	17%	21%	13%

Source: National Education Longitudinal Study of 1988/2000 (NELS) and the Education Longitudinal Study of 2002/2004 (ELS).

**Increases in the Importance of Finances between 1992 and 2004**

As was done in 1992, high school graduates in 2004 and their parents were surveyed regarding how important college expenses and financial aid were in choosing a college. The respondents could select “very important,” “somewhat important,” or “not important” for each component of net price. Unlike 1992, parents were surveyed when the student was in 10<sup>th</sup> grade; the student was again surveyed in 12<sup>th</sup> grade. **Table 4** suggests that increases in the net prices of public colleges, combined with stagnant family incomes, had precipitated an upward shift in the level of importance of college expenses and financial aid in choosing a college, for both parents and students. The index of financial concern in **table 2** and the index in **table 3** can be used to assess the impact of these shifts on student enrollment behavior.

FIGURE 13: IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS



Source: National Education Longitudinal Study of 2002/2004 (ELS).

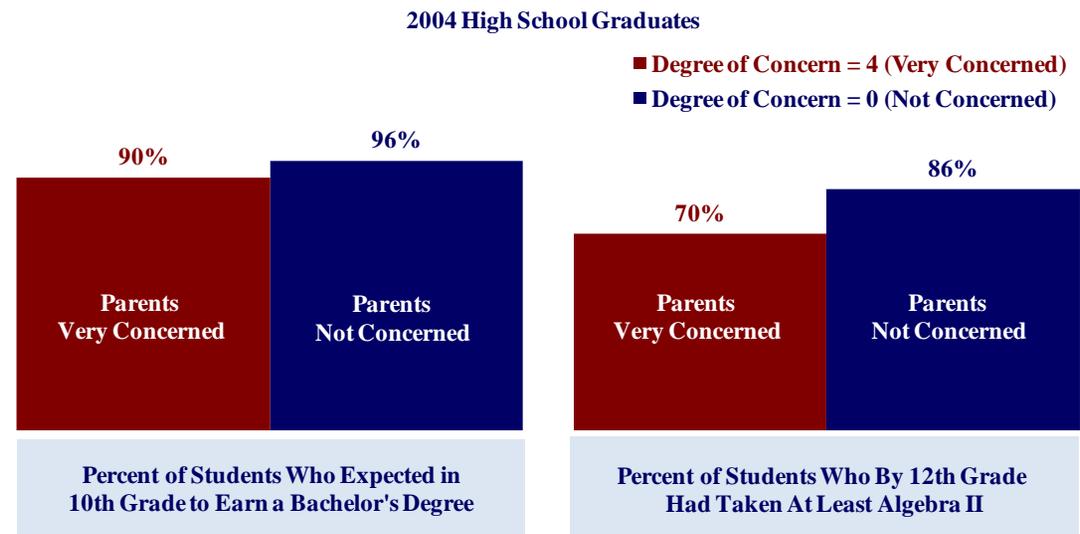
**Importance of Finances and Family Income in 2004**

Not surprisingly, as was the case in 1992, the level of importance that parents and students placed on college expenses and financial aid was inversely related to family income, as shown in **figure 13**: low-income parents and students were much more likely to rate financial aid and college expenses as “very important,” while higher income parents and students were far less likely to do so. For example, **62** percent of low-income parents and **45** percent of low-income students rated college expenses as “very important,” while only **17** percent of high-income parents and **18** percent of high-income students did so. The contrast was even more striking for financial aid: **88** percent of low-income parents and **73** percent of low-income students rated financial aid as “very important,” while only **33** percent of high-income parents and **30** percent of high-income students did so.

**Parent Financial Concerns, Student Expectations, and Academic Preparation**

Since parents were surveyed when the student was in 10<sup>th</sup> grade as to the importance of college expenses and financial aid, the financial concerns index in **table 2** can be used to investigate the relationship between those concerns and student expectations and academic preparation, as shown in **figure 14**.<sup>28</sup> While parent financial concerns in 10<sup>th</sup> grade did not seem to affect student 10<sup>th</sup> grade expectations to earn a bachelor’s degree, differences in those concerns did appear to be associated with differences in student course taking by 12<sup>th</sup> grade. Students whose parents were “very concerned” took at least Algebra II at lower rates than students whose parents were “not concerned:” **70** percent compared to **86** percent.

FIGURE 14: DEGREE OF PARENT FINANCIAL CONCERNS, STUDENT EXPECTATIONS, AND ACADEMIC PREPARATION



Source: National Education Longitudinal Study of 2002/2004 (ELS).

**Parent Financial Concerns and Student Financial Concerns**

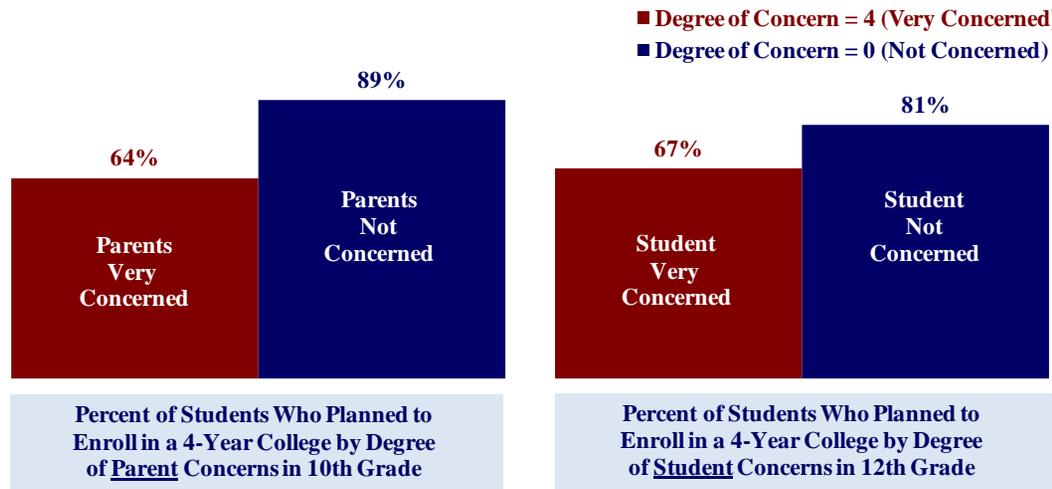
While not perfectly correlated, parent financial concerns in 10<sup>th</sup> grade were closely related to student financial concerns in 12<sup>th</sup> grade, as shown in **table 5**. The majority of students whose parents were concerned about finances in 10<sup>th</sup> grade were concerned themselves in 12<sup>th</sup> grade. Of parents who were most concerned about finances – at level 4 – 67 percent (39 percent plus 28 percent) of their students in 12<sup>th</sup> grade also rated financial concerns at either level 3 or 4. Of parents who were least concerned about finances – at level 0 – 58 percent (26 percent plus 32 percent) of their students also rated finances at level 0 or 1. This suggests that the degree of parent financial concern early on may, in part, determine the degree of financial concern that affects student decision making in 12<sup>th</sup> grade.<sup>29</sup>

**TABLE 5: PARENT FINANCIAL CONCERNS AND STUDENT FINANCIAL CONCERNS  
2004 HIGH SCHOOL GRADUATES  
At Least Algebra II**

Degree of Parent Concerns in 10 <sup>th</sup> Grade Was:		Percent of Students Who in 12 <sup>th</sup> Grade Had a Degree of Concern Equal to:				
		4	3	2	1	0
Very Concerned ↓ Not Concerned	4	39%	28%	23%	6%	4%
	3	29%	29%	28%	9%	6%
	2	18%	26%	32%	13%	10%
	1	12%	21%	28%	23%	17%
	0	9%	12%	23%	26%	32%

Source: National Education Longitudinal Study of 2002/2004 (ELS).

**FIGURE 15: IMPACT OF PARENT AND STUDENT FINANCIAL CONCERNS ON ENROLLMENT PLANS**  
2004 High School Graduates  
At Least Algebra II



Source: Education Longitudinal Study of 2002/2004 (ELS).

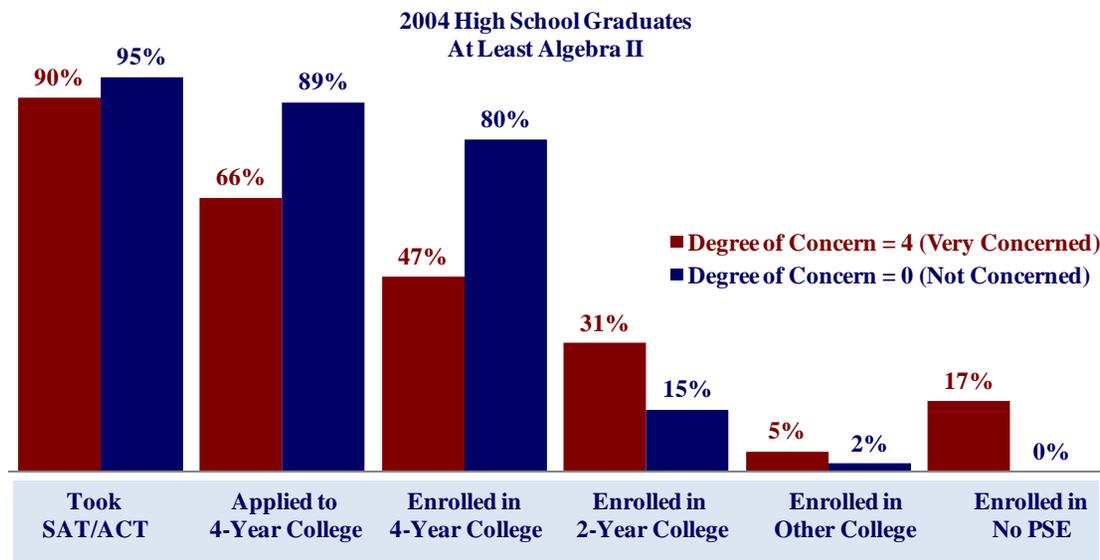
**Parent and Student Financial Concerns and Plans to Enroll in a 4-Year College**

For high school graduates in 2004, parent and student financial concerns were negatively associated with student plans in 12<sup>th</sup> grade to enroll in a 4-year college, as shown in **figure 15**:

- Among students whose parents were very concerned about finances, only 64 percent planned to enroll in a 4-year college, while 89 percent of those whose parents were not concerned planned to do so.
- Among students who themselves were very concerned about finances, 67 percent planned to enroll in a 4-year college, while 81 percent of those who were not concerned planned to do so.

Parent financial concerns in 10<sup>th</sup> grade appear to be the more powerful determinant of 12<sup>th</sup> grade plans. And prior research has shown that 12<sup>th</sup> grade plans are an important determinant of the timing and level of college enrollment.

**FIGURE 16: IMPACT OF PARENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**Parent Financial Concerns and Enrollment Behavior in 2004**

Again using the index in **table 2**, it is possible to show the impact of parent financial concerns on enrollment behavior. Among qualified high school graduates in 2004, **figure 16** shows the following:

- Only **66** percent of those whose parents were “very concerned” applied to a 4-year college, while **89** percent of their peers whose parents were “not concerned” did so.
- Only **47** percent of those whose parents were “very concerned” applied to a 4-year college, while **80** percent of their peers whose parents were “not concerned” did so.

Testing was affected only slightly. The difference in enrollment was accounted for by attending a 2-year college or no college at all. For the full range of effects, see **table A-16** in Appendix D on page 56.

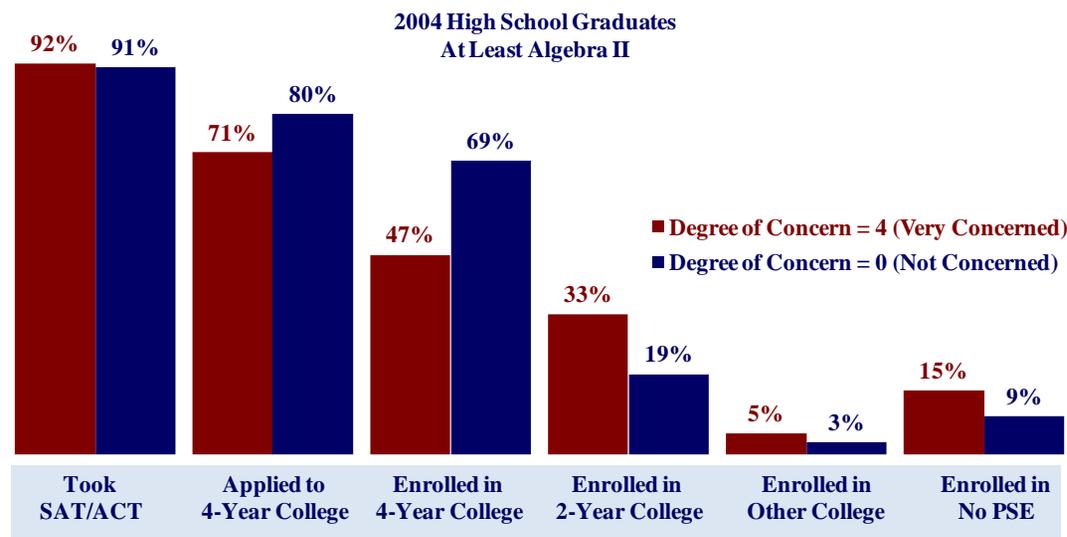
**Student Financial Concerns and Enrollment Behavior in 2004**

1992 high school graduates who were “very concerned” about college expenses and financial aid behaved very differently than their peers who were “not concerned,” as shown in **figure 17**:

- Only **71** percent of those who were “very concerned” applied to a 4-year college, while **80** percent of their peers who were “not concerned” did so.
- Only **47** percent of those who were “very concerned” enrolled in a 4-year college, while **69** percent of their peers who were “not concerned” did so.

Once again, testing was unaffected. The difference in enrollment was accounted for by attending a 2-year college or no college at all.<sup>30</sup> For the full range of effects, see **table A-17** in Appendix E on page 57.

