Student Loan Market

Kamila Sommer, Federal Reserve Board

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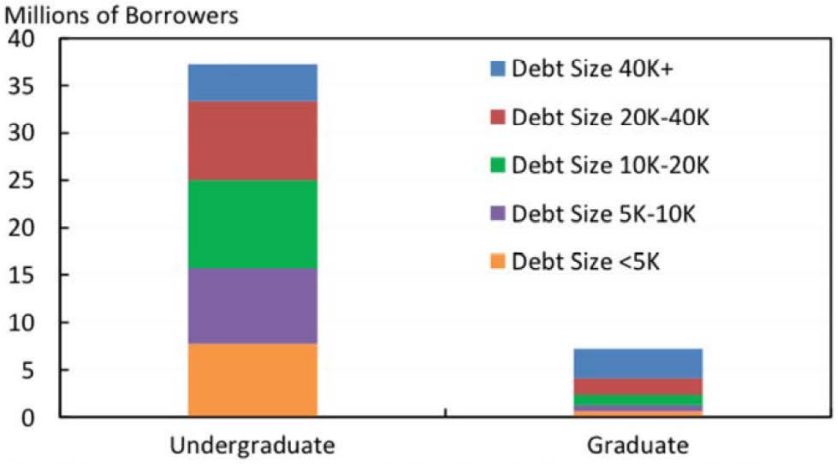
Disclaimer

- The analysis and conclusions are those of the authors and do not indicate concurrence by other members of the research staff of the Federal Reserve System or its Board of Governors.

Student loan borrowing: Basic facts

- U.S. consumers have close to $1.4 trillion in student loan debt.
  - Over 40 million of student loan borrowers, up from 24 million in 2005.
  - Average student loan debt about $27,000 per borrower, up from about $16,000 in 2005.
  - Undergraduate students hold less debt than graduate students.

Figure: Graduate and undergraduate outstanding loan balance sizes



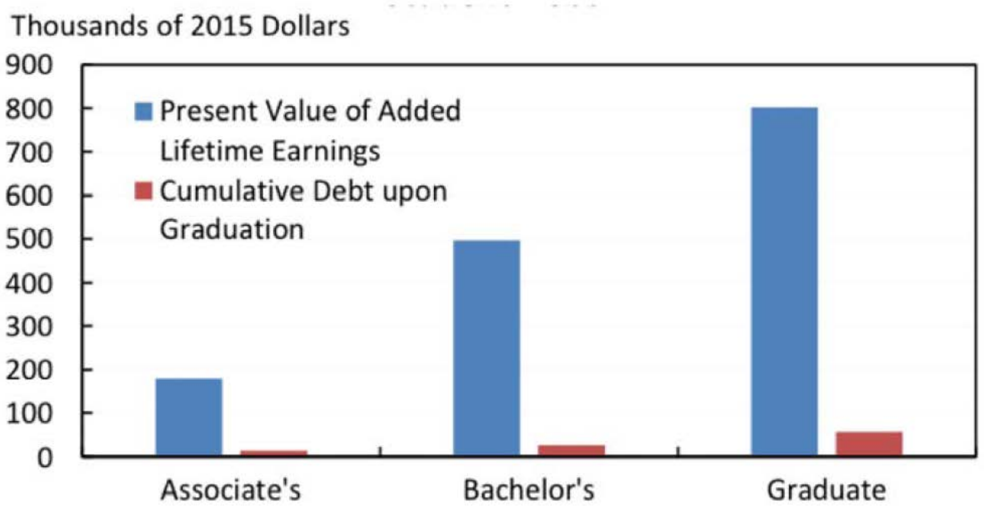
Note: Data are as of June 2015. Undergraduate and graduate are broken apart at the loan level.
Source: Department of Education

Source of analysis: Black et al. (2016): "Student loans and college quality: Effects on borrowers and the economy"

Returns to education: Basic facts

- Benefits of higher education outweigh the costs, on average.
  - Bachelor's degree recipients typically earn $500,000 more in present value of their lifetime.
  - Compare this to the roughly $30,000 of debt they accumulate, on average, for that degree.
  - Returns to graduate degrees are even higher.
- Most who borrow should be able to repay their debt.

