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The Changing Profile of Student Borrowers

Biggest Increase in Borrowing Has Been Among More Affluent Students

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About This Report

This report focuses on the family income background of recent college graduates who took on student debt and how the financial profile of borrowers has changed over the past 20 years. Many recent analyses have examined why undergraduates are borrowing more for their education. This analysis seeks to illuminate which undergraduates are increasingly borrowing to finance their completion of a bachelor's degree. Understanding the changing income background of student borrowers is useful for illuminating why college graduates may be having greater difficulty in meeting their debt obligations as well as understanding who might benefit from proposals to shift the repayment of loans from the student to the government.

Find related reports online at http://www.pewsocialtrends.org/topics/student-loans/.

This report is a collaborative effort based on the input and analysis of the following individuals. Claudia Deane, the center's director of research practices, and Kim Parker, director of social trends research, provided editorial oversight. Richard Fry, senior economist, wrote the report and analyzed the National Postsecondary Student Aid Study. Eileen Patten, research analyst, finalized the charts and tables and number-checked the report. Molly Rohal, communications associate, copy edited the text.

Kim Parker, *Director of Social Trends Research*
Richard Fry, *Senior Economist*
Eileen Patten, *Research Analyst*

A Note on Terminology

A "college graduate" refers to an undergraduate who received a bachelor's degree in the year that the data source (National Postsecondary Student Aid Study) was collected.

Student debt refers to the cumulative amount borrowed by graduates during their undergraduate education. It includes federal loans as well as private loans. It excludes loans taken out by parents or guardians (for example, PLUS loans).

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The Changing Profile of Student Borrowers

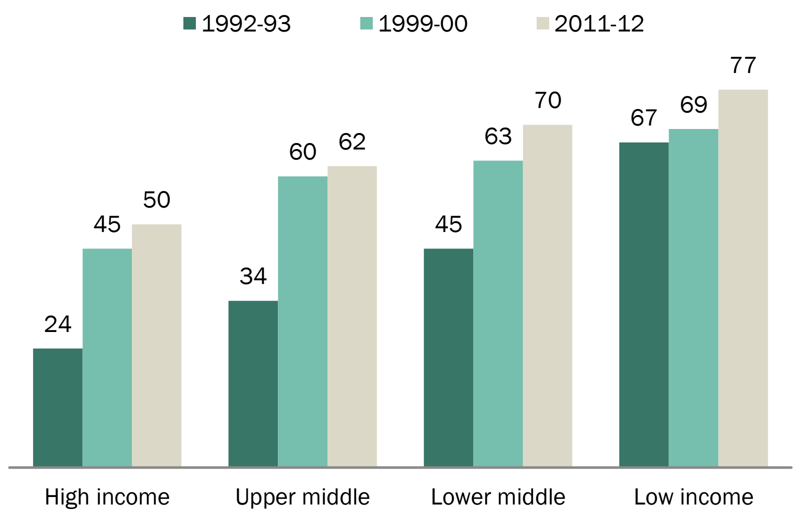
Biggest Increase in Borrowing Has Been Among More Affluent Students

BY *Richard Fry*

In 2012, a record share of the nation's new college graduates (69%) had taken out student loans to finance their education, and the typical amount they had borrowed was more than twice that of college graduates 20 years ago. A new Pew Research Center analysis of recently released government data finds that the increase in the rate of borrowing over the past two decades has been much greater among graduates from more affluent families than among those from low-income families. Fully half of the 2012 graduates from high-income families borrowed money for college, double the share that borrowed in 1992-93.[1]

Share of College Graduates From High-Income Families who Borrow Has Doubled

% of graduates with student loan debt



Note: Limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012). Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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The rise in the rate of borrowing was also substantial among upper-middle-income graduates, with 62% of 2012 graduates from upper-middle-income households leaving college with debt, compared with 34% roughly 20 years ago.

[1] The analysis of the income background of student borrowers follows common practice by dividing college graduates into fourths or quartiles (Ellwood and Kane, 2000). The income measure is the parental income of the graduate in the year prior to graduation. This measure is only available for graduates who were dependent students. For the class of 2011-12, graduates in the lowest income quartile had parental incomes below $44,000 and those in the highest income quartile had parental incomes in excess of $125,700. Among all 2011-12 graduates, 56% were dependent students. For the analyses not involving parental income, all graduates are included.

While graduates from the highest income homes saw a faster rate of increase in borrowing, those from low-income families continue to be more likely to graduate with student loans, with 77% graduating with debt in 2012, compared with 50% of their most affluent peers. And the share of low-income graduates who borrow has also increased in recent decades, rising from 67% to 77% over a period of roughly 20 years. But the *rate of increase* in the likelihood of borrowing has been much more modest among graduates from the lowest income group than it has among middle- and high-income graduates over the past 20 years.

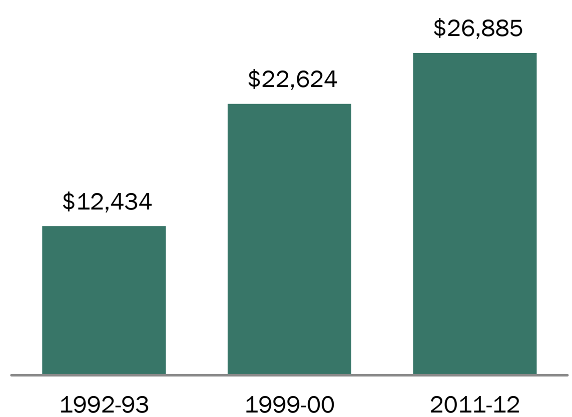
What has changed over the course of roughly two decades then is the pervasiveness of student borrowing across income groups: In the early '90s, only among graduates from low-income families did a majority of graduates finish college with student debt. Now, solid majorities of graduates from middle-income families (both lower-middle and upper-middle) finish with debt, and half of students from the most affluent quartile of families do the same.