**FIGURE 17: IMPACT OF STUDENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

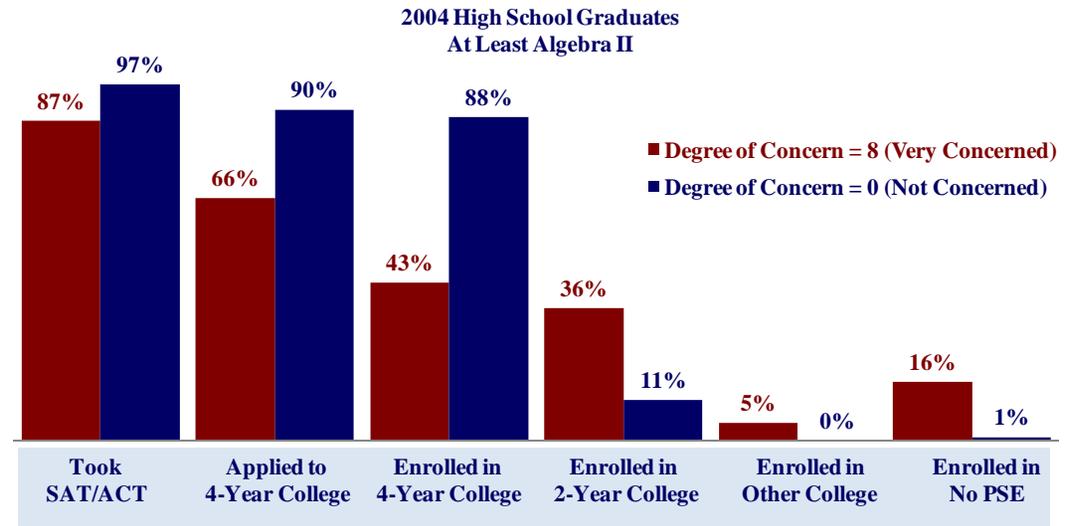
**Family Financial Concerns and Enrollment Behavior in 2004**

The family financial concerns index in **table 3** shows that among 2004 high school graduates:

- Only **87** percent of those whose family was “very concerned” tested, while **97** percent of their peers whose family was “not concerned” did so.
- Only **66** percent of those whose parents were “very concerned” applied to a 4-year college, while **90** percent of their peers whose parents were “not concerned” did so.
- Only **43** percent of those whose parents were “very concerned” enrolled in a 4-year college, while **88** percent of their peers whose parents were “not concerned” did so.

Differences in enrollment were accounted for by attending a 2-year college or no college at all.<sup>31</sup> (See **table A-18** in Appendix E, page 57 for the full effects.)

**FIGURE 18: IMPACT OF FAMILY FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

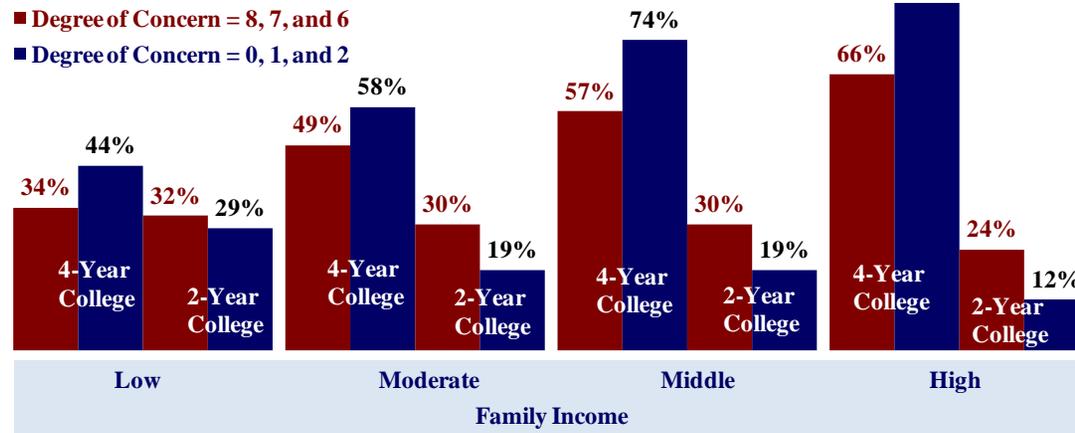


Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**FIGURE 19: IMPACT OF FAMILY FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

*WITHIN FAMILY INCOME RANGE*

2004 High School Graduates At Least Algebra II



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**Family Financial Concerns and Enrollment Behavior**

—Within Family Income Range—

The family financial concerns index in **table 3** is not merely a proxy for family income. The index can explain differences in enrollment behavior *within* each family income band, in particular, the choice between a 4-year college and a 2-year college, as shown in **figure 19**. For example, among 2004 high school graduates from middle-income families, those from families with high levels of concern (8, 7, and 6) split their enrollment between 4-year college and 2-year college: **57** percent to **30** percent, respectively.<sup>32</sup> In contrast, their peers from families with low levels of concern (0, 1, and 2) split their enrollment **74** percent and **19** percent, respectively. This is not particularly surprising because middle-income students and parents are also sensitive to increases in the price of 4-year public college and often choose a 2-year college.

**TABLE 6: INCREASES IN THE IMPORTANCE OF COLLEGE EXPENSES AND FINANCIAL AID TO PARENTS AND STUDENTS BETWEEN 1992 AND 2004**  
At Least Trigonometry

Level of Importance	Parents				Level of Importance	Student			
	College Expenses		Financial Aid			College Expenses		Financial Aid	
	1992	2004	1992	2004		1992	2004	1992	2004
Very	30%	40%	50%	69%	Very	26%	34%	45%	57%
Somewhat	50%	46%	29%	24%	Somewhat	50%	48%	34%	30%
Not	20%	14%	21%	7%	Not	24%	17%	21%	13%

Source: National Education Longitudinal Study of 1988/2000 (NELS) and the Education Longitudinal Study of 2002/2004 (ELS).

**Increases in the Importance of Finances between 1992 and 2004**

**—At Least Trigonometry—**

To demonstrate the strength of the relationship between financial concerns and taking the steps toward a 4-year college, **table 6** includes only those high school graduates who took at least Trigonometry. This group excludes **77** percent of low-income 10<sup>th</sup> graders in 2002 and **61** percent of their moderate-income peers (See **figure 2**, page 3). Like their peers, this elite group placed more importance on college expenses and financial aid in 2004 than they did in 1992. Higher academic preparation, as measured by advanced mathematics course taking, did not inoculate parents and students against growing financial concerns.

**Parent Financial Concerns and Enrollment Behavior in 2004**

**—At Least Trigonometry—**

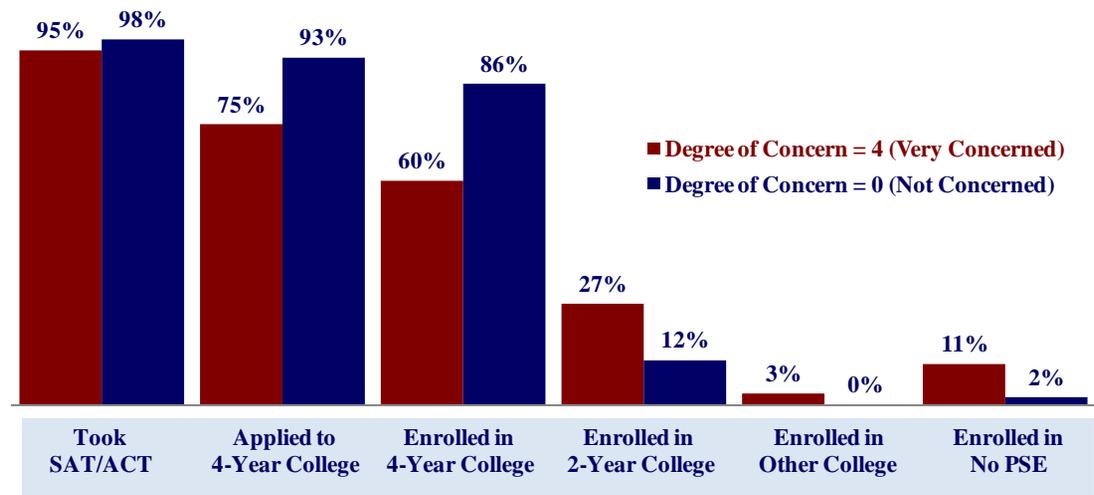
Again using the index in **table 2**, it is possible to show the impact of parent financial concerns on enrollment behavior of high school graduates in 2004 who had taken at least Trigonometry, as shown in **figure 20**:

- Only **75** percent of those whose parents were “very concerned” applied to a 4-year college, while **93** percent of their peers whose parents were “not concerned” did so.
- Only **60** percent of those whose parents were “very concerned” enrolled in a 4-year college, while **86** percent of their peers whose parents were “not concerned” did so.

The difference in enrollment was accounted for by attending a 2-year college or no college at all. For the full range of effects, see **table A-20** in Appendix F on page 58.

**FIGURE 20: IMPACT OF PARENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Trigonometry



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**Student Financial Concerns and Enrollment Behavior in 2004**

—At Least Trigonometry—

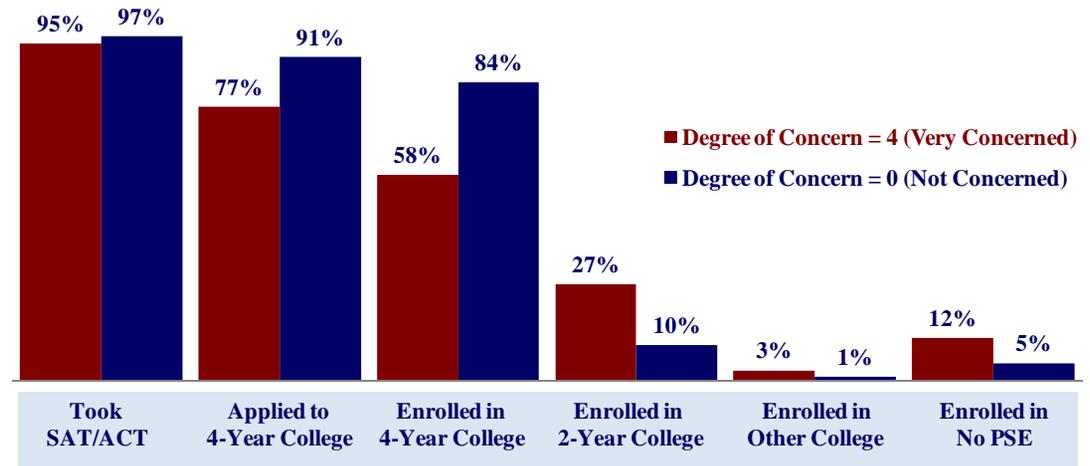
Among 2004 high school graduates who took at least Trigonometry, as shown in **figure 21**:

- Only **77** percent of those who were “very concerned” applied to a 4-year college, while **91** percent of their peers who were “not concerned” did so.
- Only **58** percent of those who were “very concerned” enrolled in a 4-year college, while **84** percent of their peers who were “not concerned” did so.

The difference in enrollment was accounted for by attending a 2-year college or no college at all. For the full range of effects, see **table A-21** in Appendix F on page 58.

**FIGURE 21: IMPACT OF STUDENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

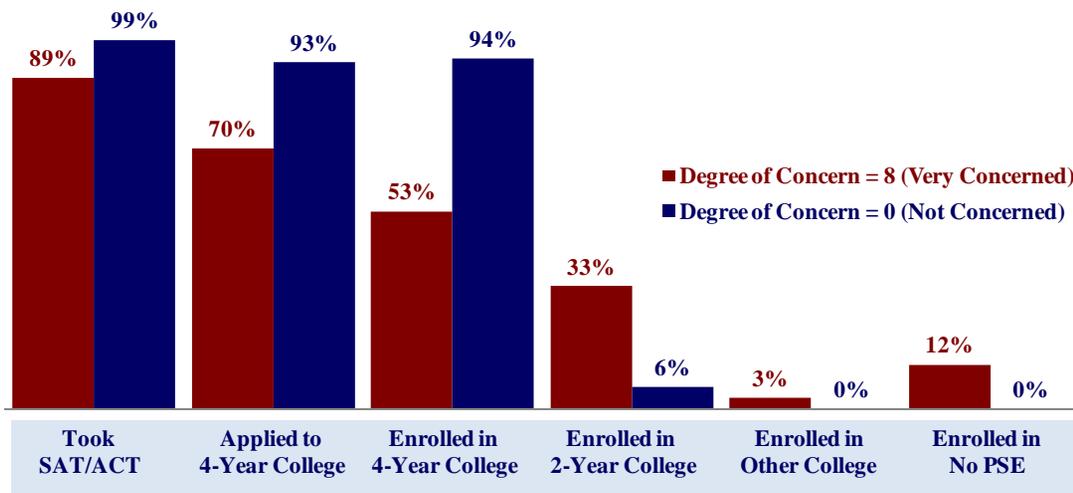
2004 High School Graduates  
At Least Trigonometry



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**FIGURE 22: IMPACT OF FAMILY FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Trigonometry



Source: Calculated using data from the Education Longitudinal Study of 2002/2004 (ELS).

**Family Financial Concerns and Enrollment Behavior in 2004**

—At Least Trigonometry—

Finally, using the family financial concerns index in **table 3**, among 2004 high school graduates who took at least Trigonometry, **figure 22** shows that:

- Only **70** percent of those from families who were “very concerned” applied to a 4-year college, while **93** percent of their peers from families who were “not concerned” did so.
- Only **53** percent of those from families who were “very concerned” enrolled in a 4-year college, while **94** percent of their peers from families who were “not concerned did so.

While testing was modestly affected, differences in enrollment were accounted for largely by attending a 2-year college or no college at all. For the full range of effects, see **table A-22** in Appendix G on page 59.



## UNEQUAL PERSISTENCE: ACCESS MATTERS

Concerns about college expenses and financial aid triggered large-scale mismatches between aspirations and academic preparation, and where high school graduates were able to begin college in 2004.<sup>33</sup> This was reflected in the lower 4-year college enrollment rates of qualified low- and moderate-income high school graduates relative to their middle- and high-income peers. Inequality in access has major consequences for persistence, particularly for those high school graduates who are qualified and seek to earn a bachelor's degree.

To examine the impact of unequal access in the form of mismatches in initial college enrollment by family income on persistence to degree completion, the following topics are addressed:

- the importance of differences in family income, academic preparation, and initial enrollment in bachelor's degree completion for the high school class of 1992
- the level and pattern of persistence of beginning postsecondary students in the 2000s (2003-2004) relative to their peers in the 1990s (1992-1993)
- the number of bachelor's degrees projected to be earned and lost among 2004 high school graduates, and among their peers for the entire decade – from 2000 through 2009
- the prospects for bachelor's degree attainment and loss, by family income, for the current decade, from 2010 to 2019.

These data and analyses will inform the strategies and policies the federal government must pursue to improve access and persistence to bachelor's degree completion among low- and moderate-income high school graduates.