Figure: Present value of added lifetime earnings and cumulative debt



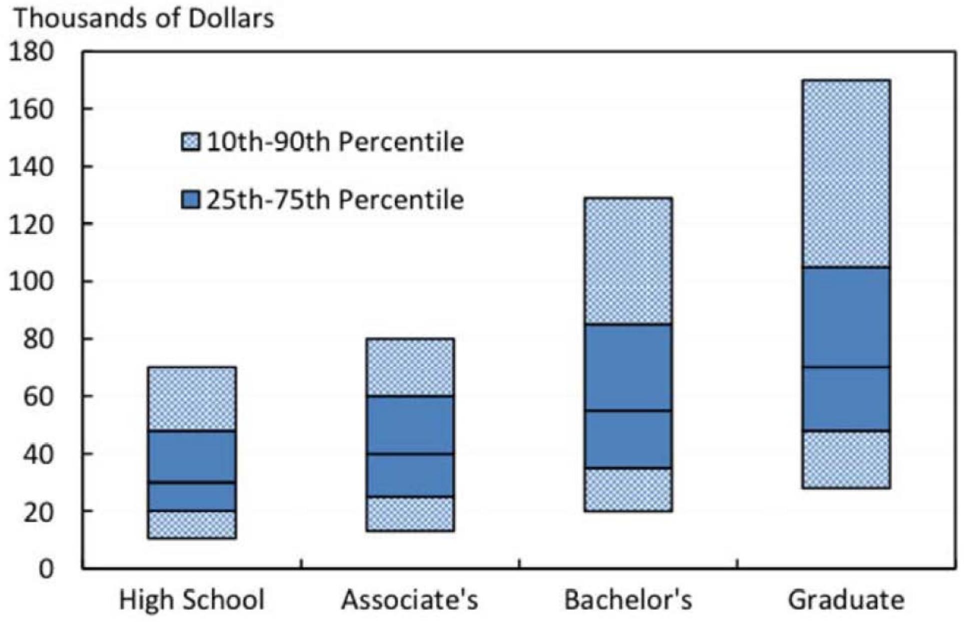
Note: Lifetime earnings are calculated by summing median annual earnings for full-time, full-year workers at every age between 25 and 64 by educational attainment, subtracting earnings for the same type of worker with only a high school degree, and converting to present value using a 3.76% discount rate.
Source: CPS ASEC 2014 and 2015; NPSAS 2012

Source of analysis: Black et al. (2016): "Student loans and college quality: Effects on borrowers and the economy"

Returns to education: Basic facts (cont'd)

- While earnings premium are on average high, the returns can vary.
  - Especially college drop-outs and student attending lower quality institutions can see lower returns (e.g. Hoekstra 2009, Celini and Turner, 2016).
  - College non-completion and attendance of for-profit schools are strong predictors of default (e.g. Black et al. 2016, Mezza and Sommer 2016).
- The 3-year cohort default rate currently at about 11 percent.

Figure: Variation in earnings by educational attainment



Note: Data are for workers ages 35-44 with positive wage and salary income.
Source: CPS ASEC 2015, CEA calculations

Source of analysis: Black et al. (2016): "Student loans and college quality: Effects on borrowers and the economy"

Repercussions of student loan default

- Why are implications of non-repayment of student loans different than for other types of debt?
  - Student loans not dischargeable in bankruptcy.
  - Losses on defaulted loans can be recouped through wage garnishments, withholding of refunds or Social Security checks.
  - Like default on other types of debt, student loan delinquencies damage credit scores.

- Social Security Garnished for Unpaid Student Debt
  The Wall Street Journal

"The federal government is increasingly reducing recipients' Social Security checks to recover millions in unpaid student debt…"

Repayment of student loans

- Two basic types of student loans:
  - Federal loans (comprise about 90 percent of the market);
  - Private loans.

- Federal loans:
  - Federal Family Education Loans (FFEL)
    - Originated by private lenders and guaranteed by the Federal Government.
  - Direct Loans (DL)
    - Originated by the Department of Education.
    - Main source of federal loans since 2010.

Federal repayment plans

- Federal student loan borrowers have access to several repayment plans that fall under two broad categories:
  - Plans available to all borrowers;
  - Plans available only to borrowers with demonstrated financial hardship.

- The specific type of the plan has implications for:
  - The size and variability of the monthly payment;
  - The length of the period over which the loan will be repaid;
  - The amount of total interest accrued.

- Consequently, understanding features of the plans is important. Repayment calculators can be used to compare the plans.