The Pew Research analysis shows, similarly, that there has been a sharper increase in student borrowing among graduates with more highly educated parents. In the class of 2011-2012, some 61% of students whose parents also had graduated from college left school with some student debt. This represented a 50% increase compared with students from similar backgrounds who graduated 20 years earlier. The increase in borrowing among students whose parents have less education was significantly smaller, although those students remain more likely to borrow.

Among recent college graduates who borrowed, the typical amount of cumulative student debt for their undergraduate education increased from $12,434 for the class of 1992-93 to $26,885 for the class of 2011-12 (figures adjusted for inflation). The increase in the median amount of debt by newly minted borrowers between the class of 1992-93 and the 2011-12 varied somewhat by the graduates' economic circumstances. But regardless of family income, the typical amount owed at

Typical Total Student Debt for Recent Graduates who Borrowed More Than Doubled

Median amount borrowed, in 2013 dollars



Note: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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graduation increased about twofold over this time period.

The profile of student borrowers has shifted not only along economic lines but also by gender. Female graduates are now somewhat more likely than male graduates to have borrowed money to finance their college education, and women in the class of 2012 owe more of the total student debt than their counterparts in the class of 1993.

Again, most of the change is apparent in rates of borrowing. In the class of 1993, female graduates (49%) were about equally as likely to borrow as male graduates (50%). In the class of 2012, female graduates (71%) were more likely than male graduates (67%) to borrow. This new gender difference in student borrowing may reflect the fact that female college students and graduates tend to be from more disadvantaged family backgrounds than their male counterparts (Buchmann and DiPrete, 2006). The typical amount owed at graduation increased about twofold between the class of 1993 and 2012 for both men and women.

The characteristics of student borrowers are relevant to at least a couple of ongoing discussions surrounding student debt. The creditworthiness of student borrowers has come under much scrutiny (Fry, 2014). Delinquency rates on student debt have increased (Lee, 2013). Among young debtors, those with student debt once had similar credit scores to those lacking such debt. Economists at the New York Federal Reserve have shown that now young student debtors have significantly lower credit scores than those without student debt (Brown, Caldwell, and Sutherland, 2014). The decline in creditworthiness is thought to perhaps be tied to the expansion of postsecondary education and the participation of students from lower income backgrounds. At least among those completing a bachelor's degree, however, student borrowers are not increasingly from less affluent circumstances. The decline in the credit quality of student borrowers may not be due to a change in the economic profile of student borrowers.

In addition, a number of recent proposals to relieve the educational debt burden involve student debt forgiveness to varying degrees (Gale, *et. al.,* 2014). The distributional implications of who stands to gain from such relief are important to the analysis of such proposals.

The remainder of the report provides some background information on the rise in student debt since 1990, as well as trends in the accumulated debt of students finishing bachelor's degrees. It also includes new findings on student debt outcomes by family background and gender, rates of borrowing, the median amounts borrowed by graduates and an analysis of which groups owe what shares of the total debt. The final two sections of the report present some of the common explanations given for why student borrowing has grown so much over the past two decades.

About the Data

Findings in this report are based on the National Postsecondary Student Aid Study (NPSAS). Collected by the National Center for Education Statistics, NPSAS is a nationally representative survey of undergraduates designed specifically to measure how undergraduates and their families pay for their education, with a particular focus on federal student aid programs. The most recent administration includes undergraduates enrolled any time between July 1, 2011, and June 30, 2012. The analysis is limited to newly minted bachelor's degree recipients or undergraduates who obtained their bachelor's degree in the year the survey was administered. Recent college graduates' total cumulative borrowing includes both federal and private loans.

Other nationally representative datasets possess information on the outstanding student debt owed by a household or adult (for example, the Federal Reserve's Survey of Consumer Finances or the New York Federal Reserve Bank's Consumer Credit Panel). The outstanding student debt may include educational debt incurred many years before the survey. The respondent's economic profile is largely limited to the current snapshot, and there is no information on the borrower's upbringing or parental socio-economic situation. The NPSAS reports parental income and education for dependent undergraduates. Parental income is not reported by the student but derived from the student's financial aid application. Though the available measures NPSAS provides may not be ideally suited to capture the student's permanent or long-run economic advantages during childhood (Ellwood and Kane, 2000), NPSAS is a preeminent data source for understanding how undergraduates' financial resources impact their utilization of student grant and lending programs (Baum and Steele, 2010).

Further details are in Appendix B.