**Technical Approach.** Bachelor's degree attainment rates of the high school graduates of 2004 will not be available until 2012—8 years after high school graduation. And those data may not be available to the research community for two more years, until 2014. This means that the most recent nationally representative data on persistence from high school graduation to bachelor's degree completion are those of the high school class of 1992, through year 2000. While this record is somewhat dated, the data can be used to conservatively project bachelor's degree completion of the high school class of 2004 – if early persistence in the first decade of the 2000s can be shown to be no better than early persistence in the early 1990s.

The Beginning Postsecondary Students (BPS) survey can be used to provide such a comparison. BPS compares 3-year and 5-year persistence rates of students starting college in 1995-1996 and 2003-2004, by family income, academic preparation, and initial college enrollment – the three most important determinants of overall bachelor's degree completion rates. If a comparison of the 2003-2004 BPS and the 1995-1996 BPS shows that persistence in the 2000s is comparable to, or worse than, persistence in the 1990s, the pattern of enrollment of the high school class of 2004 can be married to the pattern of persistence from the high school class of 1992 to conservatively project bachelor's degree completion.

**The most recent nationally representative longitudinal data on persistence from high school graduation to bachelor's degree completion are those of the high school class of 1992. If persistence in the 2000s is no better than persistence in the 1990s, these data can be used to conservatively project bachelor's degree completion of the high school class of 2004.**

**TABLE 7: FAMILY INCOME, ACADEMIC PREPARATION, INITIAL ENROLLMENT AND BACHELOR’S DEGREE COMPLETION  
1992 High School Graduates Through Year 2000**

Family Income	Percent Earning Bachelor’s Degree If Academic Preparation Was:					
	Less Than Algebra II And Initial Enrollment Was:		At Least Algebra II And Initial Enrollment Was:		At Least Trigonometry And Initial Enrollment Was:	
	4-Year College	2-Year College	4-Year College	2-Year College	4-Year College	2-Year College
Low	33%	7%	62%	20%	69%	26%
Moderate	38%	12%	67%	34%	73%	45%
Middle	53%	29%	78%	44%	83%	64%
High	65%	33%	84%	53%	88%	77%

Source: The National Education Longitudinal Study of 1988/2000

**Bachelor’s Degree Completion of the High School Class of 1992**

From a federal policy standpoint, bachelor’s degree completion is primarily a function of three factors: student socioeconomic background, P-12 academic preparation, and type of college attended. **Table 7** presents a high-level model or representation of the way in which these three factors were interrelated for the 1992 high school graduates who started at a 4-year or 2-year college.<sup>34</sup> The variables used are:

- family income
- academic preparation (as measured by math courses taken in high school)
- initial college enrollment.

There are important lessons for federal policy in how each of these variables affected rates of degree completion, holding the other factors constant.

**Impact of Family Income**

Family income was a powerful determinant of bachelor’s degree attainment for the high school class of 1992, through 2000. Even among those who took at least Algebra II and were able to start at a 4-year college:

- **62** percent of low-income students attained the degree, while
- **78** percent of their middle-income peers were able to do so.<sup>35</sup>

Among those who took less than Algebra II, only **33** percent of low-income students attained a bachelor’s degree, while **53** percent of their middle-income peers did so.<sup>36</sup> For those who took at least Trigonometry, **69** percent of low-income students attained a bachelor’s degree, **83** percent of their middle-income peers did so.

**Impact of Academic Preparation**

Academic preparation was also a very powerful determinant of bachelor’s degree attainment for the high school class of 1992, through 2000. Among low-income students who were able to start at a 4-year college:

- **33** percent who took less than Algebra II attained the degree, while
- **62** percent of their peers who took at least Algebra II were able to do so.

Among those who started at a 2-year college, the effects were even more pronounced: only **7** percent who took less than Algebra II earned the degree, while nearly three times as many, **20** percent, who took at least Algebra II did so, and nearly four times as many, **26** percent, who took at least Trigonometry did so.<sup>37</sup>

**Impact of Initial College Enrollment**

Initial college enrollment was also a powerful determinant of bachelor’s degree attainment. Among low-income students who took at least Algebra II:

- **62** percent who started at a 4-year college attained the degree, while only
- **20** percent of their peers who started at a 2-year college were able to do so.

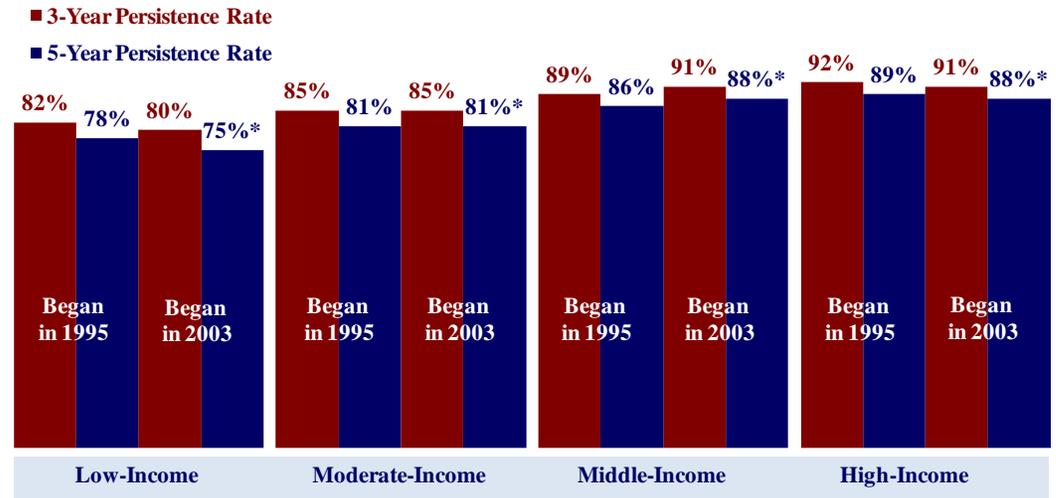
Among those who took less than Algebra II, only **7** percent who started at a 2-year college earned the degree, while **33** percent of those who started at a 4-year college did so. Among those who took at least Trigonometry, only 26 percent of those who started at a 2-year college earned the degree, while **69** percent of those who started at a 4-year college did so.

**Trends in Persistence Rates**

**Starting at a 4-Year College**

The lessons learned from the record of the 1992 high school class are especially important if it can be shown that they apply also to the high school class of 2004.<sup>38</sup> If early persistence rates – 3-year and 5-year – of students who began college in the 2000s can be shown to be no better than those of their peers in the 1992 high school class, then the 8-year bachelor’s degree completion rates of the 1992 class can be used as conservative projections for the 2004 class. In **figure 25**, the 3-year and 5-year persistence rates of students who began at a 4-year college in 2003-2004 and 1995-1996 are compared. The persistence rates of low-income students who began in 2003 – 80 percent and 75 percent – are *lower than* the rates of their peers who began in 1995 (82 percent and 78 percent). The rates of moderate-income students who began college in 2003 are *equal to* the rates of their peers who began in 1995 – 85 percent and 81 percent.<sup>39</sup>

**FIGURE 25: PERSISTENCE RATES OF FULL-TIME DEPENDENT STUDENTS WHO BEGAN AT A 4-YEAR COLLEGE ATTAINED DEGREE OR CERTIFICATE OR STILL ENROLLED**



\* Estimated  
Source: Beginning Postsecondary Students Study (BPS): 1995-1996 and 2003-2004

**FIGURE 26: PERSISTENCE RATES OF FULL-TIME DEPENDENT STUDENTS WHO BEGAN AT A 2-YEAR COLLEGE ATTAINED DEGREE OR CERTIFICATE OR STILL ENROLLED**

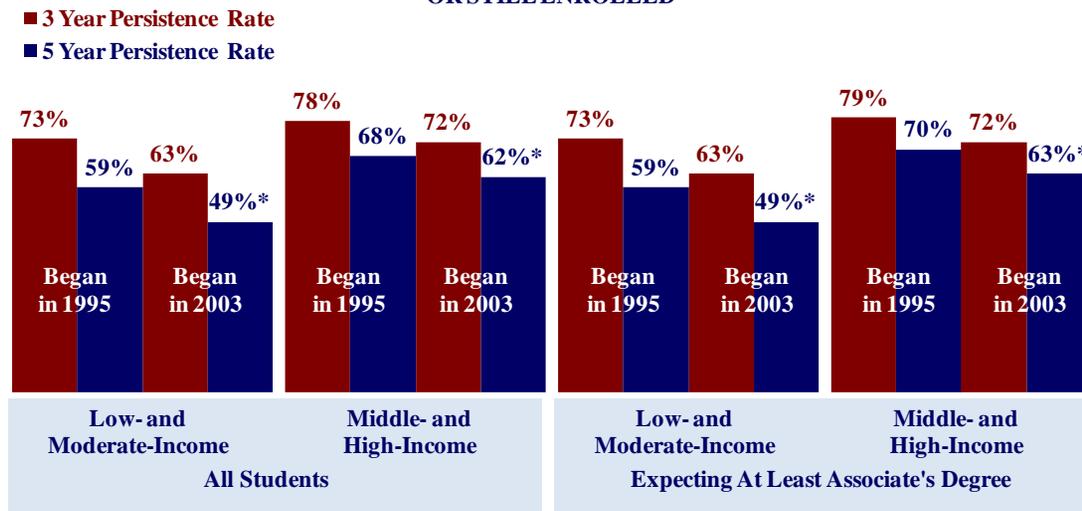
**Trends in Persistence Rates**

**Starting at a 2-Year College**

The 3-year and 5-year persistence rates of students who began at a 2-year college in 2003-2004 and 1995-1996 are compared in **figure 26**:

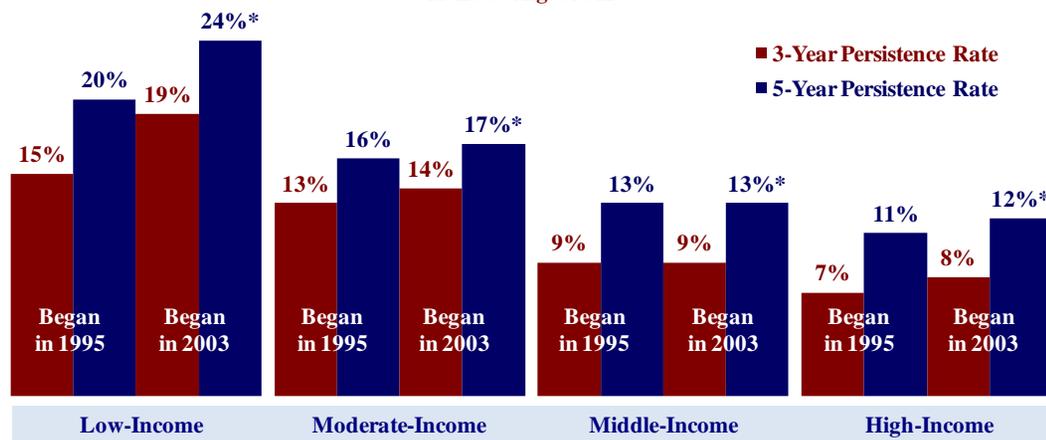
- On the left side of the figure, the persistence rates of *all* low- and moderate-income students who began in 2003 (63 percent and 49 percent) are *lower than* the rates of their peers who began in 1995 (73 percent and 59 percent) – as are the rates of their middle- and high-income peers.<sup>40</sup>
- On the right side of the figure, which includes only those students expecting at least an associate’s degree, the pattern is identical for low- and moderate-income students, and nearly identical for their middle- and high-income peers.

Persistence declined across the board for students who started at a 2-year college.<sup>41</sup>



\* Estimated  
Source: Beginning Postsecondary Students Study (BPS): 1995-1996 and 2003-2004

**FIGURE 27: PERSISTENCE RATES OF FULL-TIME DEPENDENT STUDENTS WHO BEGAN AT A 4-YEAR COLLEGE NEVER ATTAINED DEGREE OR CERTIFICATE AND NOT ENROLLED**  
At Least Algebra II



\* Estimated  
Source: Beginning Postsecondary Students Study (BPS): 1995-1996 and 2003-2004

Trends in Persistence Rates

Starting at a 4-Year College  
—At Least Algebra II—

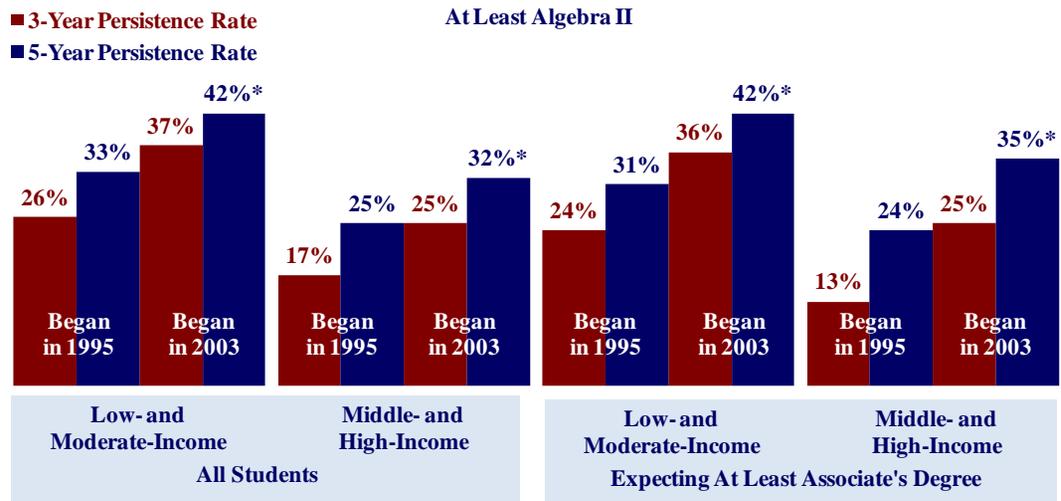
In **figure 25**, the 3-year and 5-year persistence rates of all students who began at a 4-year college in 2003-2004 and 1995-1996 were compared.<sup>42</sup> In **figure 27**, the persistence rates of low-income students who took at least Algebra II are examined, defining not persisting as never having attained a degree or certificate and not enrolled. Defined in this way, the rates of those from low-income families who began in 2003 – 19 percent and 24 percent – are *worse than* the rates of their peers who began in 1995 (15 percent and 20 percent). The rates of those from moderate-income families who began college in 2003 (14 percent and 17 percent) are also *worse than* the rates of their peers who began in 1995 (15 percent and 20 percent). Controlling for academic preparation does not overturn the conclusion that persistence declined for these students.