Plans for all federal borrowers

Table 1: Student Loan Repayment Plans Available to All Borrowers

Repayment Plan	Time Frame	Fixed or Variable	Recalculation of Payment	Loan Forgiveness
i. Standard repayment	Up to 10 years	Fixed	NA	NA
ii. Graduated repayment	Up to 10 years	Variable	Increases every two years	NA
iii. Extended repayment with fixed repayment schedule	Up to 25 years	Fixed	NA	NA
Extended repayment with graduated repayment schedule	Up to 25 years	Variable	Increases every two years	NA
iv. Income-contingent repayment	Up to 25 years	Variable	Every Year*	25 years
Income-sensitive repayment	Up to 10 years	Variable	Every Year*	NA

Source: Department of Education. Data are current as of 2013 Q2.

*Under these plans, borrowers are required to show income documentation on an annual basis.

- Comparisons of plans can be made for any loan balance, interest rate and, possibly, income (in case of income-driven plans) using the online calculator:

  https://studentloans.gov/myDirectLoan/mobile/repayment/repaymentEstimator.action

Illustration: Comparison of plans for a hypothetical borrower who borrower $31,000 at 6.8% rate

Table 2: Comparison Between Some of the Repayment Plans Available

Repayment Plan	Maturity (months)	Total Interest Paid	Repayment Schedule		Qualifications
Standard	120	$11,810	Fixed payments of $357		Direct and FFELP
Graduated	120	$15,068	**Period (years)**	**Monthly Payment ($)**	Direct and FFELP
			1-2	206	
			3-4	271	
			5-6	356	
			7-8	469	
			9-10	617	
Extended with Fixed Repayment Schedule	300	$33,548	Fixed payments of $215		Must be at least $30,000 in debt in either Direct or FFELP loans.*
Extended with Graduated Repayment Schedule	300	$38,931	**Period (years)**	**Monthly Payment ($)**	Must be at least $30,000 in debt in either Direct or FFELP loans.*
			1-2	176	
			3-4	184	
			5-6	193	
			7-8	202	
			9-10	212	
			11-12	222	
			13-14	232	
			15-16	244	
			17-18	255	
			19-20	267	
			21-22	280	
			23-24	293	
			25	307	

* Only new borrowers as of October 7, 1998, can qualify if they have more than $30,000 in direct loans outstanding and/or more than $30,000 in FFELP loans outstanding. For example, if a borrower has $35,000 in outstanding FFELP loans and $10,000 in outstanding Direct loans, she can choose the Extended Repayment Plan for her FFELP loans, but not for her Direct loans.

Illustration: Comparison of plans for a hypothetical borrower who borrower $31,000 at 6.8% rate

Table 3: Monthly Payments, Total Interest Paid and Repayment Period by Borrower's AGI: Comparison between the Income-contingent and Standard Repayment Plans

Income-contingent Repayment (ICR) Plan							**Standard Repayment Plan**			
Amount Owed	Adjusted Gross Income (AGI)	1st Month Payment	Last Month Payment	Total Paid	Total Interest Paid	Repayment Periods (Months)	Monthly Payment	Total Paid	Total Interest Paid	Repayment Period (Months)
$31,000	$0	$0	$0	$0	$0	300	$357	$42,810	$11,810	$120
	$6,000	$0	$0	$0	$0	300				
	$8,000	$0	$13	$217	$0	300				
	$10,000	$0	$120	$9,914	$0	300				
	$12,000	$9	$228	$27,385	$0	300				
	$24,000	$204	$313	$57,747	$26,747	224				
	$30,000	$228	$314	$52,291	$21,291	189				
	$40,000	$272	$332	$47,312	$16,312	155				
	$50,000	$311	$358	$45,354	$14,354	140				
	$60,000	$316	$380	$44,464	$13,464	131				
	$65,000	$322	$394	$43,866	$12,866	125				
	$70,000	$331	$398	$43,292	$12,292	120				
	$80,000	$350	$418	$42,301	$11,301	112				
	$90,000	$369	$430	$41,497	$10,497	105				

Note: Calculations are based on 6.8% interest rate.