The Growth in Student Debt

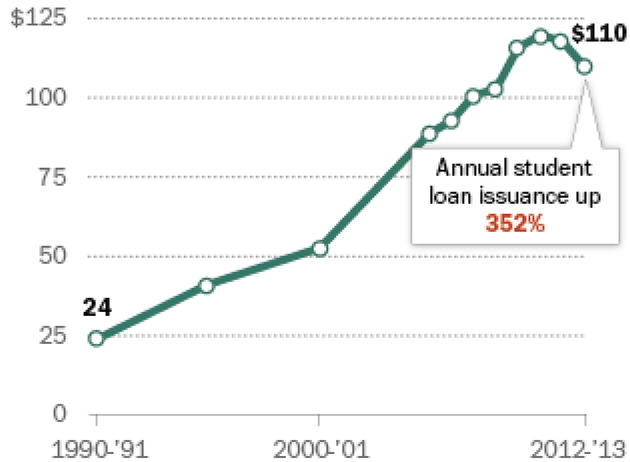
Student debt has increased dramatically over the past several decades. The aggregate volume of new student borrowing has increased more than fourfold over the past 20 years. In 2012-13 students borrowed $110 billion for higher education (Baum, 2013). By comparison, students borrowed only $24 billion in 1990-91 (both figures are in 2012 dollars).

One fundamental reason for the aggregate increase in student debt is that there are more students in higher education. Enrollment has increased 62% over the past 20 years, from 9.8 million full-time equivalent students to 15.9 million (Baum, 2013).[2] But accounting for enrollment growth still leaves much of the growth in student debt unexplained. Annual borrowing per full-time equivalent student nearly tripled from $2,485 in 1990-91 to $6,928 in 2012-13.

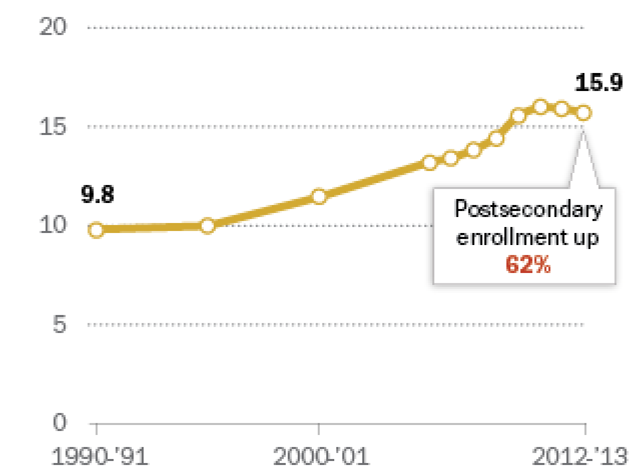
This analysis focuses on which college students are borrowing and whether the income background of borrowers has changed over the past two decades. The oft-written presumption is that low-income students are most likely to borrow and most dependent on loan programs.[3] While this remains true, the new Pew Research Center analysis shows that, in recent decades, the balance has shifted significantly toward students from more affluent families.

Growth of Annual Student Borrowing Outpaces Growth in Students

In billions of 2012 dollars



In millions of postsecondary full-time equivalent students



Source: Sandy Baum, "The Evolution of Student Debt in the U.S.: An Overview."

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[2] Full-time equivalent enrollment is the full-time enrollment, plus the full-time equivalent of the part-time students.
[3] Woo (2013) and Hershbein and Hollenbeck (2013) present results on the trends in the income backgrounds of recent college graduates who borrowed. However, their analyses do not include the most recent NPSAS data released on the class of 2011-12.

In addition, the gender patterns of student borrowers are changing. This analysis concentrates on the student debt of those finishing bachelor's degrees. One of the more noteworthy demographic trends of recent decades has been the rising share of women finishing four-year college degrees. Starting around 1980, females graduating high school began to eclipse their male counterparts in completing bachelor's degrees, and the gap has since widened (Goldin, Katz, and Kuziemko, 2006). Since women increasingly make up the college graduate population, this suggests that more and more of the debt is owed by women. And, aside from change in the gender composition of college graduates, this analysis also shows that there are now gender differences in borrowing behavior that result in women owing more of the debt.

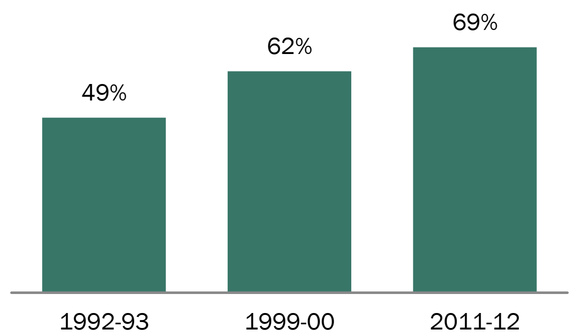
Cumulative Student Debt Among Recent College Graduates

This analysis focuses on three classes of newly minted college graduates, that is, undergraduates who had recently completed a bachelor's degree: the class of 1992-93, 1999-00, and 2011-12. The analysis is restricted to those receiving bachelor's degrees in order to concentrate on the group of undergraduates that public discussions typically emphasize.[4]

Among college students who graduated in 2011-12, fully seven-in-ten (69%) borrowed money to finance their education. This represents a sharp increase from 20 years earlier when roughly half (49%) of graduates left school with some student debt.