Trends in Persistence Rates

Starting at a 2-Year College  
—At Least Algebra II—

The 3-year and 5-year persistence rates of students who began at a 2-year college in 2003-2004 and 1995-1996 were compared in **figure 26**. In **figure 28**, the persistence rates of low-income students who took at least Algebra II are examined using, once again, the definition of not persisting as never having attained a degree or certificate and not enrolled.<sup>43</sup> Defined in this way, on the left side of the figure, the rates of those from low- and moderate-income families who began in 2003 – 37 percent and 42 percent – are *worse than* the rates of their peers who began in 1995 (26 percent and 33 percent). On the right side of the figure, which includes only those students expecting at least an associate’s degree, the pattern is nearly identical.<sup>44</sup> Again controlling for academic preparation does not overturn the conclusion that persistence declined for these students.

**FIGURE 28: PERSISTENCE RATES OF FULL-TIME DEPENDENT STUDENTS WHO BEGAN AT A 2-YEAR COLLEGE NEVER ATTAINED DEGREE OR CERTIFICATE AND NOT ENROLLED**  
At Least Algebra II



\* Estimated  
Source: Beginning Postsecondary Students Study (BPS): 1995-1996 and 2003-2004

**Projected Bachelor’s Degree Completion Rates of the High School Class of 2004 – by 2012**

Comparison of the early persistence rates of college students starting in 2003 with those of their peers who started in 1995 shows that the level and pattern of persistence in the 2000s was no better than in the 1990s, and probably worse. Accordingly, **table 8** arrays the initial enrollment of the high school class of 2004, by family income and academic preparation, side-by-side with the bachelor’s degree completion rates of the 1992 high school class, which represent a best case scenario.<sup>45</sup> For simplicity, the table includes only the percentages of the high school class who enrolled in a 4-year college or a 2-year college within two years of high school graduation. These students account for the vast majority of bachelor’s degrees earned within eight years of high school graduation. Excluded are the percentages of those enrolling in other colleges or no college at all. The columns labeled, “% Who Enrolled,” show how access varies with family income and academic preparation. The columns labeled, “1992 Bachelor’s Degree Completion Rate,” show how persistence-to-degree completion is projected to vary by family income and academic preparation. The table is a high-level model or representation of the condition of access and persistence in the mid 2000s and today.

TABLE 8: FAMILY INCOME, ACADEMIC PREPARATION, INITIAL COLLEGE ENROLLMENT, AND BACHELOR’S DEGREE COMPLETION						
High School Graduates in 2004						
Family Income	Academic Preparation		Initial Enrollment			
	Math Courses Taken in High School	% of Class	4-Year College		2-Year College	
% Who Enrolled			1992 Bachelor’s Degree Completion Rate	% Who Enrolled	1992 Bachelor’s Degree Completion Rate	
Low	Less Than Algebra II	34%	8%	33%	34%	7%
	At Least Algebra II	66%	40%	62%	31%	20%
	At Least Trigonometry	33%	55%	69%	25%	26%
Moderate	Less Than Algebra II	25%	16%	38%	34%	12%
	At Least Algebra II	75%	53%	67%	28%	34%
	At Least Trigonometry	44%	66%	73%	22%	45%
Middle	Less Than Algebra II	16%	23%	53%	39%	29%
	At Least Algebra II	84%	66%	78%	22%	44%
	At Least Trigonometry	56%	77%	83%	14%	64%
High	Less Than Algebra II	10%	33%	65%	46%	33%
	At Least Algebra II	90%	78%	84%	15%	53%
	At Least Trigonometry	67%	86%	88%	10%	77%

Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

The rates in **table 8** can be used to illustrate the challenge faced by policy makers in increasing bachelor’s degree completion. For example, for every **1000** low-income students who take less than Algebra II, **8** percent (**80**) are likely to enroll in a 4-year college and **34** percent (**340**) in a 2-year college. Of the **80** who enroll in a 4-year college, **33** percent are likely to earn a bachelor’s degree – **26** students. Of the **340** who enroll in a 2-year college, only **7** percent are likely to do so – **24** students.

The total number of bachelor’s degrees earned out of **1000** low-income students who take less than Algebra II is **26** plus **24** – **50** students.

If those **1000** low-income students are induced to take at least Algebra II, **40** percent (**400**) will likely enroll in a 4-year college and **31** percent (**310**) in a 2-year college. Of the **400** who enroll in a 4-year college, **62** percent will likely earn a bachelor’s degree – **248** students. Of the **310** who enroll in a 2-year college, only **20** percent will likely earn a bachelor’s degree – **62** students. Total bachelor’s degrees earned is **248** plus **62** – **310**.

Subtracting the **50** degrees that would have been earned anyway, only **260** bachelor’s degrees are likely to be gained for every **1000** low-income students induced to take at least Algebra II.<sup>46</sup>

**TABLE 9: PROJECTED BACHELOR’S DEGREE ATTAINMENT AND LOSSES AMONG THE HIGH SCHOOL CLASS OF 2004 BY 2012**  
**High School Graduates Who Started at 4-Year and 2-Year Colleges**

**Projected Bachelor’s Degree Attainment and Losses of the High School Class of 2004 – by 2012**

At Least Algebra II								
Family Income	Estimated Number of High School Graduates (1)	Number Who Took Courses (2)	Projected to Earn Bachelor’s Degree Starting at: (3)				Projected Bachelor’s Degree Losses (4)	
			4-Year College	2-Year College	Total	%	Total	%
Low	899,000	593,340	147,150	36,790	183,940	31%	409,400	69%
Moderate	1,085,000	813,750	288,960	77,470	366,430	45%	447,320	55%
Middle	682,000	572,880	294,920	55,460	350,370	61%	222,510	39%
High	434,000	390,600	255,920	31,050	286,970	73%	103,630	27%
At Least Trigonometry								
Low	899,000	296,670	112,590	19,280	131,870	44%	164,800	56%
Moderate	1,085,000	477,400	230,010	47,260	277,270	58%	200,130	42%
Middle	682,000	381,920	244,090	34,220	278,300	73%	103,620	27%
High	434,000	290,780	220,060	22,390	242,450	83%	48,330	17%

Source: Education Longitudinal Study of 2002/2004 (ELS).

To appreciate the significance of the bachelor’s degree attainment rates in **table 8**, it is helpful to translate those rates into the absolute number of degrees gained and lost. **Table 9** distributes the estimated **3.1 million** high school graduates in 2004 by family income in column 1.<sup>47</sup> The percentages from **figure 1** (page 3) showing course taking by family income are then applied to estimate the number of high school graduates who took at least Algebra II and at least Trigonometry, in column 2. The number and percentage of high school graduates who were able to start at either a 4-year college or a 2-year college *and* are likely to earn a bachelor’s degree (based on **table 8**) are arrayed, by family income, in column 3.<sup>48</sup> (The table excludes the small number of degrees earned by those not starting at a 4-year college or 2-year college within two years.) The number and percentage of projected bachelor’s degree losses, by family income, are contained in column 4.

**Bachelor’s Degree Losses—At Least Algebra II**

Among low-income high school graduates in 2004 who took at least Algebra II, the following is evident in **table 9**:

- Only **31** percent are likely to earn a bachelor’s degree by 2012 due to income-related inequalities in access and persistence.
- While **183,940** will do so, over twice as many will not: **409,400**.

Total losses for the decade are likely to exceed **4 million** (10 x **409,400**).

Total decade-wide bachelor’s degree losses among low- *and* moderate-income high school graduates who took at least Algebra II will likely exceed **8.5 million** – (**409,400** + **447,320**) times 10.

**Bachelor’s Degree Losses—At Least Trigonometry**

Even among low-income high school graduates in 2004 who took at least Trigonometry, the following is evident:

- Only **44** percent are likely to earn a bachelor’s degree by 2012 due to income-related inequalities in access and persistence.
- While **131,870** will do so, many more will not: **164,800**.

Total losses for the decade exceed **1.6 million** (10 x **164,800**).

Total decade-wide bachelor’s degree losses among low- *and* moderate-income high school graduates who took at least Trigonometry will likely exceed **3.6 million** – (**164,800** + **200,130**) times 10.

**Attributing Bachelor’s Degree Losses to Finances**

Not all bachelor’s degree losses can reasonably be attributed to finances, even among high school graduates who took at least Algebra II, or at least Trigonometry. High school graduates from upper income families who took the necessary courses in high school also fail to earn a bachelor’s degree, presumably for reasons other than finances. **Table 10** illustrates two methods of adjusting total losses to identify those among low- and moderate-income students that might reasonably be attributed to finances.

TABLE 10: ATTRIBUTING PROJECTED BACHELOR’S DEGREE LOSSES TO FINANCES						
High School Class of 2004						
Family Income	Unadjusted Total Bachelor’s Degree Losses		Method #1 Losses Adjusted Downward by the Rate at Which High-Income Students Will Not Attain the Degree		Method #2 Losses Adjusted Downward by the Rate at Which Middle-Income Students Will Not Attain the Degree	
	At Least Algebra II	At Least Trigonometry	At Least Algebra II	At Least Trigonometry	At Least Algebra II	At Least Trigonometry
Low	409,400	164,800	249,200	115,700	178,000	86,030
Moderate	447,320	200,130	227,850	119,350	130,200	71,610
Middle	222,510	103,620	68,750	38,190	Excluded	Excluded
High	103,630	48,330	Excluded	Excluded	Excluded	Excluded

Source: National Education Longitudinal Study of 2002/2004 (ELS).

**Approach to Adjusting Losses**

Unadjusted total bachelor’s degree losses from **table 9** are arrayed in the second column of **table 10** by family income and academic preparation:

- **Method #1:** Columns include losses only among low-, moderate-, and middle-income students, adjusted downward by the rate at which their high-income peers (in **table 9**) did not earn the degree: **27** percent for at least Algebra II, and **17** percent for at least Trigonometry.
- **Method #2:** Columns include only losses among low- and moderate-income students, adjusted downward by the rate at which their middle-income peers (in **table 9**) did not earn the degree: **39** percent for at least Algebra II, and **27** percent for at least Trigonometry.

Choosing between the two methods is somewhat arbitrary and depends on the extent to which policymakers see middle-income families as also sensitive to rising net prices of 4-year public colleges. In past reports, the Advisory Committee has used the more conservative **Method #2**.

**Adjusted Losses—At Least Algebra II**

- Using **Method #1**, losses among low- and moderate-income high school graduates in 2004 are reduced to **249,200** and **227,850**, respectively – for a total **477,050**.
- Using **Method #2**, losses among low- and moderate-income high school graduates in 2004 are reduced to **178,000** and **130,200**, respectively – for a total of **308,200**.

Decade-wide losses using **Method #2** are over **3.0 million**.

**Adjusted Losses—At Least Trigonometry**

- Using **Method #1**, losses among low- and moderate-income high school graduates in 2004 are reduced to **115,700** and **119,350**, respectively – for a total **235,050**.
- Using **Method #2**, losses among low- and moderate-income high school graduates in 2004 are reduced to **86,030** and **71,610**, respectively – for a total of **157,640**.

Decade-wide losses using **Method #2** are over **1.5 million**.

**Projected Bachelor’s Degree Losses This Decade**

Bachelor’s degree losses this decade – from 2010 to 2019 – will depend largely on:

- the rate of increase in 4-year college prices (cost of attendance)
- the rate of increase in total grant aid from all sources
- the rise in average family income.

If public college prices continue to outpace grant aid from all sources, and family income stagnates, losses among low- and moderate-income students this decade may escalate well beyond losses last decade.

**TABLE 11: NET PRICE OF 4-YEAR PUBLIC COLLEGE AS A PERCENTAGE OF FAMILY INCOME, AND 4-YEAR AND 2-YEAR COLLEGE ENROLLMENT RATES**

**At Least Algebra II**

Family Income	1992 High School Graduates			2004 High School Graduates			2016 High School Graduates *		
	Net Price as Percent of Family Income	Initial Enrollment		Net Price as Percent of Family Income	Initial Enrollment		Net Price as Percent of Family Income*	Initial Enrollment *	
		4-Year College	2-Year College		4-Year College	2-Year College		4-Year College*	2-Year College*
Low	41%	54%	21%	46%	40%	31%	52%*	30%*	41%*
Moderate	22%	59%	24%	25%	53%	28%	28%*	48%*	33%*

\*Estimated  
Source: National Education Longitudinal Study of 1988/2000 (NELS) and Education Longitudinal Study of 2002/2004 (ELS).

**Table 11** provides an hypothetical projection based on the relationship between net price as a percentage of family income, and enrollment rates of low- and moderate-income high school graduates who took at least Algebra II in 1992 and 2004.<sup>49</sup> Assume plausibly the following:

- For those with low-income, net price as a percentage of family income rises from 46 percent in 2004 to 52 percent in 2016, triggering a decline in the 4-year college enrollment rate from 40 percent to 30 percent, and an offsetting increase in the 2-year college enrollment rate from 31 percent to 41 percent.
- For those with moderate-income, net price as a percentage of family income rises from 25 percent in 2004 to 28 percent in 2016, resulting in a decline in the 4-year college enrollment rate from 53 percent to 48 percent, and a rise in the 2-year college enrollment rate from 28 percent to 33 percent.

And also assume, conservatively, that there is no shift in enrollment to other colleges, and no increase in students choosing no college at all.

First, consider the likely effects on bachelor’s degree completion of a 10 percentage point shift from 4-year to 2-year colleges among low-income high school graduates who took at least Algebra II. From **table 8**, the bachelor’s degree completion rate of those starting at a 4-year college is 62 percent, while the completion rate of those starting at a 2-year college is only 20 percent – a difference of 42 percentage points. Thus a 10

percentage point shift lowers bachelor’s degree completion by approximately 4 percentage points, from 31 percent (**table 9**) to 27 percent. Assuming approximately 900,000 low-income high school graduates will take at least Algebra II in 2016, a 4 percentage point change would represent up to 40,000 additional losses per year – and up to 400,000 more per decade.

Second, consider the likely effects on bachelor’s degree completion of a 5 percentage point shift from 4-year to 2-year college among moderate-income high school graduates who will take at least Algebra II in 2016. The bachelor’s degree completion rate of those starting at a 4-year college is 67 percent, while the completion rate of those starting at a 2-year college is only 34 percent – a difference of 33 percentage points. A 5 percentage point shift lowers bachelor’s degree completion by approximately 2 percentage points, from 45 percent (**table 9**) to 43 percent. Assuming one million moderate-income high school graduates take at least Algebra II, a 2 percentage point shift represents up to 20,000 additional losses per year – and up to 200,000 more per decade.

In summary, if current trends continue this decade, the plausible and modest rises in net price as a percentage of family income in **table 14** could increase bachelor’s degree losses among low- and moderate-income high school graduates who take at least Algebra II by up to 60,000 per year. or by up to 600,000 for the entire decade. from 2010 to 2019.