Plans available to borrowers with demonstrated financial hardship

Table 4: Student Loan Repayment Plans Based Available to Borrowers with Demonstrated Financial Hardship

Repayment Plan	Time Frame	Fixed or Variable	Recalculation of Payment	Loan Forgiveness
i. Income-Based Repayment (IBR)	Up to 25 years	Variable	Every Year*	25 years
ii. Pay-As-You-Earn (PAYE)	Up to 20 years	Variable	Every Year*	20 years

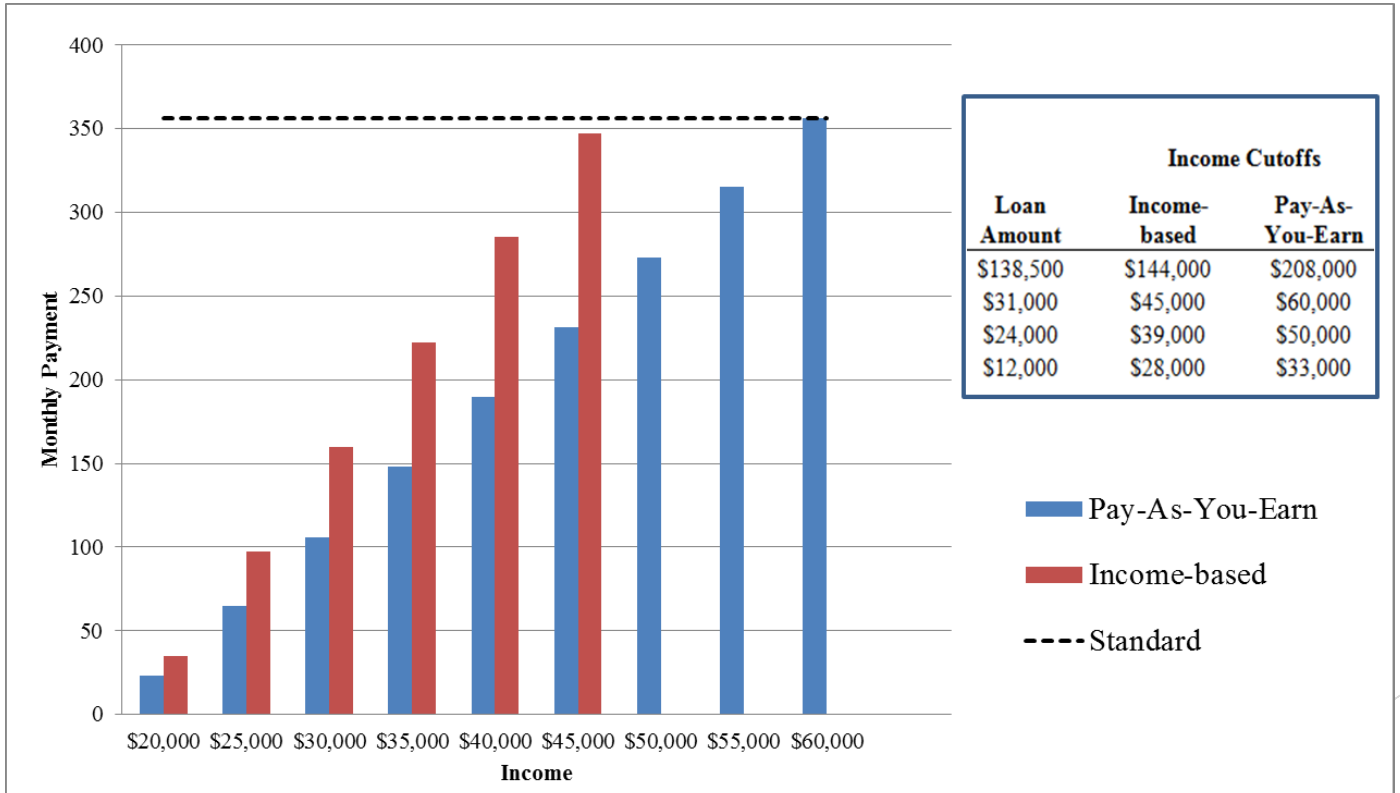
Source: Department of Education. Data are current as of 2013 Q2.

*Under these plans, borrowers are required to show income documentation on an annual basis.

- Financial hardship: circumstance when a student loan payment under the standard 10-year plan exceeds 10% (for PAYE) or 15% (for IBR) of "discretionary income."
- Another plan—Revised Pay-As-You-Earn (REPAYE) was introduced in 2015.
  - Unlike PAYE, this plan is available to **all** federal borrowers (and only to those with demonstrated financial hardship).
  - Unlike PAYE, payments (set to 10% of discretionary income) can exceed the 10-year standard repayment plan amount.
  - https://studentaid.ed.gov/sa/sites/default/files/income-driven-repayment.pdf
  - http://www.forbes.com/sites/tomanderson/2016/02/16/is-repaye-right-for-you/#267c0ba2e4ba

Illustration: Comparison of plans for a hypothetical borrower who borrower $31,000 at 6.8% rate

- Eligibility for PAYE and IBR determined by a combination of loan amount and income.
  - If eligibility cutoffs are exceeded, a borrower would be better off on a 10-year repayment plan, with both the monthly payment and the total interest rate below that of the PAYE and IBR plans.