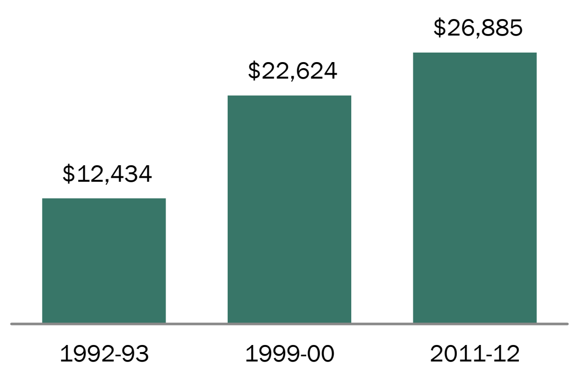
Not only are more students borrowing these days, but those who do take out loans are graduating with a much larger debt. Among 2011-12 graduates who took out student loans, the typical amount borrowed was $26,885. This is the median, meaning that half the borrowers had accumulated less than $26,885 in education debt and half had accumulated at least $26,885. The typical amount of student debt incurred by borrowers in the class of 1992-93 was $12,434, or less than half of the most recent level.[5]

The Share of College Graduates Borrowing Has Sharply Increased



And the Amount a Typical Borrower Owes Has More Than Doubled

Median amount borrowed by undergraduates graduating in these years who had student loan debt, in 2013 dollars



Note: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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[4] Izzo (2014) is representative of press coverage focusing on baccalaureates.
[5] Both the incidence and average amounts of student debt vary by whether the graduate's college is public, private non-profit or private for-profit (Miller, 2014).

Who's Borrowing?

In looking at student debt, two measures of a college graduate's family affluence are typically considered: family income and parents' educational attainment (Ellwood and Kane, 2000). The income analysis focuses on college graduates who were dependent on their parents for financial support and looks at the income of a graduate's parents in the year before graduation.[6] Since one year's income does not necessarily reflect the family's long-run income prospects, the highest education level of the graduate's parents also measures socio-economic status.

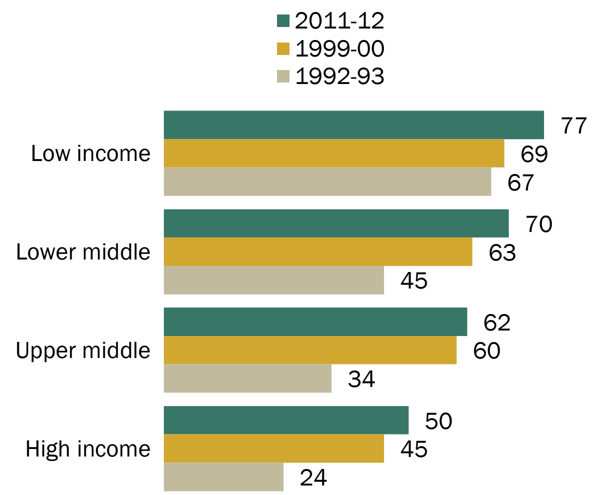
In the class of 2011-12, graduates from relatively poorer families were more likely to borrow than were their richer counterparts. Nearly four-in-five graduates (77%) from the lowest parental income quartile had accumulated some student debt by graduation compared with half of graduates from the richest parental income quartile.

Over time, graduates in all four parental income quartiles have increased their likelihood of graduating with some student debt. But the increase in borrowing rates has been particularly pronounced among graduates from more affluent families. In the class of 1992-93 less than one-quarter of graduates (24%) from the high-income quartile incurred student debt. By 2011-12 twice as many graduates from the high-income parental quartile took on student debt.

Borrowing rates have not increased as rapidly among graduates from less affluent families. In 1992-93 about two-thirds of graduates (67%) from the lowest income quartile of families graduated with debt. By 2011-12, 77% of similarly situated graduates borrowed.

The Likelihood of Borrowing Has Increased Most Among Graduates From High-Income Families

% of graduates with student loan debt by parental income level



Notes: Limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012). Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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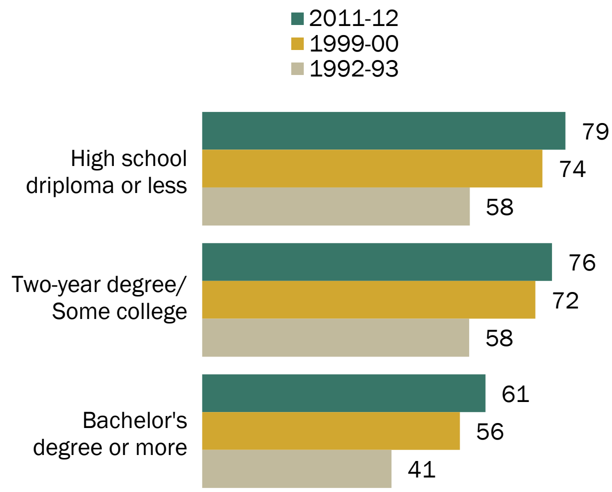
[6] This is reported on the graduate's financial aid application, and, for example, refers to calendar year 2010 income for the class of 2011-12. Only the parental income analysis is limited to dependent students. For the other analyses all graduates were analyzed.

The tendency to borrow has increased for graduates of all income backgrounds, but particularly for graduates from middle- and high-income families.

A similar pattern can be seen when graduates are classified by their parents' education level.[7] Among the class of 2011-12, about 79% of graduates whose parents had no formal education beyond high school incurred student debt. By contrast, only 61% of graduates with college-educated parents incurred debt. Over time though, the differences between graduates with more educated parents and less educated parents have narrowed. The likelihood of borrowing has increased particularly among graduates with college-educated parents.

The Likelihood of Borrowing Has Increased Most among Graduates with College-educated Parents

% of graduates with student loan debt by parental education



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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Borrowing Rates by Gender

In the class of 2011-12, female graduates (71%) were slightly more likely to borrow than male graduates (67%). In the class of 1992-93, there was little gender difference in the likelihood of borrowing. Thus there is modest evidence that the increase in borrowing across the earlier and later classes has been concentrated among female graduates.