## SUMMARY AND RECOMMENDATIONS

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This report provides insights drawn from the invaluable longitudinal studies conducted by NCES that track the experiences of high school graduates. Adequacy of grant aid from all sources is assessed by examining the enrollment and persistence rates of low- and moderate-income high school graduates who both seek to earn a bachelor's degree and are qualified to gain admission to a 4-year college, relative to the rates of their middle- and high-income peers. Prices net of total grant aid at 4-year public colleges have risen as a percentage of family income for these students, leading to several interrelated negative effects.

### Mismatches in Initial Enrollment

### Increasing Family Financial Concerns

### Growing Impact of Access on Persistence

### Declining Persistence of High School Graduates

### Mounting Bachelor's Degree Losses

- Large-scale mismatches between the aspirations and qualifications of these high school graduates and where they are financially able to enroll in college exist and are growing. Between 1992 and 2004, initial enrollment of low- and moderate-income high school graduates in 4-year colleges shifted downward: from **54** percent to **40** percent, and from **59** percent to **53** percent, respectively.
- Triggered by increasing financial concerns about college expenses and financial aid, these mismatches are shifting initial enrollment away from 4-year colleges. In 2004, differences in family financial concerns accounted for **45** percentage points of difference in 4-year college enrollment between students from families who were very concerned and their peers from families who were not concerned.
- Mismatches in initial enrollment are consequential because where high school graduates are able to begin college (access) determines their likelihood of success (persistence). High school graduates from low-income families who start at a 4-year college earn a bachelor's degree over three times more often than their peers who start at a 2-year college, **62** percent vs. **20** percent. Their peers from moderate-income families earn the degree nearly twice as often, **67** percent vs. **34** percent.
- Exacerbating the decidedly negative impact of enrollment shifts, persistence rates today appear to be lower, especially for students who are financially unable to start at a 4-year college. Persistence of low-income high school graduates starting at a 4-year college has fallen from **77** percent to **74** percent; for those from moderate-income families, persistence has remained constant at **81** percent. For all those high school graduates starting at a 2-year college, persistence has fallen across the board.
- These trends greatly undermined projected bachelor's degree completion of high school graduates last decade and, if unchecked, will take an even greater toll this decade. Using these data, bachelor's degree loss rates among low- and moderate-income 2004 high school graduates who took at least Algebra II are projected to be **67** percent and **55** percent, respectively; with total losses for the decade 2000 – 2009 attributable to finances exceeding **3 million**. Losses this decade may be much higher.

These findings suggest that total grant aid from all sources is not adequate to ensure the enrollment and persistence of qualified low- and moderate-income high school graduates.

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The projections in this report do not reflect the widespread negative effects of the current economic downturn, including the sizeable impact of financially-induced enrollment caps at many 4-year public colleges. If prices net of need-based grant aid continue to escalate as a percentage of family income, as they have over the last decade, enrollment and persistence rates could worsen, and bachelor's degree losses could increase beyond these projections.

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### Previous Advisory Committee Findings and Recommendations

The analyses in this report are extensions of those that appeared in the 2006 report, *Mortgaging Our Future* (MOF). In that report, preliminary comparisons between the 1992 and 2004 cohorts of high school graduates yielded greater insight into the interaction of factors determining academic success over time, particularly the role financial barriers play. MOF found that lowering financial barriers by increasing need-based aid appears to be a necessary condition for stemming bachelor's degree losses among qualified high school graduates. Without increases, grant aid will be stretched further across a wider population of students, and the net price facing every student will rise. Stemming bachelor's degree losses was found to require six broad policy initiatives:

- Reinvigorate the access and persistence partnership to increase need based aid from all sources.
- Restrain increases in the price of college and offset increases with need-based student aid.
- Moderate the trend—at all levels—toward merit-based aid and the increasing reliance on loans.
- Reduce financial barriers to transfer from two-year to four-year colleges.
- Strengthen early intervention programs for low- and moderate-income students.
- Invest in efficient and productive remediation.

### Six Policy Recommendations from *Mortgaging Our Future*

Data in this report confirm the urgency and importance of these six policy initiatives to increase bachelor's degree completion. In addition, the Advisory Committee released two reports in 2008 – *Transition Matters* and *Apply to Succeed* – with analyses and recommendations aimed at improving enrollment, persistence, and transfer to a 4-year college of those high school graduates who start at a 2-year college. The negative impact on bachelor's degree completion of the financially-induced shift from 4-year colleges to 2-year colleges identified in this report can be greatly ameliorated by broad and systematic implementation of the best policies and practices already in place at leading 2-year colleges.<sup>50</sup>

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### New Recommendations

In addition to the recommendations above, the data analyses in this report support two further major recommendations:

- **Conduct a National Loan Experiment.** Given that the cumulative loan burden necessary to finance pursuit of a bachelor's degree will continue to rise, it is imperative to conduct a national loan experiment (or demonstration) aimed at determining the extent to which income contingency and loan forgiveness might be used as policy instruments to offset the negative impact of family financial concerns on taking the steps toward enrollment in a 4-year college.<sup>51</sup>
- **Implement a Comprehensive Federal Strategy.** The federal strategy to raise the bachelor's degree attainment rates of qualified low- and moderate-income high school graduates cannot rest alone on improving academic preparation, or on improving persistence. To be effective, the strategy must be comprehensive and include improving financial access to 4-year public colleges.

These two recommendations are explained in more detail below.

**EXHIBIT FIVE: A NATIONAL LOAN EXPERIMENT**

**Modifying Loan Programs  
to Offset Their Impact on Family  
Financial Concerns and Taking  
the Steps toward 4-Year College**

**Given the rising net price of 4-year public college, two features of loans might be changed to entice low- and moderate-income students to assume the total debt necessary to finance earning a bachelor's degree:**

- **Income contingency**
- **Loan forgiveness**

**However, a national experiment (or demonstration) is needed to determine what modifications need to be made.**

**Income Contingency Parameters Include:**

- **Interest rate**
- **Annual and cumulative loan limits**
- **Level of discretionary income protected**
- **Rate of payment above discretionary income**
- **Maximum number of years in repayment**
- **Incentives to persist and complete**

**Loan Forgiveness Parameters Include:**

- **Interest rate**
- **Annual and cumulative loan limits**
- **Timing of payments and level of forgiveness**
- **Areas of study and/or community service**
- **Portion of forgiveness delivered upfront**
- **Relation to academic performance**
- **Incentives to persist and complete**

**A National Loan Experiment.** Today low- and moderate-income families can easily face a prospective cumulative loan burden at a 4-year public college between \$30,000 and \$60,000, respectively (**See table 1**, page 13). Despite best efforts to increase grant aid from all sources, loan burden is very likely to increase in the future. In response, income contingency and forgiveness are policy tools that might be used to lessen the financial concerns families have about accumulating debt.

Current income contingency and forgiveness features are thought to have very minor effects, if any, on access. However, it is possible that their impact could be improved by making terms more generous. The trade off is that more generous terms imply higher subsidies and cost to taxpayers.

Data to test the extent to which more generous income contingency and forgiveness features might offset increasing financial concerns, and the implications for program costs, do not exist. A well-designed national experiment (or demonstration) would generate such data.

**Exhibit Five** above identifies the loan program features (independent variables) that might be modified. The dependent variables would include student and parent expectations in 9<sup>th</sup> or 10<sup>th</sup> grade, plans in 11<sup>th</sup> grade, application to a 4-year college in 12<sup>th</sup> grade, and enrollment. The controls would include family income and background, parents' education, academic preparation, race/ethnicity, attitudes about the returns to higher education, and other key attributes.

**TABLE 12: PROJECTED RATES OF BACHELOR’S DEGREE ATTAINMENT OF 2004 HIGH SCHOOL GRADUATES BY YEAR 2012**

By Family Income, Math Courses Taken, and Initial Enrollment

Family Income	Academic Preparation		Initial Enrollment				Overall Bachelor’s Degree Completion Rate	
	1	2	4-Year College		2-Year College		6	7
			3	4	5			
Math Courses Taken in High School	% of Class	% Who Enrolled in 4-Year College	4-Year College Bachelor’s Degree Completion Rate	% Who Enrolled in 2-Year College	2-Year College Bachelor’s Degree Completion Rate	By Family Income and Academic Preparation	By Family Income	
Low	Less Than Algebra II	34%	8%	33%	34%	7%	5%	22%
	At Least Algebra II	66%	40%	62%	31%	20%	31%	
Moderate	Less Than Algebra II	25%	16%	38%	34%	12%	10%	36%
	At Least Algebra II	75%	53%	67%	28%	34%	45%	
Middle	Less Than Algebra II	16%	23%	53%	39%	29%	24%	55%
	At Least Algebra II	84%	66%	78%	22%	44%	61%	
High	Less Than Algebra II	10%	33%	65%	46%	33%	37%	70%
	At Least Algebra II	90%	78%	84%	15%	53%	73%	

Source: The National Education Longitudinal Study of 1988/2000 and the Education Longitudinal Study of 2002/2004 (ELS)

**Importance of a Comprehensive Federal Strategy to Increase Bachelor’s Degree Completion**

From a federal or policy perspective, bachelor’s degree completion is primarily a function of three broad factors:

- student socioeconomic background
- P-12 academic preparation
- type of college attended.

The analyses in this report present a simplified model of the way in which these three factors are related to bachelor’s degree completion by using three variables from the longitudinal studies:

- family income
- academic preparation (as measured by math courses taken in high school)
- initial college enrollment.

This model, illustrated in **table 12**, can be used to show that, while these factors individually are powerful determinants of degree completion, the impact of each factor depends critically on the level of the other two factors. That is, the data show that addressing one aspect of the access and persistence problem, while not addressing the other two aspects, greatly limits the extent to which bachelor’s degree completion of low- and moderate-income students can be improved.

**Table 12** shows the projected bachelor’s degree completion rates of the high school class of 2004, by family income and academic preparation, assuming (conservatively) that they will persist at the same rates as did their peers in the 1992 high school class. Bachelor’s degree completion rates (column 7) are projected to be: **22** percent for low-income students, **36** percent for moderate-income students, **55** percent for middle-income students, and **70** percent for high-income students. These differences, by family income, result from three underlying income-related inequalities in

academic preparation (column 1), access or enrollment (columns 2 and 4), and persistence (columns 3 and 5). Put another way, bachelor’s degree completion of low- and moderate-income high school graduates is lower than that of their upper income peers for three unmistakable reasons: first, fewer of them are academically prepared; second, fewer of those who are academically prepared are financially able to enroll in a 4-year college; and, third, fewer of those who enroll in a 4-year college (or a 2-year college) are able to persist to bachelor’s degree completion.

**Impact on Bachelor’s Degree Completion Rates of Improving Only Academic Preparation**

Federal, state, and institutional policymakers are understandably interested in raising the academic preparation of low- and moderate-income high school graduates. As demonstrated in **table 7** on page 26, academic preparation is a powerful determinant of bachelor’s degree completion. However, the impact of academic preparation depends on eliminating income-related financial inequalities in access and persistence. At the individual student level, improvements in academic preparation may lead, in almost all cases, to an increase in the likelihood that a high school graduate will enroll in a 4-year college and persist to bachelor’s degree completion. However, these outcomes depend implicitly on parents’ ability to pay for college, or on an increase in merit-based aid that serves to lower the price of doing so. Increasing the academic preparation of low- and moderate-income high school graduates as a group, without increasing access through increases in need-based grant aid, or without improving persistence, will not lead to the desired improvements in bachelor’s degree completion rates.

**TABLE 13: IMPACT OF IMPROVING ONLY ACADEMIC PREPARATION OF LOW- AND MODERATE-INCOME HIGH SCHOOL GRADUATES —TO MATCH THAT OF THEIR MIDDLE-INCOME PEERS—**

Family Income	Academic Preparation		Initial Enrollment				Overall Bachelor’s Degree Completion Rate	
	1		4-Year College		2-Year College		6	7
	Math Courses Taken in High School	% of Class	% Who Enrolled in 4-Year College	4-Year College Bachelor’s Degree Completion Rate	% Who Enrolled in 2-Year College	2-Year College Bachelor’s Degree Completion Rate	By Family Income and Academic Preparation	By Family Income
Low	Less Than Algebra II	16%	8%	33%	34%	7%	5%	27%
	At Least Algebra II	84%	40%	62%	31%	20%	31%	
Moderate	Less Than Algebra II	16%	16%	38%	34%	12%	10%	39%
	At Least Algebra II	84%	53%	67%	28%	34%	45%	

Source: The National Education Longitudinal Study of 1988/2000 and the Education Longitudinal Study of 2002/2004 (ELS)

From a federal policy perspective, access and persistence for high school graduates from low- and moderate-income families has traditionally been assessed in relation to that of their middle-income peers. Column 7 in **table 12** on page 36 shows the overall bachelor’s degree completion rates of low-, moderate-, and middle-income high school graduates to be: **22** percent, **36** percent, and **55** percent, respectively. The data in **table 13** above provide a high-level simulation of the impact on bachelor’s degree completion of improving academic preparation (measured by math courses taken), without eliminating income-related inequalities in access (enrollment) or persistence.

Simulating an improvement in course taking, the percentages of low- and moderate-income high school graduates taking less than Algebra II and at least Algebra II (column 1) have been replaced by the percentages of their middle-income peers who do so, while access (column 2 and 4) and persistence (columns 3 and 5) are unchanged. Bachelor’s degree completion rates are improved from **22** percent and **36** percent to only **27** percent and **39** percent, respectively, far short of the **55** percent rate of middle-income peers. The impact of improvements in academic preparation (P-12 improvements of any kind) are limited by any income-related inequalities in access and persistence that remain unaddressed.