Loan Amount	Income-based	Pay-As-You-Earn
$138,500	$144,000	$208,000
$31,000	$45,000	$60,000
$24,000	$39,000	$50,000
$12,000	$28,000	$33,000

Note: Calculations based on 6.8% interest rate. Income cutoffs are rounded to the nearest thousand.

Switching between Plans, Loan Consolidation, and Loan Rehabilitation

- Although a repayment plan is selected when a borrower first begins repaying the student loans, the plan can be changed at any time by calling loan servicer.

- Outstanding federal loans in repayment or a grace period can be consolidated under the **Loan Consolidation Program**.
  - The interest rate on the resulting consolidation loan calculated as the weighted average interest rate.

- Troubled federal student loans that are either in deferment, forbearance, or default can be also consolidated as part of the **Loan Consolidation Program**.
  - The newly consolidated loan being put on an income-driven plan such as the IBR or PAYE plans.
  - A borrower is typically required to make at least three consecutive, voluntary, and on-time payments prior to consolidation of a defaulted loan. The option to consolidate defaulted loans is a part of the **Loan Rehabilitation Program**.

How much debt is too much? (Baum and Schwart 2006)

- A number of studies on student loan affordability posit that students should not devote more than 8 percent of their gross income to the repayment of student loans.

- The Illinois Student Assistance Commission (2001) noted that the literature includes guidelines ranging from 5 to 15 percent of gross income, but accepted an 8-percent rule as the consensus standard.

- The Government Accountability Office (2003) cited 10 percent of first-year income as the generally agreed-upon standard.

- In some studies, the 8-percent rule has also been used to calculate the number of students with unmanageable or excess student loan burden (King and Bannon, 2002, Heller, 2001, and Harrast, 2004).

Illustration: Comparison of plans for a hypothetical borrower who borrower $31,000 at 6.8% rate

Table 5: Debt-to-Income Ratio With Various Debt Levels

Adjusted Gross Income (AGI)	Repayment Plan: Standard	Extended with Fixed Repayment Schedule	Income-Contingent Repayment (ICR)	Income-Based Repayment (IBR)	Pay-As-You-Earn
Debt Level: $31,000[1]					
$10,000	43	26	0 - 14	0	0
$20,000	21	13	9 - 19	2	1
$40,000	11	6	8 - 10	9	6
$60,000	7	4	6 - 8	7	7
$80,000	5	3	5 - 6	5	5
$100,000	4	3	5	4	4
$120,000	4	2	4 - 5	4	4
$150,000	3	2	4	3	3
$200,000	2	1	3	2	2
$250,000	2	1	1	2	2
Debt Level: $57,500[2]					
$10,000	79	48	0 - 14	0	0
$20,000	40	24	9 - 39	2	1
$40,000	20	12	14 - 18	9	6
$60,000	13	8	12 - 14	11	7
$80,000	10	6	10 -12	10	8
$100,000	8	5	9 - 10	8	8
$120,000	7	4	8	7	7
$150,000	5	3	7	5	5
$200,000	4	2	5 - 6	4	4
$250,000	3	2	5 - 6	3	3
Debt Level: $137,500[3]					
$10,000	190	115	0 - 14	0	0
$20,000	95	57	9 - 39	2	1
$40,000	47	29	14 - 52	9	6
$60,000	32	19	16 - 37	11	7
$80,000	24	14	17 - 29	12	8
$100,000	19	11	18 - 24	12	8
$120,000	16	10	18 - 20	13	9
$150,000	13	8	16 - 17	13	9
$200,000	9	6	12 - 15	9	9
$250,000	8	5	12 - 13	8	8

[1] $31,000 is the aggregate borrowing limit for dependent undergraduate students.