Socioeconomic background considerations suggest that female graduates are more likely than male graduates to borrow and rely on student lending programs. Growing research on the gender gap in college completion shows that female college students and graduates tend to be from more disadvantaged backgrounds than their male counterparts.

Since fewer disadvantaged men go to college than disadvantaged women (as measured by composite socioeconomic status), male college entrants tend be less disadvantaged than female entrants (Ewert, 2012).

[7] The parents' education level is based on the highest level of education of the graduate's mother or father.

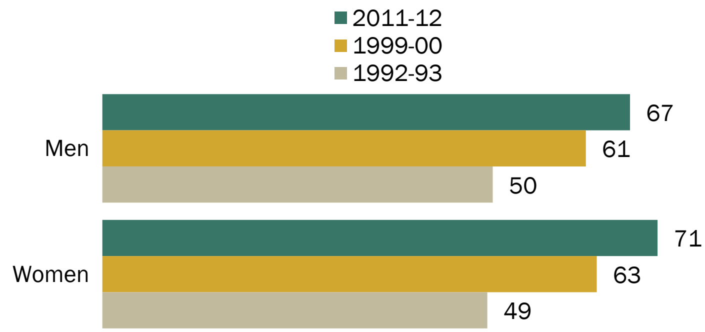
The growing gender gap in college completion seems to mainly be attributable to the growing female advantage in college completion among children in less educated families. Sons with less educated fathers used to be more likely to finish college than daughters with less educated fathers. That pattern has now reversed (Buchmann and DiPrete, 2006), and the result is that a greater proportion of female college graduates come from more disadvantaged families.

In the class of 2011-12, 27% of dependent female college graduates were from the lowest parental income quartile, compared with 23% of their male peers. This contributes to why females have a higher borrowing rate.

Additional evidence that the increase in the likelihood of borrowing has been greater among female graduates compared with their male peers is available by examining borrowing rates within parental income

Female Graduates Now More Likely to Borrow Than Male Graduates

% of graduates with student loan debt by gender



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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Borrowing Rates, by Gender and Family Income Quartile

% of graduates with student loan debt

Family income quartile	1992-93	1999-00	2011-12	% increase 1992-93 to 2011-12
Low income				
Men	66	66	75	14
Women	67	72	79	18
Lower-middle income				
Men	47	66	70	48
Women	43	61	70	65
Upper-middle income				
Men	36	60	62	71
Women	33	60	62	90
High income				
Men	27	44	52	91
Women	22	46	48	121

Notes: Limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012). Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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groups. Within each income quartile the percentage increase in the borrowing rate from the class of 1993 to the class of 2012 was greater for women.

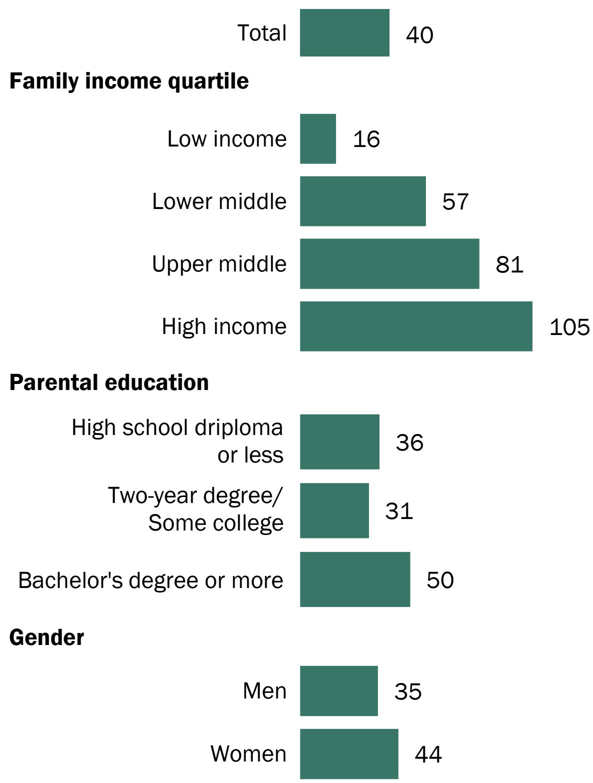
So the greater increase in borrowing by female college graduates may be due to additional factors beyond their socioeconomic background differences with male college graduates.

Summary: How Borrowing Patterns Have Changed

The likelihood of borrowing grew 40% from the class of 1992-93 (49% borrowed) to 2011-12 (69% borrowed). The increase in borrowing rates was greater among graduates from higher income families and families with more highly educated parents, and modestly greater among female graduates than male graduates.

The Growth in Borrowing Has Been More Acute Among Affluent and Among Women

% increase in share of college graduates borrowing, class of 1993 to class of 2012



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia. Results for family income quartile are limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012).