**TABLE 14: IMPACT OF IMPROVING ONLY ACCESS (ENROLLMENT) OF LOW- AND MODERATE-INCOME HIGH SCHOOL GRADUATES —TO MATCH THAT OF THEIR MIDDLE-INCOME PEERS—**

Family Income	Academic Preparation		Initial Enrollment				Overall Bachelor's Degree Completion Rate	
			4-Year College		2-Year College		6	7
	1	2	3	4	5	6		
	Math Courses Taken in High School	% of Class	% Who Enrolled in 4-Year College	4-Year College Bachelor's Degree Completion Rate	% Who Enrolled in 2-Year College	2-Year College Bachelor's Degree Completion Rate	By Family Income and Academic Preparation	By Family Income
Low	Less Than Algebra II	34%	23%	33%	39%	7%	10%	33%
	At Least Algebra II	66%	66%	62%	22%	20%	45%	
Moderate	Less Than Algebra II	25%	23%	38%	39%	12%	13%	42%
	At Least Algebra II	75%	66%	67%	22%	34%	52%	

Source: The National Education Longitudinal Study of 1988/2000 and the Education Longitudinal Study of 2002/2004 (ELS)

**Impact on Bachelor's Degree Completion Rates of Improving Only Access**

Just as improvements in academic preparation alone will not necessarily equalize bachelor's degree completion rates of low-, moderate-, and middle-income high school graduates, increases in enrollment generated by increases in need-based student aid alone will not do so. The data in **table 12** suggest that there is empirical support for such interventions. Among high school graduates who took at least Algebra II, only **40** percent of those from low-income families are able to enroll in a 4-year college, while **68** percent of their middle-income peers are able to do so. However, even if the rates of 4-year college enrollment among low- and moderate-income high school graduates are improved to equal those of their middle-income peers, the data show clearly that prevailing inequalities in academic preparation and persistence will offset much of the gain made in bachelor's degree completion.

The data in **table 14** provide a high-level estimation of the impact on bachelor's degree completion of improving access (enrollment), perhaps through increases in need-based grant aid, without improving either academic preparation or persistence (bachelor's degree attainment).

Simulating an increase in 4-year college enrollment, perhaps through an increase in grant aid, the percentages of low- and moderate-income high school graduates enrolling in 4-year and 2-year colleges (columns 2 and 4) have been replaced by the percentages of their middle-income peers who do so, while academic preparation (column 1) and persistence (columns 3 and 5) are unchanged. Bachelor's degree completion rates are

improved from **22** percent and **36** percent to only **33** percent and **42** percent, respectively. As in the case of improving academic preparation alone, the impact on bachelor's degree completion rates of improving access (enrollment) alone is limited by income-related inequalities in the other two factors: academic preparation and persistence.

An important consideration in assessing the extent to which increases in need-based grant aid can improve access (or enrollment) is how students, by family income, are redistributed by college type: 4-year versus 2-year. To be successful in improving bachelor's degree completion, increases in need-based grant aid must shift enrollment back toward 4-year colleges.

**Impact on Bachelor’s Degree Completion Rates of Improving *Only* Persistence**

For at least two decades, many federal, state, and institutional policymakers have contended that there is no access problem in higher education, rather, only a persistence problem. Accordingly, widespread support has existed for academic and social interventions designed mainly to improve persistence. And the data clearly suggest that there is empirical support for such interventions. In **table 12** on page 36, there are demonstrable differences, by family income, among the persistence rates of high school graduates who took at least Algebra II and enrolled in a 4-year college. Those from low-income families persist to degree completion at a rate of **62** percent, while their middle-income peers persist at a rate of **78** percent. However, as in the case of improving academic preparation alone, or improving access alone, interventions designed to improve persistence alone will not equalize bachelor’s degree completion among low-, moderate-, and middle-income students.

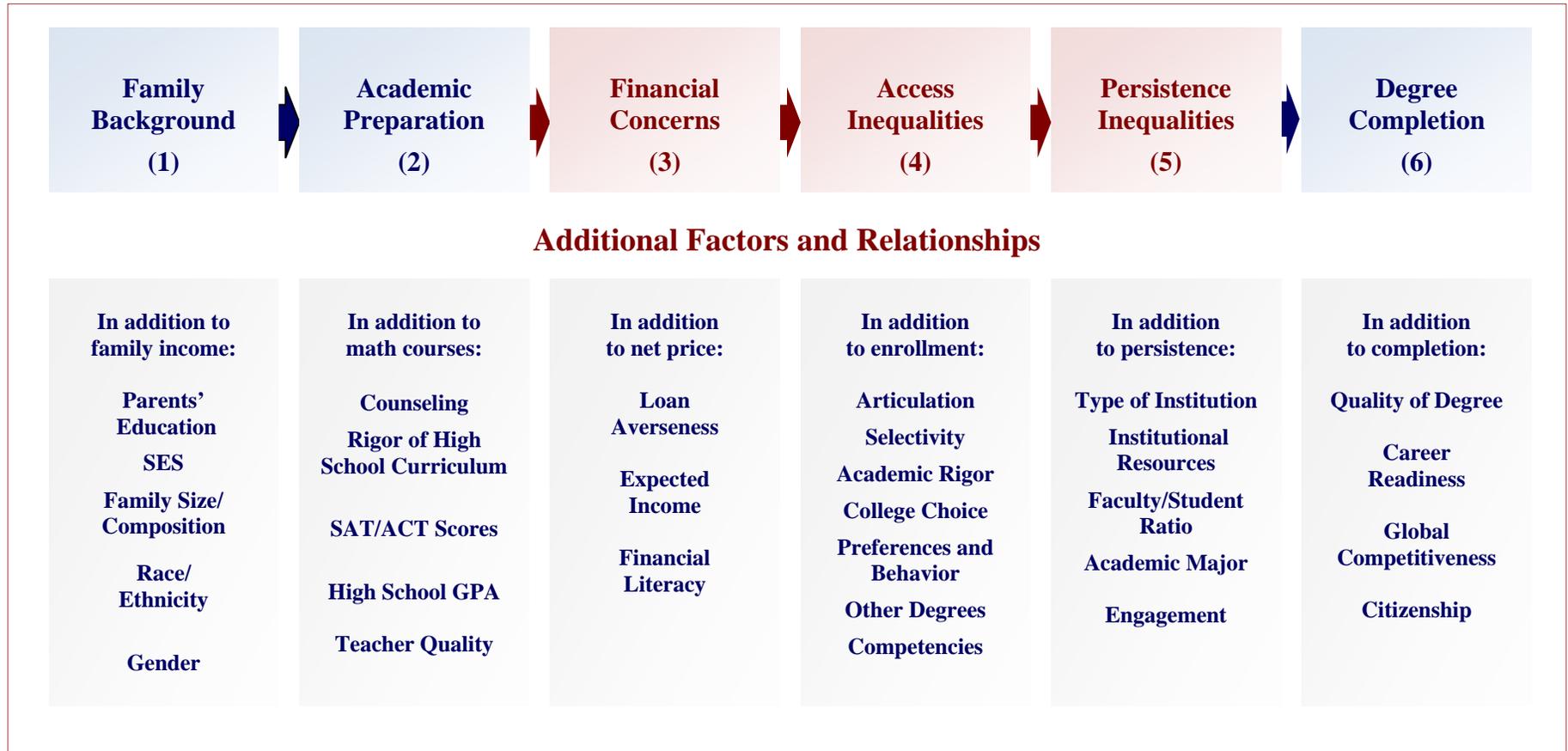
TABLE 15: IMPACT OF IMPROVING ONLY PERSISTENCE OF LOW- AND MODERATE-INCOME HIGH SCHOOL GRADUATES —TO MATCH THAT OF THEIR MIDDLE-INCOME PEERS—								
Family Income	Academic Preparation		Initial Enrollment				Overall Bachelor’s Degree Completion Rate	
	1		4-Year College		2-Year College		6	7
	Math Courses Taken in High School	% of Class	% Who Enrolled in 4-Year College	4-Year College Bachelor’s Degree Completion Rate	% Who Enrolled in 2-Year College	2-Year College Bachelor’s Degree Completion Rate	By Family Income and Academic Preparation	By Family Income
Low	Less Than Algebra II	34%	8%	53%	34%	29%	14%	34%
	At Least Algebra II	66%	40%	78%	31%	44%	45%	
Moderate	Less Than Algebra II	25%	16%	53%	34%	29%	18%	45%
	At Least Algebra II	75%	53%	78%	28%	44%	54%	

Source: The National Education Longitudinal Study of 1988/2000 and the Education Longitudinal Study of 2002/2004 (ELS)

The data in **table 15** provide a high-level simulation of the impact on bachelor’s degree completion of improving persistence (bachelor’s degree attainment rates), without improving either academic preparation or access (enrollment). The bachelor’s degree completion rates of low- and moderate-income high school graduates (columns 3 and 5) have been replaced by those of their middle-income peers, while academic preparation (column 1) and access (columns 2 and 4) are unchanged. Bachelor’s degree completion rates are improved from **22** percent and **36** percent to only **34** percent and **45** percent, respectively. The impact of improvements in persistence alone is limited by existing inequalities in academic preparation and access. A summary of results from **tables 12** through **table 15** is provided in **table 16**. Each intervention focused on one factor fails to improve bachelor’s degree attainment to **55** percent.

TABLE 16: SUMMARY OF THE IMPACT ON BACHELOR’S DEGREE COMPLETION RATES OF SINGLE-FACTOR IMPROVEMENTS		
Improvement	Low-Income (Base Rate = 22%)	Moderate-Income (Base Rate = 36%)
Only Academic Preparation	27%	39%
Only Access	33%	42%
Only Persistence	34%	45%

**EXHIBIT SIX: REFINING THE CONCEPTUAL MODEL**



The simplified conceptual model used in this report is illustrated in **exhibit two**, page 6. **Exhibit six** above identifies factors that might be added to make the model a more complete and accurate description of the access and persistence pipeline. These include K-12 instrumental and policy variables such as rigor of high school curriculum and teacher quality variables, as well as institutional resources for students already enrolled in college. Building and testing a more complete and dynamic model of the pipeline is of paramount policy importance.

While highly simplified, the model used in this report, along with the data and findings, shows that the desired impact on bachelor's degree completion of improvements in nonfinancial factors, such as academic preparation and other early interventions, are conditional on removal of financially driven inequalities in access and persistence. Thus, to be successful, federal strategies designed to increase bachelor's degree completion must be comprehensive and address all factors in the access and persistence pipeline – financial and non-financial – simultaneously

# ENDNOTES

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## ASSESSING THE ADEQUACY OF GRANT AID

<sup>1</sup> For more information on the public and private benefits of higher education, see (Kelly 2005); (National Center for Higher Education and Public Policy 2005); (Institute for Higher Education Policy 2005); (Goldin and Katz 2008).

<sup>2</sup> This report compares low-, moderate-, middle-, and high-income students in the 1992 National Education Longitudinal Study (NELS) and Education Longitudinal Study 2004 (ELS) cohorts. Family income for the 1992 cohort is based on 1991 income; income for the 2004 cohort is based on 2003 income. See Appendix A for specific income bands.

<sup>3</sup> This report focuses specifically on the financial barriers at 2-year and 4-year public colleges and universities.

<sup>4</sup> Net prices are based on calculations from the National Postsecondary Student Aid Survey (NPSAS).

<sup>5</sup> (Advisory Committee on Student Financial Assistance 2006)

<sup>6</sup> Several studies show that the level of high school math is a strong predictor of academic success in college. For more information, see (Adelman 1999); (Adelman 2006). As a result of these and other studies, this report uses mathematics coursework as a proxy for college preparation. These academic-preparation measures—“at least Algebra II” and “at least Trigonometry”—are self-reported data and do not take into account the quality or intensity of the coursework.

<sup>7</sup> For more information on the National Postsecondary Student Aid Survey (NPSAS) , see: <http://www.nces.ed.gov/npsas/>.

<sup>8</sup> For more information on the National Education Longitudinal Study of 1988 (NELS), see: <http://nces.ed.gov/surveys/nels88> .

<sup>9</sup> For more information on the Education Longitudinal Study of 2002 (ELS), see: <http://nces.ed.gov/surveys/els2002/overview.asp>.

<sup>10</sup> For more information on Beginning Postsecondary Students (BPS), see: <http://nces.ed.gov/surveys/bps/>.

<sup>11</sup> For more information on Integrated Postsecondary Education Data System (IPEDS), see: <http://nces.ed.gov/ipeds/>.

# ENDNOTES

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## OVERVIEW: INEQUALITY ON THE RISE

<sup>12</sup> In this report, net prices are derived from the National Postsecondary Student Aid Survey (NPSAS), and are defined as total cost of attendance—tuition, fees, and living expenses—minus grant aid from all sources at 4-year public colleges. Net prices can be thought of as the total work and loan burden facing the family. See **Appendix A (table A-1)** for adjusted income ranges.

<sup>13</sup> Figures shown differ slightly from The College Board’s annual *Trends in Student Aid* report (College Board 2009), as College Board’s analysis includes tax credits in the net price calculation.

<sup>14</sup> Community colleges (or 2-year colleges) have traditionally been a less expensive alternative to a 4-year college, but their net prices have also continued to rise over the past two decades. More and more students are turning to community colleges to begin their postsecondary career. In 2008, ACSFA released a policy bulletin outlining an enrollment shift away from 4-year institutions and towards 2-year institutions: in 1992, 21 percent of low-income students enrolled in a 2-year college, and by 2004 that number had risen 10 percentage points, to 31 percent.

<sup>15</sup> Figures shown are based on calculations from NPSAS. Percentage of family income is derived from mean net price divided by mean income for each income level.

<sup>16</sup> These data show that students from moderate-income families who were ineligible for need-based grant aid (including Pell Grants) confronted a cost of attendance equal to net price at 4-year public colleges. For example, a moderate-income family, who would likely be just beyond Pell eligibility, would have very little, if any, grant aid subtracted from the net price.

<sup>17</sup> In 1992, NCES conducted a survey that asked students and parents, “how important is each of the following in choosing a college”: college expenses (tuition, books, or room & board) and availability of financial aid (school loan, scholarship, or grant). Students and parents were asked to rate the importance of college expenses and financial aid as “very,” “somewhat,” or “not” important. In a 1997 report entitled, *Access to Postsecondary Education for the 1992 High School Graduates*, NCES researchers created an index of parent and student responses to the Importance of College Expenses and Financial Aid section of the 1992 NELS survey.

<sup>18</sup> In this report, enrollment at a 4-year college is defined as enrollment in a 4-year public college or 4-year private not-for-profit college. Enrollment in a 2-year college is defined as the student enrolling in *public* 2-year college. Enrollment in “other college” is defined as the student enrolling in a 4-year for-profit college or less than 2-year college. “No PSE” is defined as the student not enrolling in any college.

<sup>19</sup> The enrollment figures shown in **figure 6** include only students who were enrolled anywhere within the first two years after their high school graduation. Students who were not enrolled in any form of postsecondary education two years after their graduation are not included in these figures.

# ENDNOTES

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<sup>20</sup> For more information on the bachelor's degree completion, see (Brookings Institute 2009).

<sup>21</sup> The projections in **table 1** are conservative in many respects. The sample packages assume that the student graduates in 4 years, when the national average for graduation from a public 4-year in four years is 29 %. For more information on postsecondary graduation rates, see NCES Condition of Education 2010 Report: <http://nces.ed.gov/programs/coe/2010/section3/indicator21.asp>.