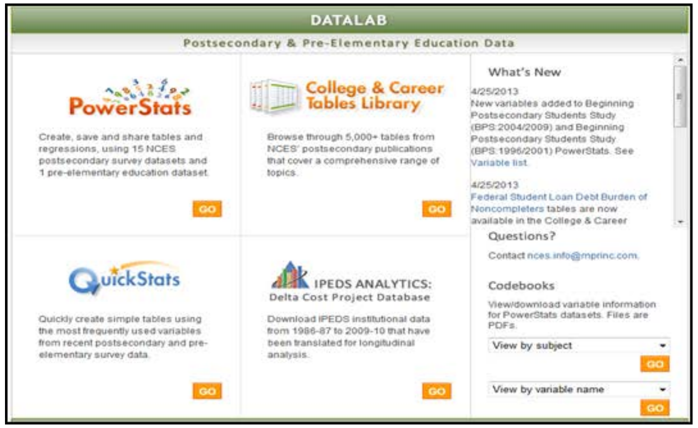
[2] $57,500 is the aggregate borrowing limit for independent undergraduate students.

[3] $137,500 is the aggregate borrowing limit for graduate students.

Note: Calculations are based on 6.8% interest rate.

Affordability of student debt: Evidence from Micro data

- Data:



- Data available at: *nces.ed.gov/datalab (under the tab PowerStats)*
- Question: Draw inferences about exposure of graduating seniors to college and other debt
- Focus: Baccaluareate and Beyond (B&B) 2008-09:
  - A two-year panel survey that interviewed about 15,000 students who received their bachelor's degree in 2007-08, and re-interviewed each one year after graduation

Affordability of student debt: Evidence from Micro data

Table 7: Monthly Loan Repayment as a Percent of Income in 2009

	Percentile				
	10th %	25th %	50th %	75th %	90th %
Total	2	4	8	14	25
Age in 2009					
0 to 30	3	5	8	15	26
31 to 45	2	3	6	11	19
46 and over	2	3	5	9	14
Income-driven repayment plan in 2009 =[No]					
Total	2	4	8	14	25
Age in 2009					
0 to 30	3	5	8	15	27
31 to 45	2	3	6	12	20
46 and over	2	3	5	9	15
Income-driven repayment plan in 2009 =[Yes]					
Total	2	4	7	13	22
Age in 2009					
0 to 30	3	5	8	15	24
31 to 45	2	3	4	8	14
46 and over	1	2	4	10	13

Source: U.S. Department of Education, National Center for Education Statistics, B&B: 09 Baccalaureate and Beyond Longitudinal Study.

Affordability of student debt: Evidence from Micro data

Table 8: Descriptive Statistics by Student Loan DTI Ratio for the Baccalaureate and Beyond (B&B) 2008-09 Cohort

	Cumulative Amount Owed for Undergraduate as of 2008-09	Cumulative Federal Amount Owed for Undergraduate as of 2008-09	Earned Income in 2009	Monthly Rent or Mortgage Payment Amount	Car Payment Amount in 2009	Monthly Earnings	Other Monthly Payments as a Percentage of 2009 Income: Rent or Mortgage Payment	Car Payment	Rent/Mortgage and Car Payment
Income-driven repayment plan in 2009 = [No]									
Estimates									
Total	$24,510	$13,638	$35,956	$805	$184	$2,378	34%	8%	42%
Monthly loan repayment as percent of income in 2009									
0% to 10%	$19,009	$12,318	$42,347	$862	$202	$2,744	31%	7%	39%
11% to 20%	$29,394	$15,617	$30,041	$727	$167	$2,067	35%	8%	43%
21% to 30%	$34,248	$15,643	$25,384	$713	$159	$1,662	43%	10%	52%
31% and over	$43,363	$15,907	$14,058	$585	$119	$980	60%	12%	72%
Income-driven repayment plan in 2009 = [Yes]									
Estimates									
Total	$27,072	$15,659	$34,512	$807	$203	$2,244	36%	9%	45%
Monthly loan repayment as percent of income in 2009									
0% to 10%	$23,237	$15,203	$39,607	$836	$229	$2,503	33%	9%	43%
11% to 20%	$31,659	$16,950	$28,050	$776	$168	$1,845	42%	9%	51%
21% to 30%	$40,104	$15,697	$26,165	$601	$125	$1,869	32%	7%	39%
31% and over	$37,061	$15,302	$13,588	$715	$144	$1,020	70%	14%	84%

Source: U.S. Department of Education, National Center for Education Statistics, B&B: 09 Baccalaureate and Beyond Longitudinal Study.

- Thank you