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond and 2012 National Postsecondary Student Aid Study

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Trends in Amounts Borrowed

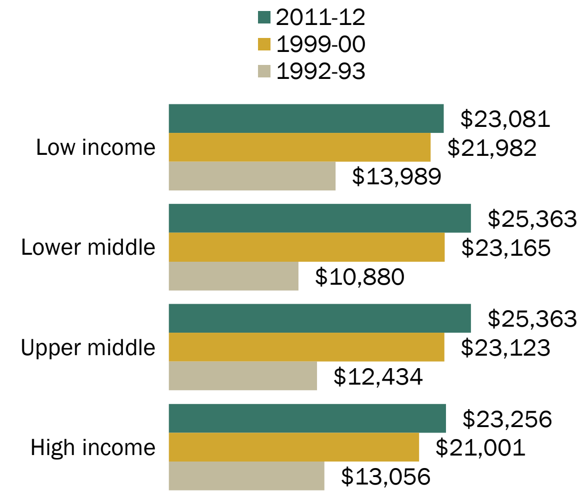
Among graduates of the class of 2011-12, the typical student borrower owed about $26,900 in student debt. This is roughly double the amount owed by the typical borrower from the class of 1992-93 ($12,400).

Unlike the clear patterns for borrowing rates, the increase in the median amounts borrowed by graduates has been fairly uniform across subgroups of graduates.

In the class of 2011-12 borrowers from the lowest income quartile typically owed $23,081, a 65% increase over the $13,989 owed by the median borrower from the lowest income quartile in the class of 1992-93. The median amount borrowed by graduates from the lower-middle income quartile increased slightly more: 133% between 1992-93 ($10,880) and 2011-12 ($25,363).The percentage increase in the amounts borrowed for graduates from higher income

Median Cumulative Debt by Borrowers Has Increased Regardless of Parental Income

In 2013 dollars



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Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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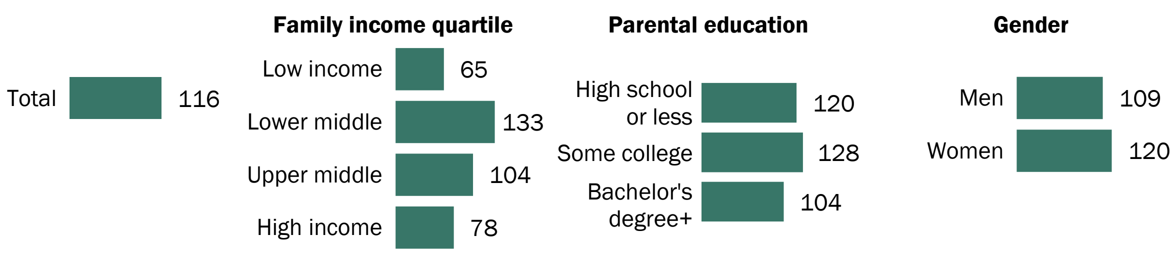
Increase in Total Indebtedness Has Grown Across the Board

% increase in median cumulative debt of borrowers, class of 1993 to class of 2012



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Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond and 2012 National Postsecondary Student Aid Study

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backgrounds was somewhat less than 133%.

The median amounts borrowed roughly doubled regardless of parental education or gender (see additional figures in Appendix A).

Ownership of Debt by New College Graduates

Another way of looking at changing patterns in student borrowing is to look at how all student debt is distributed across various groups. In the class of 1992-93, graduates from the lowest income quartile owed 40% of the class' overall student debt. In other words, the poorest quarter of graduates owed 40% of the class' aggregate debt.

Over time, student debt has become more evenly distributed across income groups. By 2011-12, graduates from the lowest income quartile owed 28% of the class' overall student debt. The amount of debt owed by graduates from lower-middle and upper-middle income families increased over this time period, while the share owed by graduates in the highest income category held steady.

Shares of the Student Debt Owed by Graduates of Each Class

% owed by each income group

Family income quartile	1992-93	1999-00	2011-12
Low income	40	28	28
Lower-middle income	22	28	28
Upper-middle income	19	25	26
High income	18	18	18
	100	100	100

Notes: Limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012). Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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Since borrowing rates increased more for graduates from high-income families than for other graduates, why don't they owe a greater share of the debt compared with the class of 1993? High-income graduates have become a greater proportion of borrowers over time. In the class of 1992-93, only 15% of borrowers were from the highest income quartile. Twenty years later, 19% of student borrowers are from the highest income quartile. But, their share of the debt depends not only on whether they borrow but on how much they borrow. Given the changes in the amounts borrowed, the share of the debt owed by graduates from the high-income families has not risen. In any event, a declining share of the debt incurred is owed by graduates from low-income families.

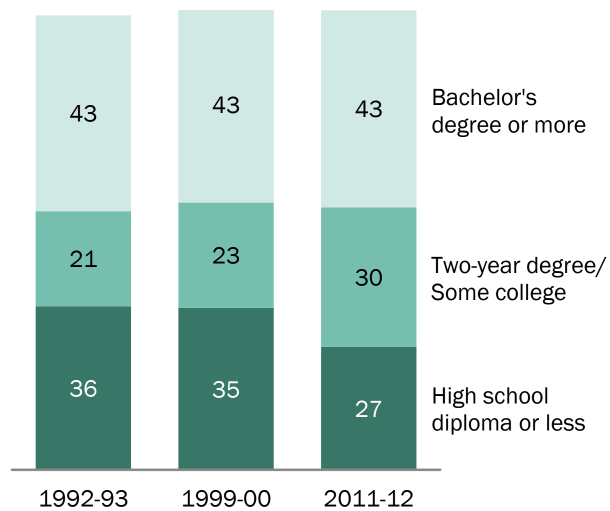
Similar shifts in the overall allocation of student debt are apparent when graduates are grouped according to their parents' educational attainment. In the class of 1992-93, graduates whose parents' education did not exceed high school owed 36% of the class' debt. By 2011-12, graduates with similarly educated parents owed only 27% of the class' education debt. The share of debt owed by graduates whose parents had some college education (but had not attained a bachelor's degree) increased from 21% in the class of 1992-93 to 30% for the class of 2011-12.