<sup>22</sup> **Table 1** assumes that tuition will not rise during the student's tenure, and also that the parent(s) are willing and able to borrow a PLUS loan. In addition, **table 1** also assumes that both students and parents are borrowing the maximum amount in federal loans. Some colleges and universities provide additional institutional grant aid to undergraduates to help cover all or part of the tuition and fees charged by the institution.

## UNEQUAL ACCESS: FINANCES MATTER

<sup>23</sup> (Berkner and Chavez 1997)

<sup>24</sup> Family income for the 1992 cohort is based on 1991 income: low-income, \$0-\$24,999; moderate-income, \$25,000-\$49,999; middle-income, \$50,000-\$74,999; and high-income, \$75,000-above.

<sup>25</sup> Notably, these trends hold true when moderate-income parents and students are compared to their high-income peers. Both low- and moderate-income parents and students indicate that college expenses and financial aid are "very important" at a significantly greater rate than high-income parents and students. Data later in the report illustrate how these disparities impact enrollment behavior.

<sup>26</sup> A parent or student who was "very concerned" about both college expenses and financial is assigned a value of 4. At the other extreme, a parent or student who was "not concerned" about both college expenses and financial is assigned a value of 0. There are a total of nine combinations each for parents and students.

<sup>27</sup> Rates of students "Taking the SAT or ACT" do not appear to be affected by the degree of parent financial concern. Only a 5 percentage point difference exists in testing among students whose parents were most concerned and not concerned, **90** percent versus **95** percent, respectively. These rates suggest strongly that the students had originally planned to apply to and enroll in a 4-year college.

<sup>28</sup> Parents of students in the class of 2004 were asked to rate the importance of college expenses and financial aid in the student's 10<sup>th</sup> grade year—two years earlier than parents were asked in the 1992 cohort.

<sup>29</sup> NCES' foresight to collect the financial concern level of parents, in students' 10<sup>th</sup> grade year, allows for an examination of how strongly parent financial concerns drive student enrollment behavior.

# ENDNOTES

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<sup>30</sup> The enrollment disparity also existed for enrollment at a 2-year institution; and whether a student enrolled in no postsecondary institution two years after high school graduation also appears to be influenced by the level of concern the student placed on finances.

<sup>31</sup> Families who ranked net price as very important had markedly different enrollment patterns than those who did not find it to be important. The disparities by level of importance indicate not only the significance of concerns about finances, but also the extent to which they result in “mismatching”: 4-year vs. 2-year college, and the percent enrolling in no postsecondary education.

<sup>32</sup> This finding becomes more relevant as families learn about financial aid at earlier stages, and are forming perceptions at earlier junctures. These perceptions may ultimately inhibit students from taking critical steps in the college-going process, such as the decision to take the necessary coursework and to prepare for and take college entrance exams.

## UNEQUAL PERSISTENCE: ACCESS MATTERS

<sup>33</sup> The “mismatch” or “undermatch” theory is presented in the *Crossing the Finish Line*. The authors suggest that one reason so many academically talented students leave college without attaining a degree or certificate may be that they enroll in schools for which they are overqualified. This may have broad implications for stagnant or declining graduation rates of the nation’s public colleges and universities. For more information, see (Bowen et al. 2008).

<sup>34</sup> Attainment rates presented in **table 7** are eight-year attainment rates for the 1992 class. Attainment rates shown in **table 7** do not include students who may have earned a GED or graduated from high school at a later date.

<sup>35</sup> Bachelor’s degree attainment rates of the 1992 class are derived from NELS. For more information see (Advisory Committee on Student Financial Assistance 2008); (Advisory Committee on Student Financial Assistance 2006).

<sup>36</sup> “Less than Algebra II” is defined as high school graduates who had not taken at least a half-year of Algebra II coursework before graduating with a high school diploma.

<sup>37</sup> For more information on academic preparation and degree attainment see (Greene and Forster 2003) and (Ed Trust 2004).

<sup>38</sup> The Beginning Postsecondary Students Longitudinal Study (BPS) follows several cohorts of students enrolling in postsecondary education for the first time and collects a variety of data on demographics and outcomes.

<sup>39</sup> The analysis includes only full-time, dependent students. In this figure, students who persisted either attained a degree or certificate, or were still enrolled 5 years after initial enrollment. This chart differentiates between those who are still enrolled in their first college and those who are still enrolled in any college. “Still enrolled” encompasses students who have attained a degree, certificate, or are still enrolled.

## ENDNOTES

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<sup>40</sup> The data were merged into two income ranges, rather than four, to avoid low cell counts. Figures presented are estimates, based on the rate at which persistence of the previous cohort declined between years 3 and 5.

<sup>41</sup> Inability to start at a 4-year institution has been shown to decrease the likelihood of earning a bachelor's degree. See (Long and Kurlaender 2008).

<sup>42</sup> The 5-year persistence rates presented in **figure 27** for 2003-2004 are estimated because degree attainment data comparable to NELS:88/2000 for the 2004 cohort will not be available before 2012. As these data become available, the Advisory Committee plans to update its findings. For more information about scheduled releases for ELS: 2002 data, see the following: <http://nces.ed.gov/surveys/els2002/surveydesign.asp>.

<sup>43</sup> This chart differentiates between all students and those who had expected at least an associate's degree.

<sup>44</sup> Figures presented are estimated based on the rate at which persistence of the previous cohort decreased – from their 3-year to 5-year rate.

<sup>45</sup> The projected bachelor's degree rates used in **table 6** were calculated using the persistence rates from the 1992 NELS cohort.

<sup>46</sup> The figures presented in **table 8** show projected rates of bachelor's degree completion by initial enrollment. This figure accounts for students who enrolled at a 2-year or 4-year postsecondary institution within two years of high school graduation. However, it is important to note that students who enrolled in college after two years post-high school graduation and those who enrolled in for-profit institutions are not represented in the projected 8-year graduation rates.

<sup>47</sup> Projected number of high school diplomas that will be awarded in the 2008-2009 school year.  
Source: Upcoming Statistical Abstract of the United States: 2009, Table 213 <<http://www.census.gov/compendia/statab/>>.

<sup>48</sup> To project the number of 8<sup>th</sup> graders in 2000 who will likely attain a bachelor's degree by the year 2012, by family income, the following calculation is used: (Percentage of 1992 High School Graduates \* Percentage of Qualified Students with at least Algebra II in 2002 \* Bachelor Degree Completion Rate in 1992). Because data are not yet available on the graduation rates and degree completion rates of the 2004 cohort, these estimates are based on 1992 graduation rates and degree attainment rates. College-qualification data on the ELS 2004 cohort are available and used in this analysis. Since complete data for the ELS cohort are not currently available, assumptions were made to arrive at the projections and loss estimates for the 2004 cohort.

<sup>49</sup> These projections are calculated by applying, to the graduating class of 2016, the rate at which net price increased as a percentage of income and the rate that enrollment declined for low- and moderate-income families over the past two cohorts. While such projections are underpinned by many assumptions, each of which may prove incorrect, a general conclusion is possible. The higher the rate of increase in 4-year college price (cost of attendance), the lower the rate of increase in total grant aid from all sources and rise in average family income, the lower the 4-year college enrollment rate of qualified low- and moderate-income high school graduates is likely to be.

# ENDNOTES

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## SUMMARY AND RECOMMENDATIONS

<sup>50</sup> (Advisory Committee on Student Financial Assistance 2008)

<sup>51</sup> For more information on Income Contingent Repayment plans, see:

<http://studentaid.ed.gov/PORTALSWebApp/students/english/OtherFormsOfRepay.jsp>. For more information on loan forgiveness plans, see: <http://studentaid.ed.gov/students/attachments/siteresources/LoanForgivenessv4.pdf>. For more information on Income Based Repayment plans, see: <http://studentaid.ed.gov/PORTALSWebApp/students/english/IBRPlan.jsp>.

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# APPENDIX A

**TABLE A-1: INCOME RANGES BY YEAR**

Year	Income Range*			
	Low	Moderate	Middle	High
1988	0-\$21,714	\$21,715-\$43,428	\$43,429-\$65,142	\$65,143-Over
1991*	0-\$24,999	\$25,000-\$49,999	\$50,000-\$74,999	\$75,000-Over
1994	0-\$27,202	\$27,203-\$54,404	\$54,405-\$81,607	\$81,608-Over
1998	0-\$29,919	\$29,920-\$59,837	\$59,838-\$89,757	\$89,758-Over
2001	0-\$32,506	\$32,507-\$65,013	\$65,014-\$97,521	\$97,522-Over
2002	0-\$33,021	\$33,022-\$66,041	\$66,042-\$99,063	\$99,064-Over
2003**	0-\$33,774	\$33,775-\$67,546	\$66,547-\$101,320	\$101,321-Over
2006***	0-\$37,004	\$37,005-\$74,007	\$74,008-\$111,012	\$111,013-Over
2008	0-\$39,520	\$39,521-\$79,038	\$79,039-\$118,557	\$118,578-Over

\*Used for NELS analyses

\*\*Because of the way data were collected, for ELS analyses, low-, moderate-, middle-, and high-income ranges were defined as:

\$0 – \$34,999	\$35,000 – \$74,999	\$75,000 – \$99,999	\$100,000-Over
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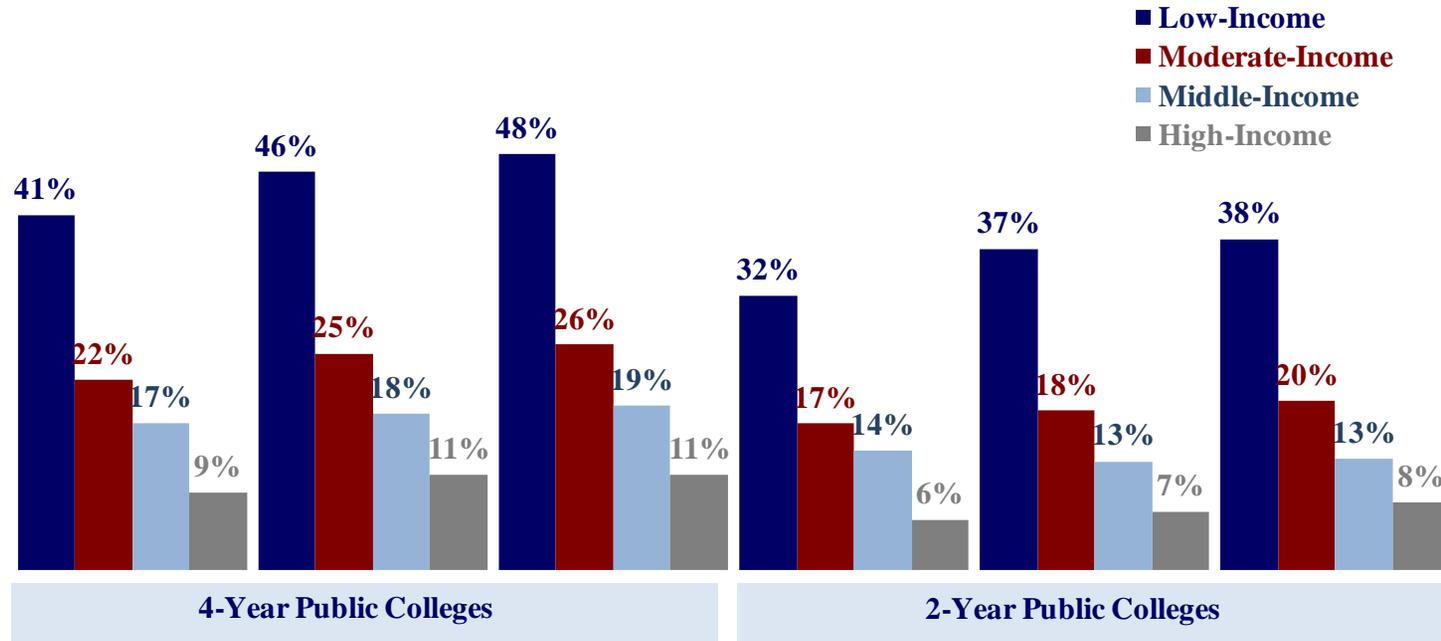
\*\*\*For sake of comparison, income quartiles from NPSAS 2008 (2006 Income) were:

\$0 – \$39,229	\$39,230 - \$72,904	\$72,905 - \$112,048	\$112,049 –Over
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# APPENDIX B

**FIGURE A-4: NET PRICES (FAMILY WORK AND LOAN BURDEN)  
AT PUBLIC COLLEGES AS A PERCENTAGE OF FAMILY INCOME**

Cost of Attendance Minus Grant Aid from All Sources  
Full-Time Dependent Students



Source: National Postsecondary Student Aid Survey (NPSAS)

FOR FIGURE 1, PAGE 3

# APPENDIX C

**TABLE A-10: PARENT FINANCIAL CONCERNS  
AND ENROLLMENT BEHAVIOR  
1992 High School Graduates  
At Least Algebra II**

Degree of Parent Financial Concern		Percent Who Took SAT/ACT	Percent Who Applied to 4-Year College	Percent Who Enrolled within Two Years in:			
				4-Year College	2-Year College	Other College	No PSE
Very Concerned  Not Concerned	4	92	69	64	26	2	8
	3	91	79	78	13	2	7
	2	90	81	79	16	2	4
	1	89	87	85	12	1	2
	0	93	93	89	5	3	3

**TABLE FOR  
FIGURE 10, PAGE 15**

**TABLE FOR  
FIGURE 11, PAGE 16**

**TABLE A-11: STUDENT FINANCIAL CONCERNS  
AND ENROLLMENT BEHAVIOR  
1992 High School Graduates  
At Least Algebra II**

Degree of Student Financial Concern		Percent Who Took SAT/ACT	Percent Who Applied to 4-Year College	Percent Who Enrolled within Two Years in:			
				4-Year College	2-Year College	Other College	No PSE
Very Concerned  Not Concerned	4	89	58	53	25	2	20
	3	93	76	72	16	2	10
	2	88	72	69	16	2	13
	1	85	81	78	12	3	6
	0	83	80	78	10	1	11