In the class of 1992-93, female graduates owed 53% of the class' student debt. By 2011-12, female graduates owed 58% of the class' debt (see figure in Appendix A).

The above changes in the ownership of the debt are partly influenced by changes in the composition of college graduating classes. For example, the fact that female graduates owed more of the debt (58%) in the class of 2011-12 compared with 1992-93 (53%) could be due to the fact that more college graduates are female and not to changes in borrowing behavior. However, the male-to-female ratio among college graduates has not changed enough to account for the shifting pattern in borrowing. In the class of 2011-12, 56% of the graduates were female, compared with 57% and 55%, respectively in the 1999-00 and 1992-93 class.

Graduates With the Least-educated Parents Owe a Diminishing Portion of the Debt Owed

%



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Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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Possible Explanations for the Increase in Borrowing by Middle- and High-Income Students

The growth in student debt among dependent college graduates has been particularly pronounced among middle- and high-income families. Explaining this distributional shift is beyond the aims of this report. However, some of the following factors might be at work:

- Policy changes that expanded eligibility for federal loan programs have broadened the pool of potential borrowers. The largest federal loan program is the Direct Loan (previously Stafford) program. In the early 1990s the unsubsidized Stafford loan program was introduced. Prior to this Stafford loans were restricted to undergraduates with financial need. With the introduction of unsubsidized Stafford loans, students could access federal loan programs regardless of need.

- Private or non-federal loans play a much smaller role than they did before the financial crisis. Until 2007-08 there was a substantial run-up in the issuance of private loans. In 2007-08 banks and other non-federal lenders supplied $25.5 billion in private loans, up more than tenfold from the $2 billion lent in 1995-96 (Baum, 2013). As in other areas of private lending, banks may have relaxed lending standards during this run-up such that more credit for education was available.

- The Great Recession destroyed a large amount of household wealth. From 2007 to 2010 the wealth of the typical American household fell 39% (Bricker, *et. al.*, 2012). The decline was widespread, denting wealth for high net worth households as well as less wealthy ones. With reduced assets to finance college, wealthier families may be resorting to borrowing.

- Availability of other sources of borrowing has been curtailed in the wake of the financial crisis. For example, it is more difficult for a family to borrow the equity in its home in order to finance college expenses. Outstanding balances on home equity lines of credit have fallen from their peak of $710 billion in the first quarter of 2009 to $521 billion in second quarter of 2014 (New York Federal Reserve Bank, 2014).

Explanations for the General Increase in Borrowing

Given the growth of student debt, many analysts are investigating why students are borrowing more.

An obvious and popular explanation is that college tuition inflation has increased the costs that students and their families have to pay. However, the absence of consistent historical data on tuition paid after student financial aid and tuition discounts makes it difficult to measure the actual net price students pay to go to college. So it is far from clear how much of a role tuition inflation is playing. For example, some researchers find that, in the aggregate, aid in the form of grants, tuition discounts and tax credits for education has kept up with the increase in sticker-price tuition (Greenstone and Looney, 2013), so that the growth in the net cost of college (the amount students and their families are responsible for through loans or other means) has been modest.

Another contributing factor to rising student debt is the recent growth of for-profit colleges and universities. Graduates who borrow and obtain their degree from for-profit institutions tend to have greater amounts of debt than borrowers at public institutions and private non-profits (Miller, 2014). A growing share of graduates get their degrees from for-profit institutions (Hinze-Pifer and Fry, 2010).

Careful studies of the increase in student debt among students completing bachelor's degrees do not fully explain the run-up in debt. Observable characteristics of the students and the colleges they attend (including college costs) explain only about one-third of the overall increase in debt at graduation between 1990 and 2008 (Hershbein and Hollenbeck, 2013).

An additional compositional change may be graduate versus undergraduate education. Figures on federal loan volumes suggest that federal loans per graduate student are much greater than those per undergraduate (Baum, 2013). And, reflecting rising educational attainment, a greater share of young adults have graduate degrees. So some of the increase in student debt reflects the rising popularity of graduate education, where borrowing is more prevalent (Akers and Chingos, 2014).

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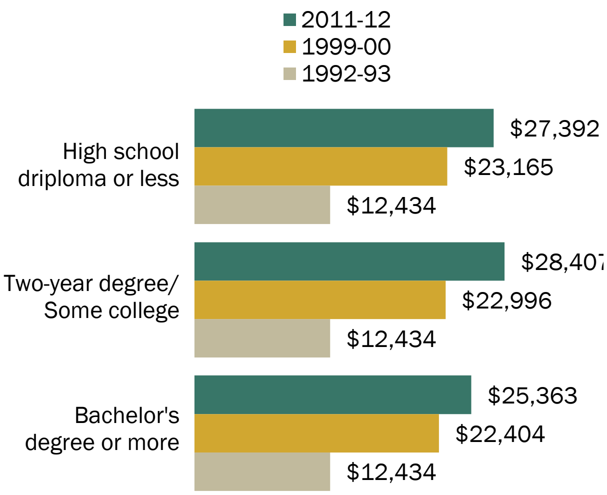
Appendix A: Additional Figures

Median Cumulative Debt of Borrowers, by Parental Education

In 2013 dollars



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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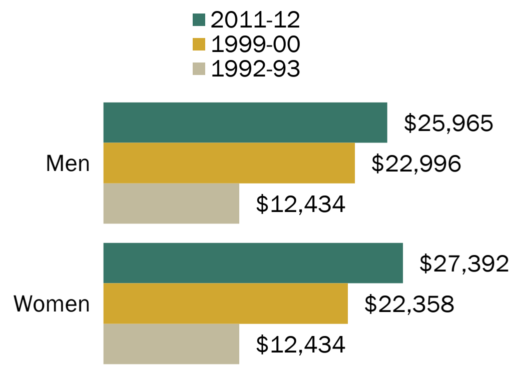
Median Cumulative Debt of Borrowers, by Gender

In 2013 dollars



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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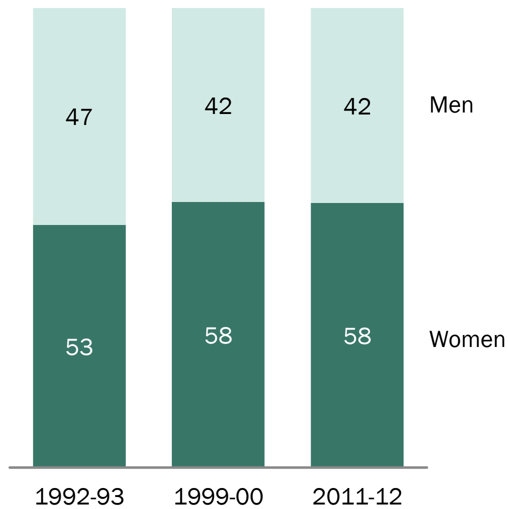
Ownership of Student Debt Incurred, by Gender

%



Notes: Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

Source: Pew Research Center analysis of 1993/94 Baccalaureate and Beyond, and 2000 and 2012 National Postsecondary Student Aid Study

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Appendix B: Details on the Data Source

The analysis is based on the National Postsecondary Student Aid Study (NPSAS). NPSAS is collected every 3 to 4 years by the U.S. Department of Education's National Center for Education Statistics. NPSAS is specifically designed to measure how undergraduates and their families pay for postsecondary education. It is nationally representative of undergraduate borrowers and non-borrowers in postsecondary institutions eligible to participate in Title IV of the Higher Education Act aid programs.

The most recent NPSAS was collected in 2012 and is representative of all undergraduates enrolled at any time between July 1, 2011, and June 30, 2012. NPSAS collects information on students from several sources. One strength of the collection is that information on student loans is obtained, in part, from student financial aid records provided by the college or university. Federal loan indebtedness comes from the financial aid records, whereas private loan indebtedness is student reported. Some colleges and universities do not collect private loan data from students, so colleges and universities cannot verify the student's report in all cases (Steele and Baum, 2009). So the amounts of total indebtedness should be considered estimates.

This report focuses on undergraduates who are in the graduating bachelor's degree class of the NPSAS administration. So, for example, for the 2012 NPSAS the analysis is restricted to the class of 2011-12 or those undergraduates who expected to receive a bachelor's degree during the 2011-12 academic year.

Further details on the representativeness of the college and universities in the NPSAS can be found in Radwin *et. al.* (2013).

Information on the class of 1999-00 is based on NPSAS:2000. NPSAS:2012 and NPSAS:2000 are based on a sample of about 95,000 and 50,000 undergraduates, respectively.

The estimates were derived using PowerStats, the National Center for Education Statistics' web-based software to analyze the NPSAS. While PowerStats facilitates the analysis of the NPSAS from the 1996 administration onwards, the 1993 administration of the NPSAS is not presently available in PowerStats. To work around this omission, the report is based on comparable estimates from the base year 1992-93 Baccalaureate and Beyond Longitudinal Study (B&B). NPSAS:93 served as the base year data collection for the 1993 B&B. The base year of the 1993 B&B had approximately 11,200 newly minted baccalaureates.

Finally, a couple of comparability issues require discussion. Total cumulative indebtedness for undergraduate education for the 1992-93 class includes loans from family and friends. For the class of 2000 and 2012 loans from family and friends are not included in cumulative debt (Woo, 2013). Across all three classes cumulative debt for undergraduate education includes both federal loans (but not PLUS loans to parents) and private loans.

NPSAS:2012 did not include students at postsecondary institutions in Puerto Rico, whereas earlier administrations did. In order to make the earlier estimates comparable with the class of 2011-12, graduates of Puerto Rican institutions in earlier classes were filtered out using the COMPTO87 variable.

For graduates who were dependent students, the parental income ranges for each quartile were as follows (in 2010 dollars):

Class	Low income	Lower middle	Upper middle	High income
2011-12	at or below $44,431	$44,432 to $83,406	$83,407 to $125,772	above $125,772
1999-00	at or below $52,343	$52,344 to $84,505	$84,506 to $123,510	above $123,510
1992-93	at or below $59,995	$59,996 to $85,865	$85,866 to $114,505	above $114,505

Note: Analysis of family incomes are limited to dependent college graduates. Dependency status is based on the final year of undergraduate enrollment. Family income level is based on the parents' income in the year prior to the survey (for example, 2010 income for the class of 2011-2012). Estimates include bachelor's degree recipients from Title IV eligible postsecondary institutions in the 50 states and the District of Columbia.

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