# APPENDIX D

**TABLE A-12: FAMILY FINANCIAL CONCERNS  
AND ENROLLMENT BEHAVIOR**  
1992 High School Graduates  
At Least Algebra II

Degree of Family Financial Concern		Percent Who:			Percent Who Enrolled in:		
		Took SAT/ACT Percent	Applied To 4-Yr. College	4-Year College	2-Year College	Other College	No PSE
<b>Very Concerned</b> <b>Not Concerned</b>	8	92	60	54	35	3	9
	7	94	75	68	18	2	12
	6	93	79	77	17	1	5
	5	91	81	82	13	3	3
	4	93	80	76	16	3	4
	3	88	83	81	14	2	2
	2	88	87	87	12	0	2
	1	93	94	93	3	2	2
0	90	97	91	4	2	3	

**TABLE FOR  
FIGURE 12, PAGE 17**

**TABLE FOR  
FIGURE 16, PAGE 20**

**TABLE A-16: IMPACT OF PARENT FINANCIAL  
CONCERNS ON ENROLLMENT BEHAVIOR**  
2004 High School Graduates  
At Least Algebra II

Degree of Parent Financial Concern		Percent Who:		Percent Who Enrolled in:			
		Took SAT/ACT	Applied to a 4-Year College	4-Year College	2-Year College	Other College	No PSE
<b>Very Concerned</b> <b>Not Concerned</b>	4	90	66	47	31	5	17
	3	94	79	61	25	3	11
	2	94	79	64	25	4	7
	1	96	87	76	15	3	6
	0	95	89	80	15	2	4

# APPENDIX E

**TABLE A-17: IMPACT OF STUDENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Algebra II

Degree of Student Financial Concern		Percent Who:		Percent Who Enrolled in:			
		Took SAT/ACT	Applied to a 4-Year College	4-Year College	2-Year College	Other College	No PSE
Very Concerned Not Concerned	4	92	71	47	33	5	15
	3	94	76	59	26	3	11
	2	94	78	63	24	5	9
	1	93	81	68	21	3	7
	0	91	80	69	19	3	9

**TABLE FOR  
FIGURE 17, PAGE 20**

**TABLE A-18: IMPACT OF FAMILY FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Algebra II

Degree of Family Financial Concern		Percent Who:		Percent Who Enrolled in:			
		Took SAT/ACT	Applied to a 4-Year College	4-Year College	2-Year College	Other College	No PSE
Very Concerned Not Concerned	8	87	66	43	36	5	16
	7	90	74	53	32	3	13
	6	91	78	60	25	4	11
	5	92	80	63	26	3	8
	4	91	79	67	21	3	9
	3	93	83	70	20	3	6
	2	92	83	74	18	3	5
	1	96	92	88	8	2	1
	0	97	90	88	11	0	1

**TABLE FOR  
FIGURE 18, PAGE 21**

# APPENDIX F

**TABLE A-20: IMPACT OF PARENT FINANCIAL CONCERNS ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Trigonometry

Degree of Parent Financial Concern	Percent Who:			Percent Who Enrolled within Two Years in:			
	Took SAT/ACT	Applied to a 4-Year College		4-Year College	2-Year College	Other College	No PSE
Very Concerned ↓ Not Concerned	4	95	75	60	27	3	11
	3	99	88	77	15	1	7
	2	97	86	75	18	3	4
	1	97	90	83	12	1	5
	0	98	93	86	12	0	2

**TABLE FOR  
FIGURE 20, PAGE 22**

**TABLE A-21: IMPACT OF STUDENT FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Trigonometry

**TABLE FOR  
FIGURE 21, PAGE 23**

Degree of Student Financial Concern	Percent Who:		Percent Who Enrolled within Two Years in:				
	Took SAT/ACT	Applied to a 4-Year College	4-Year College	2-Year College	Other College	No PSE	
Very Concerned ↓ Not Concerned	4	95	77	58	27	3	12
	3	97	84	71	21	2	7
	2	99	88	76	17	2	5
	1	97	90	79	14	2	5
	0	97	91	84	10	1	5

# APPENDIX G

**TABLE A-22: IMPACT OF FAMILY FINANCIAL CONCERNS ON ENROLLMENT BEHAVIOR**

2004 High School Graduates  
At Least Trigonometry

Degree of Family Financial Concern		Percent Who:		Percent Who Enrolled within Two Years in:			
		Took SAT/ACT	Applied to a 4-Year College	4-Year College	2-Year College	Other College	No PSE
<b>Very Concerned</b>  <b>Not Concerned</b>	8	89	70	53	33	3	12
	7	95	80	65	25	2	9
	6	97	87	74	17	2	7
	5	95	88	74	18	3	6
	4	97	88	76	19	2	3
	3	98	89	79	15	1	6
	2	97	95	87	9	1	4
	1	95	95	91	5	1	2
	0	99	93	94	6	0	0

**TABLE FOR  
FIGURE 22, PAGE 23**

# APPENDIX H

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## ADVISORY COMMITTEE MEMBERS

**Allison G. Jones, Chairperson**

Assistant Vice Chancellor of Academic  
Affairs, Student Academic Support  
Office of the Chancellor  
The California State University  
Secretary of Education appointee

**Norm Bedford, Vice Chairperson**

Director, Financial Aid and Scholarships  
University of Nevada, Las Vegas  
U.S. Senate appointee

**Clare M. Cotton**

President (Retired)  
Association of Independent Colleges  
and Universities of Massachusetts  
U.S. Senate appointee

**Helen Benjamin**

Chancellor  
Contra Costa Community College District  
Martinez, California  
U.S. House of Representatives appointee

**Anthony J. Guida Jr.**

Senior Vice President of Strategic  
Development and Regulatory Affairs  
Education Management Corporation  
U.S. House of Representatives appointee

**John F. McNamara**

Vice President for College Development  
Rockford College  
Rockford, Illinois  
Secretary of Education appointee

**David Gruen**

Director  
Student Financial Aid  
University of Wyoming  
U.S. Senate appointee

**William T. Luckey Jr.**

President  
Lindsey-Wilson College  
Columbia, Kentucky  
U.S. Senate appointee

**Kathleen M. Hoyer**

Student Member  
University of Maryland, College Park  
Secretary of Education appointee

## ADVISORY COMMITTEE STAFF

**William J. Goggin**

Executive Director

**Megan A. McClean**

Director of Government Relations

**Wendell D. Hall**

Director of Policy Research

**Brent G. Madoo**

Associate Director of Programs

**Tracy D. Jones**

Senior Administrative Officer

**Anthony P. Jones**

Senior Policy Analyst

**Jeneva E. Stone**

Senior Writer

# APPENDIX I

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## AUTHORIZING LEGISLATION

The Advisory Committee was established by an act of Congress in 1986. Section 491 of the Higher Education Act as amended contains the Committee's Congressional mandate. A copy of this section as it appears in the law follows:

### **SEC. 491. ADVISORY COMMITTEE ON STUDENT FINANCIAL ASSISTANCE.**

**(a) ESTABLISHMENT AND PURPOSE.**--(1) There is established in the Department an independent Advisory Committee on Student Financial Assistance (hereafter in this section referred to as the "Advisory Committee") which shall provide advice and counsel to the Congress and to the Secretary on student financial aid matters. (2) The purpose of the Advisory Committee is-- (A) to provide extensive knowledge and understanding of the Federal, State, and institutional programs of postsecondary student assistance; (B) to provide technical expertise with regard to systems of needs analysis and application forms; and (C) to make recommendations that will result in the maintenance of access to post-secondary education for low- and middle-income students.

**(b) INDEPENDENCE OF ADVISORY COMMITTEE.**--In the exercise of its functions, powers, and duties, the Advisory Committee shall be independent of the Secretary and the other offices and officers of the Department. Notwithstanding Department of Education policies and regulations, the Advisory Committee shall exert independent control of its budget allocations, expenditures and staffing levels, personnel decisions and processes, procurements, and other administrative and management functions. The Advisory Committee's administration and management shall be subject to the usual and customary Federal audit procedures. Reports, publications, and other documents of the Advisory Committee, including such reports, publications, and documents in electronic form, shall not be subject to review by the Secretary. The recommendations of the Committee shall not be subject to review or approval by any officer in the executive branch, but may be submitted to the Secretary for comment prior to submission to the Congress in accordance with subsection (f). The Secretary's authority to terminate advisory committees of the Department pursuant to section 448(b) of the General Education Provisions Act ceased to be effective on June 23, 1983.

**(c) MEMBERSHIP.**--(1) The Advisory Committee shall have 11 members of which-- (A) 3 members shall be appointed by the President pro tempore of the Senate upon the recommendation of the Majority Leader and the Minority Leader, (B) 3 members shall be appointed by the Speaker of the House of Representatives upon the recommendation of the Majority Leader and the Minority Leader, and (C) 5 members shall be appointed by the Secretary including, but not limited to representatives of States, institutions of higher education, secondary schools, credit institutions, students, and parents. (2) Not less than 7 members of the Advisory Committee shall be individuals who have been appointed on the basis of technical qualifications, professional standing and demonstrated knowledge in the fields of higher education and student aid administration, need analysis, financing postsecondary education, student aid delivery, and the operations and financing of student loan guarantee agencies.

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**(d) FUNCTIONS OF THE COMMITTEE.**--The Advisory Committee shall--(1) develop, review, and comment annually upon the system of needs analysis established under part F of this title; (2) monitor, apprise, and evaluate the effectiveness of student aid delivery and recommend improvements; (3) recommend data collection needs and student information requirements which would improve access and choice for eligible students under this title and assist the Department of education in improving the delivery of student aid; (4) assess the impact of legislative and administrative policy proposals; (5) review and comment upon, prior to promulgation, all regulations affecting programs under this title, including proposed regulations; (6) recommend to the Congress and to the Secretary such studies, surveys, and analyses of student financial assistance programs, policies, and practices, including the special needs of low-income, disadvantaged, and nontraditional students, and the means by which the needs may be met, but nothing in this section shall authorize the committee to perform such studies, surveys, or analyses; (7) review and comment upon standards by which financial need is measured in determining eligibility for Federal student assistance programs; (8) appraise the adequacies and deficiencies of current student financial aid information resources and services and evaluate the effectiveness of current student aid information programs; and (9) make special efforts to advise Members of Congress and such Members' staff of the findings and recommendations made pursuant to this paragraph.

**(e) OPERATIONS OF THE COMMITTEE.**--(1) Each member of the Advisory Committee shall be appointed for a term of 3 years, except that, of the members first appointed-- (A) 4 shall be appointed for a term of 1 year; (B) 4 shall be appointed for a term of 2 years; and (C) 3 shall be appointed for a term of 3 years, as designated at the time of appointment by the Secretary. (2) Any member appointed to fill a vacancy occurring prior to the expiration of the term of a predecessor shall be appointed only for the remainder of such term. A member of the Advisory Committee shall, upon request, continue to serve after the expiration of a term until a successor has been appointed. A member of the Advisory Committee may be reappointed to successive terms on the Advisory Committee. (3) No officers or full-time employees of the Federal Government shall serve as members of the Advisory Committee. (4) The Advisory Committee shall elect a Chairman and a Vice Chairman from among its members. (5) Six members of the Advisory Committee shall constitute a quorum. (6) The Advisory Committee shall meet at the call of the Chairman or a majority of its members.

**(f) SUBMISSION TO DEPARTMENT FOR COMMENT.**--The Advisory Committee may submit its proposed recommendations to the Department of Education for comment for a period not to exceed 30 days in each instance.

**(g) COMPENSATION AND EXPENSES.**--(1) Members of the Advisory Committee may each receive reimbursement for travel expenses incident to attending Advisory Committee meetings, including per diem in lieu of subsistence, as authorized by section 5703 of title 5, United States Code, for persons in the Government service employed intermittently.

**(h) PERSONNEL AND RESOURCES.**--(1) The Advisory Committee may appoint such personnel as may be necessary by the Chairman without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and may be paid without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates, but no individual so appointed shall be paid in excess of the rate authorized for GS-18 of the General

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Schedule. The Advisory Committee may appoint not more than 1 full-time equivalent, nonpermanent, consultant without regard to the provisions of title 5, United States Code. The Advisory Committee shall not be required by the Secretary to reduce personnel to meet agency personnel reduction goals. (2) In carrying out its duties under the Act, the Advisory Committee shall consult with other Federal agencies, representatives of State and local governments, and private organizations to the extent feasible. (3)(A) The Advisory Committee is authorized to secure directly from any executive department, bureau, agency, board, commission, office, independent establishment, or instrumentality information, suggestions, estimates, and statistics for the purpose of this section and each such department, bureau, agency, board, commission, office, independent establishment, or instrumentality is authorized and directed, to the extent permitted by law, to furnish such information, suggestions, estimates, and statistics directly to the Advisory Committee, upon request made by the Chairman. (B) The Advisory Committee may enter into contracts for the acquisition of information, suggestions, estimates, and statistics for the purpose of this section. (4) The Advisory Committee is authorized to obtain the services of experts and consultants without regard to section 3109 of title 5, United States Code and to set pay in accordance with such section. (5) The head of each Federal agency shall, to the extent not prohibited by law, cooperate with the Advisory Committee in carrying out this section. (6) The Advisory Committee is authorized to utilize, with their consent, the services, personnel, information, and facilities of other Federal, State, local, and private agencies with or without reimbursement.

**( i ) AVAILABILITY OF FUNDS.**--In each fiscal year not less than \$800,000, shall be available from the amount appropriated for each such fiscal year from salaries and expenses of the Department for the costs of carrying out the provisions of this section.

**( j ) SPECIAL ANALYSES AND ACTIVITIES.**--The Advisory Committee shall-- (1) monitor and evaluate the modernization of student financial aid systems and delivery processes, including the implementation of a performance-based organization within the Department, and report to Congress regarding such modernization on not less than an annual basis, including recommendations for improvement; (2) assess the adequacy of current methods for disseminating information about programs under this title and recommend improvements, as appropriate, regarding early needs assessment and information for first-year secondary school students; (3) assess and make recommendations concerning the feasibility and degree of use of appropriate technology in the application for, and delivery and management of, financial assistance under this title, as well as policies that promote use of such technology to reduce cost and enhance service and program integrity, including electronic application and reapplication, just-in-time delivery of funds, reporting of disbursements and reconciliation; (4) assess the implications of distance education on student eligibility and other requirements for financial assistance under this title, and make recommendations that will enhance access to postsecondary education through distance education while maintaining access, through on-campus instruction at eligible institutions, and program integrity; and (5) make recommendations to the Secretary regarding redundant or outdated provisions of and regulations under this Act, consistent with the Secretary's requirements under section 498B.

**(k) TERM OF THE COMMITTEE**--Notwithstanding the sunset and charter provisions of the Federal Advisory Committee Act (5 U.S.C. App. I) or any other statute or regulation, the Advisory Committee shall be authorized until October 1, 2004.